STAKEHOLDER ACCOUNTING: THE CASE OF THE ELECTRICITY INDUSTRY IN ENGLAND AND WALES

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Thesis Summary

This thesis proposes to explore the potential for stakeholder based accounting as a means to explain the social performance of organisations. It argues that organisations have a contract with society and as a consequence they must be accountable to that society for their actions. Further, it is suggested that as part of this accountability there is a broader need in the public interest for social accounting. Due to the pluralistic nature of modern societies it is argued that a stakeholder framework is one way in which this accountability can be achieved. In order to consider the nature of such social accounting a case study of the electricity industry in England and Wales is undertaken. This industry is very important to modern society, has significant environmental implications and has a recent history of remarkable change. These factors make it an interesting and unique case within which to consider accountability.

From the performance measurement and accounting literature and a series of interviews with both stakeholders and privatised companies a model of stakeholder performance is developed. This is then used to analyse the electricity industry in England and Wales since privatisation. The objective is to demonstrate how certain stakeholders have fared, whether they have won or lost. Further, institutional and resource dependency theories are used to consider what factors determine the relative success or failure of the different stakeholder groups. Finally the possible implications of recent developments in Social Accounting Standards, such as the Global Reporting Initiative (GRI), AccountAbility 1000 (AA1000) and Social Accountability 8000 (SA8000), and the potential for Internet reporting are considered.

Key words: Social accounting;
Accountability;
Regulated utility industries;
Institutional theory;
Resource dependency theory;
Performance measurement.

Dedication

This thesis is dedicated to my wife, Teresa, who encouraged me to commence a career in academia and then provided invaluable support throughout the preparation of this thesis

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Chapter 1: Privatisation, accountability and this research

1.1 Introduction

This research draws together the areas of economic policy and accountability. It started with an interest in the privatisation policy of the UK government in the 1980s and 1990s, and more specifically the privatisation of the utility industries. This policy was controversial and affected almost everyone in the UK in some way. In addition, I was a member of an audit team for one privatised company and this certainly provided an interest in the area. This has been combined with an interest in accountability of modern organisations to the society within which they operate. Specifically the power of modern multinational organisations, not least due to the sheer scale of their activities, was another motivating factor. This chapter briefly discusses the UK privatisation programme and defines accountability before providing a summary of how this thesis is structured. The main theoretical arguments and analytical instruments will be identified.

1.2 Privatisation

Ogden and Anderson (1995) state that privatisation in the UK, inextricably linked with the successive Conservative governments first elected in 1979, has been one of the most important and controversial policies of recent times. The privatisation programme included the sale to the public of the utility industries, such as telecommunications, gas, electricity, and water. Marsh (1991) details the evolution of the policy, from before the 1979 election. The term privatisation was not included in the 1979 Conservative manifesto and the policy was only followed to a limited extent in their first term of office. However, it became a major policy instrument in the second and third terms, and it is suggested that this increase in importance may be due to the failure of other economic policies. Marsh comments, therefore, that the privatisation programme should not be regarded as a coherent policy. The first utility to be sold was British Telecom in 1984, early in the Conservative government's second term. Each of the utility industries sold contain a natural monopoly which Foster (1994) defines as an industry where the most

efficient supply of a service or product can be achieved through a single organisation. This can be either on a national or local scale and is usually exemplified by the use of a grid or network. It has been recognised that the duplication of networks would be an expensive, inefficient and wasteful exercise. The concern is, therefore, that this monopoly power may be abused by private companies whose primary aim is to enhance the welfare of their shareholders. This could well be at the expense of consumers, or more significantly, as the products and services provided by the utilities are of such importance, could impact on all society. The economic rationality for and political motivations behind the sale of the utility industries has ensured that it is this element of the entire privatisation programme that has attracted the most attention and resulted in the need for economic regulation.

There is a fundamental disagreement as to whether the policy was designed for economic or political purposes. Hodges (1997) and Hodges and Wright (1995) examine the reports produced by the National Audit Office (NAO) in reviewing the government departments responsible for 26 privatisations. The reports are a result of investigations, performed by the NAO, to assess the success of the departments responsible for the privatisations in meeting the government objectives for each one. The objectives have not been the same for each privatisation but usually they would include a combination of some or all of the following:

- a timely sale;
- maximising sale proceeds;
- minimising costs;
- widening of share ownership; and
- the advancement of competition and efficiency in the industry.

Hodges and Wright note that these investigations found that sales proceeds were either not maximised, or it was uncertain as to whether they had been maximised, in more than half of these privatisations. Also in six of the seven privatisations which set a competition / efficiency objective it was uncertain as to whether this had been achieved. Of the other

independent economic analyses of the process completed Vickers and Yarrow (1988) provide one of the most thorough examinations. Within their perceived government objectives they additionally include: reducing government involvement in the industries, reducing the Public Sector Borrowing Requirement, gaining political advantage and the weakening of the public sector trade unions. These final two motivations have been studied in more detail. Holtham and Kay (1994) note that there has been a significant interest in possible political motivations, for example a political party's search for votes. McAllister and Studlar (1989) consider that the policy was primarily instigated by the government, as an 'elite interest', not by the electorate. However, they also conclude that the selling of shares to the public increased the Conservative vote, in the 1987 election, by 1.6%. Privatisation has had an ambiguous effect on industrial relations (Ferner and Colling, 1991, and 1993) and tends to depend upon whether the management have decided to attempt to maintain stability or take a stronger, more aggressive line. However, the privatised companies have diversified and it is becoming more evident that the employees within these new diversified activities are subject to a different, less unionised form of industrial relations. The changes in industrial relations in the electricity industry are considered as part of the case study analysis.

Irrespective of the motivations behind the privatisation programme, Vickers and Yarrow (1988) believe that its long term success or failure will depend on whether the policy has been successful in improving the efficiency of the respective industries. The question of the continued performance of the industries has become the domain of the individual industry regulators (for example OFTEL, OFGAS, OFFER[1], OFWAT and ORR).

1.3 Accountability

A starting point for this research is that modern societies are pluralistic and that the different factions have different interests. It is also believed that modern organisations have a significant impact on the day-to-day lives of individuals within a society. The actual form of this relationship between business and society, as comprised of

[1] OFFER and OFGAS have now been merged to form OFGEM.

stakeholders, is discussed in more detail in Chapter 2. It is important at this point, however, to identify a key role for accounting in modern societies. The power of accounting to provide insight and information to the different constituents of a society was demonstrated by the work of Charles Medawar (1976, 1978), who headed Social Audit Ltd (1973a, b), and Tony Tinker in his book Paper Prophets. These works demonstrated how accounting could critically consider an organisation's activities and hold them accountable. In these works this did not mean accountable to shareholders only, but accountable to society more generally. This accounting was in the public interest, as it provided information to society on the wider activities, as opposed to the more narrow, purely financial, activities considered in the financial accounts. Also important was the work of the ASSC (1975) that highlighted the need for accounts to provide useful information to different constituent groups. This included value-added statements, employment reports and much more. This research starts from the premise that organisations should be accountable to the society, and the constituents of that society, in which it operates. At this point the importance of the work by Gray, Owen and Adams (1996) in developing a clear consideration of "accounting and accountability" must be acknowledged. It is hoped that the work here is informed by their work in accountability and further work in environmental, social, and ethical accounting. A wider social accounting is believed to be in the public interest as it provides information to constituent groups in order for the society to adequately discuss the efficacy of an organisation's activities.

1.4 Thesis structure

Following this introductory chapter the thesis will be structured as follows. In Chapter 2 the competing theories of shareholder wealth maximisation and stakeholder management will be considered. Theories of the firm, in terms of why and how they should operate, are considered with specific regard being given to agency theory and social contract theory. It is argued that the activities of organisations should be constrained by ethical considerations of their effects on society. It is further argued that these activities, in modern pluralistic societies, can be considered through the use of a stakeholder

perspective. Therefore organisations should be held accountable to society and this can be achieved through a stakeholder framework.

Given the interest in accountability discussed above, Chapter 3 considers how accountability can be considered in the context of a privatised utility industry. It is argued that the electricity industry is a unique and advanced case that would provide insights into social performance in capitalist societies. Therefore a rationale for the use of a case study approach is provided. It also discusses the relative strengths and weaknesses of the research methods to be used. The data collected and analysed are primary data from interviews and secondary, publicly available, data and the merits of these are also considered in the Chapter. Finally, there is a discussion on the difficulty of identifying relevant stakeholders and this will be attempted for the electricity industry.

Chapter 4 considers the accounting and performance measurement literature. This grounds the stakeholder performance measurement framework on prior work. It is used to develop an understanding of the key issues and measures of performance for the stakeholders identified. These measures are then used to inform the interviews undertaken with stakeholder representatives and the privatised companies in the electricity industry in England and Wales. These interviews are discussed in Chapter 5 and the measures identified in Chapter 4 are developed to provide an industry-specific model. This model includes measures of performance relevant to each of the stakeholders identified in Chapter 3.

The model developed through Chapters 4 and 5 is used to provide a longitudinal analysis of the post-privatisation performance of the electricity industry in England and Wales. The analysis is separated into two distinct chapters: Chapter 6 considers the period from privatisation to 31 March 1995; and Chapter 7 from April 1995 to 31 March 1997. This distinction is made primarily due to the government's sale of its golden share in the industry at this time. As a consequence the Regional Electricity Companies (the RECs) were subject to take-over bids and also the National Grid plc was floated on the Stock

Exchange. It was felt that this change in ownership would significantly affect the performance of the industry to some, if not all, of its stakeholders.

The results of the analysis in Chapters 6 and 7 suggest that some stakeholders have benefited more than others as a result of privatisation. The reasons for this contrast in fortunes are unclear from the analysis performed and therefore this is revisited in Chapter 8. Institutional and resource dependency theories are used to consider the power relationships between the different stakeholders within society. This will aim to identify what factors determine the relative success or failure of the stakeholder groups.

In Chapter 9 the future of Corporate Social Reporting is considered. During the time that this research has been ongoing (the research commenced early in 1997) there have also been some very interesting developments in terms of social accounting standards and the continued rise of the Internet. Therefore, the developments in Accounting Standards, such as the Global Reporting Initiative, AccountAbility1000 (AA1000), and Social Accountability 8000 (SA8000) are briefly considered. Also the potential of the Internet as a reporting medium for future social, or stakeholder, accounts will be explored. Finally in Chapter 10 the contribution and limitations of the research are considered and public policy recommendations made.

Chapter 2: Business in Society - Ethics and Stakeholders

2.1 Introduction

Business organisations are social institutions in that they cannot exist except in relation to the society within which they operate (Bucholz and Rosenthal, 1997). Further Bucholz and Rosenthal argue that as this is the case the field of study commonly referred to as "Business and Society", which they suggest implies that business and society are separable 'roughly co-equal' entities, is misleading and should be replaced by the name Business In Society. The ethical justifications for competing theories of business in society are considered here. The most common distinction made is between shareholder (or agency) theories and stakeholder theories, in fact Shankman (1999) suggests that the conflict between these two theories of the firm "has long been entrenched in organizational and management literature" and that they have been construed as "polar opposites". He continues that this conflict is due to the different import given to moral and ethical implications of business within the economic and business ethics fields (Bowie and Freeman, 1992). Hasnas (1998) actually broadens this dichotomy of theories and suggests that there are in actual fact three leading normative theories of business ethics and that these are "the stockholder theory [the agency or shareholder theories], the stakeholder theory, and the social contract theory." Each of these theories has been proposed, and subsequently criticised, as being the most appropriate foundation for business activity and these arguments will be reviewed. This chapter considers the ethical justifications for each of the theories and concludes that social contract theory is an all-encompassing concept in that both shareholder theory and stakeholder theory have been justified on the grounds of benefits to society. In addition it is suggested that the stakeholder concept is a useful one in that it provides a research framework from which societal benefit can be considered.

2.2 Shareholder theories of the firm

The efficacy of shareholder theories of the firm has been argued from many different standpoints. The justifications emerge from both moral and legal arguments but an overarching justification is that the adoption and application of this theory will result in increased wealth for the whole of society. It has been likened to a win-win situation; when businesses correctly implement this strategy not only shareholders but everybody benefits. Irrespective of the justification, there is a widely held belief that shareholders should be considered first and foremost, and their wealth maximised, by the management of business (Rappaport, 1986). The primacy of shareholders was earlier defended by Friedman (1962) who wrote that:

> "there is one and only one social responsibility of business- to use its resources and engage in activities designed to increase profits so long as it stays in the rules of the game, which is to say, engages in open and free competition, without deception or fraud".

The premise that shareholder wealth maximisation results in benefits for the whole of society has little supporting evidence (see later) to date. Empirical evidence to support such a claim would first need to demonstrate that a society was shareholder wealth maximising and then also to show that such a society provided benefits to the whole of society. Often the support for this premise is founded on theoretical arguments based on conditions of efficient markets (see for example Drucker, 1984 and Jensen, 1991) where the efficiency of the market is defined as the best allocation of social resources (Quinn and Jones, 1995). The actual efficiency of markets in the real world has often been questioned and when this assumption is relaxed then the conclusion that all will benefit does not necessarily follow. Quinn and Jones (1995) argue that there are four principles for markets to work efficiently. Honouring agreements and avoiding lying, are the first two principles. These are consistent with Friedman's (1962) limitation on an organisation's pursuit of profit and are crucial to agency theory. The other two principles are argued to be a respect for the autonomy of others and a requirement to avoid harming others. Shankman (1999), in considering the work of Quinn and Jones (1995), suggests that these final two principles are fundamental for the condition of liberty, which is itself

a prerequisite for the functioning of efficient markets. Therefore the effect on others of an organisation's actions must, for moral reasons, be a constraint on shareholder wealth maximisation. Caeldries (1993) points out that there is a consensus, running through the works of Adam Smith, Schumpeter and Hayek, that a relatively high level of morality is a requirement of healthy and efficient capitalism.

2.2.1 Historical roots of shareholder theory

The idea that self-interested behaviour, as recommended for businesses by shareholder theory, can be beneficial to society is not new. Libertarian views are such that individuals' rights to maximise their own self-interest are fundamental and virtually all intervention by, say, the state, in the realms of economics and politics, should be minimised as they infringe upon these individual rights. Utilitarian views as expressed by Bentham (1789) also advocate the pursuance of individual self-interest in terms of maximising utility or happiness. John Stuart Mill, (1863) whilst still often categorised as a utilitarian, was one of the earliest critics of this conception of self-interested behaviour when he attempted to refine the theory through a consideration of other effecting actions and the distinction between higher and lower interests. The first of these criticisms recognised the possibility of certain self interested actions having a detrimental effect on others, which would therefore not necessarily result in an overall improvement of welfare. Secondly he argued that certain actions are more worthwhile, "higher", and should therefore be given a certain degree of precedence. A further criticism is provided by Sen (1987) who suggests that in addition to a person's utility (or happiness) his or her freedom is also valuable and that the omission of this is a distinct limitation of the utilitarian concept.

The utilitarianist thoughts were very much based on the actions of individuals and it was the economic theory of Adam Smith (1776) which, it is claimed, championed a similar strategy for businesses. It is argued that Smith suggested that businesses should be self-interested as the market place would regulate their behaviour. The 'invisible hand' of the free market would ensure that businesses' actions would benefit society. Brennan (1994)

actually argues that economics has been guilty of oversimplifying Smith's writings and this has resulted in a mistaken tendency to identify self-interest with rationality. To illustrate Smith's wider moral philosophy, a subject in which Smith was a Professor, Brennan provides the following two quotes:

> "to restrain our selfish, and to indulge our benevolent affections, constitutes the perfection of human nature" (quoted from The Theory of Moral Sentiments)

> "a man ought to regard himself, not as something separated and detached, but as a citizen of the world, a member of the vast commonwealth of nations...and to the interest of this great community, he ought at all times to be willing that his own little interest be sacrificed" (quoted from Wealth of Nations)

Sen (1987) also argues that Smith's work has been defined in far too narrow terms in modern positive economics and that his work is concerned with ethical questions. Certainly Smith was not blind to the potential problems that might arise from allowing businesses to pursue profits unchecked. In fact he predicted that if this were allowed profits would be achieved not through gaining a competitive advantage but rather by eliminating competition (Monks and Minow, 1991). This was exemplified by the contention that when two "businessmen" met they would spend their time colluding to the detriment of the operations of the market in order to improve profits.

Another important consideration is that the present capitalist societies differ from those envisaged by Smith and Mill in a fundamental respect. When promoting the self-interest theories it is posited that Smith and Mill both took for granted a supporting social principle (Hirsch, 1978). This implies that a following of self-interest is beneficial but would only be so within a society that shares certain moral and ethical standards. Hirsch argues that this construct within which self-interest is beneficial has been "curiously neglected" (p 128) and is no longer reflected in the Western capitalist societies where the model is most used. The extent of this neglect is a moot point as we can see that even Milton Friedman (1962) recognised the need for a business to stay within the rules of the game. The fundamental disagreement concerns the question: what constitutes appropriate ethical standards? For Friedman this simply entails operating in competition, without deception or fraud, whereas I believe Hirsch had a very different, and a more far

reaching, conception of moral and ethical standards. Hirsch also suggests that Keynes, a more recent but no less influential economic thinker, had a similar view to those of Smith and Mill. Hirsch argues that the economic system, as proposed by Keynes, was separated into two distinct parts: micro managers, those responsible for managing business units, and macro managers who are responsible for overseeing the system. An implicit assumption within this view was that the macro manager would be 'cleverer' and that they would be following a more moral and ethical code of conduct through which society would benefit. Again this basic element of the present economic system appears to have been awarded limited attention by academics. As a discipline, Sen (1987) suggests that modern, or positive, economics has placed too little importance on relevant ethical issues such as these.

2.2.2 Shareholder theory or Agency theory

The shareholder theory of the firm is often also referred to as agency theory, as the role of the management of a firm is to act as the agents of the shareholders (the principals). The separation of ownership and control that is apparent in large modern-day (joint stock) companies, presently the most common way for a business to be organised, is another significant change since the days of Smith and Mill. It is this separation that leads to what is known as the principal – agent relationship. It is also argued that within this role it is only appropriate for managers (the agents) to use the funds at their disposal for purposes authorised by shareholders (the principals) (Hasnas, 1998; Smith and Hasnas, 1999). Further, as shareholders normally invest in shares in order to maximise their own returns, then managers, as their agents, are obliged to target this end. In fact this is arguing that as an owner a shareholder has the right to expect his or her property to be used to his or her own benefit. Donaldson (1982, 1989) disagrees and suggests that it can only be morally acceptable to use the shareholder's money in this way if it is to further public interest. The ethical and moral acceptability of this suggestion is questionable and Smith and Hasnas (1999) point out that such an act would contravene Kant's (1804/1981, p37) principle. This principle states that a person should be treated as an end in his or her own right rather than as a means to an end. By using shareholders' money for the benefit of

others it is argued that the shareholders are being used as a means to further others ends. This defence of shareholder theory is as ironic as it is compelling given that the exact same principle is often cited to defend stakeholder theory (see later).

Assumed within agency theory is a lack of goal congruence, and that there is information asymmetry, between the principal and agent that makes it costly or difficult to confirm the agent's actions (Eisenhardt, 1989). In saying this it is suggested that, left to their own devices, the agents will prefer different options to those that would be chosen by the principals. The agents would make decisions and follow courses that further their own self-interest as opposed to that of the principal. This assumption, that agents' behaviour will be driven by their own self interest and nothing else, has been criticised as being an overly simplistic conception of human behaviour (Williamson, 1985). It is argued that in addition to self-interested motives, altruism, irrationality, generosity, genuine concern for others.... also characterise multi-faceted human behaviour. Sen (1987) agrees and actually states that "to argue that anything other than maximising self-interest must be irrational seems altogether extraordinary."

It is argued that shareholders should have rights to determine how their property be used, as should an owner of any asset under private property rights. Etzioni (1998) suggests that this view of shareholders' property rights, which are both moral and legal, is 'widely embedded in the American political culture' and therefore needs no further introduction. Taking a step back, Etzioni observes that such property rights are a social construct, as opposed to natural or inalienable rights, and as such society has the opportunity and the ability to change them if it is considered necessary. A closer consideration of what is meant by private property, as it has been socially constructed in present day Western societies, has been undertaken. Donaldson and Preston (1995) argue that the philosophy of property "runs strongly counter to the conception that private property exclusively enshrines the interests of owners." They specifically note the work of Pejovich (1990) as recognising that ownership does not entail unrestricted rights as they cannot be separated from human rights. Further, Honore (1961) suggests that the rights are restricted where their use would be harmful to others. Donaldson and Preston (1995) suggest that as

property rights are restricted then they need to be founded on distributive justice. Interestingly, Sternberg (1998), a proponent of shareholder theory, because 'it alone respects the property rights that are so essential for protecting individual liberty', also suggests that ethical business must also be based on 'distributive justice' along with 'ordinary decency' (Sternberg 1994, 1998). Donaldson and Preston (1995) follow Becker's (1992) suggestion that the "three main contending theories of distributive justice include Utilitarianism, Libertarianism and social contract theory". Utilitarianism and Libertarianism have already been commented upon as part of the historical roots of shareholder theory above. Social contract theory is considered separately later in the chapter as it was identified as a competing theory of the firm.

Within the legal system in the UK, and the US, the management of a business have a fiduciary duty to the owners of that business. This duty to shareholders is 'more general and proactive' than the regulatory or contractual responsibilities to other groups (Marens and Wicks, 1999; Goodpaster, 1991). These more general duties have also been used as a justification of the appropriateness of shareholder theories of the firm. The purpose and meaning of fiduciary duty were considered by Marens and Wicks (1999), who suggest that in actual fact this duty does not limit managers to a very narrow shareholder approach. They argue that the purpose of the fiduciary duty was originally designed to prevent managers undertaking expenditures that benefited themselves (Berle and Means 1933). Further Marens and Wicks (1999) suggest that fiduciary duties simply require that the fiduciary has an honest and open relationship with the shareholder and does not gain illegitimately from their office. Therefore the tension between fiduciary responsibility and the responsibility to other stakeholder groups, the so-called stakeholder paradox (Goodpaster, 1991), is not as apparent as is often assumed. Further support for this argument is provided from the US courts. When shareholders have challenged management's actions as being too generous to other stakeholder groups then the court has 'almost always' upheld the right of management to manage. Management's justification or defence has often been on rational business performance grounds, such as efficiency or productivity, and the accuracy of such claims is difficult to prove. As such Marens and Wicks (1999) suggest that "virtually any act that does not financially threaten

the survival of the business could be construed as in the long-term best interest of shareholders."

2.2.3 The practice of shareholder theory – is it successful?

Shareholder theories of the firm have been practised for many years in the UK and US. Brignall and Ballantine (1996) suggest that the Fisher-Hirshleifer model (Fisher, 1930; Hirshleifer, 1958) has shown that shareholder wealth is maximised "by investing in all projects offering a positive Net Present Value (NPV)." The NPV maximising criteria is therefore not new, although there has more recently been increased interest in a more explicit shareholder value oriented approach to managing a business; such an approach has become more generally known as Value-Based Management (VBM) or Shareholder Value Management. This increased interest has arisen not only within the academic discourse but also among practitioners and business managers. In particular these specific shareholder value techniques have been adopted, primarily in certain large US and UK companies, since the mid 1980s. The adoption of such techniques in these countries, as opposed to other advanced capitalist countries, is not too surprising as the UK and US have long been associated with shareholder theory. In fact, when we consider the evidence that has been provided to support the shareholder theory of the firm, a dichotomy is made between the shareholder value focussed countries, the UK and US, as opposed to the more stakeholder oriented countries of Japan, Germany and France.

To provide some evidence of wealth creation by shareholder value approaches, two studies are discussed below. These studies analyse differences in levels of GDP per capita in certain countries. In these studies GDP per capita is taken to be a proxy for societal wealth. The analysis below is based on the assumption, in these studies, that it is the level of shareholder focus within these countries which is responsible for differences in GDP per capita, and thus societal wealth. However, it is acknowledged here that there are many other differences between these economies which may influence the performance reported; not least is the possible long-term effects of World War II. Copeland, Koller and Murrin (1996) analyse GDP per capita in the US, UK, Germany, France and Japan

over the period from 1950 to 1990[2]. They show that the "U.S., with shareholder value focus remains the GDP leader" (p.10), despite acknowledging that the other, less shareholder value focused countries were actually closing the gap in the period from 1950-1980. In fact the country which has closed the gap least of all is the UK, arguably the second most shareholder value focused country. Similarly, The Economist (1996) reported that annual growth in GDP per capita has, over the last 40 years, been at 5.5% in Japan, 3.0% in Germany, 2.0% in Britain, and 1.7% in America. Again this work suggests that the shareholder focussed countries, Britain and America, are creating less wealth over this period than the more stakeholder orientated economies of Japan and Germany. Both studies place great emphasis on the fact that the improvements in Germany and Japan do not appear to have continued in the last 10 years. This does not change the fact that over the last 40 years Germany and Japan have outperformed, in terms of increasing GDP per capita, the US and UK.

In addition to consideration of the average level of GDP per capita it is also interesting to consider the distribution of this wealth. We can see that the more shareholder value focused economies are shown to have a larger inequality of distribution. One of the commonly used indices of distribution inequality is the Gini coefficient (Atkinson 1996), where a coefficient of 0% is when each unit has the same income and 100% is when a single unit has all of the income and the rest none. Atkinson collates, from various studies, the Gini coefficients for different countries over the period from 1970 to 1992 and this indicates that firstly the inequality of distribution of income in the UK has increased from a low point of 23.4% in 1977 to 33.7% in 1991. Over the period from 1970 the US has also seen an increase from 39.4% to 43.3%, Japan an increase from 27.3% in 1980 to 29.6% in 1991 and in Germany it has been very consistent at 25-26%. Of the economies discussed the US shows the highest GDP per capita, although by a reducing margin, and the highest level of inequality, therefore it could be argued that the higher inequality can be justified by a higher overall level of wealth. However, the second shareholder focused economy, the UK, shows the lowest GDP per capita and the

[2] The use of GDP here can be criticised for its failure to measure value or profit, but is the preferred measure by the authors of these studies.

second most unequal income distribution. Proving the superiority of a shareholder focus through GDP per capita studies is problematic as there are many differences between the economies considered other than their shareholder focus. In addition this average figure does not accommodate the separate, but no less important, issue of wealth, or welfare, distribution. In conclusion, it is certainly not proven that a shareholder focus results in a higher overall social welfare.

2.2.4 Concluding thoughts on shareholder theory

Justifications for shareholder theories of the firm have been both ethical and legal in nature. An overriding justification is that following a shareholder approach will actually benefit society as a whole. The theoretical accuracy of this claim has been considered, as has the limited supporting empirical evidence. In addition it is apparent that a common feature of the critiques of this theory is its failure to recognise how certain actions affect others in a society. This critique is not new and can be traced back to John Stuart Mill's own thoughts on utilitarianism. A further feature of the critiques of shareholder theory is as to whether it results in distributive justice. Both of these critiques also form important components of stakeholder theory that we consider next. In my opinion the most convincing and appropriate defence of shareholder theory is that to not use a shareholder's investment for his or her own benefit would fail to meet Kantian ethical standards. As mentioned earlier, this is ironic, as the same argument is often used by advocates of stakeholder theory.

2.3 Stakeholder theory

Stakeholder theory is often considered to be a relatively recent development and many cite Freeman (1984) as the landmark work in this area. Freeman himself actually refers to an internal memorandum at the Stanford Research Institute in 1963 as an earlier use of the term, and Preston and Sapienza (1990) traced the approach, as opposed to the term, back a further 30 years. Donaldson and Preston (1995) examine stakeholder theory and suggest that the theory can be justified on the basis of three aspects. These three aspects

are its 'descriptive accuracy, instrumental power, and normative validity'. Taking each of these three aspects in turn, it has been argued that stakeholder theory is important as it correctly reflects, and predicts (Brenner and Cochran, 1991) how businesses operate - not by simply considering shareholders, but other stakeholders as well. The second aspect, instrumental power, argues that adopting a stakeholder approach will improve the organisation's performance, either in terms of economic performance or some other criteria, and that in this case the theory would be classified as having instrumental power. This is to say that stakeholder theory is a tool that can be used to improve results. However, the normative validity justifications refer to the moral rights of individuals and therefore may require a complete reconsideration of the bases of modern Western capitalist societies. It is not sufficient to say that shareholder wealth should be maximised, or that stakeholder theory should be used to achieve this end, without first considering its ethical appropriateness. Each of these justifications will be returned to later.

A fundamental aspect of stakeholder theory, in any of its aspects, is that it attempts to identify numerous different factions within a society to whom an organisation may have some responsibility. It has been criticised for failing to identify these factions (Argenti, 1993), although some attempts have been made[3]. In a similar vein the stakeholder concept has also been likened to that of a democratic right in the sense of de Tocqueville (in Democracy in America, 1835), where any group can question any other group on the grounds of interest or value (Hummels, 1998; Kuhn and Shriver, 1991). A further step is taken by some stakeholder theorists in suggesting that an 'essential premise' (Jones and Wicks, 1999) of stakeholder theory is that the "interest of all (legitimate) stakeholders' have intrinsic value, and no set of interests is assumed to dominate the others (Donaldson and Preston, 1995)". This premise that the stakeholder groups are considered equal, in that they do not dominate the others, does not receive universal support within stakeholder theory and Gioia (1999) suggests that this "portrayal to be not only misleading but hopelessly idealistic". In fact when stakeholder theory is used as a managerial tool it is specifically concerned with identifying which stakeholders are more

[3] See section 3.4 in Chapter 3 for more on stakeholder identification

important and as a result should receive a greater proportion of management's time. Therefore the consensus is only that there are multiple stakeholders who have a stake in an organisation. This still leaves us with the question as to what is a stakeholder, and even this is contentious within the field. Numerous definitions of what constitutes a stakeholder have been used within the literature. Sternberg (1997) demonstrates that Freeman himself has used multiple definitions of stakeholders and cites the following two:

> "those groups without whose support the organization would cease to exist" p31

> "any group or individual who can affect or is affected by the achievement of the organization's objectives." p46

Sternberg states that the second of these definitions, which is now the more commonly used, has increased the number of stakeholders to be considered by management adopting a stakeholder approach. Therefore a group can be affected by an organisation without necessarily being able to bring about its cessation by withdrawing its support. In fact the difference in these two definitions has resulted in a distinction between primary and secondary stakeholders (Clarkson, 1995); where a primary stakeholder is one whose continued support is necessary if the firm is not to be seriously damaged. Again, this appears to be another modification of the definition, where instead of an organisation ceasing to exist it is 'seriously damaged' by the withdrawal of support.

2.3.1 Descriptive accuracy

Stakeholder identification is especially important when considering stakeholder theory from a managerial perspective and when attempting to develop an accurate, descriptive stakeholder theory that accurately describes how managers' act. This is suggesting that managers, when managing, actually take into account the different stakeholder groups affected by their actions. If this is the case the managers will need to be able to identify relevant stakeholders and have some system of reaching a decision where there is stakeholder conflict. The approach taken to identifying stakeholders and resolving

stakeholder conflict will very much depend on whether a manager's motivation for stakeholder management is instrumental or normative and is to these two aspects we now turn.

2.3.2 Instrumental power

At first glance the two ideas of shareholder wealth maximisation and stakeholder management would appear to be diametrically opposed; a firm can not serve both its shareholders and stakeholders at the same time. The instrumental power of stakeholder theory, however, suggests that stakeholder management can be used to achieve shareholder value. Shankman (1999) suggests that a balance between the different stakeholder groups' interests is essential in ensuring that the organisation continues to be viable and achieves other performance goals. Jones (1995a) suggests that this is to be expected as, if contracts between organisations and stakeholders are on the basis of trust and co-operation, a competitive advantage will follow. This will be because less expense will be required in monitoring and enforcing such contracts. Numerous empirical studies have been performed that attempt to verify the instrumental power of stakeholder theory through attempting to link improved stakeholder management with improved economic performance and hence shareholder wealth maximisation (Aupperle et al., 1985; Waddock & Graves, 1997; Greenley & Foxall, 1997). An underlying assumption which is not always explicitly recognised in these studies is that the firm should be operating for shareholders, i.e. they should be shareholder wealth maximising. Therefore stakeholder management is not an end in itself but is simply seen as a means for improving economic performance. These studies appear to legitimate stakeholder management through its usefulness in achieving a firm's primary objective, namely maximising shareholder wealth. This assumption is often implicit, although it is clearly stated by Atkinson et al. (1997) and is actually inconsistent with the ethical reasons for adopting stakeholder theory. Therefore instead of stakeholder management improving economic, or financial, performance it is argued that a broader aim of corporate social performance should be used (Jones and Wicks, 1999). Further, Jones and Wicks note that certain ethicists need no instrumental justification as moral behaviour "is, and must be, its own reward".

Another illustration of how stakeholder management has been argued to result in shareholder wealth maximisation is the "balanced scorecard" performance measurement system (Kaplan and Norton 1992, 1993, 1996a, 1996b). This system, it is claimed, actually balances the competing needs of an organisation. In its original form (1992) the balanced scorecard was credited with the ability to "allow managers to look at the business from four important perspectives". These four perspectives were the:

- customer perspective;
- internal perspective;
- innovation and learning perspective; and
- financial perspective.

Shareholders and customers are two specific stakeholders that are mentioned within the balanced scorecard, however continuous improvement and innovation would also indicate the need for employee development and supplier relations should be incorporated within the internal-business-process perspective (as it was referred to in 1996a). In fact each business is expected to design and adopt its own scorecard to meet its own needs. Kaplan and Norton (1996a) explicitly state that they "don't think that all stakeholders are entitled to a position on a business unit's scorecard. The scorecard outcomes and performance drivers should measure those factors that create competitive advantage and breakthroughs for an organization." Having said this it is not unlikely that the perspective of each primary stakeholder would be incorporated at some point within the balanced scorecard and as such it could be considered to be a stakeholder based performance measurement system. However, the overarching objective of the balanced scorecard is to achieve both short-term and long-term financial success and it is actually competing with other more explicitly shareholder value based approaches as a method to enable businesses to achieve this.

The appropriateness of stakeholder theory, as an appropriate mechanism for corporate governance, has been criticised as containing four fundamental errors by Sternberg

(1994). The first criticism relates to the premise, noted above, that as stakeholders are intrinsically valuable then the needs of one group should not dominate the needs of the other, so suggesting equal rights for all stakeholder groups. Sternberg argues that the participants in a business are not equal and by considering them as such 'stakeholder theory confounds business with government' where citizens are equal under law. Secondly she argues that simply because a business affects or is affected by its stakeholders this does not require them to be accountable to those stakeholders. This is in the same way that businesses are affected 'by gravity' but are not accountable to it. The third criticism is that stakeholder theory "effectively destroys accountability" in that a business "accountable to all, is actually accountable to none". The final criticism is that stakeholder theory does not provide a suitable criterion by which the interests of stakeholders can be balanced. These criticisms are addressed by certain stakeholder theorists, see for example Mitchell et al. (1987) and Clarkson (1994) discussed in Chapter 3, in that they provide methods by which stakeholder theory is used to restrict the number of relevant stakeholders and to identify the more 'salient' stakeholders. Therefore these techniques do not balance but prioritise stakeholders. In addition it is also noted above that it is often the case that shareholders are still, either implicitly or explicitly, given primacy. The managerial and descriptive accuracy aspects of stakeholder theory have been discussed so far, but possibly the most far-reaching aspect of the theory is its normative justification and we consider this next.

2.3.3 Normative validity

This approach to stakeholder theory raises a critical issue with regard to what is ethical or moral behaviour. The actual moral and ethical models used in conjunction with stakeholder theory have been manifold and include Kantian ethics, social contract, the common good (Argandona, 1998), Rawlsian theories of distributive justice and Aristotlean ethics. The works of Kant and Rawls are the most commonly referred to in the stakeholder literature and these will be discussed below. Social contract theory is also discussed in a separate section.

The work of Kant has been considered in the fields of corporate social responsibility (L'Etang, 1995) and stakeholder management (Evan and Freeman, 1988). Firstly, it is argued that it is 'wrong to use people as a means for one's own needs'. Therefore, consideration of stakeholders, and the use of individuals within a stakeholder group, merely to improve shareholder wealth would be considered wrong under this criterion. Both Donaldson and Preston (1995) and Smith and Hasnas (1999) have questioned the sufficiency of this argument. Even if it is accepted that there is a requirement to treat all stakeholders as ends in their own rights, "this claim appears to imply only that no stakeholder may be forced to deal with the corporation without his or her consent" (Smith and Hasnas, 1999). They continue that this is a fundamental gap in the reasoning of stakeholder theory and this gap actually questions its adequacy as an ethical theory for business. The level of choice for stakeholders, or individuals dealing with large businesses, is interesting. It is certainly difficult to avoid dealing with large businesses as a whole, because they are so pervasive in modern societies. Individuals' lives are affected in many ways by the actions of these organisations. They provide the majority of work, the majority of products, and the most widely accepted investment opportunities. Therefore it would be a difficult, and some would say extreme, action to choose not to deal with large businesses at all. Obviously this is not suggesting that there is not a choice between large organisations.

Rawls (1973) developed a framework for considering ethical concepts specifically with regard to distribution and justice. He derived two principles from his 'original position' of a 'veil of ignorance' which were, firstly, that individuals have certain equal rights to basic liberties; and secondly, that social and economic inequalities are "just only if they result in compensating benefits for everyone, and in particular for the least advantaged". Thus Rawls is not a utilitarian, although certain individual rights are protected there is a need for some distributive justice (Moore, 1999). If we follow Rawls's argument, then if society as a whole is to benefit, the distribution of welfare within that society must at least be considered. Wood (1994) suggests that a 'normative stakeholder theory is much more compatible with a Rawlsian view of just distribution than with an egocentric or firm-centric view of wants.' Freeman and Evan (1990) apply the concept of a veil of

ignorance to stakeholders where the stakeholder does not know "which particular stakes he or she actually holds in the corporation". They suggest that from this initial position it would be 'rational' for stakeholders to choose to have a 'voice' in terms of board representation. Freeman and Evan's application of a Rawlsian 'veil of ignorance' has been criticised by Child and Marcoux (1999). They suggest that it is not appropriate 'in form, nor purpose, nor the level of knowledge' as the stakeholder would require an incredible amount of knowledge about economic activity and the corporate world. This being said, Husted (1998) does not use a Rawlsian 'veil of ignorance' but rather justice theory as taken from the 'social psychological literature' to reach a similar conclusion: that for issues of distributive justice the relevant stakeholder requires a 'voice' in the decision making process. Child and Marcoux (1999) also criticise this conclusion, as they argue it fails to show that giving stakeholders a voice, or board membership, is necessary for their protection. They conclude that it is not necessarily rational for all stakeholders to have board membership when they are protected by "the market, the law of corporations, contracts, and torts, and perhaps some judicious government regulation." Similarly, Hasnas (1998) suggests that this argument simply concludes that businesses must deal honestly with stakeholders and that stakeholders should be free to choose whether to deal with a business or not. This is not the same as requiring an involvement in the decision making process.

2.3.4 Stakeholder theory?

Trevino and Weaver (1999) argue that, as stakeholder theorists have attempted to develop a more precise stakeholder theory, the tendency has been to rely more on concepts from other theories already existing in the organisational literature. This makes stakeholder theory appear, to them, a "special case application, of these existing organizational science theories of resource dependence, power, conflict and negotiation, legitimacy". They further note that the work of Rowley (1997) utilises "network analysis, resource dependence theory and institutional theory" when considering stakeholder influences. In fact they suggest that stakeholder theory is not actually a theory, but this is possibly not that surprising considering the fact that Freeman (1984) himself described his work as

more a 'framework' than a 'theory'. This use of a multitude of theories leads Trevino and Weaver (1999) to conclude that stakeholder theory is in actual fact not a theory but a research tradition. Stakeholder theory is better described as a research tradition because

> "research traditions incorporate multiple, varied theories that are focused on the same domain of observed or postulated phenomena or related sets of questions or problems." (p. 224)

Therefore a stakeholder perspective may be an appropriate research approach for addressing a research question but it is not a theory in which to ground the research.

2.3.5 Concluding thoughts on stakeholder theory

In terms of our considerations here it is the normative justifications for stakeholder theory that are of most interest. The theory has been criticised in that it fails to provide stakeholders with any rights other than the need to consent to the activity. In the case of most stakeholders, the voluntary stakeholders, this is not a problem as they can withdraw their consent and therefore no longer transact with the organisation. If this is the case then it is the involuntary stakeholders, who do not actively choose to transact with the organisation, that need some form of voice or protection. A further criticism is that stakeholder theory does not suggest the need for stakeholder management as the rights of the different groups can be upheld through other means, for example law and regulation, rather than through specific management practice.

2.4 Social Contract Theory

Social Contract Theory is most often associated with the work of Hobbes (1651) and Rousseau (1762) where a contract, usually considered to be implied or hypothetical, is made between citizens for the organisation of the society and as a basis for legal and political power within that society. The idea is that for the legal and political system to be legitimate it must be one that the members of society would have rationally contracted into. Social contract theory has been applied to the question of business in society in a similar fashion by considering "what conditions would have to be met for the members of

such a society to agree to allow corporations to be formed" (Smith and Hasnas, 1999). The conclusions reached by the theorists include that the members of society would demand that the benefits outweigh the detriments, implying a greater welfare for the society while remaining "within the bounds of the general canons of justice" (Donaldson, 1982). This can be summarised into two basic requirements that relate to social welfare and justice. Hasnas (1998) suggests that

> "when fully specified, the social welfare term of the social contract requires that businesses act so as to 1) benefit consumers by increasing economic efficiency, stabilizing levels of output and channels of distribution, and increasing liability resources; 2) benefit employees by increasing their income potential, diffusing their personal liability, and facilitating their income allocation; while 3) minimizing pollution and depletion of natural resources, the destruction of personal accountability, the misuse of political power, as well as worker alienation, lack of control over working conditions, and dehumanization." (p. 32)

The justice term is less agreed upon but Hasnas suggests that one thing it should require as a minimum is that businesses do not "systematically worsen the situation of a given group in society." This obviously has a strong resonance with stakeholder ideas. Social contract theory has been criticised most usually because, as mentioned earlier, the contract is either argued to be implied or hypothetical. Therefore there is no actual contract (Kultgen, 1987), that members of society have not given any formal consent to such a contract, and that they would be surprised to learn of its existence. Donaldson (1989) freely admits that the contract is a 'fiction' but continues that this does not undermine its underlying moral theory.

2.5 Conclusion

Business ethicists have argued in considerable detail about what ethical theory should underpin business and what implications this has for the way businesses operate. The argument is specifically concerned with whether the fiduciary duty to shareholders, that is presently upheld, inappropriately privileges this group within society. In terms of the ethical justification of business activities it appears that the social contract theory is an all-encompassing concept, as both shareholder and stakeholder proponents have argued, in terms of benefits to society. The competing shareholder and stakeholder theories are

actually conflicting in terms of how this is achieved. If the true objective of the firm is accepted to be to benefit society, then the question remains, how can this best be achieved? Shareholder theory would suggest that this is through shareholder wealth maximisation, although this must not prevent the ethical treatment of other stakeholders (Sternberg, 1998). Stakeholder theory has been argued to be not a theory but more a framework and in addition it has been claimed (Jones, 1995) that it provides an integrative theme for the corporate social responsibility field. This would appear to be supported in the use of the stakeholder concept in considering the social performance and responsibilities of firms (Litz, 1996; Roberts, 1992).

The social impact of organisations is very much influenced by the legal constraints on their activity. Incorporated organisations actually depend upon law for their very existence and all their dealings must take into account the 'laws and regulations of the jurisdictions in which they are constituted' (Sternberg, 1998). These laws and regulations are socially constructed and therefore an important argument in the business and society field is to consider what role public policy or government regulation has to play. Specifically of interest is whether it could or should be used to 'recalibrate the balance' of power between shareholders and other groups (Marens and Wicks, 1999). This view is strongly resisted by free market economists, who argue that business should be allowed to operate with far lower levels of intervention (Miller, 1998). Harrington (1996) suggests that it is important for regulatory policies to be subject to ethical analysis, as it impinges on the relationships between businesses, government and the stakeholders effected. Harrington continues that a "productive way to conduct this type of ethical analysis is to evaluate policy choices and consequences by taking into account the competing and conflicting interests of all relevant stakeholders and scrutinizing the extent to which various courses maximise the balance of those interests." The process by which this is done is firstly identifying the stakeholders and their interests and then estimating the impact of policy changes on these interests.

In the light of this discussion the remainder of this thesis proposes to consider the impact of a new regulatory regime upon the electricity industry in England and Wales. The

specific concern is the social benefit or cost of this change in policy and this will be analysed through a stakeholder framework.

Chapter 3: Methodology and Stakeholder identification

3.1 Introduction

In the previous chapters the area of research has been identified as the privatised electricity industry in England and Wales. The theoretical arguments for private sector ownership have also been considered. Chapter 2 argued that modern businesses are allowed to operate by modern societies and as such there is a social contract between these organisations and the societies within which they operate. It was also suggested that if this is the case then it is in the interest of the society, or the public interest, to understand how that organisation is operating and also whether it is in breach of that social contract. As such the organisation should be held accountable to society for its actions as this would be in the public interest. It was also suggested that one way to analyse the social impact of an organisation is to consider how it affects its stakeholders. Harrington (1996) suggests that a stakeholder analysis is also the best way to consider the appropriateness of public policy decisions. Therefore the area of research is the electricity industry and the principal method of analysis that will be used is stakeholder analysis. This chapter considers this methodology and methods to be used in performing this analysis, but first further specifies the field of research and the research questions.

3.2 The research questions

The research was initially inspired by a desire to answer the following question:

Has society benefited from the privatisation of
the electricity industry in England and Wales?

This may seem a simple question, but in fact it is problematic as how can you analyse whether society has or has not benefited? Ryan, Scapens and Theobald (1992) comment that the appropriateness of relying upon analyses of accounting standards "based on the private interests of managers and shareholders" for "analysing the effects on social

welfare" has been questioned (Puxty and Laughlin, 1983; and Cooper and Scherer, 1984). Therefore simply considering financial performance as reported in financial statements in line with accounting standards is insufficient.

In the previous chapter it was argued that one way to consider this would be to use a stakeholder analysis and this assumes that society is made up of multiple stakeholding groups. This is a pluralistic view that offers a means of analysing the larger society as a whole.

If this is accepted as an appropriate means of operationalising the research we are still left with two significant difficulties and these are:

(a) How are the stakeholder groups to be identified?

This question was touched upon in Section 2.3.1 under the descriptive accuracy of stakeholder theory. We revisit this problem in section 3.4 below.

(b) How can we say whether a group has, or has not, benefited?

The second question is the real crux of the research and requires a stakeholder performance measurement model to be designed and applied if it is to be answered. The method for achieving this will be clarified in section 3.5 below. First, though, we shall spend some time justifying the importance of the area of study and discuss the limitations of the chosen methodology in the following section. Then the problems associated with stakeholder identification and the development of the model are discussed.

3.3 The field of research

The privatisation programme undertaken in the UK was discussed in Chapter 1. The key points were that the primary rhetoric of the time argued the case for privatisation on economic grounds, with the implicit assumption that private ownership would lead to

more efficient service provision. Further, it has been argued that the long-term success of the privatisation programme will be judged on the grounds of economic efficiency (Vickers and Yarrow, 1988). The economic argument for privatisation is based upon an implicit assumption that the private sector promotes efficiency and therefore creates value. However, it has long been argued that these gains are not actually generated through a change in ownership but more by the effects of competition normally faced by firms operating in the private sector. It was recognised at the time of the sale of the utilities that the natural monopoly nature of the industries was problematic. The response was two-fold in that firstly liberalisation acts were passed and secondly regulatory offices were set up to 'hold the fort' until sufficient competition arrived (Beesley and Littlechild, 1983).

Regulation is still evident in all of the privatised utility industries. It is this regulatory regime which distinguishes these private sector companies from their counterparts on the stock exchange. The price-cap method of regulation has been adopted in all of these industries. This method was chosen as it theoretically provided the strongest incentives to provide economic efficiency. It attempts to replace and perform the same tasks as the missing competitive, or market, forces. Therefore, in theory, these regulated utility companies are operating under the same conditions as other private sector companies with the exception that the normally 'invisible hand' of the market is replaced by the more visible hand of the regulator. Cooper, Crowther and Carter (2001a, b) argue that there are two processes within the regulation of utilities in the UK an overt and covert review. The overt review is carried on through a formal discussion process and is mainly carried out through the media and public statements. In contrast the covert review is very much a "private discourse and sharing of information" between the regulator and the companies, and this part of the process has been criticised for lacking transparency.

It can be argued that the privatisation of the utility industries evolved through time. The earlier privatisations, namely telecommunications and gas, can be recognised as those where the industry was privatised into a single private sector company. Chronologically the next utility to be privatised was the water industry in England and Wales. At the time

of its privatisation it was separated into ten vertically integrated regional water and sewerage companies. This horizontal separation into regions may be considered to be an attempt to address one of the fundamental difficulties facing the regulators, namely information asymmetry[4] (Bishop and Kay, 1988; Jenkinson and Mayer, 1996; Vickers and Yarrow, 1988). The advantage of the industry being separated into several companies was the multiple sources of information they provide. The benefits to the regulator are derived from the ability to compare the similar companies and establish benchmarks and therefore implement yardstick competition. A further step was taken in the subsequent privatisations of the electricity industry in England and Wales and the railway as these were separated both vertically and horizontally. This is exemplified in the electricity industry in England and Wales, where the structure can be explained as follows:

- Generation, a potentially competitive industry and therefore not requiring formal regulation;
- The National Grid, a natural monopoly as the most efficient service is provided by a single organisation (Foster, 1994), that requires regulation; and
- Twelve supply and distribution companies which at the time of privatisation held regional monopolies. This regional separation enabled the regulator to use yardstick regulation with the intention of introducing true competition later.

The benefits of this vertical separation of the industry were seen to be the opportunity this provided to minimise regulation. For example, it was believed that electricity generation would not require regulation as it was potentially competitive, and competition was believed to provide the best incentive to efficiency. The only natural monopoly elements are the wires that transmit and distribute the electricity and these would always need to be regulated. It can be argued therefore that the more separated industry structures are the most theoretically advanced, with the revised structure being based upon the experience gained from earlier privatisations.

[4] Information asymmetry is where one group, in this case the managers, has more information than another group, in this case the regulator. Where information asymmetry exists it is possible for the group with the additional information to mislead the other group. The ability to do this, it is argued, is reduced where there are other sources of information, such as other companies in similar circumstances.

The utility industries are of incredible importance in modern societies as they provide goods that are relied upon very heavily. As such they have great importance for the quality of every day life. It is perhaps not surprising that this public policy, of passing these industries from the state, elected by the demos to uphold societal norms, to private sector companies primarily required to satisfy the shareholder, was controversial. It is the combination of monopoly power, albeit potentially tempered somewhat by economic regulation, and private ownership that makes this an interesting field of study.

In addition the electricity industry was the first of the advanced privatisations and therefore provides a unique case, which has been selected for in depth study. The selected industry can be regarded as a single case as a single regulator regulates it. Both the context of the research and the nature of the research questions justify this methodology.

> "In brief, the case study allows an investigation to retain the holistic and meaningful characteristics of real-life events-such as... the maturation of industries."
>
> p. 3 (Yin, 1994)

> "A second rationale for a single case is one in which the case represents an *extreme or unique case*."
>
> p. 39 (Yin, 1994)

The validity of the case study approach has been questioned as it can be biased and further that it lacks scientific rationale. Ryan et al. (1992) suggest that there "can be no such thing as an 'objective' case study" (p126) and the question of bias is indeed a difficult one to refute, as the area of research is indeed one that the researcher held some views on before embarking upon the research. Prior knowledge of the research area can raise questions as to the bias of the researcher, but surely this is not restricted to case studies alone. In most pieces of research the researcher must have had some knowledge of the research area otherwise they would not have been interested in the research question. This view is supported by McSweeney and Duncan (1998) (as well as others, for example Samuels, 1981; and Carr 1981) who suggest that their:

> "paper draws on the argument that an understanding of something is profoundly shaped by the prior images of the analyst. There cannot be a "view from nowhere" (Nagel, 1986). "An interpretation", Heidegger states, "is never a presuppositionless apprehending" (1967)."
>
> p.332

In order to attempt to combat concerns of bias multiple data sources have been used to try and triangulate (as per Smith, 1975) the findings of the research. The different methods include academic literature reviews, interviews and data collection from publicly available sources. The use of publicly available data (from company reports, press comment and research bodies) to analyse the case hopefully increases the objectivity of the research. This is data triangulation as the data is collected from different sources.

In addition it is recognised that the interviewees themselves may be biased. In fact Easterby-Smith, Thorpe and Lowe (1991) state the following:

> "The possibility that the client [interviewee] will have preferred outcomes from the study returns us to the issue of whether research will automatically become 'contaminated' by such political considerations. If this happens some people argue, the results will be valueless, and therefore this kind of research [interviewing management] should be avoided. Our view, however, and that of Buchanan et al. (1988), is that this kind of contamination is unavoidable in social research, especially when it is conducted within the management levels of an organisation."
>
> p.57

It is hoped that the method of interviewing more than one representative of a stakeholder group and multiple stakeholder groups diminishes the opportunity for any single interviewee to bias the research[5]. In addition the triangulation with publicly available comment reduces the possibility of bias.

The use of a single case is criticised for lacking scientific rationale and generalisations to a wider population will not be possible. Despite this the quotes from Yin above certainly suggest that this approach is an acceptable research method. In this instance the primary purpose of the case study is to explain the performance of the electricity industry for the period of time under consideration. Further, single cases can be used to generate hypotheses, or frameworks, that can be further researched in other areas to consider their general applicability. In this case the issues of corporate social responsibility,

accountability and corporate social reporting are considered in the light of the findings of the case and these are areas where some generalisation may be possible. Any generalisation will not be statistical generalisation, but more theoretical in nature as advocated by Ryan et al. (1992).

A case study approach has been adopted, but it is recognised that this can be criticised for a lack of objectivity. This is acknowledged and steps have been taken, in terms of triangulation of data, to restrict this problem. The final word on this subject I leave to Ryan et al. (1992), as this appears to adequately recognise the problems facing all social science researchers:

> "it has to be accepted that case study research provides an interpretation of the social system being studied, not an objective representation. But can any social science research method claim to do more?"
>
> (p.126)

3.4 Stakeholder identification

In order to be able to perform stakeholder management or a stakeholder analysis it is first necessary to identify the relevant stakeholder groups. This is a difficult problem, not least because of the multiple definitions of what constitutes a stakeholder, as discussed in the previous chapter. Several attempts have been made to identify and distinguish stakeholder groups and three of these are now considered. Mitchell, Agle and Wood (1997) developed a theory that identifies relevant stakeholders and measures their salience. The salience of a stakeholder, they argue, is dependent upon the stakeholder's power, legitimacy and urgency and each of these three elements is now considered in more detail. Mitchell et al (1997, p. 865) quote Salancik and Pfeffer (1974) when suggesting that power is the "ability of those who possess power to bring about the outcomes they desire", and further from Etzioni (1964) they suggest that the bases for power are resources, either physical, material or financial, or symbolic. To be legitimate actions must be "desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p.574). For urgency

[5] The actual interviews performed are discussed in more detail in section 3.5 below.

Mitchell et al argue that the relationship must be 'time-sensitive' and critical to the stakeholder. If all three elements are apparent in a stakeholder relationship then management have a "clear and immediate mandate to attend to and give priority to that stakeholder's claim." Mitchell et al. refer to these as the definitive stakeholders. They also suggest that legitimate stakeholders who have little power and are not urgent will not be uppermost in the minds of management and are in fact 'discretionary'. This therefore suggests that legitimate stakeholders can be ignored, but such a conclusion is not in line with the normative aspect of stakeholder theory.

An earlier method for identifying stakeholders was suggested by Clarkson (1994) and he claims that this alternative method incorporates the normative concerns of stakeholder theory. He suggested that a stakeholder should be identified if they "bear risk as a result of a firm's activities" where risk is defined as "a hazard, a danger, or the possibility of suffering harm or loss" (p. 5). This definition of a stakeholder also addressed the criticism that stakeholder theory was evolving to a position where "every conceivable animate or inanimate object" would need to be considered as a stakeholder by management. Using this risk model of stakeholder identification, it is argued that the firm is only responsible to those who have invested in the firm. In this respect Etzioni (1998, p.683) defines investment "as the outlay of money, time, or other resources, in something that offers (promises) a profitable return." "According to this framework, governments, competitors, terrorists, the media, and activists who bear no personal risk from a firm's activities fall outside the stakeholder designation and therefore require no reciprocal moral consideration" (Vidaver-Cohen, 1999). Clarkson (1994), however, also introduced another distinction, between voluntary and involuntary stakeholders. Certain stakeholders choose to invest some form of capital in the organisation and the organisation accepts and uses this investment. These are the voluntary stakeholders (these include shareholders, investors, employees, managers, customers and suppliers) who can withdraw their stake and as a result they should be provided with some value added. It is argued that involuntary stakeholders (such as individuals, communities, ecological environments, or future generations) do not choose to enter into, nor can they withdraw from, the relationship with the organisation. It is plausible that according to Mitchell et al (1997)

these involuntary, but nonetheless legitimate, stakeholders could be ignored, or certainly given a low priority, as they have no power or urgency. In contrast the risk model, as developed through normative concerns, suggests that organisations have a moral obligation to minimise the risks and potential harms these involuntary stakeholders face, and to internalise any potential costs such risks may incur. This more normative approach to the problem of stakeholder identification appears more appropriate in the context of the social contract argued for in the previous chapter and therefore it is intended to use the generic stakeholder groups of Clarkson (1994). Further support for the importance of these stakeholder groups can be obtained from Wheeler and Sillanpaa (1997). They have approached the issue of stakeholder identification from their practical experience and they "define stakeholder in four ways" (p.167), as summarised in Table 3.1 below:

Table 3.1: Wheeler and Sillanpaa's (1997) stakeholder typology

Primary social stakeholders	**Secondary social stakeholders**	**Primary non-social stakeholders**	**Secondary non-social stakeholders**
Shareholders and investors	Government and regulators	The natural environment	Environmental pressure groups
Employees and managers	Social pressure groups	Future generations	Animal welfare organisations
Customers	Civic institutions	Nonhuman species	
Local communities	Trade bodies		
Suppliers and other business partners	Media and academic commentators		
	Competitors		

The most significant difference between the two models is that Wheeler and Sillanpaa's secondary stakeholders do not feature in Clarkson's model. There is, however, a strong resonance between the primary social stakeholders and Clarkson's voluntary stakeholders and between the involuntary stakeholders with secondary social stakeholders. It is intended to restrict the analysis to the generic groups identified by Clarkson (1994), but the argument above provides some further evidence of their relevance in practice.

Having identified the stakeholder groups to be analysed it is necessary to consider whether these stakeholder groups have benefited, or not, since privatisation. In order to

do this a performance measurement model is required and the method for developing this model is discussed in the following section.

3.5 Developing the stakeholder performance measurement model

3.5.1 The literature review

The development of the model will be grounded in, and developed from, a review of the existing literature in the three key areas of economic regulation, performance measurement and accounting. Given the field of research, as identified above, it is necessary to understand the context within which the electricity companies operate and it is for this reason that the economic regulation literature is explored. In terms of developing the performance measurement model it is necessary to consider, but go beyond the accounting literature, as the interest here is in a wider social performance, as analysed through stakeholder performance. In order to achieve this the literature in the broader field of performance measurement and more specifically multi-dimensional performance measurement is also important. This enables an initial model of stakeholder performance measures, which are relevant to a regulated electricity industry, to be developed. Key sources were identified as academic journals and research books. It is interesting to note that academic interest in stakeholder performance measurement has fluctuated. For example much of the literature relating to employee reporting and measures dates to the late 1970s when employee reporting and employee reports were extremely popular in the wake of The Corporate Report (ASSC, 1975). In the intervening years this interest appears to have been all but forgotten and is now rarely mentioned in the academic literature. In contrast academic interest in 'Environmental accounting' has been increasing since the early 1980s and is now the subject of a great deal of research.

Two specific problems with literature reviews are that the literature can be dated, as mentioned above the academic literature on employee reporting appears to stop abruptly in the early 1980s, and it rarely specifically relates to the field of research. In order to confirm the appropriateness of the model, as designed from the literature review, it was

decided to interview industry specific stakeholders and managers. This is accepted in the literature as being appropriate, because where specific issues or aspects warranted further attention, there can be a wide variety of techniques used to explore these further (Bryman, 1989), including interviews (Wright, 1986). This provided an insight into the use of performance measurement by stakeholders and management in practice and aimed to discover the key performance measures that are presently used. This part of the research therefore attempted to corroborate the measures suggested by the literature. It is anticipated that in some cases this will augment the measures that have been identified as important from the literature. It is to these interviews that we now turn.

3.5.2 The interviews

Interviews were chosen as the method of data collection, as it was felt that this would give a more comprehensive insight into the pertinent issues. Interviews were preferred to questionnaires because this enabled a greater richness of data. It is acknowledged that this method enforces a smaller sample and can be questioned on grounds of objectivity. Questionnaires, however, often with worryingly low response rates, can also be subject to bias. For example it is only those recipients with strong views that respond. The interviews were separated into three distinct phases. Firstly, stakeholder representatives were interviewed in an attempt to discover what they considered to be the key issues in the industry. Interviews were then carried out with representatives of companies operating in the industry and finally representatives of the regulator and the government. First contact was made by letter to an appropriate person in the relevant organisation. In this respect web-sites were extremely useful and it was possible to identify an appropriate person. The response to these letters was disappointing and in fact it was the follow up phone calls where agreement to be interviewed was reached. Having said this, it was still useful to have sent the letters so that when the phone call was made the person had, usually, some vague recollection of seeing something about it.

As a very large number of individuals make up each of these stakeholder groups it was decided to interview organisations that had a specific interest in the needs of these

stakeholders. Therefore the following types of organisations were interviewed as proxies for the stakeholders themselves:

Table 3.2: Stakeholder representatives

Stakeholder group	Organisations visited
Shareholders	Institutional shareholders (1) Brokers (1)
Employees	Unions (2)
Consumers	Consumer groups (3)
Suppliers	Organisations supplying primary fuel (2)
The environment	Environmental pressure groups (2)

A specific problem with this approach is that the representative of the stakeholder group may have different or additional goals to those of the stakeholders themselves. As mentioned above, this type of bias has been addressed by ensuring that more than one stakeholder representative, always from different organisations, was visited for each stakeholder group. The exact number of organisations visited is represented by the figure in parentheses.

The second stage of interviews was with representatives of the companies. A representative from a company operating in each of the elements of the industry, namely generation, transmission, supply and distribution was interviewed. Gaining access to the company management was more difficult than for stakeholder representatives and required significant time and confidentiality restrictions, as well as questions such as "What's in it for me?" This is not a problem unique to this research and Easterby-Smith et al. (1991) note that as managers are busy and powerful people they will not allow research access "unless they can see some commercial or personal advantage to be derived from it." Further they note that the "more the company gives, in time and money, the more it expects in return." In this case the contribution required from the representatives was kept to a minimum with one member of staff interviewed at their place of work. In order to obtain this level of access it was necessary to offer both confidentiality and also findings from the research. The access obtained was at the level just below the board and the managers interviewed were obviously adept at public relations and handling face-to-face interviews.

During the stakeholder and company interviews the importance of the government and regulator was regularly reiterated and so the final interviews carried out were with these secondary stakeholders. Therefore the final stage of interviews were carried out with the regulator and a government representative. In addition the very first interview undertaken, whilst the research was still being scoped, was with the regulator (OFFER as they were at that time). This interview was most valuable in gaining an understanding of the role of the regulator, the workings of the industry, and the level of interest in stakeholders.

The interviews were, on the whole, undertaken over a period from June 2000 to March 2001. In total representatives from 17 different organisations were interviewed and this resulted in an extremely wide-ranging sample of the industry. Due to this breadth of coverage it was not considered possible to obtain a greater depth of access than a single interview with each organisation. The exception to this is the regulator, who was visited at a very early stage in the research and then revisited at the end. The majority of organisations were also only willing to agree to a single visit and therefore this limited the opportunity for further interviews with multiple representatives of the organisations. It is felt that the coverage obtained is significant, but to reiterate, attempts to triangulate the findings from these interviews have been made.

The stakeholder interviews were very open and semi-structured in that the initial letter had detailed four or five issues that could be discussed. So for example the letter sent to the unions, as a proxy for employees, suggested that the following issues would be discussed:

- the information presently available to employees and their representatives;
- the information needs of employees;
- employee remuneration in the privatised electricity companies;
- employee welfare in the privatised electricity companies; and
- the performance of electricity companies since privatisation.

Each of these areas could be considered to be a 'topic guide' (Jones, 1985) and this enabled a framework for the interviews. The use of semi-structured interviews was considered appropriate as the interviews wanted to "understand the constructs that the interviewee uses as a basis for her opinions and beliefs about a particular matter or situation" and because the subject matter was in some cases confidential (Easterby-Smith et al., 1991). The interviews with the representatives of the companies, the regulator and the government used the stakeholder performance model developed from the literature and the stakeholder interviews as the starting point. In addition to the broad questions some organisation-specific questions were also asked. The reasons for this were threefold. Firstly, such knowledge was perceived as important to demonstrate to the interviewee that some understanding had already been obtained and as such I was 'on the ball'. Secondly, the questions related to specific instances relevant to the themes discussed and as such increased the richness of the data. Finally, as the interview time was so restricted it was important that not too much time was wasted going over information already in the public domain.

All except one of the interviews were carried out face-to-face. The one exception was an environmental group where the interview was carried out over the phone. It is not believed that this weakens the evidence from that interview, although it is recognised that certain subtleties can be lost over the phone. Also, for this interview, as with all of the interviews, summary interview notes were written up and sent to the interviewee. This was done to enable the interviewee to review my understanding of what was said and to correct any misinterpretations that might have been made. Each interviewee was made aware that this would be done at the start of the interview and it is hoped that this enabled the interviewee to feel more comfortable about the process and more trusting of me. In the same vein the interviews were not tape recorded as it was felt, due to the confidential nature of some of the material, that this might be counterproductive. Easterby-Smith et al. (1991) also note that tape recording interviews can result in the loss of "potentially revealing insights", as the interviewee may be conscious of the tape.

3.5.3 Finalising and using the model

Once all the interviews were completed the findings from these and the literature review were combined to design the final stakeholder performance measurement (PM) model. This, however, was not the end of the research. Beyond this it was intended to use the model to analyse and evaluate the 'performance' of the regulated electricity industry in England and Wales since privatisation to their stakeholders. Section 3.6 below briefly discusses this aspect of the thesis.

3.6 The analysis

This analysis of stakeholder performance uses the stakeholder PM model to attempt to understand which stakeholders have gained and which have lost. At this stage a degree of pragmatism was required, because the analysis was to be performed from publicly available data. Therefore it was not possible to calculate all of the measures identified in the model. Having said this, the information available in the regulated utility industries is in excess of that in most private sector industries. The sources of information used include:

- The annual reports and regulatory accounts of the companies. These will be used to provide financial data concerning the performance, as measured in accounting terms, of the individual companies in the industry;
- Other reports produced by the companies, such as environmental and employee reports, will be considered as they provide further, specific information relating to performance in areas of interest to stakeholders.
- OFFER / OFGEM publications, such as customer service reports. These will be used to enhance the financial data collected above in order to consider issues of the quality of service provided;
- The Electricity Industry Review, as published by the Electricity Association, and The UK Electricity Industry Financial and Operating Review, as published by the CRI. These reports potentially provide a more objective

review of the performance of the industry as a whole. Issues relating to consumers are specifically addressed.

- Official Statistics produced by the government will provide a further perspective on the performance of the industry.

In addition, secondary data, in the form of public commentary in the financial and economic press, will provide further insights into the performance of the industry. This data is of importance as it provides supporting evidence for the other analyses undertaken and, more practically, the importance of the issues addressed.

Once an understanding of the winners and losers had been gained it was then considered necessary to explain why this had been the case Therefore a further analysis was performed drawing upon certain theories of power to do this. In this respect the research is more akin to a "radical, 'critical' world view" according to Ryan et al. (1992; p.81). As such they suggest that researchers of this ilk "view conflict as endemic in society due to the unequal distribution of power" and this certainly has some truth in this instance. They continue that the objective of this type of research is "to provide a vehicle for social critique" and they note that at that time little of this type of research had been carried out, but that "it represents an area of current development in accounting research." Finally they also note that such a perspective also requires a departure "from the traditional positive research methodology" and therefore apparently confirms the use of qualitative techniques within a case study as appropriate. Smith, Whipp and Willmott (1988) suggest that a failure to "appreciate how accounting techniques are created and operated within the context of the power relations between classes in society" seriously weakens the scope and value of case study research.

3.7 Conclusions

This research uses existing literature and interview data to design a performance measurement model specific to the electricity industry in England and Wales. It is argued in this chapter that the industry is an important and relevant one and that some more

general lessons may be drawn from it. The limitations of such a case study approach are considered and acknowledged, but it is believed that it is an appropriate methodology for social studies research.

The qualitative data extracted from the interviews is used to gain a richer and more specific understanding of the case study. The techniques used in the interviews have been discussed and justifications given for the approach taken. The findings of these interviews inform the stakeholder model designed and, it is believed, add significant insights into the industry and more generally stakeholder management.

It is disappointing that information is not publicly available such that the model designed could not be fully employed, however this also suggests limitations in the present reporting criteria. This suggests a need for a wider corporate social report if private sector companies are to be held accountable to their stakeholders. The need for such social reporting and the recent initiatives in this area are the subject of the concluding chapter to this thesis.

Chapter 4: Stakeholder Performance Measurement in Theory

4.1 Introduction

Performance measurement is effectively a comparative process (Churchman, 1967). Therefore an organisation's performance is considered in relation to either its own performance in a different time period or the performance of another relevant organisation. This still leaves the question as to what should be measured? According to Enderle and Tavis (1998), 'measurement grants importance' in that if a dimension of performance is not measured then it appears to be less significant. If we consider the implications of this for stakeholders we can argue that an organisation's failure to measure its performance for a stakeholder group implies that this performance, and therefore this stakeholder group, are less important.

The conclusion of Chapter 2, based on the business ethics literature, suggested that the social benefit or cost of the change in regulatory regime upon the electricity industry in England and Wales would be analysed through a stakeholder framework. More specifically this means a longitudinal analysis of the performance of the privatised companies in this industry to and for their different stakeholders. In Chapter 3 competing models of stakeholder identification were considered and a broadly consistent categorisation of key stakeholders was discovered. Therefore under Clarkson's (1994) model of stakeholder identification the following generic voluntary stakeholder groups were suggested:

- Shareholders;
- Investors;
- Managers;
- Employees;
- Customers; and
- Suppliers.

In addition to these voluntary stakeholder groups it is also intended to consider the effects on involuntary stakeholders as a single group although it is acknowledged that further differentiation within this group is possible.

This Chapter takes those stakeholder groups and reviews relevant literature to uncover appropriate measures of performance for each group. Firstly the social accounting literature is reviewed as this provides an interesting parallel to that of the business ethics literature considered in Chapter 2. This literature has been separated into two sections, firstly a section considering the theoretical context for social accounting (Section 4.2) and secondly a brief review of some of the more practical attempts at social accounting (Section 4.3).

4.2 The theoretical contexts of social accounting

Gray, Kouhy and Lavers (1995) suggest that there are three theoretical contexts for social accounting (or corporate social reporting) research. The first of these has been subject to many empirical studies and relates to the "decision-usefulness" of the information provided by such accounting. Much of the academic research in this area has been as an attempt to provide evidence of the relevance, primarily to financial investors, of social and environmental information (see for example Belkaoui, 1984; and Aupperle, 1984[6]). The results of these studies are not conclusive, although Mintzberg (1983) suggests that there is enough evidence to tentatively suggest that it "pays to be good, but not too good". The second area is in the area of positive accounting theory and agency theory and Gray, Kouhy and Lavers (1995) suggest that this has little to offer social accounting research. In fact they state that:

> "Apart from the intellectual doubts that one must have concerning the approach, its principal tenets of, first, (allegedly) avoiding any concern with what "should be" and, second, deferring all wisdom to (allegedly free) "markets" runs entirely counter to principal concerns of CSR which is motivated primarily by the market failures (especially injustices, anti-democratic tendencies, information assymetries and "externalities") and desire to change current practice. In addition, its central assumption that all actions are

[6] This research has a similar aim to the instrumental research discussed under Section 2.3.2.

> motivated by a morally degenerate form of short-term self-interest (see for example Gray et. al., 1994) seems not only empirically implausible but also highly offensive." (p.51-52)

The final category is social and political theory in which they identify "stakeholder", "legitimacy" and "political economy" theories. In addition to these three areas social contract theory, accountability, and a polyvocal citizenship perspective can be added from other literature. These perspectives in the social accounting literature and their implications for this research will now be undertaken.

Mathews (1993, 1995) calls our attention to social contract theory and suggests that this is the most "persuasive moral argument in favor of increased social and environmental disclosures". He supports this contention with the following passage from Shocker and Sethi (1974, p.67):

> "Any social institution - and business is no exception - operates in society via a social contract, expressed or implied, whereby its survival and growth are based on:
> 1. the delivery of some socially desirable ends to society in general; and
> 2. the distribution of economic, social or political benefits to groups from which it derives its power."

This argument that social accounting can be justified on the grounds of social contract theory is in line with the conclusions to Chapter 2[7], where it was further argued that a stakeholder analysis would be one way in which societal impacts could be considered. Such a view is supported in the accounting literature. Roberts (1992) argues that stakeholder theory provides the basis to "analyze the impact of prior economic performance, strategic posture towards social responsibility activities, and the intensity of stakeholder power on levels of corporate social disclosure" (p. 610). Similarly Gray (1998, p.210) suggests that a "stakeholder analysis ... would be enough to show a social account."

Gray (1998) further suggests that in actual fact "the standpoint of accountability and transparency" are the most frequently used. In his earlier work, Gray (1992), defines accountability as concerned with "the right to receive information and the duty to supply

[7] In Chapter 2 it was argued that the social contract theory is an all-encompassing concept, and that both shareholder and stakeholder proponents have argued, in terms of benefits to society

it." (p. 413) Within a wider literature different types of accountability are identified. Laughlin (1990) distinguishes between "contractual accountability", which is dominated by primarily formal (often accounting type) information flows, as opposed to "communal accountability", which is dominated by less structured "talk". Stewart (1984) identified a ladder of accountability including a legal accountability, process accountability, performance accountability and policy accountability. Laughlin's communal accountability can be likened to Stewart's policy accountability, where the goals and processes "are undefined and uncertain". A similar distinction can be drawn from Corbett's (1992) work where there is a political, legal and constitutional accountability and a separate personal and ethical accountability. These distinctions between the more and less formal accountabilities has an interesting resonance with the ideas of voluntary and involuntary stakeholders. Voluntary stakeholders, who choose to, or not to, transact with the organisation can be likened to those with a contractual accountability and the involuntary stakeholders may be more dependent upon communal (or policy or ethical) accountability.

Gray et al (1997, p.335) suggest that a stakeholder and accountability approach may fail to provide for all stakeholder needs. Their concern is that these approaches would be "too inert and only slowly responsive to changing stakeholder needs." In order to address this concern they see the need for a "polyvocal citizenship perspective" (PCP), which they claim offers an "alternative conception of social accounting" because the social account would, on the whole, but not entirely, report "the voices of stakeholders". The emphasis here is very much on a "dialogue" with stakeholders, such that their concerns with issues are efficiently and quickly incorporated into the management of the business. This has identified the need for developing a model 'focused on deepening stakeholder relationships around core non-financial as well as financial values and interests' (Zadek, 1998, p.1421). This gives stakeholders a much more proactive role in an organisation than either stakeholder theory or accountability necessarily suggest.

In opposition to the theoretical contexts for social accounting discussed so far, which could be argued to be from an ethical standpoint, there are also more managerialist

perspectives. The first of these is legitimacy theory, which argues that organisations must be seen to be legitimate. There is a degree to which this can be seen to be part of the social contract, as one way to gain legitimacy is to act within the cultural values of the society within which the organisation operates. Woodward, Edwards and Birkin (1996) in fact suggest that this is the most typical form of legitimacy for organisations, although legitimacy can also stem from "the accepted social structure" and can be designated by a "powerful" individual or group. Lindblom (1994) suggests that social accounting, when considered in light of legitimacy theory, can take one of four forms:

1. To educate the stakeholders about how the organisation will improve performance;
2. Seek to change stakeholders' perceptions of an event;
3. Distract attention away from an issue; and
4. Seek to change expectations about organisational performance.

In fact of these strategies it is only the first that entails the organisation changing. The remaining three motivations do not actually involve any change to the organisation's social and environmental performance. From this perspective social and environmental reporting can be seen to be about managers within an organisation attempting to manipulate external perceptions with no, or very little, ethical concern being shown.

Finally, social accounting can be seen to fall within political economy. The following quotation from Jackson (1982) is a useful definition:

> "Political economy is the study of the interplay of power, the goals of power wielders and the productive exchange system (Zald, 1970, 233). As a framework, political economy does not concentrate exclusively on market exchanges. Rather it first of all analyses in whatever institutional framework they occur and, second, analyses the relationships between social institutions such as government, law and property rights, each fortified by power and the economy" (p.74)

Gray, Kouhy and Lavers (1995) distinguish between "Bourgeois" political economy, as associated with the likes of John Stuart Mill, and "Classical" political economy more in keeping with the works of Marx. It has been argued that much of the social and environmental literature fails to take into account the conflicts between different interests

within society. Possibly the strongest critique of the mainstream social and environmental literature came from Tinker, Lehman and Neimark (1991). This work argues that the majority of social and environmental literature does not recognise the structural inequalities and conflicts present in modern societies. It is argued that due to its 'pragmatic' approach the social and environmental literature fails to consider the important issues of social justice and the systemic social ills (for example "waste, exploitation, extravagance, disadvantage or coercion"). They further argue that such an approach "denigrates the importance of accounting in shaping social struggles." The preference of Tinker et al. is for a "conflict-based perspective" that places power asymmetries at the 'foreground in the analysis" and acknowledges that it is the "basic inequalities" that cause the problems faced by modern societies[8]. Gray, Kouhy and Lavers (1995) accept some of these criticisms of the earlier social accounting literature and suggest that they:

> "are much persuaded by Held (1987) construction of neo-pluralism as a partial meeting place for Marxism and liberalism. The neo-pluralist conception recognizes that power will be distributed unevenly, that there will be conflict of interests (possibly structural) and that the focus of observation (e.g. observable corporation-society interactions like CSR) may, indeed, take place within a captured or controlled system."

This statement is indeed relevant to this research. As discussed in earlier Chapters, this work is influenced and informed by stakeholder theory and the concept of accountability. In addition evidence of strategies of legitimation and attempts towards stakeholder dialogue are discussed in the analysis Chapters to follow. However, the power asymmetries and resulting appropriation of different levels of returns by different stakeholder groups are considered of fundamental interest to this research. Therefore in Chapter 8 the analysis is revisited to consider the issue of (institutional and resource) power within society and how this can provide a deeper and more meaningful explanation of the events observed. Having discussed the theoretical contexts of social accounting it is also interesting to look at some practical attempts at social accounting, so some of these are considered in Section 4.3.

[8] Tinker (1985) provides a more in depth "social critique of accounting", which considers competing

4.3 Practical attempts at social accounting

This section will consider the development of two very different attempts at a form of social accounting from the early 1970s. Firstly, there is The Corporate Report (Accounting Standards Steering Committee (ASSC), 1975), which attempted to redesign the scope of reporting for wider stakeholder groups, and secondly Social Audit Ltd, which was an organisation that specifically considered an organisation's social performance from an external perspective.

4.3.1 The Corporate Report

The specific aim of The Corporate Report (ASSC, 1975) was to consider and "seek to satisfy, as far as possible, the information needs of users". With this aim in mind the following user groups were identified and their information needs considered:

(a) The equity investor group;
(b) The loan creditor group;
(c) The employee group;
(d) The analyst advisor group;
(e) The business contact group (including customers, suppliers, competitors...);
(f) The government; and
(g) The public (including taxpayers, consumers and special interest groups).

The user groups identified by the ASSC are in effect the stakeholder groups that they identified and it is therefore reassuring to see a high level of consistency with the stakeholder groups identified above. What purpose The Corporate Report could serve was also reviewed and a total of fifteen specific contributions to user information needs were identified. These included information that would enable the user groups to evaluate the performance, effectiveness, and efficiency of both the organisation and the management. In terms of the overall performance of the organisation it is suggested that a

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theories of value and some suggestions towards "radical systems of accounting."

statement of value added puts profits into "proper perspective". The value added by an organisation, as measured by turnover less purchased materials and services, is used to pay the contributing factors in terms of employee wages and benefits, dividends and interest, taxation, and amount retained for reinvestment. It was suggested that this statement provides a useful indicator of performance and activity.

Burchell, Clubb and Hopwood (1985) provide evidence that the value added statement grew in popularity in the late 1970s, but that this interest dwindled in the 1980s. They suggest that there are two strands to value added. Firstly it represents wealth created by the organisation and this "provides a basis for the improved calculation of certain important indices of enterprise performance, namely efficiency and productivity (e.g. Ball, 1968)". The second strand suggests that value added can reveal "something about the social character of production, something which is occluded by traditional profit and loss accounting." This is to say that value is created by a combination of efforts from different stakeholders co-operating. Therefore an important part of the rationale for value added was that it would make for a 'harmonious', 'democratic', 'co-operative' and 'efficient' organisation. A slightly different understanding of the role of value added was offered by Morley (1978), who suggested that there were three possible views of value added and these were:

1. To increase the rate at which power was shifting from capital to labour and government
2. To warn business that there was a shift in power occurring so that they respond against it
3. To help the "new masters to make sensible decisions".

The interest in the value added statement, and the other recommendations of The Corporate Report, went into decline with the election of the Conservative government in 1979. Burchell et al (1985) argue that this was due to a shift in economic and industrial relations policy. Therefore stress was placed on competition, training and 'shedding "surplus" labour', and the moves towards industrial democracy were not central to this.

The ability of a value added analysis to reflect shifts in power and to provide insights into the social side of business is of interest to this research and therefore a value added analysis will be undertaken. Value added analysis has been used by other researchers to critically consider organisational or industrial performance, and the analysis performed here will be influenced by this work (see for example Shaoul, 1997; Froud, Haslam, Johal, Shaoul and Williams, 1998; Froud, Williams, Haslam, Johal, and Williams, 1998).

4.3.2 Social Audit Ltd

This is an interesting case where an organisation was set up for the explicit motivation of "undertaking social audits of different companies and different industries" (Social Audit Ltd, 1973a). The quarterly publication "Social Audit" contained investigations into Tube Investments Ltd (Social Audit Ltd, 1973b), Cable and Wireless and Avon Rubber Company Ltd, as well as other more general issues such as the "social costs of advertising." This was seen as important as it would provide information, which although insufficient to correct all failings, would be an 'indispensable' part of the interaction between organizations and society. As such Social Audit Ltd identified certain groups "most affected by what a company does". These include shareholders who need additional information on a company's 'social policy' to inform shareholders' actions. It was argued that the correct ethical response is not to sell shares, but rather that this is an 'evasion of responsibility'. Employees were also identified specifically in the areas of redundancies, minority hiring, health and safety and 'working for Britain abroad', which was primarily concerned with employment practices in South Africa. It was also argued that consumer sovereignty was failing, as 'big business' has too much control over a market and therefore the consumer is left relatively powerless. Therefore it was argued that consumers need information with regard to products and price, innovation, disposability, inertia in business and consumer representation. The community was also discussed in light of the relationship between an organisation and the community within which it operates. This discussion was similar in many ways to the social contract argument as to whether community benefits or profits came first. In addition to these

groups, the environment was also identified, which considering the time was forward thinking. Key areas of concern in the environmental agenda, such as the use of natural resources, restoration and recycling, waste and pollution, were identified.

4.4 Stakeholder performance measurement

A second academic field that has considered the need of stakeholder performance measurement is that of strategic management. Chakravarthy (1986) argues that traditional financial measures are inadequate to assess an organisation's strategic performance and that in addition stakeholder satisfaction and the quality of an organisation's transformation[9] are important. In terms of specific stakeholders, Chakravarthy considers shareholders, customers, employees and the community and the performance of these organisations is measured in terms of the organisation's perceived reputation as reflected in the Fortune survey of corporate reputations within an industry. As such no objective stakeholder measures are developed. A somewhat similar approach to measuring stakeholder performance was adopted by Bendheim, Waddock and Graves (1998). In this paper the authors consider 5 primary stakeholder groups (community relations, employee relations, environment, customers and shareholders) where performance to the first four stakeholder groups is measured in terms of an organisation's specific rating in that category by Kinder, Lydenberg, Domini (KLD)[10]. Performance to the fifth group (shareholders) is measured by a 'moving average of 10-year financial return to shareholders'. In a similar but earlier paper Waddock and Graves (1997a) measure financial performance to shareholders through the use of three different measures, '10-

[9] Organisation transformation is the ability of an organisation to "transform itself to meet future challenges.... The transformation processes pursued by a firm can be classified into two broad categories: adaptive specialization and adaptive generalization (Chakravarthy, 1982)" (p.449) Adaptive specialization is predominantly concerned with "profitably exploiting the firm's current environment" (p. 449). "Adaptive generalization, on the other hand, is concerned with the investment of the firm's net surplus of 'slack' resources (Cyert and March, 1963) for improving its ability to adapt to uncertain or even unknown future environments." (p. 449)

[10] To quote Bendheim et al (1998) "Data on CSP are from the social research firm of Kinder, Lydenberg, Domini (KLD). KLD rates corporate social performance of companies in the Standard & Poor (S & P) 500 listing along 10 dimensions, 4 of which are used for this study. KLD's ratings of employee relations, product (a surrogate for customer relations), community relations, and environmental responsibility were obtained for each year from 1990 to 1993. For details on the construction and empirical use of KLD data as

year compounded total return to shareholders (a market measure), ROA (return on assets), and ROE (return on equity).'

From within the Business and Society field, Clarkson (1995) considered "stakeholder management" as the most appropriate framework for considering corporate social responsibility. Over a period of ten years Clarkson developed a 'reasonably comprehensive, but not exhaustive' list of some fifty corporate and stakeholder issues. The stakeholder groups identified in this work are: employees, shareholders, customers, suppliers and public stakeholders. If we reconsider the stakeholders identified for the purpose of this study, we again find that there is a great deal of consistency. The specific differences are that in the earlier list investors are included in addition to shareholders and that management has been separated from employees although in reality they are employees of the organisation. The public stakeholders, referred to in Clarkson (1995), incorporates environmental, social, and community relations, as was intended by the involuntary stakeholder group identified earlier. The list of fifty issues can be found in Appendix 1. It is argued that it is the management of these particular issues that defines how well an organisation has performed. If these specific issues are appropriately managed then the stakeholders of the organisation should be satisfied.

The remainder of this chapter intends to draw on the literature mentioned above in addition to other literature that more specifically pertains to the information needs of the various stakeholder groups identified.

4.4.1 Shareholders

The financial performance of an organisation for its shareholders has been widely discussed within the finance and accounting literature as well as elsewhere. A distinction that can be made is whether this performance is measured in terms of accounting or market based information. In terms of accounting information the emphasis is on

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a source of CSP assessment, please refer to Waddock and Graves (1997a, 1997b); Sharfman (1993); and Ruf, Muralidhar, and Paul (1993)." (p.311-312)

profitability and this is usually stated in relation to either sales or capital employed. The limitations of these measures are well known and have been for a quite considerable period of time. Chakravarthy (1986) suggests the following five problems in using measures based on financial accounts:

(a) Scope for accounting manipulation;
(b) Undervaluation of assets;
(c) Distortions due to depreciation policies, inventory valuation and treatment of certain revenue and expenditure items;
(d) Differences in methods of consolidating accounts; and
(e) Differences due to lack of standardization in international accounting conventions.

The manipulation of accounts, or in other words creative accounting, is widely acknowledged to adversely affect the comparability of different organisations' performance through the use of financial accounting data. Smith (1992) analyses the financial accounts of UK companies that ran into financial distress but appeared to be operating profitably according to their financial accounts. His analysis identified that these companies had been making use of accounting policies that could be construed to be creative. The conclusion is that such practice could well make such financial accounting measures meaningless. Since this time there have been many developments in both UK and International Accounting Standards, which have attempted to address these problems both at generic and prescriptive levels. Despite these attempts areas of subjectivity, scope for accounting manipulation, and a lack of International standardization still exist and therefore still threaten the value of financial accounts.

Despite acknowledging criticisms of financial accounts similar to those mentioned above Woo and Willard (1983) surveyed the performance measures used in strategic management and found that profitability measures were by far the most commonly used. In fact they conclude, "when properly complemented by other measures, this study shows that ROI [Return on Investment] is essential to the comprehensive representation of

performance." In terms of accounting profitability measures, Chakravarthy (1986) selected return on sales, return on total capital, and return on book equity to analyse the performance of 14 computer companies. He notes that these measures are consistent with those selected by Peters and Waterman (1982). Chakravarthy (1986) found that it was not possible to distinguish between excellent and 'non-excellent' firms using these profitability criteria. Further evidence of the popularity of profitability measures is provided by Waddock and Graves (1997b), who also considered return on assets, return on equity and return on sales. In addition to these profitability measures Chakravarthy (1986) made use of a market-based measure of performance, as did Waddock and Graves in a later paper with Bendheim (1998), and it is to these that we now turn.

As mentioned above, accounting measures of profitability have been heavily criticised. A further concern, especially in the strategic management field, is the historical nature of financial accounting. As Chakravarthy (1986) notes, "accounting-measures-of performance record only the history of the firm". The market capitalisation of an organisation reflects the value of the organisation as perceived by the market. It is simply found by multiplying the current number of shares by the current share price on the market. According to Stewart (1991) this does not provide an appropriate measure of shareholder wealth creation because:

> "Any company can maximise its total value simply by spending as much money as possible (both by retaining most of its earnings and raising new capital)" [11]
>
> (p190)

Stewart proposes that it is how investor's money is used that is important for measuring shareholder wealth creation and that this can be done by also taking into account the capital in the organisation. Stewart's preferred measure is Market Value Added (MVA) and is calculated by:

MVA = Market Value – Capital

Both the market value and capital elements include both the debt and equity of the organisation. Stern Stewart suggest that the measurement of capital is based on an 'adjusted book value', i.e. an accounting valuation subject to some adjustment (Crowther, Davies and Cooper, 1998). MVA is an absolute measure and therefore does not compensate for the different sizes of organisations. A similar measure, but one that is stated in relative terms, is the market to book (M/B) ratio. This is calculated by dividing the market value of the organisation by the organisation's value as reflected by the balance sheet. Chakravarthy prefers this as a strategic performance measure. He cites Rappaport (1981), who states that this measure reflects the perceived ability of an organisation to provide returns to shareholders in excess of their expectations. Similarly, Peters and Waterman (1982) suggest that this measure should reflect the future wealth creating potential of an organisation in the future. A problem with both of these measures is the use of accounting figures that, as mentioned above, can be manipulated. Also both measures ignore dividends as a source of wealth to the shareholders.

A measure that incorporates both the increase in market value and the level of dividends received is total shareholder returns (TSR). This is measured by the following formula:

$$TSR = \frac{(P1 - P0) + D}{P0}$$

Where: TSR = Total Shareholder returns,
D = Dividends in period,
Pn = share price at time n

This provides us with a one-period percentage increase in wealth to the shareholder. Waddock and Graves (1997a) use a "10-year compounded total return to shareholders" and they defined this as the "10-year average compounded rate of return, assuming that dividends are reinvested in the company's stock when paid and brokerage costs are negligible." Such a TSR measure effectively records the change in wealth of a shareholder over a period of time, but can be criticised as failing to take into account the risk of the investment. Finance theory suggests that shareholders are risk averse and as

[11] This suggests that it is only possible to enhance value by spending money, whereas it is possible to spend money that destroys value and therefore would reduce market value.

such require a higher return for riskier investments. Perhaps the most popular way to measure the risk of an investment is by using the Capital Asset Pricing Model (CAPM). The CAPM was first introduced by Sharpe (1964) and has become one of the most influential models in finance. It suggests that shareholders should be rewarded depending on the level of risk that they take and this can be measured by Beta. Beta is a measure of an organisation's systematic (or market) risk only as it is argued that all other risks should be diversified by the shareholder. CAPM suggests that the cost of equity or the required return to shareholders can be measured by:

Cost of equity = Risk free rate + (Beta * Market risk premium)

A more detailed description of CAPM and its related problems can be found in most finance textbooks (see, for example, Arnold, 1998). A risk adjusted total shareholder return would appear to be the most appropriate market-based measure of financial performance. However, as with all market-based measures it is actually based on the perceptions of shareholders. One problem with this is that the actual market price of a share is affected by many factors, some of which will be related to the macro-economic situation as opposed to the specific performance of an organisation. In this study it is intended that economic or market wide influences can be accounted for by comparing the organisation's performance with that of the market as a whole.

We have seen that measuring performance for shareholders can be separated into two categories: accounting-based measures; and market-based measures. Both types of measures have been criticised but at the same time widely used in a variety of guises and for a variety of purposes. As a result of the above discussion it is intended to consider both of these types of measure. In terms of accounting-based measures there appears to be some level of agreement that return on equity, return on capital employed, and return on sales have some value and it is therefore intended to consider these three measures. In terms of market-based measures it is argued that total shareholder returns as adjusted for risk and market-wide factors is most appropriate and will thus be used.

4.4.2 Investors

This stakeholder group is the equivalent to what is called the loan creditor group in The Corporate Report (ASSC, 1975). The investors' information needs are to enable the investor to assess the organisation's ability to honour the future payments required of them, in both the short and long term. The actual information needs of this group were identified as including information on economic stability and vulnerability and working capital and liquidity (ASSC, 1975).

In terms of the economic stability and vulnerability of an organisation the biggest concern is that of bankruptcy. Perhaps the best known measure of bankruptcy is the Z score as developed by Altman (1971). The Z score is calculated through using a weighted multi-variable formula and has been found to be able to predict, to some extent, future bankruptcy. The Z score is calculated as follows:

$$Z = 0.012a + 0.014b + 0.033c + 0.006d + 0.010e$$

Where: a = working capital / total assets; b = retained earnings / total assets;
c = profit before interest and tax / total assets;
d = equity market value / total liabilities book value; e = sales / total assets.

"If Z is less than 1.8 you are almost certain to go bust, if it is more than 3.0 you almost certainly will not." (Argenti, 1976; p57). Chakravarthy (1986) notes that the actual success of Z scores in predicting bankruptcy has been mixed but acknowledges that it can be "a valuable index of the company's overall well-being" (p.446) As such it should be useful in considering the economic stability and vulnerability of an organisation.

In terms of working capital management and liquidity there are several well-established accounting measures. As overall measures of liquidity perhaps the two most commonly used are the current ratio and the quick ratio. Each of these measures attempts to consider the ability of the organisation to pay its liabilities due in the near future. The difference

between the two measures is that the current ratio includes stock as a source of funds from which the liabilities can be paid. Therefore the two ratios are:

Current ratio = Current Assets / Current Liabilities
Quick ratio = (Current Assets – Stock) / Current Liabilities

In actual fact both the Z scores and the liquidity measures are likely to be of interest to most, if not all, stakeholder groups including shareholders. However, they are included here, as they are consistent with the specific information needs of the loan creditor group as discussed in The Corporate Report. It should also be remembered that all of these measures are based on accounting numbers and will therefore be subject to the same criticisms as the other accounting-based measures mentioned when considering shareholder performance measurement.

4.4.3 Managers

The management of an organisation is in a considerable position of power as they are the stakeholder group that is in day-to-day control of the organisation. In effect they are the group that decides the strategic direction of the organisation. The potential problems that this may cause were discussed in the previous chapter and would come under the auspices of agency theory. Despite this managers are employees of the organisation and as such the information needs and measures discussed for the employee stakeholder group below should be of equal relevance to managers. Therefore attempts will be made where possible to apply the employee measures to the managerial stakeholder group.

4.4.4 Employees

Employees are a primary stakeholder group, without whom the organisation can not operate, and it has been argued that they therefore have a legitimate right to accounting information (George, 1983). This 'legitimate right' has not always been reflected in British company law and The Corporate Report (ASSC, 1975) suggested that:

> "Nothing illustrates more vividly the nineteenth century origin of British company law than the way in which employees are almost totally ignored in the present Companies Acts and in corporate reports." (p.51)

Despite this lack of a legal requirement to provide employees with information examples of employee reporting can be found prior to The Corporate Report. Parker, Ferris and Otley (1989) suggest that examples of financial reporting to employees can even be found in the late 1800s and Woodward (1970) reported their use in the 1950s. Interest in employee reporting increased rapidly from the time of The Corporate Report to the early 1980s and this was reflected by both companies (Hussey, 1981; Lyall, 1982) and academics (see for example Hilton, 1978; Hussey and Marsh, 1983; Maunders, 1984). The academic interest in employee reporting appears to have dwindled, if not disappeared, since the mid 1980s and this would seem to support the contention of Parker et al. (1989) that the historical development of reporting to employees has been "characterized by countercyclical periods of interest from managers and accountants". The information needs of employees were most widely discussed in the context of the content of employee reports and this led to a plethora of potential measures being suggested. These employee reports are used as the primary source here for potential measures of an organisation's performance to its employees.

4.4.4.1 Specific performance measures for employees

Employee remuneration is considered to be the single most important item by Trade Unions in collective bargaining situations (Foley and Maunders, 1977)[12]. This does not mean that other aspects of employment are not important, but it is usually a fundamental component of any employment contract. Foley and Maunders continue that a change in the level of pay is supported by one or more of the following:

1. Changes in the cost of living;

[12] This is now rather dated, but the interest in employee reporting reduced in the early 1980s. This remains one of the most comprehensive texts in this area and the work of Ingram, Wadsworth and Brown (1999) appears to support the continued importance of the areas identified.

2. Comparability;
3. Productivity; and
4. Ability to pay.

These four component parts of wage settlements are broadly consistent with the work of Ingram, Wadsworth and Brown (1999) that examined the influences on wage settlements in the UK in the period from 1979-1994. In addition they found that the state of industrial relations and the state of the labour market would be of importance. It can be seen from these influences that the level of an employee's remuneration is not set in isolation but is more a factor of societal and organisational factors. As this is the case it is necessary to consider levels of remuneration, and their appropriateness, in relation to these societal and organisational factors.

Factors other than remuneration are important when considering an organisation's performance for its employees. Foley and Maunders (1977) argue that employee information needs fall into four major categories: job security; working conditions; achievement or performance indicators; and equity (between employees and shareholders, workers and management and between workers). This broadens the information needs of an employee to be more than purely relating to issues of level of remuneration. Specifically, job security and working conditions are not covered within the components of pay claims listed above, although achievement and equity were expressed in terms of remuneration comparability or productivity. Job security and working conditions will not have a direct impact on an employee's wealth or remuneration but will have a significant impact on his / her welfare.

Therefore it would appear that the key components of performance for an employee will relate to:

1. Levels of remuneration, most importantly in relative terms to the cost of living and in comparison to other employees and other stakeholder groups;

2. Changes in productivity as both an indication of the intensity of the work experience of employees and also as a component part of the drivers of changes in remuneration;
3. Working conditions and job security.

The completeness and appropriateness of the list above can now be compared to the proposals for employee disclosure recommended by several organisations in the 1970s. Hilton (1978) produced a *Summary Chart of recommendations on disclosure* that is reproduced below and highlights the key information needs of employees.

Table 4.1: Information needs of employees

Information heading	TUC	CBI	ACAS	100 Gp	DoT
Objectives	-	X	-	-	X
Employment	X	X	X	X	X
Pay, conditions	X	X	X	X	-
Productivity	X	X	X	X	-
Plans	X	X	-	X	X
Competition	-	X	-	-	-
Financial information	X	X	X	X	X
Unit-based reports	X	X	-	-	X

Hilton suggests that there is a consensus here which clarifies the appropriate content of an employee report. If we take a consensus to be where the majority of the 5 organisations believe that the information should be included, we are left with the following categories: employment, pay and conditions, productivity, plans, financial information and unit-based reports. Matching these to the key components suggested above again shows a level of consistency that is reassuring. Pay, conditions and productivity can be matched immediately. Further employment relates to details concerning manpower or personnel information that we will see are important as drivers of job security and job satisfaction. Plans are considered important for the purposes of job security as any significant changes in business activity will almost always affect the employees. Financial information is important as it allows the employees to consider the strength of the organisation as well as indicating whether the economic rewards of business are being distributed equally. Finally, unit-based reports are necessary wherever possible as they are more likely to be relevant and specific to the individual employee. If we can therefore accept that the three

key components of an organisation's performance to its employees are as above we can now consider each in more detail. For each component we will consider which specific measures will provide evidence relating to the organisation's performance to its employees.

4.4.4.2 Levels of remuneration

As a complete stakeholder group employee remuneration can be measured as an aggregate measure and this information is provided in the annual reports of companies. This as a total can be compared to the rewards to other stakeholder groups in the form of a value added statement. As this is an aggregate measure it would not be possible to identify changes due to levels of employment nor differences between different groups of employees. An average remuneration per employee can be calculated in order to compensate for changes in employment levels. A breakdown of employee remuneration by job type and location would be necessary in order to highlight distribution changes between groups of employees. A further comparison can be made with remuneration levels to similar employee groups external to the industry; for reasons of equity or parity one would expect levels of remuneration to stay in line with remuneration for equivalent work elsewhere.

The changes in the levels of remuneration discussed above would be in nominal or money terms rather than real terms and as such do not take into account the increased cost of living. Foley and Maunders (1977) state the Retail Price Index (RPI) is the most commonly used statistic by trade unions to measure changes in the cost of living. They further note that it should be net pay, after income tax and National Insurance Contributions, which should be compensated for to meet changes in the cost of living.

The employee remuneration information considered here relates to the changes in the cost of living and comparability. In addition to these reasons for changes in levels of remuneration, Foley and Maunders (1977) also suggested that productivity and ability to

pay would be influential. These will be considered under productivity and financial information below.

4.4.4.3 Productivity levels

Productivity is the ratio of outputs to inputs, a deceptively simple concept according to Maunders (1984). Marginal productivity measures the increase in inputs necessary to increase outputs and is often problematic to measure. Productivity can be measured in terms of total factor productivity, where all inputs are considered, or in terms of a specific factor of production such as labour productivity. As we are concerned with employees here it is labour productivity which would appear most relevant. Maunders (1984) suggests that there is a fundamental problem with considering a specific factor of productivity in that labour, for example, will not have produced the output in isolation but in conjunction with the other factors of production. It is simply not possible to produce a unit of production without using other factors of production. The most obvious 'other factor of production' is capital and a change in capital employed may well lead to a change in the amount or type of labour required. Therefore in order to gain an appropriate understanding of changes in labour productivity it will also be necessary to consider changes in the other factors of production.

The numerator of a productivity calculation is output and this is preferably measured in terms of units of production rather than monetary value[13]. Monetary values are obviously affected by price changes and price discrimination and are not therefore an objective measure of output. Similarly sales (or turnover) is not an appropriate measure of output as it will be related to the units sold in a period rather than the units produced. The key difference between production and sales is changes in the levels of stocks, but it is not possible to store stocks of electricity and therefore the electricity produced will be equivalent to the electricity supplied. In addition information is available as to the amounts of electricity supplied to the final consumer in terms of Giga Watt hours (GWh).

[13] Maunders (1984) discusses the difficulties and benefits of using both monetary and non-monetary values and recognise that in practice both are problematic.

The denominator of a productivity calculation is the level of inputs and, as discussed above, in this case we are most concerned with the level of labour input. When considering an organisation, or an industry as a whole, there are many different types of labour involved in the production process. Each employee will have different skills or tasks and cannot therefore be considered to be a standard unit of production. This suggests that it is not really appropriate to simply add different employee hours together. Parker and Martin (1995) argue that it is possible to simply use the level of employment in terms of hours or numbers of employees, assuming that there has not been a change in the quality or skills of the labour force. They argue that this is reasonable given a short time frame in their study. This meant four-year periods. If this cannot be assumed over the period of study it is necessary to find an alternative measure of employee inputs. The use of employee costs can be claimed to compensate for differences in quality or skill, although Maunders (1984) suggests that without the existence of a perfect labour market the costs may not accurately reflect the intrinsic value of the employee contributions. Having acknowledged this, it would appear that the weighting of different employees by their remuneration would appear to more accurately reflect their value than by simply considering different employees as equivalent.

A final issue that specifically relates to the electricity industry is the use of sub-contractors. Within the privatised utility industries, as with all public services, there has been an increased incidence of sub-contracting in recent times. One result of this will be a decrease in both the number of employees reported by the privatised companies, as these people are now contracted in not employed, and a corresponding fall in employee remuneration. The work performed by sub-contractors will not be part of employee remuneration but will be part of purchases from suppliers, or in the words of The Corporate Report: Bought-in materials and services.

4.4.4.4 Working conditions and job security

This category broadens out the measures to include items that do not affect the employees' remuneration but are more associated with their overall welfare. Potential factors that affect an employee's welfare are many and are often extremely difficult to measure. For example, Hilton (1978) reports that within the second code of practice produced by the Advisory Conciliation and Arbitration Service, five areas are highlighted one of which is "conditions". The breakdown of factors suggests that conditions include:

- Recruitment
- Redeployment
- Training
- Promotion
- Equal opportunity
- Appraisal
- Safety, health, welfare
- Redundancy
- Pensions

Some of these factors, for example redeployment and redundancy information, may be more relevant to job security, but this shows the range of factors that are relevant but not related to remuneration. This is not the end of the story, as Maunders (1984) suggests under a category of Health, safety and welfare information that potentially relevant, but not necessarily exhaustive, information includes accident rates, occupational diseases, noise, temperature, lighting, protection from weather, vibrations, ventilation, dirt / cleanliness, humidity / wetness, smells, working space / overcrowding, air pollution – dust / fumes / smoke, radiation levels, exposure to chemicals, risks of biological infections, physical hazards from machinery etc, and fire hazards. Each of these influences are potentially important and therefore should not be ignored, but at the same time it may be correct to assume that the majority of these items will not have changed over the time period under study. It is therefore suggested that within the context of the

study it will be sufficient to enquire as to whether these factors will have changed over the period of time.

Job security is also rather intangible as it will relate to the state of mind of an individual employee and the perception that they have of their future prospects within an organisation. Having said this, there are certain pieces of information that will have a direct impact on this perception. Specifically, the financial strength and performance of the organisation will be important, but probably even more important are the future plans for both the business and its employment levels. It is for this reason that it has been argued that employees specifically require information on financial performance and plans as was identified in the summary provided by Hilton and reproduced above. Further, it is for this reason that it is also important to the employee that the information is specific to his or her own place of work.

4.4.4.5 Overall job satisfaction

The measures of an organisation's performance for an employee discussed above all consider factors that affect an employee's overall level of job satisfaction. This is to say that an employee's level of satisfaction will depend on their remuneration, level of productivity, working conditions and job security. As such these could be considered to be measures of inputs into employee satisfaction or welfare. An alternative approach is to measure the output, in this case the level of employee satisfaction. This can be done directly through the use of employee surveys into their level of satisfaction. The potential problems with this relate to the appropriate phrasing of a questionnaire to obtain unbiased and representative responses. A second way to measure job satisfaction is through the use of proxy measures. Maunders (1984) argues that the following measures could be used as output indicators of employee satisfaction:

1. Accidents
2. Disputes incidence
3. Grievances

4. Absenteeism and poor time-keeping
5. Productivity
6. Employee wastage / stability
7. Disciplinary cases

Each of these can be measured in absolute terms or relative to numbers of employees or time lost. According to Maunders (1984), the measure of labour wastage most commonly used is a variation of the "annual labour turnover index" as expressed below:

$$ALT = \frac{\text{Numbers of leavers in year}}{\text{Ave. no. employed during year}} * 100$$

Bowey (1974) has claimed that this measure is biased toward the "pull" process (attractions elsewhere) as opposed to the "push" process (dissatisfaction with job). Bowey continues that the "push" process is better measured by an index of labour stability such as:

$$\frac{\text{Present number of employees with 1 year's service or more}}{\text{Total employed one year ago}} * 100$$

The analysis of the electricity industry is to be performed over a period of time and it is relative changes in measures that will provide evidence, or not, of levels of satisfaction. Both measures should provide such comparative information. Further, both the 'push' and 'pull' process are evidence of the comparative attractiveness of the electricity industry and therefore the ALT, which incorporates both, will be more appropriate.

4.4.4.6 Concluding thoughts on employee measures

In order to measure the performance of an organisation it is necessary to consider many different aspects of that organisation's relationship with the employee. An organisation has performed well for an employee if that employee is satisfied in their work. The

difficulty encountered is in measuring the level of satisfaction of employees, which even when attempted through direct communication can be problematic. As a result attempts have been made to produce measures that are proxies for employee satisfaction and these can be found in two forms; either input or output measures. In fact both can be considered to be complementary and will be used in this way in this study. The input measures can be divided into four types that relate to remuneration, productivity, working conditions and job security. Each of these is considered above. In addition output proxy measures of employee satisfaction, that consider labour stability and turnover, will be used.

4.4.5 Customers

The satisfaction of customers is of fundamental importance to most organisations and is often measured directly through the use of customer surveys or questionnaires. The actual satisfaction of customers is likely to be related to the price that they are paying for the good or service and its quality. This certainly appears to be implied in the regulation of the electricity industry in England and Wales where there is price-cap regulation and quality standards are laid down by the regulator.

Price-cap regulation specifically sets limits on the real price to consumers for a coming period (5 years in the electricity industry). Therefore one way of measuring the price of electricity to consumers is to simply record the price-caps set by the industry regulator over a period of time, although this does not provide a comprehensive review of the price movements in the industry. Firstly certain costs in the industry are not regulated and are therefore allowed to be passed through to the final consumer. Therefore the generation of electricity is not regulated in England and Wales as this is potentially competitive. Secondly not all customers' prices are subject to the price-cap regulation as larger customers, large industrial organisations, are allowed to negotiate the price of their electricity from the electricity suppliers. The competition in electricity supply is being changed so that more and more consumers are becoming able to choose who supplies their electricity. A measure that will consider all customers is to take the sales value of

electricity supply and divide it by the volume of electricity supplies. This will provide an average price per KWh. What this fails to do is to distinguish between different groups of customers. Two obvious distinctions that can be made is firstly between average prices in different regions of England and Wales and secondly between domestic and industrial customers. This further separation acknowledges that in reality consumers are not a homogeneous group and that there are different constituents within this stakeholder group that may well have fared better or worse than other groups have done.

The average price calculated above will be in nominal terms as opposed to the real terms as set out in the regulation. The regulator sets the price in comparison to the Retail Price Index (RPI) for the UK and is therefore setting targets in terms of whether or not electricity becomes relatively less expensive, as compared with other goods in the UK. In effect this is setting specific electricity price changes in comparison to general inflation, for all products, in the UK. There is no reason to assume that the specific inflation related to electricity will be consistent with the general level of inflation. Perhaps the most obvious reason for a difference in specific and general inflation rates will be in terms of what technological advances are made that effect that industry. Where large technological advances are made then significant price reductions will be possible. One way to account for this will be to consider the specific inflation rates in other countries. In actual fact the price of electricity will be affected by both the general inflation in the UK economy, as this effects the price of inputs into the industry, and inflation specific to the supply of electricity, hence both will be considered.

The price of electricity has been discussed above but the issue of quality of service is also of paramount importance to consumers. As is acknowledged by Littlechild (the then regulator of the UK electricity industry) (1993), the two areas of price and quality are related and in some areas there is a "trade-off between price and quality". There are certain standards of performance for the electricity supply companies that were first introduced in July 1991 and then revised in 1993 and 1995. As an example of the process to review the appropriateness of the standards, in 1993 OFFER undertook a consultation process "which in large part determine the quality of service that customers receive"

(Littlechild, 1993). As part of this process a MORI report was commissioned to obtain customer's opinions and a consultation document was issued for comment. Each year OFFER produce a report on the quality of service to customers and for example the 1995/96 report (OFFER, 1996) reports on guaranteed standards, overall standards, customer complaints and domestic disconnections. Due to the consultation process through which these standards were agreed upon and the position of the regulator as a champion of the consumer, it is intended to use OFFER's standards to measure the quality of service to consumers. Ogden and Watson (1999) used the comparable "customer service performance measures" to consider the performance to the consumer in the privatised water industry in the UK in the 1990s.The specific standards can be found in Appendix 2.

4.4.6 Suppliers

This stakeholder group has similar information needs to those of the investor group discussed above. In fact within The Corporate Report (ASSC, 1975) the two groups were amalgamated into a single group, the loan-creditor group. Therefore it is reasonable to suggest that suppliers will be interested in the measures discussed in the investor group (i.e. bankruptcy and liquidity measures). In terms of more specific measures, the most widely used is creditor days. This is calculated using the following formula:

$$\text{Creditor days} = \frac{\text{Trade Creditors (excluding VAT)}}{\text{Annual Purchases}} * 365\text{days}$$

This measure reflects the speed with which the trade suppliers to the companies are paid. Trade creditors are an often free, or cheap, source of funds to an organisation and as such there is a possible motivation to delay payment. This is to the detriment of the suppliers' own cash flow and an ability to do this, without the supplier withdrawing supply, would suggest that the organisation is in a position of power over the supplier.

This thesis is concerned with the performance of the privatised electricity industry in England and Wales. This incorporates the generation, transmission, and supply and distribution of electricity. The generation of electricity can be classified by the type of energy source that is used at a power station. In the UK the most widely used energy sources are coal, oil, nuclear, gas, wind or hydro-electric (Centre for the study of Regulated Industries (CRI), 1998) and therefore the providers of these energy sources are key suppliers to the industry. It is equally apparent that this is not a single homogeneous group of suppliers as the different energy sources are competing to supply to the electricity industry. Therefore it may be the case that the privatised electricity industry has performed well for one type of energy source as opposed to another. By performing well it is meant that a type of energy source is now providing a larger proportion of the total energy. This can simply be measured by considering the percentage supplied by each of the energy sources over a period of time. This issue of energy source is an extremely sensitive one politically; for example the continued use of nuclear and coal as energy sources are both, for very different reasons, publicly emotive issues. These concerns are intimately linked with the environmental issues that are relevant to the electricity industry and it is to these that we now turn.

4.4.7 Involuntary stakeholders

Involuntary stakeholders cover a wide variety of different stakeholder groups. For the purposes of this study the key interest is in the environment (in its own right and as a resource that is to be handed on to future generations) and also in terms of local community effects. The electricity industry is one that has quite profound influences on both of these two stakeholder groups. The apparent need for electricity, in large quantities, in modern developed countries is often taken for granted and this requirement has specific environmental implications as the following passage reflects:

> "Energy creation is itself very energy-intensive and therefore not energy-efficient. Its use and processing produce waste heat, by-products and emissions of gases and are thereby directly linked to the creation of acid rain, global warming, air pollution and myriad other intrusions into the biosphere. The implications of these intrusions are still very much a matter for argument but the worst-case scenarios suggest devastation of the human species – developed and lesser developed

> countries alike – not to mention the impact on other species and the planet as a whole. The implications of nuclear power are also far from straight-forward and geothermal and hydro schemes raise many difficult environmental problems themselves. It would appear that no use of conventional energy in the West is entirely without its problems."
>
> (Gray, Bebbington and Walters, 1993, p.111)

Environmental accounting has been an incredibly popular subject amongst academics since the late 1980s. Much of the research has been attempting to demonstrate a causal relationship between environmental performance, or disclosure, and financial performance (a recent example is Toms, 2000). Another important strand of the empirical research has been considering the change in volume of disclosure over a period of time (see Adams, Hill and Robert, 1995)[14]. Toms (2000) considered corporate environmental reputation and disclosure and found that the electricity companies had the highest level of disclosure and were also highly ranked, although not the highest, for reputation according to "Britain's Most Admired Companies" survey published annually in *Management Today*. Relatively less has been written about what measures should be used to gauge environmental performance. There appear to be two distinct approaches. Firstly, environmental effects could be quantified into costs and benefits and somehow incorporated into an adjusted version of traditional accounting statements. Secondly, the impacts may not be quantifiable in money terms or at all (Boyce, 2000) in which case other quantitative data (but not denominated in monetary terms) and qualitative data would be seen as more relevant.

One advocate of a form of full cost, i.e. incorporating both "public and private costs" is Mathews (1993). He terms this approach "Total Impact Accounting" and this would necessarily involve transferring all effects of an organisation's activities into monetary terms. An interesting attempt at this was made by Atkinson (2000). He used data from a variety of sources to consider the 'damage' caused by pollutants emitted and the estimates are summarised in the Table below:

[14] See also Mathews (1997) for a useful review of the development of social and environmental accounting.

Table 4.2 Atkinson (2000) Marginal damage per tonne of pollutant emitted (£)

	SO2	NOx	PM10	CO2	CH4
Health			19500-44800		
Non-health	300-670	200-280			
Total	300-670	200-280	19500-44800	12	80

Source: Fankhauser (1994); European Commission (1995); Pearce & Newcombe (1998)

> "These are drawn from an evaluation of energy externalities within the UK (European Commission 1995). The CO2 and CH4 estimates are from Frankhauser (1994). The rows of Table 1 represent 'receiving agents' (broadly conceived). These are the ultimate effects of polluting activities on human health (e.g. morbidity and mortality), and non-health (forest damage, material and building damage). Pollutants such as SO2, Nox and PM10 are implicated in significant damage to health (Maddison et al. 1995)."

These estimations were then used to consider the "green value added" and "corporate genuine saving" (CGS) for the U.K. electricity industry and Powergen respectively. The results are summarised in the tables below:

Table 4.3: Atkinson (2000): Green Value Added for the U.K. Electricity industry (£ million 1990 prices)

	1987	1994
Value added (VA)	5600	6830
Environmental damage	2742	1955
% VA	49.0	28.6
Green VA	2858	4875

Source: Office for National Statistics (1998); see also sources listed below Table 4.2.

Table 4.4: Atkinson (2000): Corporate Genuine Savings for Powergen plc (£million, current prices).

		1992		1996
Profit on ordinary activities		359		687
CO2 damage	256		212	
SO2 damage	279		162	
NOx damage	43		27	
PM10 damage	491		215	
Total pollution damage		-1068		-616
CGS		-709		71

This improvement in environmental performance is the most dramatic in any industry, but under these accounting criteria Powergen plc did not make a CGS until 1996. This approach to accounting has two fundamental problems, both acknowledged by Atkinson. Transferring pollution details into monetary values involves a high level of estimation, which can provide significant doubts about the accuracy of any results. Secondly this

approach would appear to suggest that if Powergen plc had higher profits then there would not be an environmental problem as there would be a saving. This is irrespective of whether any of this profit was used to tackle the environmental problems caused by the activities of the organisation. For these reasons this does not appear to be an appropriate approach to environmental accounting.

The preferred approach for this research will be to identify the key environmental issues facing the electricity industry and from this consider measures that appropriately incorporate performance on these issues. Gray, Bebbington and Walters (1993) suggest that the following environmental issues are key:

Table 4.5: Environmental issues (source: Gray, Bebbington and Walters, 1993, p.25)

Crisis? What Crisis	
• Thinning of the ozone layer	• Third world debt
• Global warming	• Deforestation
• Species extinction	• Waste disposal
• Habitat destruction	• Energy usage
• Acid rain	• Starvation
• Desertification	• Inequality
• Soil erosion	• Population
• Air pollution	• Water depletion
• Water pollution	• Toxic chemicals
• Land pollotion	• Nuclear waste
• Noise pollution	• Ethnic peoples
• Resource scarcity	• Poverty

In addition Gray, Bebbington and Walters (1993) also reproduce evidence from Business-in-the-Environment (BiE, 1991), which provides guidance to organisations as to how to prioritise environmental issues. For the "Energy and water supply" industry the highest priorities were seen as atmospheric emissions, water use / discharge, solid waste, energy, the natural environment, accidents / emergencies, and legislation.

Another source of environmental performance measures is provided by ISO 14031 (ISO, 1997) that has three basic indicator categories:

1. Environmental condition indicators – that track the environmental consequences of business activities. Bennett and James (1998) suggest that these often focus on receptor indicators such as impacts on air, water, land, flora and fauna, people and buildings.
2. Operational environmental performance indicators – this is split into 9 sub-categories:
    - Inputs of materials, energy and services
    - The operation of facilities and equipment and logistics
    - Outputs of products, services, wastes and emissions.
3. Management environmental performance indicators – that consider the implementation of policies and programmes, the conformity of organisational actions with requirements or expectations, community relations and environment-related financial performance.

Bennett and James have used this set of indicators and have organised these in terms of an 'environment-related performance diamond' (see Bennett and James, 1998 and 1999; see Appendix 3 for 1998 version). There is a consistent message from these works: that the key issues are emissions, use of scarce resources, and waste. These key issues will be discussed with interviewees, although it is already apparent that the electricity industry has specific relevance to emissions of gases and the use of scarce resources.

4.5 Conclusions

This Chapter has considered a wide variety of literature, which is all concerned with performance measurement. Sections 4.2 and 4.3 discussed the theoretical and practical contexts of social accounting and as a result it is clear that this research falls in this academic field. The insights from this literature have clarified the requirements of the stakeholder performance measurement model and highlighted the importance of power and conflict that will be returned to more explicitly in Chapter 8. The following sections reviewed literature concerned with performance measurement for specific stakeholder groups. There are a plethora of measures which can be used for each group and some of these are more relevant to certain organisations than others. Chapter 5 documents a set of

interviews with stakeholder groups and electricity companies, which consider the relevance of these measures to the electricity industry. Therefore Chapter 5 focuses the measures considered in this Chapter to make it industry specific.

Chapter 5: Stakeholder Performance Measurement in Practice

5.1 Introduction and method

The previous Chapter considered the accounting and performance measurement literature in order to identify relevant measures for each of the stakeholder groups identified in Chapter 3. This chapter seeks confirmation of the importance of these measures in the post-privatisation electricity industry in England and Wales. Therefore it documents a series of interviews that were, on the whole, undertaken over a period from June 2000 to March 2001[15]. The first round of interviews, discussed in section 5.2, was with representatives of the stakeholders identified. The aim of these interviews was to uncover what each stakeholder group considered to be the key issues in the industry. Further, it was then hoped to see how these issues were managed and corporate performance measured by each of the stakeholder groups.

The findings from these interviews were used in conjunction with the reviewed literature as a basis for a model of stakeholder objectives and drivers of performance. This model was then used as a starting point for the interviews with the organisations operating in the industry. Representatives of one organisation from each of the vertically distinct parts of the industry (i.e. generation, transmission, distribution and supply) were interviewed. These interviews, discussed in section 5.3, were rather more structured, as the developed model was discussed as were a set of open questions. Finally, interviews, discussed in section 5.4, were held with the secondary social stakeholders "government and regulators", as their influence had been emphasised by both the stakeholders and the companies. This is to say that one way in which the stakeholders and companies tried to manage stakeholder issues was through government or regulator lobbying. In addition an exploratory interview was held with a representative of the regulator at a much earlier stage in the research.

[15] The agreed summaries of these interviews can be found as Appendix 4a to 4r

5.2 Stakeholder interviews

The following section takes each of the stakeholder groups in turn and from the interviews identifies stakeholder issues, objectives and drivers of performance.

5.2.1 Shareholders (Appendices 4a and 4b)

Shareholders are often seen as the privileged stakeholder group in many large companies, where some explicitly adopt a "shareholder value approach" (see for example Rappaport, 1986). This is also reflected in accounting, where it is thought that the annual report and accounts is specifically designed and targeted at shareholders and, some may say, other providers of capital. It is therefore interesting to consider how important the actual annual report and accounts of a company are to shareholders. Interviews were held with supposedly sophisticated investors or users of financial information, as opposed to the 'private shareholder' (Lee and Tweedie, 1977 and 1981). The importance of this distinction is "[t]hat sophisticated shareholders use available financial information more intensely, and have a greater understanding of it than private shareholders" (Lee and Tweedie, 1981, p.3). The specific aim of the sophisticated users is to reach an investment decision as to which shares to buy, hold, sell or to recommend. Interestingly both of the interviewees (an institutional shareholder and a broker: see Table 3.2) suggested that the annual report and accounts were of limited use, with one suggesting that "sometimes there is something tucked away but generally not" (see Appendix 4b). Both saw that the main purpose of reviewing the annual report and accounts was to ensure that the message is consistent with their own understanding of the situation and to gain data for their valuation models.

The actual numbers from the accounts are used in developing valuation models for the companies. These valuation models are considered to be extremely important in making the investment decision or recommendation. One analyst suggested that a company's worth "distils down to a DCF [discounted cash flow] model" and that effectively you are trying to "crystallise what drives the business into five or six things" (see Appendix 4b).

These things change depending on the nature of the business being considered and therefore what is considered key for a generator within the electricity industry will not necessarily be the same as for a supplier of electricity, let alone companies in completely different industries. Therefore information such as customer base, cost control and efficiency gains are important. A key element of these discounted cash flow models is the discount rate and the greater this is the less influence the future has. As we shall see later, it is this discounting of the future that other stakeholder groups are most concerned about.

As well as the accounting based information discussed above, the more strategic plans of the company are also considered fundamental. The primary source of this information is not the annual report and accounts but press releases and meetings and briefings with the company's management. Effectively if you are an institutional shareholder or analyst with a large investment bank "access is not a problem" and "if the company is too busy to see you then you know that they are up to something" (see Appendix 4b). For the analysts these meetings present an opportunity to gain as much information as possible, although the company is obviously extremely aware as to what it is legal to do and say. As this is the case the analysts are trying to "read between the lines" (Appendix 4a) and to infiltrate the CEO's mind to "see what he's thinking, what he's seeing, where he sees it going" (Appendix 4b). Specifically, signals are looked for in terms of how the companies are going to "get bigger". This growth can be either international or domestic in nature, but either way is considered crucial.

As well as the company-specific considerations of financial models and strategy, both analysts stressed the importance of macro factors. The institutional investor thinks that it is "best not to go into too much detail" as the "macro influences can be huge" (Appendix 4a). The mood of the market, in terms of wanting, say, high-tech shares, has in the recent past had a significantly dampening effect on the value of defensive stocks such as utilities. Other macro effects such as interest rates were quoted as having significant influence. Then there are also industry-wide influences, most obviously in the electricity industry the actions of the regulator and the advent of competition.

The interviewees consider the impact of the companies on other stakeholders where relevant. In terms of consumers this is only considered a key driver, perhaps not surprisingly, at the customer end of the industry, i.e. in supply. Increasing the customer base is seen as a key objective, although no distinction was apparent as to whether this was achieved organically or through acquisition. Customer satisfaction will be more important as the industry becomes more competitive. The changing conditions for employees in the industry, in terms of reductions in employee numbers, is considered to be the "inevitable end" as the nationalised industry was "overmanned and overpaid" (Appendix 4b). Therefore announcements of job cuts are considered to be "healthy" as the "older generation" need to be replaced by "younger people to innovate" (Appendix 4b) and "it can only be good news for consumers" (Appendix 4a). Both analysts felt that the environment should be important and that it was increasing in importance but that "it still takes a poor second place to economics and politics" (Appendix 4b). Poor environmental performance would lead the institutional investor to write to the management to "express concerns", but it is only in "exceptional circumstances", such as "Shell and Brent Spar", that the shares will be sold (Appendix 4a).

5.2.2 Employees (Appendices 4c and 4d)

Employee representatives see employee welfare as key and this is influenced by many factors. Employee satisfaction surveys are used infrequently by the Union; rather the information is gathered more informally from the stewards who are in constant contact with the work force. Since privatisation the decreased level of job satisfaction is almost "universal". This is attributed to an increase in job insecurity plus an increase in stress and pressure in terms of workload. This increased stress and pressure is exacerbated for many employees by the nature of the work in terms of the health, safety and security issues.

Job insecurity in the industry is high, as there has been a large decrease in the number of direct employees. It is acknowledged that increased efficiency and productivity, "40% since privatisation" is a "valid element" (Appendix 4c), but there is a concern that this

has now gone too far. It is believed that these reductions will have serious long-term implications, not least in terms of "the threat to health and safety". The report of the NII (Nuclear Industry Inspectorate) has been seen to offer some hope for the future as it is one of the first official documents that actually reports "links between over-cutting employees and the threat to health and safety" (Appendix 4c). As well as the health and safety the union is also concerned that standards are falling and they suggest that the distribution network is "now at a point of crisis" (Appendix 4c) in terms of the ability to repair lines. This problem is accentuated in certain geographical areas, where the weather is more likely to damage the network, and by the increased use of sub-contractors, who are often thought to be less skilled, less motivated and less well remunerated. Similarly, introducing new working practices such as multi-skilling has also left employees with a feeling of job insecurity, and "bad management of [this] change" (Appendix 4c) has not helped. As price controls increase pressure on companies the Unions interviewed feel that it should not always be jobs first. This is considered a "short-term approach to take" (Appendix 4c) and it would be better in the long-term if sometimes profits were cut and not jobs.

Remuneration in the electricity industry is still "pretty good" (Appendix 4c) and the reductions in employee numbers have, to date, been managed through voluntary redundancies, which have also been on "good" terms. This does not mean that there have not been changes since privatisation, and negotiations are now company-wide or even by individual function within a company, as opposed to industry-wide. In addition the structure of pay is now very different with, for example, PRP and individual bonuses becoming more important and therefore the single percentage deal means less than before. From the Union's perspective negotiators are provided with the deals to date in other companies and will use these to negotiate their own settlement. In addition the negotiators will seek advice on an average deal "below which they wouldn't go" (Appendix 4c). The negotiators also like to have as much information on the company as possible. The annual report and accounts is important and especially last year's profitability. A final factor in negotiations is changes in working practices that have resulted in improved performance.

The Unions interviewed recognise the needs of other stakeholder groups, namely shareholders and consumers, but feel that there needs to be a balance. At the moment it is felt that the needs of "employees are overlooked and ignored" (Appendix 4c). In contrast it is felt that the shareholder has too much influence and this results in companies making short-term decisions. This "will always be bad for employees", but also results in lower investment and maintenance as "shareholders don't want to see investment in the long-term" (Appendix 4c). Once again it is believed that the problem is that when "companies are asked to cut prices they cut employees and capital expenditure" (Appendix 4c), never profits. The Union feels that there should be more "common ground" between consumers and employees as both have an interest in the "good long-term future" of the industry and a "safe and secure supply" (Appendix 4c).

5.2.3 Consumers (Appendices 4e, 4f and 4g)

The price and quality of supply are consistently given as the key objectives of the electricity industry. As mentioned, it was recognised at the time of privatisation that regulation would be required to protect consumers' interests. Also, due to the essential nature of electricity to the everyday life of people in the UK, consumers are effectively an involuntary stakeholder group; until recently it was not possible for domestic users of electricity to choose their electricity supplier. The transmission, distribution, and supply elements of the industry are price-controlled and the regulator monitors conformity across customers and across companies. Also the regulator monitors "guaranteed" and "overall" standards of performance and arguably the most important of these relate to the "reliability and availability" of the supply. This is also monitored through the number of customer minutes lost. The regulator also monitors the number of customer complaints as an "indication of satisfaction".

The price of electricity has fallen in real terms since privatisation, although the reason for this is far from clear. The information provided by the regulator has been criticised by consumer bodies, as it does not provide a breakdown of the causes of changes in prices.

This is to say, how much of lower prices are caused by "changes in world energy prices, decreases in the fossil fuel levy, changes in generation and the pool, and then regulation". Some consumer bodies believe that people are "still paying too high a price" (Appendix 4e) for their electricity. In the first two years since privatisation "the price of electricity increased by 13%" (Appendix 4e) and this is not justified when considering the returns earned by the companies over the same time period. The National Consumer Council (NCC) (1997) argues that domestic consumers had, between privatisation and 1994, "paid the companies some £650 million more than necessary", and this had risen to £949 million by 1995.

Overall in the electricity industry "quality probably has improved" (Appendix 4e), and this is demonstrated by the statistics relating to the regulator's guaranteed and overall standards. There is a suggestion, however, that with "technological improvements" quality "would have improved anyway" (Appendix 4e). Also the guaranteed and overall standards are not considered ideal. These standards "focus on certain things" and, for example, "didn't care about poorer customers" and they are also criticised because of the "minimal" cash penalty imposed if companies fail to meet a standard (Appendix 4e). An important and difficult problem facing consumer associations is the balancing of the interests of present and future consumers. Concern was voiced as to whether companies have been investing enough as an inevitable effect of this would be supply interruptions in the future. This again suggests concerns that the privatised companies are too focused upon the short-term and that it is in the long–term that other stakeholders may lose out.

In terms of other stakeholder groups, it is felt that the shareholder has had more than a "fair share" as the shareholders "did really well for a number of years and then sold for a high price" and this is in a "low risk" industry (Appendix 4e). In comparison it is felt that consumers have paid too much toward new investments and there have been very few, or no, rights issues in the industry to finance activities. There is a concern also that job cuts may have gone too far and this may affect the quality of service. Little consideration has been given to the issues of primary fuel or environmental issues, although it is felt that energy conservation and efficiency is desirable. There is also concern that on

privatisation "nobody took responsibility for social effects" (Appendix 4e). Therefore there have been concerns over fuel poverty, and although there has been a decrease in the number of disconnections the problem remains. In response to these concerns the regulator has recently introduced a new standard relating to prepayment meters and has produced a "social action plan", but it is debatable whether this will resolve the problems. There is another, even broader, concern that there is "still a great reliance on competition working" and a "trend to deregulation too quickly" (Appendix 4e). This is considered premature, as there is still some uncertainty as to whether competition will be sufficient given the small margins in the industry.

5.2.4 Suppliers (Appendices 4h and 4i)

As mentioned in the Employees section above, there has been a dramatic increase in the use of external service providers, or sub-contractors, in the industry. This is an interesting development and one that is discussed in Chapter 8 of this thesis, but interviews were not carried out with external service providers. The interest here was to talk to a supplier of the key raw material in the industry (i.e. the primary fuel used to generate electricity). Since privatisation there have been changes in the type of primary fuel used to generate electricity in the UK. The Department of Trade and Industry (DTI, 2000b) publish the Digest of United Kingdom Energy Statistics. This includes a breakdown of the "Fuel used in electricity generation, electricity supplied basis" which shows that in the UK the following changes occurred between 1994 and 1999:

Table 5.1: Fuel used in electricity generation, electricity supplied basis

Type of fuel	1994	1999
	%	%
Gas	15.0	38.5
Coal	48.0	28.0
Nuclear	25.0	24.5
Imports	5.0	4.0
Other fuels	1.5	2.5
Oil	4.0	1.5
Hydro	1.5	1.0

These changes in primary fuel are not inconsequential and the replacement of coal by gas has significant impacts on the coal industry and certain communities that have relied heavily upon that industry for employment. Also it is important to recognise that the primary fuel used to generate electricity significantly influences the environmental impact of the industry. The environmental impacts of the industry, in terms of the perceived dangers of emissions as well as the future implications of nuclear power, are significant and manifold as discussed in Chapter 4. Representatives from the coal and nuclear industries were interviewed and it is their views that are discussed below. Unfortunately it was not possible to interview a representative of the gas industry.

The "dash for gas" has been somewhat "fortuitous on environmental emissions" but has not been "economically ideal" (Appendix 4h). RJB mining, the largest coal producer in the UK, produce figures on their web site (www.rjb.co.uk) suggesting that the first generation of gas fired power stations produce electricity at 3.2p per kWh as compared to coal at 1.6p per kWh. These figures compare the cost of continued operation of the coal-fired power stations at higher levels, as they are presently operating far below their potential, with the cost of the new gas fired stations. In these calculations the total cost for the gas-fired stations includes the capital cost, as these would not have been necessary if the coal-fired stations had been used instead. One consequence of this shift has been a continued decline in the UK coal industry. This has seen the number of direct employees fall from 240,000 in 1977 to 10,000 in 1999/2000. The future of the coal industry in the UK does not look especially promising, but it is believed that the other primary fuels are problematic. Firstly, the coal industry argue that proven gas reserves are less than 10 years, the proven and probable are less than 15 years and the maximum is less than 20 years (Appendix 4h). As a result of this the coal industry believes that gas could very well be expensive in 20 years time and the UK could be importing 90% of its gas requirements by this time. In comparison, according to one interviewee, coal is a "long-term resource ... almost limitless in current terms" (Appendix 4h). Also new clean coal technology is being developed and coal stations being built today are operating at much higher levels of efficiency. At present the efficiency of coal fired power stations in the OECD averages 38% and it is believed that with the use of new advanced materials with

pulverised power plants this could be raised to 55%. Such a 50% increase in efficiency would reduce carbon dioxide emissions by one-third. In fact it is argued that in order to meet the Kyoto target reduction "you would only need to increase the efficiency of the world's coal-fired power stations by 1%" (Appendix 4h).

Another possibility for the future would be to increase the proportion of electricity generated from nuclear fuel and this would certainly result in a reduction in greenhouse gas emissions, but this has very little political support. At present nuclear is actually "the biggest single source in the UK" (Appendix 4i), but its contribution is set to fall in the UK in the near future. Plans are already in place for the "cessation of electricity generation at the eight [Magnox] stations" (BNFL, 2000; p16) that presently contribute approximately 8% of UK electricity. Within the nuclear industry it is felt that environmental pressures will leave nuclear and renewable supplies as the future of electricity generation. It is felt that a new generation of nuclear plants will be very different to those presently being used that were built in the 1950s and 1960s. A lot more is now known about nuclear energy and the reasons why this is not being more seriously considered are the two big issues of "safety and waste management". In terms of safety "people do worry that it could blow up" and this can be debated and it is felt there are "convincing arguments" to allay these fears (Appendix 4i). Waste management, however, deals with the "legacy of nuclear waste" and this is much more complex as it concerns moral and emotional issues. There are experts who say that the waste can be contained for thousands of years, whereas others say, "you can't predict what the future holds" such as earthquakes or even ice ages. Despite this it is "inevitable" that nuclear will have a future, although this will only be accepted with "reluctance" (Appendix 4i).

As mentioned above, a further option is to dramatically increase the use of renewable energy sources, but even the target of 10% by 2010 is considered optimistic as this would require "an area the size of the Peak District to be covered in windmills" (Appendix 4i). In addition these renewable energy sources are not price-competitive at present. A further problem is that there are risks attached to having a larger supply of renewable energy,

more so even than nuclear. In the UK winter there is a tendency toward cold days with little wind and if electricity is being generated from wind and waves this is a huge problem. If renewable energy counted for more than 10-15% of supply there would be "too much variation" and the resultant lack of electricity "could kill hundreds of thousands of people" (Appendix 4i). This would be a disaster on a completely different scale even to the damage caused by the Chernobyl accident. Ultimately, therefore, there are thought to be limits to how far renewable sources can go. The only other option is to "stop people burning electricity" and this is "not going to happen globally as living standards rise." (Appendix 4i)

As can be seen from this discussion, one of the primary determinants of the primary fuel used in future electricity generation is environmental issues and the next section considers these same issues, but from the explicit environmental stakeholder groups.

5.2.5 The Environment (Appendices 4j and 4k)

As noted above, the recent history in the UK shows that there has been a significant shift in the fuel used from coal and oil to gas. This is an interesting environmental development as gas is cleaner and technically more efficient than both oil and coal in electricity generation. This means that as a result of this shift there will be lower emissions of greenhouse gases, however this is not seen as a long-term answer to environmental concerns as gas generation does still make significant emissions. The key strategies of environmentalists are to try and influence legislation and consumers to enforce a move toward a greener energy society. In 1999 the renewable sources supplied approximately 3% and the UK government has targeted 5% by 2003 and 10% by 2010. In contrast to these targets Friends of the Earth (1997), applying their "environmental space" methodology, "suggests targets of 22% reduction by 2010 and a longer-term target of 89% by the year 2050" (pp. 62-63) are necessary. The achievement of these targets is difficult to envisage unless great developments are made in renewable energy sources in the near future. Therefore environmental lobby groups see investment in such projects as key, but these are often rejected on financial (DCF) grounds.

Another important area is that of energy efficiency and there are Energy Efficiency Standards of Performance (EESOPs) that are "returning to the political domain" (Appendix 4j) i.e. they will be the Minister's responsibility not the regulator's. As with the consumer group, environmentalists felt that the regulator was very much an economic regulator who saw social and environmental considerations as an "add on" that were "difficult to deal with" (Appendix 4j). Having said this, there is a levy for energy efficiency and this is to be increased from £1.20 to £7.20 per annum per dual fuel household. This money is used by the companies in energy saving schemes that must be approved by the Energy Savings Trust (EST). Another important change would be to see the supply companies move away from being purely sellers of units of electricity. This provides the wrong sort of incentives in terms of energy savings and efficiency. Therefore companies that offered a more complete service, selling energy-saving equipment and advice, would be preferred.

As can be seen from the above discussion, the arguments concerning electricity generation and environmental effects are complex. A clear message, however, is that the key environmental issue for this industry, at the present time, is greenhouse gas emissions. As a representative of the coal industry put it, we are "not bothering with the argument as to whether the greenhouse effect is real. The UK government sees it as real and so [we] see it as real" (Appendix 4h). The concentration on a single issue such as greenhouse gas emissions, as the stakeholder representatives see this as key, simplifies matters greatly. In the language of ISO14031 (ISO, 1997), this would put emphasis upon a single environmental condition indicator, namely the impact of emissions on global warming and climate change. The relevant operational measure would be the input of the primary fuel into electricity generation and the efficiency of the generation and use of electricity.

Due to the interlocking issues discussed with the suppliers of primary fuel and the environmental groups these two stakeholders have been combined in the rest of this chapter. This is not to say that the interests or objectives of these two different

stakeholder groups are the same, but the key overriding issue of government environmental policy is.

5.2.6 Discussion of stakeholder interviews

Gray, Owen and Adams (1996) suggest that "accountability involves two responsibilities or duties: the responsibility to undertake certain actions (or forbear from taking actions) and the responsibility to provide an account of those actions" (p.38). Providing an account to stakeholders, in the form of a corporate social report or a social account, should form an essential part of the accountability process. The table overleaf provides a broad framework, a starting point, for what a social account could focus upon in the electricity industry in England and Wales. This framework is not suggested as being relevant to all industries or companies, although parts of it could be. This is because an important aspect of a social account should be a stakeholder dialogue identifying the specific issues most relevant to the company and industry, although industry-wide frameworks and standards should be possible.

Table 5.2: Stakeholder objectives and drivers of performance

Stakeholder group	Objective(s)	Drivers of performance
Shareholders	Wealth maximisation	Customer base Cost control and efficiency gains Cost of capital and interest rates Strategic intent Stock market mood Regulation (including price)
Employees	Remuneration Welfare and job satisfaction	Comparative levels of pay Ability to pay Productivity levels Employment levels Health and safety Job security Training
Consumers	Price Quality	Absolute and relative prices Levels of profitability Reliability and availability of supply Issues relating to fuel poverty Investment in and maintenance of the network
The environment and suppliers	Reduction in greenhouse gas emissions	Primary fuels used Efficiency of electricity generation Efficiency of electricity use Investment in renewables Policies in terms of using renewables

This table of objectives and drivers of performance was sent to each of the interviewees from within the industry and used as a starting point for discussions concerning stakeholder management and measurement. It is to these that I now turn.

5.3 Industry interviews (Appendices 4l, 4m, 4n and 4o)

Having completed the stakeholder interviews, companies within the industry were then approached to discuss the stakeholder issues and drivers of performance identified. The interviewees were representatives of companies within generation, transmission, distribution and supply. As such these companies do not operate in the same business and it is therefore to be expected that they have different stakeholder relationships. This is to

say that a generator would not necessarily identify the same key stakeholders as those identified by a supply company. Having said this, similar approaches to stakeholder management were apparent and these similarities are discussed first.

Firstly, at an operational level it is interesting to note that the different stakeholder relationships tend to be managed in separate departments. Therefore the investor relations department specifically deals with shareholder issues and the human resources department with employee issues. It also appears that it is primarily at the executive level that, as the supply company (see Appendix 4o) suggested, the "different stakeholder opinions are brought together". As this is the case it is important that the executive are close to the issues and it was suggested that a key part of the executive role is to build and maintain stakeholder relationships. This appears especially important in relations with the government and the regulator. Each of the companies, including the generator, who is not actually subject to regulation, recognised that the government and regulator were key stakeholders. In fact the generator suggested that the government and regulator are absolutely key as they "can stop us operating and add costs to our business" (Appendix 4l). Therefore a consistent theme was the desire to be "aligned" with government and to be "the partner of choice" (Appendix 4n) of the regulator. Again, the desire to work closely with these bodies was specifically seen as a tool to get them "on our side". This is a longer-term strategy, and it is felt that if the company is helpful, or in line, now then the company's influence will be greater in the future. For example, this may enable the company to influence decisions such that future "criteria set are the right ones from [our company's] point of view"[16] (Appendix 4n).

Another consistent theme throughout the interviews was the importance of "managing perceptions" (Appendix 4n). The interviewees suggested that the industry is not well understood and therefore it is important to "inform stakeholders about the issues" (Appendix 4n). It is believed that if the stakeholders better understood the issues their

[16] The regulator and government are not included in the Clarkson (1995) model and are considered to be secondary stakeholders by Wheeler and Sillanpaa (1997). Therefore they were originally excluded from this model, however, these interviews made it clear that in this industry they are of primary importance and therefore interviews with a relevant government department and the regulator were carried out.

opinion towards the companies would be more favourable. It is perhaps for this reason that external communications are considered key to the stakeholder process, and this is in terms of getting both the timing and external message right (Appendix 4l). What is also of particular interest is that this message is not necessarily the same for all stakeholders. Therefore one interviewee specifically stated that there were different messages for employees and shareholders (Appendix 4l) This appears to be an example of de-coupling as per institutional theory (DiMaggio and Powell, 1991), and this will be further examined in Chapter 8.

In terms of actually managing conflicting stakeholder interests there do appear to be different approaches being undertaken. In one company it was clearly stated that there was no "standard hierarchy" of stakeholders. Therefore stakeholder issues were discussed at the executive level and the competing interests were considered and the final decision would depend on the specific circumstances. In contrast, each of the other companies had made some attempt to consider the relative importance of different stakeholders. The approaches taken to prioritise stakeholders vary. One company's approach was to look at the evidence on how successful the stakeholders have been in achieving their goals and to use this to assess their importance. The following example was given: If you look at Friends of the Earth, they have "been partially successful" and so you then "look at it and see what they want and make an assessment of how effective they can be" (Appendix 4l). A second company also considered stakeholders' "Degree of influence"; however, a distinction was made between "direct" and "operational" influence. This approach resulted in a matrix of degrees of influence and a slightly modified version of this is reproduced in Appendix 4n. This is a very instrumental approach to stakeholder management, as it is only if the stakeholder group can bring about change that they are considered important. Therefore this would appear to be more consistent with Mitchell, Agle and Wood's (1997) "stakeholder salience" than a more normative approach to stakeholder management. Finally a third company, the supplier, was a subsidiary of a larger energy group and guidance was given as to a stakeholder hierarchy. It was clear from the group's strategy that profits, customers, and the government were the three most

important stakeholders and, further, that at this time primacy was given to increasing the customer base over all other things.

The actual stakeholders identified by each company were very much in line with those anticipated, although some differences are noted. Most importantly, in addition to the list of stakeholders identified in Table 5.2 all of the companies stressed the importance of the regulator and the government (in its many forms). As a consequence of this interviews were held with the regulator and a government department in order to gain an insight into their roles and views on the stakeholder issues identified. In addition the media was recognised as an important stakeholder as, not surprisingly, companies want to avoid "bad press". In contrast it was apparent that suppliers, or external service providers, were not considered as important as the other stakeholders in the model were. In fact only one company specifically mentioned suppliers and this is reflected in the matrix in Appendix 4n where external service providers (ESPs) are considered to have high operational influencing ability, but low direct influencing ability. This company believed that ESPs were important as they were considered to be partners and the hope was that joint cost reductions could be achieved by working closely together. Each of the remaining stakeholder groups is now taken in turn to consider how the companies themselves measure the stakeholder performance.

5.3.1 Shareholders

Shareholders were considered key by all of the companies, irrespective of whether they were a subsidiary of a larger group or a separately listed company. In each case traditional accounting measures were seen as a key determinant of how well the company was performing for its owners. Therefore profit and return on capital employed were specifically mentioned as key performance indicators for shareholders. This profitability measure was always supplemented by other measures such as cash flow, share price, dividend, and for the supply business customer measures (specifically mentioned were customer base and customer service indicators) are also seen as key drivers of performance for shareholders. This appears to provide some confirmation of the service

profit chain (Heskett et al, 1994), in that in service organisations there is perceived to be a link from customer performance into financial performance. If these measures are compared to those mentioned in table 5.2 we see some similarities, although what appears to be missing is the cost of capital and the more market / economy-wide drivers of performance identified. It may be that these are believed to be outside the control of the organisation. Therefore, although they do impact on a company's shareholder performance, there is perceived to be little that the company itself can do about them.

5.3.2 Employees

Employees were recognised as an important stakeholder by each of the companies interviewed. Each of the companies performs regular employee surveys in order to discover levels of (dis)satisfaction. In addition each company felt that there were sufficient "other" ways for employees to feedback their feelings, at briefing sessions and the like. In addition great store was put in the ability of the company to achieve the "softer" measure of Investors in People, although two of the companies visited had tried and failed in this respect.

On another level, there have been significant changes in the remuneration of individual employees in the industry. The shift toward PRP and individual remuneration packages is seen as a key development. In fact the move to rewarding people for extra effort is seen as a central part of the new ethos of the industry. Further, as this is coupled with reduced staffing levels, it is now felt that staff are asked to work harder and take more responsibility, but this results in a more rewarding work experience, both in terms of satisfaction and remuneration. One company suggested that this was reflected in the surveys produced, as employee satisfaction has consistently improved from "the most dire time" in 1992/3, when levels of redundancy were high[17] (Appendix 4m).

Therefore, in comparison to Table 5.2, we see that the companies consider remuneration to be key, but that there has been a shift to more individual pay and this might hamper

[17] Unfortunately the company was not willing to provide a copy of either the surveys or the results.

comparisons. Also employee satisfaction is important, but the companies have the ability to measure this directly and therefore do not need to resort to proxy measures. Employee satisfaction surveys were popular, but one company recognised that the collection of this data was a difficult process and as yet "not very advanced".

5.3.3 Consumers

The generating company did not specifically identify customers as a key stakeholder. This company is the most removed from the final customer and, on the whole, is generating electricity for a relatively faceless electricity pool. Each of the regulated companies did identify customers as a key group, although the actual customers were either distribution companies, supply companies or the final users. For the supply and distribution companies, which are subject to yardstick competition, relative performance on the regulator's measures, including minutes lost per customer and restoration times, was considered important. Also the company's ranking against its competitors on guaranteed and overall standards as well as complaints were seen as key. It is interesting to note that despite the importance placed on these measures it was recognised that the statistics produced by the industry are "not very good". Even more interesting is the desire expressed to be "in the middle of the pack" (Appendix 4n) or just better than average in these standings. This is to say that these companies are not aiming to be the best as this may single them out for specific attention. The fear is that if too high a level of performance is achieved the regulator may decide that this company is over-resourced and therefore it would be struck with more stringent price-controls in the future.

In terms of the other drivers of performance identified in Table 5.2, it was suggested that profitability really should not be any concern of consumers. Also investment levels in the industry were not highlighted, as the emphasis very much appeared to be on today's consumers. These 'objective' measures of performance were also supported by customer satisfaction surveys, although again one company suggested that these are problematic. In addition to these formal measures there was a belief that consumer problems would also be detected informally, because the company has "such a close relationship with our

customers that we would detect unhappiness" if something is wrong (Appendix 4m). This is dependent on the relationship that the company has with its customers and a key factor here is the number of customers. At the supply end of the industry, where the larger companies have upwards of 3 million customers, it is not so easy to have an intimate customer relationship. It is also the case that it was also only at the supply company that price was mentioned as an important factor. Therefore the supply business is concerned with sending a "savings message" to potential customers.

5.3.4 The Environment

This was recognised as important by each of the companies, although it was noticeable that it was given more attention in the Generation company. This is not surprising as the earlier discussion highlighted the fact that it is the primary fuel used in generation that has the most significant environmental impact. The generator recognised that there is a "clear environmental threat" to their business and that therefore emissions are important. Having said this, it was felt that the primary fuel used to generate electricity in the UK should be a government, not a company, policy decision. The company itself also recognised the importance of security of supply and as such has a company policy of maintaining a balanced portfolio of generating facilities.

At the supply and distribution end of the industry the interest was much more focussed upon energy efficiency, and for the supply company there was also the development of green products. It was felt that in many ways the companies were being forced to do things by the Government. For example, the Government has control over the Energy Efficiency Standards of Performance (EESOPs), the climate change levy, and the level of renewable sources to be used in the market. In this last instance, since privatisation a number of companies have produced green products and tariffs as innovations, but this now appears to be out of their hands as the government has legislated levels of renewable sources to be used in electricity generation in the future. In this way it appears that it is the government that is controlling environmental developments as opposed to the companies.

On a more practical note, all of the companies had achieved, or were attempting to achieve, ISO 14001. It appears that in the UK electricity industry this is seen as a useful environmental standard and, as environmentally aware companies, something in which they should be at the forefront.

5.4 Secondary social stakeholders

Finally I consider the issues raised by the interviews with the government and the regulator. As mentioned above, it was made apparent during the earlier interviews that the relationship with government is a key one for all interests. In its legislative capacity, as in the case of the Utilities Act, the government is able to provide the framework for the industry and can therefore make a huge difference to each of the interests. It is therefore not surprising that each of the stakeholder groups and the industry organisations cited the importance of keeping in close contact with the government so that their views were taken into account. Also the regulator was seen as a key stakeholder for each of the companies in the industry interviewed, as it retains certain powers and duties.

5.4.1 The regulator (Appendix 4p and 4q)

The regulatory role is set out in legislation and has from the beginning been split between primary and secondary duties. The primary duties have included "keeping the lights on" (Appendix 4p), ensuring that the private companies are financially stable and promoting competition. The reliability and availability of the transmission and distribution networks is fundamental and this is monitored through the measurement of customer minutes lost per customer. Financial stability has been taken to mean that the companies must be able to finance their activities. One way in which the regulator can assist in this respect is to ensure that the industry is considered to be low risk. If the companies are perceived as low risk, and regulatory risk is an important determinant of this, then the companies should be able to get better financing terms. Finally, the regulator has taken an extremely active role in promoting competition in both the generation and supply aspects of the

industry. Therefore the supply market has been progressively opened to competition and the incumbent generators have been encouraged to divest their capacity. The regulator monitors the level of competition within the industry through a variety of measures for different groups of customers in different areas and these include market share, the range of prices and the arrangements for transferring from one supplier to another. At present the twelve original supply companies still maintain 60-70% of the market in their regions, but the major concern to the regulator is whether this is resulting in anti-competitive behaviour. It is accepted that in the future there may be as few as five or six large supply companies and this is not seen as a problem by the regulator.

The secondary duties of the regulator relate more specifically to customers, health and safety and the environment. The actual importance placed on these secondary duties appears to vary significantly. The customer concerns are firmly entrenched in the workings of the regulator, through guaranteed and overall standards and monitoring of customer complaints, and these are discussed in the Consumers section above. The close monitoring of these measures has become an integral part of the work of the regulator and reports are produced annually on the comparative performance of the different companies. In contrast the involvement in health and safety issues is limited to considering whether the companies have appropriate "machinery in place to limit incidents" (Appendix 4p). In fact the regulator sees their role in this area as secondary to that of the Health and Safety Executive (HSE). The environmental responsibilities of the regulator have actually decreased over time, as the Energy Efficiency Standards of Performance (EESOPs) have become the responsibility of government. Despite some minimal administrative duties in this area, it is clearly felt that environmental issues are the domain of government. This is exemplified in that ofgem has "nothing to do with the nuclear industry" (Appendix 4q) and there are no objectives relating to the emission of greenhouse gases. This is also reflected by the fact that it is the government, not the regulator, which consents, or does not consent, to new generating capacity. As mentioned earlier, it is this policy that has the most significant environmental impact.

In contrast to the reduced involvement in environmental issues, the regulator has recently adopted a more "focused" approach to social issues and this has been achieved through the publication of the "Social Action Plan". Actually it is not felt that this has meant that the regulator is now performing a more social role, but simply that this is now more effectively communicated through the plan. The plan provides a more focused approach to how the regulator is dealing with disadvantaged groups. As with the environmental issues, the regulator's role in social issues, such as fuel poverty, is still seen to be secondary to that of the government, who are seen to be the real drivers of change.

5.4.2 The government (Appendix 4r)

The role of government is not unitary as there are influences from the DTI, the DETR, central government and the EU. These government bodies are concerned with "the complex issues" raised by the industry. In this sense the government deal with the "intractable problems" in that they concern conflicting interests that are "not resolvable". An example of such conflict is the competing social and environmental considerations of energy prices. Therefore low prices are seen as beneficial, in that they reduce the number of people in fuel poverty, but they also send the wrong signal in terms of energy efficiency and the need to meet environmental emission targets. This problem needs to be managed and is resolved by running separate programmes, one for fuel poverty and one for environmental emissions. Another intractable problem is the need for primary fuel in the future. As UK natural resources run down and the Magnox nuclear fleet are closed down this suggests that the UK needs to find alternative fuel sources. One "obvious" answer is to build new nuclear capacity, as this does not contribute to global warming, but within the EU Germany has a stance of "no nuclear and meeting Kyoto". Another alternative will be to import primary fuel, but this dependence would be a "real risk", as opposed to a "financial risk", and as such you "can't insure against" these.

It would therefore appear that the companies are left to operate in their own way for the short-term, but the longer-term problems remain with government. At present there is a debate within the UK government, and at a European level, as to how far into the future

plans should be made. As yet there is no answer, but it is recognised that, given the nature of the long-term issues highlighted above, there are potential environmental and supply problems in the future.

5.5 Conclusions

This chapter documents the findings of interviews with stakeholders and companies in the electricity industry in England and Wales. The initial purpose of these interviews was to discover the stakeholder issues, objectives and drivers of performance within the industry. The findings from the stakeholder interviews in this respect are summarised in Table 5.2 and these have been contrasted to those measures considered important by the sample of companies in the industry. Based on the findings from these interviews and the review of the performance measurement literature in the previous chapter it is now intended to suggest a provisional performance measurement model, or social accounting framework, for the industry. Therefore I shall once again consider each of the key stakeholders in turn and identify specific performance measures that will form part of the final model. In addition, it is intended to start with a value added analysis of the companies' performance, as this provides insights into the returns being made by the industry and how these are then distributed between the different stakeholder groups. Value added is here taken to refer to the "Value added statements" as suggested in the Corporate Report (1975) and is therefore calculated on an accruals basis[18].

5.5.1 Shareholders

In the previous chapter it was concluded that the following measures are important:

- Return on Equity
- Return on Capital Employed
- Return on sales

[18] It is acknowledged that it is also possible to consider value added on a cash basis (see for example Shaoul, 1997). The relative benefits of cash and accruals bases have long been debated, but it is believed that the accruals basis will provide a fair reflection of the distribution in this case. In addition the analysis is supplemented by a consideration of the levels of fixed asset investment in the industry (see Section 7.8).

- Total Shareholder Returns (TSR) as adjusted for risk and market-wide factors

If these measures are compared to the drivers of performance in Table 5.2 and those identified in the company interviews we find significant agreement. Profitability and Efficiency as measured by the accounting measures are also considered important in practice. There is again agreement between the literature and the interviewees that market-wide and industry-wide factors are important. This is difficult to incorporate in specific measures, but the cost of capital will be considered as the interviewees suggested this. It was also apparent from the interviews that the companies' future intentions, specifically in terms of future growth, are important and therefore in addition to the measures identified in the literature the growth in revenues of the companies will also be considered. Finally, cash generation is important and therefore the cash flow return on investment (CFROI), a measure argued to be consistent with shareholder wealth maximisation, will be included.

The shareholder representatives did not mention the market-based measure of TSR, probably because they are trying to identify future returns and the historical return is not considered important for this. One company, however, did suggest that dividends and share price are important and together these comprise TSR. In fact TSR is a measure of shareholder wealth creation, and the other measures are seen as important because they are drivers of this performance.

5.5.2 Employees

There is agreement between the literature and the interviews that the key objectives for employees are employee remuneration and welfare. Further, it is also agreed that it is comparative remuneration that is most important. Therefore average remuneration per employee will be compared with changes in other industries through "Income Data Services", which is considered by one interviewee to be the "Bible" on such things. As mentioned earlier, employee welfare is less easily measured. The stakeholder representatives use informal feedback to gauge this and the companies all use satisfaction

surveys, the design and results of which they were not willing to share. This therefore means that, as discussed in the literature, proxy measures will need to be used. From the stakeholder interviews it was apparent that employment levels, health and safety, job security and training were perceived as being the most important drivers of employee welfare. Therefore the following measures will be used:

- Changes in employment levels;
- Numbers of Accidents;
- An "annual labour turnover index" (a proxy for job security as discussed in Chapter 4); and
- Expenditure on employee training.

5.5.3 Customers

Again, there is agreement that the final customer is interested in price and quality of supply. Therefore changes in prices to consumers will be considered and this will be contrasted with changes to other customers, both within the UK and globally. In terms of quality of supply, the industry appears to be in agreement that customer minutes lost per customer, the number of complaints and Offer / Ofgem's guaranteed and overall standards of performance are relevant, although the accuracy of the statistics reported is questioned. This is because the data is provided by the companies and there is some scope for flexibility in the definitions of the figures to be reported. It is therefore intended to use company performance in these respects to analyse performance for customers.

5.5.4 Suppliers

Little was gained in terms of performance measures specifically for creditors and it is therefore intended to use measures of creditor days and liquidity (i.e. a current ratio) as identified in Chapter 4. Changes in the mix of primary fuel supply will be considered as evidence of the specific fuel industries gaining or losing. This will also be of importance when considering the environmental effects.

5.5.5 The environment

A clear message was received from all stakeholders and companies that it is emission of greenhouse gases from the industry that is the single most important environmental issue. As this message was so strong the performance measurement model here will be purely based on factors affecting these emissions. This is not to suggest that other areas of environmental concern are insignificant, but that they are overshadowed by this much larger problem. As mentioned above, this also has the benefit of simplifying the number of measures to be used and so it is that the key factors influencing emissions are:

- Total and mix of primary fuel used in generation;
- Efficiency of generation;
- Total electricity supplied.

5.5.6 The model

Therefore, from the literature reviewed and the interviews performed, the measurement model is summarised in Table 5.3 overleaf. This will be used to analyse how the various stakeholders have benefited or lost since privatisation. As mentioned above, in addition to these specific stakeholder measures a value added analysis will also be performed.

Table 5.3: The stakeholder performance measurement model

Stakeholder group	Stakeholder measures
Shareholders	Return on equity Return on capital employed Return on sales Growth in revenues The cost of capital Cash added value Total shareholder returns
Employees	Average remuneration Changes in employment levels Numbers of Accidents Annual labour turnover index Expenditure on employee training
Customers	Average prices Customer minutes lost per customer Numbers of complaints Performance against Ofgem's guaranteed and overall standards
Suppliers	Creditor days Current ratio Mix of primary fuel
The environment	Total and mix of primary fuel used in generation Efficiency of generation Total electricity supplied Annual emissions

The availability and ease of access to the information required will be discussed as part of the analysis section. This is important as one aim of this thesis is to identify gaps in corporate information that would be required to provide a more complete corporate social report.

5.5.7 Other findings

Another important finding to become apparent from the interviews was that each of the companies was undertaking some form of stakeholder management. This stakeholder management appears rather instrumental in nature, as the stakeholders' influence over company performance is the determinant of their perceived importance rather than any moral or ethical stance. Beyond this it is less easy to generalise, but it was reassuring to note that the stakeholders identified by the companies were in line with those identified in

the literature. In fact these interviews did emphasise the importance of the regulator, the government and the media in addition to the primary stakeholders already identified.

It has been argued (Carter and Crowther, 2000) that the privatisation of the UK electricity industry has resulted in a shift from an engineering led industry, where primacy was given to the technical aspects of security of supply, to a more financially oriented one[19]. This may well be in order to reflect that, arguably, the most important stakeholder, the shareholders, are primarily concerned with financial performance and that this is best reflected in discounted cash flow models. By their nature these models discount the future and place greater importance on the short-term. It is this short-term perspective that appears to be at the heart of the key concerns of the other stakeholders. Consumers are concerned that not enough is being invested today to ensure reliable supply in the future. Employee representatives claim that the cut in employee numbers raises concerns about the reliability of supply and further that the changes to the industry will also result in a skills shortage in the future. The number of electricians being trained by the industry has fallen dramatically and the age profile of qualified electricians is getting older and older. Also recent history shows that the primary fuel used in electricity generation has shifted to gas, the majority of which the UK will need to import within the foreseeable future. Reliance on imports for such an essential commodity again raises concerns about future supply. The difference in temporal perspectives is perhaps most apparent when considering the environment. The environmental problems connected with the industry are extremely long-term and the solutions are not to be found easily or quickly. Friends of the Earth are suggesting there is a need for dramatic reductions in emissions by the year 2050, which is significantly past the planning horizon of the industry: the regulator works in 5-yearly cycles. Even this does not compare to the need for nuclear "spent fuel management" that requires the safe management of radioactive waste for hundreds of years into the future. The short-term perspective of the industry could be storing up problems for the future, and this is certainly a consistent message from stakeholders. The companies also recognise these potential long-term threats to the industry. Interestingly

[19] Ogden (1995) also notes a change in the UK water industry, whereby the use of accounting vocabulary assisted a culture shift to cost and then profit orientation.

their response appears to be that these are government, rather than corporate, policy issues. Therefore the buck is firmly being passed to, and apparently accepted by, government to find solutions for the "intractable" problems. Whether the government can find appropriate solutions to these long-term problems is debatable and only time will tell.

Chapter 6: Stakeholder Performance - From Privatisation to 31 March 1995

6.1 Introduction

The previous two chapters have identified certain stakeholder performance measures that are specifically relevant to the electricity industry in England and Wales. In this Chapter these measures are used to consider the performance of this industry in the period from privatisation to 31 March 1995. After March 1995 the UK Government sold its "Golden Share" in the companies and as a result the industry was subject to an extremely turbulent period of take-over activity. The significance of these take-overs is considered in Chapter 7. This Chapter begins by considering the distribution of value added by the privatised companies in this period and then considers more specific stakeholder measures. On the whole the accounting figures used in Chapters 6 and 7 have been extracted from the annual reports and accounts of the companies. Where this was not possible it has been discussed. For each of the fifteen companies annual reports were collected for the years from 1991 to 1997 the relevant data collected and entered into spreadsheets for the calculation of the measures identified in the previous chapters. In total this meant data collection from a total of 105 sets of annual reports and accounts and the extraction of the relevant data is a time consuming task. The spreadsheets are included in Appendix 5.

6.2 The distribution of Value Added

In previous chapters the Corporate Report (ASSC, 1975) has been acknowledged as an earlier attempt to provide a report that addressed a wider range of users. These constituencies, or stakeholders, were identified and their information needs considered. An important conclusion was that a value added statement was important, as it would demonstrate how the value added by a company is distributed. Froud et al (1998) suggest that "the most obvious indicator of significance is the composition of internal costs after excluding purchases: since these costs are equal to value added" (p113). Tables 6.1-6.3 below provide this information for the three different elements of the electricity industry in England and Wales, namely Generation, Transmission and Supply and Distribution.

The tables in this value added section include data that has been taken from the annual report and accounts for the fifteen companies over the years 1990/1 to 1994/5. For each year the relevant data was extracted from individual company accounts and has then been summarised into three sections of the industry. Firstly we consider the two generating companies together, then The National Grid is considered separately, and finally the twelve RECs are summarised in Section 6.2.3. The nuclear element of the industry was not privatised until a later date and has therefore been omitted from the analysis performed in this and subsequent Chapters.

6.2.1 The Generators

If we consider the generation of electricity since privatisation the changes have been significant. Firstly the two generating companies, Powergen and National Power, have been required to divest some of their capacity since privatisation. Therefore in the year 1994/95 these two companies generated, in terms of turnover, 60% of the electricity in England and Wales [Source: Company accounts] as opposed to 73.1% in 1990/1[20][Source: CRI, 1998]. We can see from Table 6.1 below that over this same period of time the value added as a percentage of turnover rose from 18.3% to 31.0%, demonstrating a significant decrease in the purchase of materials and services from £5,746million to £4,715million. The increase in the value added (from £1,283million in 1990/91 to £2,123million in 1994/95) partly explains the dramatic fall in the proportion of value added relating to labour costs. In actual fact, whilst the absolute value added has increased by more than 68% the total remuneration paid to employees has fallen, in absolute terms by almost 52% (1991, £570m; 1997, £274m). The combination of the increase in value added and the fall in employee remuneration results in an amazing fall in labour's share of value added from 43.7% to 12.6%. This level of fall will be considered in more detail in the employees' section later.

[20] Therefore this is not a complete analysis of the industry. In 1990/91 the remaining capacity was provided almost exclusively by nuclear power, but by 1995 Powergen and National Power were no longer a duopoly in terms of non-nuclear generating capacity. By 2001 and the number of generators had increased again

Table 6.1: Distribution of Value Added by Generation Companies (Appendix 5a)

	1991	1992	1993	1994	1995
	£m	£m	£m	£m	£m
Total Income	7,029	7,798	7,536	6,573	6,838
Purchases (materials and services)	5,746	6,098	5,711	4,658	4,715
Value added / internal costs	1,283	1,700	1,825	1,915	2,123
Gross labour costs	570	556	456	366	320
Charged to Balance sheet	-9	-12	-15	-4	0
Charged to profit and loss account	561	544	441	362	320
Depreciation	233	305	333	333	481
Net Interest	-112	-22	46	67	72
Tax	251	266	300	286	337
Dividends	113	188	217	259	300
Retained profit	237	419	488	608	613
Value added	1,283	1,700	1,825	1,915	2,123
	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	81.7	78.2	75.8	70.9	69.0
Value added / internal costs	18.3	21.8	24.2	29.1	31.0
Gross labour costs	44.4	32.7	25.0	19.1	15.1
Charged to Balance sheet	-0.7	-0.7	-0.8	-0.2	0.0
Charged to profit and loss account	43.7	32.0	24.2	18.9	15.1
Depreciation	18.2	17.9	18.2	17.4	22.7
Net Interest	-8.7	-1.3	2.5	3.5	3.4
Tax	19.6	15.6	16.4	14.9	15.9
Dividends	8.8	11.1	11.9	13.5	14.1
Retained profit	18.5	24.6	26.7	31.7	28.9
Value added	100.0	100.0	100.0	100.0	100.0

The level of depreciation in these companies has increased over time and Powergen has "accelerated depreciation" in 1995 by £61 million. This is to reflect "the write-down of certain plant at coal and oil-fired power stations" (Powergen, 1997). Also in 1995 the depreciation charge of National Power was significantly higher than in any other year and this is only partly explained by "a charge of £31million relating to the permanent diminution in the net book value of a power station" (National Power, 1995). These items go some way to explaining the increased level of depreciation in 1995.

with 7 companies providing 80% of the capacity but a larger number of smaller companies providing the rest (see Table 9.1 for more details).

In 1991, the first year after privatisation, both companies had net interest receivable and since this time there has been a shift towards net interest payable. This shift has resulted in both companies becoming net interest payers, although the level of net interest paid is very small and is never above 4% of value added. This would appear to imply that debt is not an important source of finance in these companies, although it is being increasingly used. The tax charge has remained relatively constant over the period of time, although it has fallen as a percentage of value added.

The largest gain in share of value added has been that of the shareholders in terms of profit attributable to shareholders. The level of dividends has increased significantly and consistently each year. If dividends and retained profit are taken together this indicates an increase from 27.3% in 1991 to 43% in 1995. Therefore the most significant changes since privatisation have been the fall, in absolute and relative terms, of labour costs and the increase in dividends and retained profit.

6.2.2 The National Grid

Data pertaining to the distribution of value added by The National Grid is given in Table 6.2. During the period under consideration here The National Grid was owned by the twelve regional electricity companies and was subsequently floated on the London stock exchange in November 1995 (this will be returned to in Chapter 7). The National Grid core business, from which it earns the majority of its income, the running of the transmission network, is subject to price-cap regulation. The National Grid's total income increased in each year from 1991 to 1995 such that in 1995 the level of total income was nearly 25% higher than in 1991. The percentage of value added is relatively constant in the years 1991 – 1995, although it does show a marginal increase each year.

When considering the make up of value added the most significant changes are the fall in labour's share of value added (1991, 22.9%; 1995, 17.7%), the fall in the level of net interest (1991, 11.0%; 1995, 3.6%), and an increase in the profit attributable to shareholders (1991, 36.0%; 1997, 45.3%). The fall in labour's percentage of value added

is significant, but not on the same scale as that noted in the case of the generation companies. In absolute terms the value of labour remuneration actually marginally increased between 1991 and 1995, although it must be remembered that this is in nominal terms and does not take into account inflation. As mentioned above, this will be returned to later in the Employees section.

Table 6.2: Distribution of Value Added by The National Grid

	1991	1992	1993	1994	1995
	£m	£m	£m	£m	£m
Total Income	1144.3	1319.9	1391.8	1425.0	1428.3
Purchases (materials and services)	422.9	467.6	488.5	469.7	469.2
Value added / internal costs	721.4	852.3	903.3	955.3	959.1
Gross labour costs	182.1	216.8	219.2	222.4	197.8
Charged to Balance sheet	-17.0	-16.8	-25.0	-27.2	-28.3
Charged to profit and loss account	165.1	200.0	194.2	195.2	169.5
Depreciation	91.6	93.5	116.3	129.6	144.6
Net Interest	79.0	60.9	59.6	51.0	34.4
Tax	126.2	163.2	151.9	139.7	175.8
Dividends	104.5	117.0	129.3	149.1	162.0
Retained profit	155.0	217.7	252.0	290.7	272.8
Value added	721.4	852.3	903.3	955.3	959.1
	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	37.0	35.4	35.1	33.0	32.9
Value added / internal costs	63.0	64.6	64.9	67.0	67.1
Gross labour costs	25.2	25.4	24.3	23.3	20.6
Charged to Balance sheet	-2.4	-2.0	-2.8	-2.8	-3.0
Charged to profit and loss account	22.9	23.5	21.5	20.4	17.7
Depreciation	12.7	11.0	12.9	13.6	15.1
Net Interest	11.0	7.1	6.6	5.3	3.6
Tax	17.5	19.1	16.8	14.6	18.3
Dividends	14.5	13.7	14.3	15.6	16.9
Retained profit	21.5	25.5	27.9	30.4	28.4
Value added	100.0	100.0	100.0	100.0	100.0

Also significantly reduced over the period of time is the net interest paid, which has fallen from 11.0% in 1991 to 3.6% in 1995. The level of net interest paid has started to increase again in 1996 and 1997 (see Chapter 7), but is still at a relatively low level. The levels of depreciation and tax do show some variation over the period but there is no

discernible trend to these movements in relative terms. Both have generally increased as the business has reported higher turnover through the period.

As with the generation companies the largest gains are made by the shareholders. This is in terms of dividends, which have increased over the period most noticeably in the final three years, and retained profit, which has increased significantly each year until the last when there was a 2% fall.

6.2.3 The Regional Electricity Companies

Table 6.3 demonstrates the distribution of value added by the RECs.

Table 6.3: Distribution of Value Added by the RECs (Appendix 5b)

	1991	1992	1993	1994	1995
	£m	£m	£m	£m	£m
Total Income	13628.2	14876.9	15431.5	15256.6	15418.5
Purchases (materials and services)	10787.7	11428.1	11881.6	11638.8	11664.2
Value added / internal costs	2840.5	3448.8	3549.9	3617.8	3754.3
Gross labour costs	1524.4	1650.8	1591	1553.1	1484.9
Charged to Balance sheet	-202	-207	-248.1	-258.6	-253.9
Charged to profit and loss account	1322.4	1443.8	1342.9	1294.5	1231
Depreciation	344.9	366.6	414	445.6	469.9
Net Interest	39.5	167.4	118.5	69.2	59.6
Tax	331.9	408.9	442.9	460.9	491.3
Dividends	228.9	374.9	432.1	501.9	960
Retained profit	572.9	687.2	799.5	845.7	542.5
Value added	2840.5	3448.8	3549.9	3617.8	3754.3
	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	79.2	76.8	77.0	76.3	75.7
Value added / internal costs	20.8	23.2	23.0	23.7	24.3
Gross labour costs	53.7	47.9	44.8	42.9	39.6
Charged to Balance sheet	-7.1	-6.0	-7.0	-7.1	-6.8
Charged to profit and loss account	46.6	41.9	37.8	35.8	32.8
Depreciation	12.1	10.6	11.7	12.3	12.5
Net Interest	1.4	4.9	3.3	1.9	1.6
Tax	11.7	11.9	12.5	12.7	13.1
Dividends	8.1	10.9	12.2	13.9	25.6
Retained profit	20.2	19.9	22.5	23.4	14.5
Value added	100.0	100.0	100.0	100.0	100.0

As with The National Grid, the Regional Electricity Companies are subject to price-cap regulation on their core activities. In the first three years considered here the total income of the RECs increased by 13% and subsequently fell by 1% in 1994 and rose by 1% in 1995. The percentage of value added has increased from 20.8% to 24.3% with the largest increase occurring in the year ending in 1992. Once again we see a significant reduction in labour's share of value added (46.6%, 1991; 32.8%, 1995). The levels of depreciation, interest and tax again vary year on year, but do not appear to provide a consistent trend except in the case of the level of taxation that has increased each year. The level of dividends paid as a percentage of value added has risen significantly from 8.1% in 1991 to 25.6% in 1995 and it is interesting to note that this goes even higher in 1996 and 1997 (see Chapter 7). If we consider profit attributable to shareholders, as consisting of dividends and retained profits, we see a familiar story: in the years 1991 to 1995 the level rose every year in total from 28.3% in 1991 to 40.1% in 1995.

6.2.4 Conclusions from the Value Added analysis

The two most significant changes in the period that are consistent across all aspects of the industry are the increase in the shareholders' share of value added and the fall in labour's share in value added. In absolute terms the increase in profit attributable to shareholders has been dramatic as it has risen from £1,411.3million in the year ending 31 March 1991 to £2,580.3million in the year ending 31 March 1995. This represents nearly an 83% increase in nominal terms in the period. This increase can also be expressed in real terms by adjusting for inflation in the period. The Retail Price Index (RPI) in the UK rose from 131.4 in March 1991 to 147.5 in March 1995 an increase of 12.25%. This would suggest a real increase in profit attributable to shareholders of approximately 63%. If we now aggregate employment remuneration in all fifteen companies we see that in 1991 total employee remuneration (including that charged to the balance sheet) was £2,276.5m and by 1995 this had fallen to £2,002.7m. This represents a 12% decrease in absolute terms although in real terms, after taking into account inflation, the real decrease in employment remuneration is equal to 22%. This level of reduction is significant and can be achieved in one of two ways, namely by reducing the number of employees or by

paying the same number of employees a lower rate of pay. The evidence below in Section 6.4.1 suggests that it has been achieved by reducing employee numbers.

This shift in value added from employees to shareholders is apparent, but this analysis is not sufficient to clearly portray how the other stakeholders have fared. From this analysis it is not clear how these companies have performed for their consumers, their suppliers[21] and the environment. It is especially important to remember here that for this period of time consumers were effectively involuntary stakeholders as they had no choice of supplier and electricity is a pre-requisite for modern life. In order to get a fuller picture of the changes in performance over this period we now consider some more specific stakeholder measures.

6.3 Shareholder analysis

Chapter 5 concluded that in terms of shareholders the most important objective is wealth maximisation. In order to achieve this the literature reviewed and the interviewee responses suggested certain key indicators that help to manage and measure this performance. These measures are as follows:

Section 6.3.1 Traditional profitability measures;
Section 6.3.2 Accounting Return on Capital measures;
Section 6.3.3 Cash flow measures; and
Section 6.3.4 Market performance measures

In addition to these measures size and growth were recognised as important factors. Specifically, customer base is considered important for the supply and distribution companies in the new competitive markets. The period under consideration was not subject to competition and so this has not been considered. More generally the size of operations was briefly considered through changes in total income in Section 6.2 above.

[21] The increase in value added, and hence the decrease in purchases, would suggest that suppliers have been squeezed since privatisation.

Finally the cost of capital is important and this is considered in the sections as appropriate.

6.3.1 Traditional profitability measures

Absolute levels of profit attributable to shareholders and levels relative to value added have been calculated and discussed above in section 6.2. In the value added analysis we noted the increase in shareholders' share in value added. This is augmented here by a consideration of return on sales and earnings per share. Both of these measures are widely used in practice and are considered important indicators to the market as to the financial performance of the company. For the purposes of this Chapter Return on Sales has been defined as:

$$\text{Return on Sales} = \frac{\text{Profit before interest and tax}}{\text{Turnover}} * 100\%$$

In summary the following returns on sales were achieved:

Table 6.4: Return on Sales (Appendix 5c)

	1991	1992	1993	1994	1995
Generators	9.5	11.0	14.0	18.4	19.3
The National Grid	40.6	42.3	42.6	44.2	47.5
The RECs	9.2	11.3	11.9	12.4	13.8

These simple averages show a very consistent picture of an increasing profitability in the industry. A more detailed, company by company, breakdown can be found in Appendix 5a and this shows that, although there is an increase over the period, it is not as consistent as this average suggests. These increased levels of profit throughout the industry suggest that, as the period of time has progressed, so the companies have been able to reduce their operating costs and hence increase margins. From our earlier value added analysis we can suggest that the major cost savings have been in terms of labour costs.

Earnings per share (EPS) are required to be published in sets of accounts. Since the introduction of FRS 3 in the UK the definition of EPS has been made more stringent and this is:

$$\text{Basic Earnings per share} = \frac{\text{Profit attributable to shareholders}}{\text{Weighted Average no. of ordinary shares}}$$

The profit attributable to shareholders is specifically defined to reflect profit after extraordinary and exceptional items and this definition of profit has been used here. For simplicity the simple average of the number of ordinary shares, at the beginning and end of the accounting period, rather than the weighted average has been used. An exception to this is in the year ended 31 March 1991, where the year end number of ordinary shares is used as it is in this year that the shares were issued.

Table 6.5: Earnings per share (Appendix 5c)

	1991	1992	1993	1994	1995
Generators	0.17	0.30	0.35	0.43	0.47
The National Grid	0.65	0.84	0.95	1.10	1.08
The RECs	0.41	0.55	0.66	0.68	0.77

The improvement in EPS is consistent across all of the distinct parts of the industry, although it is not the case that every single REC showed an improved EPS each year. Also it is worth noting that the majority, but not all, of the RECs reduced the number of shares by approximately 10% in the year ending 31 March 1995. This means that in total the average number of ordinary shares used in the 1995 calculation was approximately 3-4% lower than in the 1994 calculation. If this change had not occurred the EPS for the RECs would still have increased, but not as much, to approximately 0.74.

The traditional profitability measures appear to tell a story of a financially successful industry with steadily improving prospects. This is to say that profitability was improving throughout the period. One problem with these measures is that it is difficult to say whether these returns are sufficient to reward the shareholders for their investment. In order to be able to do this we need to be able to compare the returns with an appropriate

cost of capital. Therefore in the next section we consider the costs of capital for these companies.

6.3.2 Accounting Return on Capital measures

The return on capital employed (ROCE) is considered here. ROCE relates to the returns made to all providers of finance. ROCE is a measure of the efficiency with which the companies turn their capital into profits and is defined here as:

$$\text{ROCE} = \frac{\text{Profit before interest and tax}}{\text{Capital + Reserves + Loans due in more than one year}} * 100\%$$

The table below summarises the ROCE generated by the distinct parts of the industry in each of the five years.

Table 6.6: ROCE (%) (Appendix 5c)

	1991	1992	1993	1994	1995
Generators	18.4	20.3	22.2	21.2	25.0
The National Grid	27.6	31.9	28.9	26.9	29.2
The RECs	18.6	22.8	23.0	21.4	24.8

These results do not at first sight appear as clear cut as those produced by the traditional measures calculated above, but there still appears to be an improvement in ROCE through the period. There appears to be no obvious trend to the National Grid's performance whereas for the generators and the RECs there does appear to be a definite year on year improvement with the exception of 1994 where the levels dropped. However, this is not the end of the story as we should remember that these are the returns and they should therefore be compared to the cost of capital. ROCE is a measure of return to all of the providers of finance and we should therefore compare it to the Weighted Average Cost of Capital (WACC). Edwards, Kay and Mayer (1987) consider the use and relevance of returns on capital as a measure of performance. They argue that:

> "the accounting rate of return over a segment (of whatever size) of an activity's lifetime provides information which, in a great many cases, is directly relevant for economists, investors, regulators and others who are concerned to assess the performance of activities." p.63

They conclude that a comparison of the return on capital to the cost of capital provides evidence on performance, but this must be in current cost terms to be of value. As such they suggest the correct formula is:

$$\text{The accounting rate of profit} = \frac{\text{Real profit}}{\text{Net worth}}$$

Where real profit is equal to nominal profit (the profit as calculated using value-to-the-owner rules) less the rate of inflation multiplied by the net worth. The net worth is also calculated using value-to-the-owner rules. Value-to-the-owner rules

> "stipulate that if the replacement cost of the firm's assets exceeds their net realizable value on disposal then the assets of the firm should be valued at:
> i Net realizable value if the value of the firm's assets in their current use falls short of their net realizable value on disposal
> ii Replacement cost if their value in current use exceeds the cost of replacing the firm's assets with assets that generate an equivalent stream of services
> iii Present value of future earnings if the value of the firm's assets in their current use lies between net realizable value and replacement cost." (p123)

This value-to-the-owner valuation is not provided by the electricity companies, but current cost information is available. Therefore it is intended to use this current cost information to calculate a current cost ROCE that can then be compared to the real WACC. The tables below document the current cost return on capital employed for each of the companies based on the following formula:

$$\text{Current cost ROCE} = \frac{\text{Current cost PBIT (after gearing and inflation adjustments)}}{\text{Current cost capital employed (including current cost reserve)}} * 100\%$$

Table 6.7: Current cost ROCE for RECs (Appendix 5d)

	31.3.1991	31.3.1992	31.3.1993	31.3.1994	31.3.1995
East Midlands	0.2	5.3	8.2	0.3	10.3
Eastern	-2.3	3.0	6.5	7.0	4.2
London	-2.3	2.8	5.5	6.3	5.5
Manweb	-3.0	4.2			
MEB	-1.8	3.7	7.9	8.1	
Northern	-0.6	4.6	7.4	7.8	7.8
Norweb	-4.2	5.0	8.1	8.0	8.4
Seeboard	-3.0	1.6	5.5	5.7	6.6
Southern	-1.7	4.8	8.0	7.9	5.2
Swalec	-0.7	3.4	5.9	6.5	
SWEB	-1.8	3.0	6.6	6.3	4.9
Yorkshire	0.6	4.3	6.2	5.2	8.3
Simple Average	-1.7	3.8	6.9	6.3	6.8

Table 6.8: Current cost ROCE for National Grid and the Generators (Appendix 5d)

National Grid			6.0	6.1	5.9
National Power		0.9	4.0	5.0	3.5
Powergen	-5.3	1.6	4.6	5.3	4.5

In order to discover whether these companies have created value for their capital providers we need to calculate the cost of capital. The cost of capital can be calculated as the weighted average of the cost of debt and equity. The cost of capital is the normal returns that are required by the providers of that capital. If these returns are not forthcoming the providers of capital are not being sufficiently recompensed for the risks that they are taking in investing in this specific company. Modern finance theory suggests that the investors should be rewarded for investing in risky assets, but only for the market not the total risk. It is argued that investors can reduce / eliminate unique or unsystematic risk by investing in a diversified portfolio. Companies generally, and indeed in the electricity industry, have two primary sources of finance, namely debt and equity. These different types of finance have different costs as they contain different risks, with the equity investor, the shareholder, seen to take the greater risks as there are fewer guarantees of payment. In Chapter 4 we considered the measurement of the costs of equity and concluded that the Capital Asset Pricing Model (CAPM) is most commonly used to calculate the cost of equity and can also be used to calculate the cost of debt. This is reflected in the following formulae:

The cost of equity = Risk free rate + Beta * (equity risk premium)

The cost of debt = Risk free rate + Beta * (debt risk premium)

In this case, as we are considering the current cost returns after adjusting for inflation, we must consider the real WACC. This is to say that the cost of capital must not include inflation. Firstly we need to calculate the real risk free rate. This was calculated by reference to the return offered by government bonds and securities as quoted on DATASTREAM. The following information was gathered:

Table 6.9: Returns on government Bonds and Treasury Bills

	1990/91	1991/2	1992/3	1993/4	1994/5
UK GOVT BOND YIELD - LONGTERM	10.89	9.75	8.94	7.44	8.46
UK TREASURY BILL RATE	13.55	10.25	7.85	5.05	5.46
UK BOND YIELD GOVT.10 YR(ECON) - MIDDLE RATE	11.07	9.76	8.87	7.40	8.49
UK TREASURY BILL DISCOUNT 1 MTH - MIDDLERATE	14.02	10.58	8.15	5.41	5.37
UK GOVT BOND YIELD - MEDIUM TERM	11.63	9.99	8.23	6.49	8.44
Lowest nominal rate	10.89	9.75	7.85	5.05	5.37
Inflation as calculated by change in RPI March to March	8.24	4.03	1.90	2.30	3.51
Implied risk free rate	2.4	5.5	5.8	2.7	1.8

The real rates for 1991/2 and 1992/3 appear out of line with the other years. This seems to be caused by the rate of inflation falling at a quicker rate than the returns offered by the government. Another approach is to consider the returns offered on Index Linked Gilts (ILG) as these are protected from inflation risks. Evidence on the level of returns offered by ILGs is considered by OFGEM (2001) and they note that the implied risk free rate fluctuates: 3.1% (January 1998), 1.8% (April 1999), 2.2% (March 2001), 2.6% (June 2001). In addition OFGEM (2000) determined a risk free rate of 2.5% to 2.75% based on a study of spot yields on UK ILGs with greater than 5 years to maturity. This evidence seems in line with the rates calculated 1990/1, 1993/4 and 1994/5 above and it would appear that the other two years are overstated. Based on this the best estimate of the risk free rate for the period appears to be of the order of 2.5% (the average for the 1990/1, 1993/4 and 1994/4 above is 2.3%).

If this is our best estimate of the risk free rate we then need to calculate Beta * Equity risk premium. Again there is significant disagreement on both the level of Beta and the level of equity risk premium. If we consider the level of Beta for the electricity industry the Monopolies and Mergers Commission (MMC) and the regulator consistently suggest a range of 0.55 to 0.75. In comparison Datastream (a financial information package) suggests Betas of 0.44 and 0.31 for electricity companies. There is also disagreement as to the level of equity risk premium. Watson and Head (2001) report that empirical studies by Dimson and Brealey (1978), Allan et al, (1986) and Ibbotson Associates (1990) all suggest equity risk premiums of approximately 8-9%. They further note that Jenkinson (1994) recalculates the equity risk premium using a geometric mean and this suggests that the previous studies overstate the premium. Jenkinson's work has also been used by the MMC and the regulator, and the MMC (1997) state:

> "The question of whether to use arithmetic or geometric means remains one of debate, mainly reflecting different views as to how best to characterize the process assumed to generate returns over time. In the short term it is conventional to assume that annual returns are independent which would suggest using arithmetic means. But it has been argued that this assumption is implausible over the longer term, and the alternative view has been employed to justify the use of geometric means. We see no reason, in the light of the present state of the debate, to depart from the use of geometric means, noting that this gives an overall range of the WACC consistent with that has been used elsewhere". (p. 15)

Two comprehensive studies of the equity risk premium are the Barclays Equity-Gilt Study (2001) and Dimson, Marsh and Staunton (2001) in their book "The Millennium Book II: 101 years of Investment Returns". These two studies consider the equity risk premium over the 100 years of the twentieth century and suggest an equity risk premium of 4.6% and 4.5% respectively. The MMC has used a range of 3.5-4.5% and the regulator suggesting a similar, although slightly higher, range going up to 5%. Given this shift toward acceptance of the geometric mean and the range of values suggested it would appear that a best estimate for the equity risk premium would be 4.6%. Given this is consistent with the OFGEM and the MMC it would appear sensible to also use the middle of the range Beta as suggested by them of 0.65.

This suggest a real post-tax cost of equity = 2.5% + 0.65 * 4.6% = 5.49%. It must be remembered that returns calculated above are before tax and therefore this post-tax cost

of equity needs to be increased by the effective tax rate for the companies. The marginal corporate tax rate is 30% and the regulator uses this in its calculations despite acknowledging that the effective tax rate is less than this (OFGEM, 1999). The Competition Commission (2000) used an effective corporate tax rate of 20% in calculating the pre-tax cost of capital for Sutton and East Surrey Water and this would appear to be a more realistic approximation for the electricity companies. This results in a pre-tax cost of equity of approximately 6.9%. This is of the same order as that suggested by the regulator since privatisation.

In terms of the Debt risk premium * Beta, the MMC (1997) report an analysis of debt undertaken by electricity companies in the years 1995 and 1996. This records 17 loans and 14 of these show a debt premium between 0.4% and 0.8%. Therefore 0.6% can be used as the debt risk premium giving a cost of debt of 2.5% + 0.6% = 3.1%.

Finally the costs of debt and equity can be combined to produce the Weighted Average Costs of Capital (WACC). The weightings of debt and equity were calculated based on the average of the RECs capital structure as per their year end accounts. The use of accounting figures can be criticised for not reflecting the market values of the debt and equity, although in this case due to the low levels of debt, between 11% and 17%, the difference is not likely to be that significant. If we suggest that the average is approximately 14% for the five-year period we calculate:

The real pre-tax WACC = 0.14*3.1% + 0.86 * 6.9% = 6.4%

This figure needs to be treated with quite some caution numerous estimates and assumptions are made to calculate this cost and changes to these would obviously result in a different cost of capital. For example assuming that the equity risk premium is 5%, the Beta is 1.0 and the tax increase should be 30% would result in a cost of equity of 10.7% and a WACC of 9.6%.

If we consider the performance spread (i.e. the CCROCE – the real pre-tax WACC) we should get a fuller understanding of these results

Table 6.10: CCROCE – real pre-tax WACC

	1991	1992	1993	1994	1995
Generators		-5.5	-1.4	-0.8	-1.7
The National Grid			-0.4	-0.3	-0.5
The RECs	-8.1	-2.6	0.5	0.0	0.4

This would suggest that competition and the price-cap were at appropriate levels for this five-year period as the companies produced real current cost returns in line with the cost of capital. More recently shareholder value advocates have suggested that it is appropriate to consider cash flow as opposed to current cost returns and so in the next section we consider this.

6.3.3 Cash flow measures

The cash generated by the companies was highlighted as an important part of their performance to shareholders and in addition it is seen as less easy to manipulate cash figures as compared to profit figures. In order to consider the cash generating ability of the companies Cash Flow Return on Investment has been calculated. Firstly a very basic measure of CFROI has been calculated. Braxton Associates (1991) suggest that a basic version of CFROI can be calculated using the following formula:

$$\text{CFROI} = \frac{\text{Real cash flow}}{\text{Gross operating assets (current prices)}} * 100\%$$

Real cash flow = Profit after tax + depreciation and amortisation + interest + operating lease rental + deferred tax charge + stock adjustment

Gross operating assets (current price)

= Book value of total assets + accumulated depreciation + fixed asset inflation adjustment + stock adjustment + capitalised operating leases + other off balance sheet assets - non-debt liabilities – goodwill

Figures are available in the accounts of the electricity companies for most of these items. Virtually all of the electricity companies produce current cost balance sheets and these were used to calculate the fixed asset inflation adjustment. Adjustments could not be made for operating leases, off balance sheet assets and stock adjustments and it is hoped that these omissions should not be material. The results of these calculations are as follows:

Table 6.11: Basic CFROI (%) (Appendix 5e)

	1991	1992	1993	1994	1995
Generators	6.4	11.1	11.1	12.5	13.8
The National Grid	12.8	13.2	12.9	13.1	13.3
The RECs	9.2	10.9	11.5	11.2	12.1

Once again these returns are difficult to comment upon without comparing them to the relevant costs. In this case the returns here are after tax, but are also in real (not nominal) terms and must therefore be compared to the companies' real WACC (Cornelius and Davies, 1997). We calculated the real WACC above as 6.4% and if this were used again it would suggest that in each year the companies, on average, are creating cash flow returns in excess of the cost of capital.

The measure of real cash flow suggested by Braxton Associates is in reality a halfway house between profit and cash. Therefore it was decided to also calculate the CFROI using operating cash flow – tax paid. This is closer to a true measure of the cash generating ability of the companies from their operating activities. The findings are:

Table 6.12: Operating cash flow CFROI (%) (Appendix 5f)

	1991	1992	1993	1994	1995
Generators	12.5	11.5	10.5	10.5	19.2
The National Grid	12.1	14.4	12.8	12.7	14.7
The RECs	2.7	11.3	12.6	18.8	7.6

These results also show that for the Generators and the National Grid were generating cash flow returns in excess of the real WACC (6.4%) in every year. This same is true for the RECs with the exception of 1991. Unlike the results using the current cost return on capital employed this suggests that the companies are generating returns in excess of the cost of capital. This does not paint a clear picture of returns to the shareholders and so it is interesting to see whether the actual returns to the shareholders, in terms of dividends and capital gains, have been excessive or not. These market returns to shareholders are what we now consider.

6.3.4 Market performance measures

In Chapter 5 share price was mentioned as an important measure of performance, but this fails to include the dividend element of returns to shareholders. Therefore rather than considering purely share price, total shareholder returns (TSR) are used to capture the full benefit of share ownership. In order to calculate the TSR the Return Index from Datastream has been used. This calculates the total benefits to shareholders assuming that they reinvest dividends into the shares of the company. As The National Grid was owned by the 12 RECs and not listed on the London Stock Exchange it is not possible to calculate a separate TSR for this company. However, as it was owned by the 12 RECs we can say that its performance and value should increase the value of the RECs in the period. The following TSRs were calculated.

Table 6.13: Total Shareholder Returns (%) (Appendix 5g)

	1991	1992	1993	1994	1995
Generators	17.4	2.5	78.0	53.9	-7.7
The RECs	37.1	5.3	66.7	38.6	-0.7

These results fluctuate much more than those calculated earlier. It is important to remember that the results for 1991 are for the period from privatisation until 31 March 1991. They therefore relate to 3.5 months for the RECs and just 3 weeks for the Generators. These can be seen to be part of the under valuation of the companies by the Government at the time of privatisation. The reasons for this are discussed earlier in Chapter 1, but are primarily believed to have been to ensure that the flotations were

successful. If we assume that the shareholders are long-term investors we can consider that an annualised return would be of most interest. If we calculate the annualised returns to shareholders for the four years from 31 March 1991 to 31 March 1995 (hence excluding the one-off gains made in the first few weeks for the under valuation at privatisation) we see an average return of nearly 27% for the shareholders of the generators and nearly 25% for the shareholders of the RECs.

Again we need to compare this with the appropriate cost of capital. These returns are in nominal terms and therefore we need to compare these returns with the nominal cost of equity. We can use Fisher's equation to convert the real cost of equity calculated in Section 6.3.3 to the nominal cost of equity as follows:

$(1+m) = (1+r) * (1+f)$ where m = nominal cost of equity as a decimal
r = real cost of equity as a decimal; and
f = rate of inflation

If we calculate the nominal cost of equity for each year we get:

1990/1 nominal cost of equity = 1.064*1.0824 = 1.152; = 15.2%
1991/2 nominal cost of equity = 1.064*1.0403 = 1.107; = 10.7%
1992/3 nominal cost of equity = 1.064*1.0190 = 1.084; = 8.4%
1993/4 nominal cost of equity = 1.064*1.0230 = 1.088; = 8.8%
1994/5 nominal cost of equity = 1.064*1.0351 = 1.101; = 10.1%

These costs of equity are far below the annualised total shareholder returns calculated above and this demonstrates that the shareholders of electricity companies have received returns in excess of those expected given the risks attached.

Finally it might be that these excess returns relate to the performance of the market rather than the specific shares. Therefore it is also worthwhile comparing the TSR of electricity companies to those achieved by the market as a whole or a comparable set of companies.

If we consider the "Total Return Index" from Datastream for the FTSE all share index over the same period (i.e. 31/31/91 – 31/3/95) we see a return of approximately 11.5% per annum. This means that the, supposedly low-risk, shares in the electricity companies offered returns more than double those offered by the Stock Exchange as a whole over the period 1991-1995.

6.3.5 Concluding thoughts on shareholder analysis

Prior to privatisation the government owned the electricity industry and hence shareholders are a new stakeholder group. The analysis of total shareholder returns suggests that shareholders, a group with no interest in the industry pre-1991, have received benefits far in excess of their related risk. The returns through dividends and gains in share price are far higher than the cost of equity capital calculated. The actual cause of these returns is less clear. The strongest message appears to come from the historical cost accounts, which show high returns on capital employed and improving earnings per share. Also the cash flow return on investment suggests that there are returns in excess of the cost of capital. This evidence is contradicted by the current cost return on capital employed as recommended by Edwards, Kay and Mayer. This measure shows the companies achieving returns in line with the cost of equity. The level of gains made by the shareholders would appear to support the literature suggesting that there is a "functional fixation" with earnings per share and historic cost returns (see for example Hand (1990, 1991) and Day (1986)). Also, the nature of the information provided by the annual reports and accounts of the companies has changed over this period. Thompson (1993) suggested that there was a dramatic decrease in disclosure on privatisation and changes in disclosure have continued. It is interesting that one of the results of privatisation has been that the companies have shifted away from current cost accounting, as favoured under public sector ownership, in their annual report and accounts despite the need to provide current cost regulatory accounts. By 1995 three of the twelve RECs were not providing current cost information, and the others were soon to follow this lead (see Chapter 7).

6.4 Employee analysis

Chapter 5 concluded that for employees remuneration and welfare were both very important aspects of employees' working lives. From Chapter 4 we saw that employee and employment reporting were at their height of popularity in the late 1970s and this resulted in a great number of employee-related measures being reported. Through the interviews held with representatives of employees, in Chapter 5, the following issues were highlighted as the most important to the employees in this industry and have therefore been considered here. This does not mean that there would not be a benefit from a more complete consideration of other employee-related issues and measures.

Section 6.4.1 Employee remuneration;
Section 6.4.2 Job security; and
Section 6.4.3 Health and Safety.

Since the decrease in interest in employee reporting the level of detail of employee information with annual reports has reduced and is now consistent with those required by accounting standards and company law. There is no segmental information, either geographically or by job type, and this means that the analysis performed can only be at a very overall level and this raises questions as to its ability to fully detail what has happened. It would be much better to be able to consider the remuneration, security and health and safety of employees by location and job type, but this information is no longer available. In addition the level of employee training received was identified as a key driver of employee satisfaction. No information is provided on this by the companies, although the Electricity Association (1997) report that an Electricity Training Association survey "revealed that the estimated spend [on training by Electricity companies] in 1995/96 was more than £1000 per employee with approximately six days per head of off-job training. These figures are far in excess of the national average." (p.55)

6.4.1 Employee remuneration

Firstly if we consider the remuneration information provided by the companies the only distinction that can be made consistently across the companies between different employees is between employees and directors. The executive directors have been analysed separately to all other employees as they can be considered to be a distinct stakeholder group, but the results are shown with those of the other employees for comparison.

Table 6.14: Average Remuneration in Generation (£) (Appendix 5h)

	31.3.1991	31.3.1992	31.3.1993	31.3.1994	31.3.1995
National Power	22,833	26,276	29,198	31,281	32,522
Powergen	23,600	26,192	28,432	30,176	33,102
Total – Employees	23,109	26,245	28,918	30,831	32,774
Total – Executive Directors	148,400	220,900	230,800	272,500	315,900

The average level of remuneration in the generating companies has increased markedly over the period. In fact the average remuneration has increased by nearly 42% over the period in nominal terms. As noted above the retail price index has increased by 12.25% between March 1991 and March 1995 and so the average remuneration in the generators has significantly increased in real terms. This increase has come at a time when the employee numbers have fallen dramatically. It may well be that this increase in average remuneration suggests that the staff made redundant were lower paid and this means that there is a higher proportion of more highly paid staff in 1995 as compared to 1991. As the employee information is not segmented by job type it is not possible to answer this question from the information available in the annual reports of the companies.

In comparison the executive directors have seen their average remuneration increase by nearly 113% over the period. This is significantly higher than the increase in the cost of living and the increase given to employees. This means that the gap in salary between the executive directors and the other employees is growing. In the year ending in 1991 the

executive directors earned 6.4 times the average employee, but by 1995 this had increased to 9.6 times.

Table 6.15: Average Remuneration in National Grid (£) (Appendix 5h)

	31.3.1991	31.3.1992	31.3.1993	31.3.1994	31.3.1995
National Grid - Employees	27,802	29,677	31,804	33,392	34,921
National Grid – Executive Directors	N/a	N/a	N/a	N/a	234,200

Average remuneration in the National Grid has increased over the period. In the years ending in 1992 –1995 the severance costs that were reported by the company as part of employment costs have been excluded. It is not clear whether severance costs were included in the 1991 total. Therefore if we just consider the years 1992 to 1995 we see a 17.7% increase in average nominal remuneration. At the same time the retail price index increased by 7.9% and so the average real remuneration has increased. The directors were not remunerated until the year ending 31 March 1995 and so no comparison can be made.

Table 6.16: Average Remuneration in RECs (£) (Appendix 5h)

	31.3.1991	31.3.1992	31.3.1993	31.3.1994	31.3.1995
East Midlands	18,044	19,610	20,039	22,116	23,153
Eastern	17,330	18,569	19,393	20,674	22,735
London	21,103	22,735	21,726	23,920	26,145
Manweb	17,214	19,785	20,507	21,245	20,976
MEB	18,553	22,112	20,787	22,019	22,627
Northern	17,455	19,308	21,907	21,641	22,449
Norweb	16,698	18,157	18,894	20,240	19,504
Seeboard	18,734	20,313	20,870	20,025	22,256
Southern	20,311	21,055	21,958	20,721	21,884
Swalec	20,643	24,443	22,937	23,581	26,341
SWEB	19,149	21,604	22,148	24,771	25,644
Yorkshire	17,536	19,141	19,672	22,037	23,097
Total – Employees	**18,456**	**20,331**	**20,683**	**21,746**	**22,760**
Total – Executive Directors	**109,770**	**143,710**	**152,640**	**165,860**	**192,780**

Average employee remuneration in the RECs as a whole has increased each year. If we consider the trend REC by REC the trend has also tended to be a year on year increase, although this is the not the case in every year. Regional differences are noted, and some of these are as expected: for example London is consistently above average and Norweb is consistently below average. Perhaps the most surprising result is the high levels of

average remuneration provided by Swalec in 1992 and 1995. In the year ending in 1992 an exceptional item of £10.5million was included in the employee remuneration reported and if this is excluded the average remuneration falls to £21,552. In the year ending in 1995 severance costs of £10.1million were included and if this is excluded the average remuneration falls to £23,202. The effects of these on the overall averages are approximately £200 and do not therefore significantly alter the results. The average level of remuneration has increased in nominal terms by approximately 23% over the five years analysed here and so again we can say that the real average levels of remuneration have increased.

The average remuneration for executive directors in the industry has also increased each year. In total it has increased by 75.6% in the period and this is much higher than the increases to employees and the increases in the cost of living. As was the case in the Generators, this means that the spread between the average employee and the average executive director in the RECs has increased. In 1991 the average executive director earned nearly 6 times as much as the average employee, but by 1995 this had increased to approximately 8.5 times. The increases in pay to executive directors in the privatised utility industries have been controversial and the directors were labelled fat cats by some commentators in the press. The counter argument has been given that these directors are now operating in a very different environment, with regulation and capital markets to contend with, and that as a result of this their salaries should be equivalent to the market rates for private sector executive directors. It is not intended to say here which of these points of view is correct, simply to say that executive directors have benefited in terms of pay and prestige from the privatisation of the industry.

If we now return to the other employees, another source of evidence for the changes in levels of earnings are the New Earnings Surveys produced by Department of employment that show the following changes in the period being analysed:

Table 6.17: Changes in pay for full-time employees on adult rates (%)

	4/90 – 4/91	4/91 – 4/92	4/92 – 4/93	4/93 – 4/94	4/94 – 4/95
Production and distribution of electricity	9.3	13.1	5.9	4.0	-2.6
Matched sample	10.8	15.3	6.7	6.7	1.2

These statistics would suggest an increase of 32.6% in the period, (or 21.3% from 4/91 to 4/95, which is similar to the 23% calculated above) but suggests that the increase is below that of a matched sample in every year. This suggests that the remuneration earned by employees in this industry were rising, but not as quickly as those experienced by equivalent employees in other industries. This does provide supporting evidence that remuneration has increased at a faster rate than inflation over the same period. The New Earnings Survey also provides some evidence on how the levels of pay are distributed between the employees and these are detailed in Table 6.18 below:

Table 6.18: Distribution of pay for full-time employees on adult rates (£/week)

	1991	% change	1992	% change	1993	% change	1994	% change	1995
10% earned less than	200.4	10.1	220.6	6.2	234.2	0.3	235.0	2.1	239.9
10% earned more than	530.4	11.7	592.2	5.5	624.7	14.6	716.0	-10.2	643.0

Over the whole period the increases are 19.7% for the lowest 10% limit and 21.2% for the highest 10% limit. The lowest 10% limit has not quite increased as quickly as the average or as the highest 10% limit. A final comment on levels of remuneration in the industry is given in IDS (Income Data Service) Report 697 where they provide the following information:

Table 6.19: Extract from IDS Report 697 - % increases

	4/91 – 4/92	4/92 – 4/93	4/93 – 4/94	4/94 – 4/95
East Midlands Electricity - manual staff	8.9	5.5	2.4+L/S	£100 + 3.1
London Electricity – all staff	8.9	5.5	2.9	2.9+L/S
Powergen – all staff	8.9	5.5	2.5+L/S	3.5
Average Earnings Index – Whole Economy	7.25	3.75	4.0	2.75

This table clearly shows increases in the first two years and the last year in excess of those in the whole economy. The year 4/93 – 4/94 is less clear as lump sums are used as part of the package, although the increase for staff at London Electricity did not match the average. The report comments that:

> "Whereas previously lump sums had mainly been used to buy change, this year [1995] they have been more geared to rewarding employees while keeping the costs of the settlement down." p.36

Overall the average levels of remuneration, in both nominal and real terms, have increased in the period of time since privatisation. This is supported by the Unions who suggest that the remaining employees are earning the same real level of remuneration, as was previously the case in the nationalised industry. With the publicly available information it is difficult to say why this is the case, although the IDS report appears to hint that an element of this is "to buy change". The type of change is not mentioned in this report, but from the interviews with the Unions it is clear that:

(i) the nature of the jobs have changed such that individuals are now expected to perform higher skilled or multi-skilled jobs; and

(ii) the level of productivity expected from individual employees has increased due to the fall in levels of employment (see Section 6.4.2 below).

6.4.2 Job security

In Chapter 4 we considered measures that relate to job security such as the "annual labour turnover index". This requires the number of leavers in a year to be divided by the average number of employees therefore giving a proportion of employees that leave the organisation. The higher the index the less secure the job. Unfortunately this can not be calculated, as the number of leavers in the year is not known. The annual report of the companies provides information on levels of employment, but this only provides evidence on the size of the workforce and not whether people have left and been replaced. As this is the case the following analysis will look at the levels of employment and how they have changed over the period as this still gives us some indication of job security, although it is accepted that this is not a true measure of labour turnover. The table below identifies the employment levels in the years 1990/1 to 1994/5.

Table 6.20: Employee numbers in the Electricity industry in England and Wales (Appendix 5h)

	1991	1992	1993	1994	1995
Generators	24,553	21,048	15,649	11,737	9,618
The National Grid	6,550	6,217	5,666	5,127	4,871
RECs	82,144	80,621	76,651	70,834	64,804
Total	**113,247**	**107,886**	**97,966**	**87,698**	**79,293**

As can be seen from a cursory examination of these numbers the decrease in numbers has been dramatic. The average decrease in employee numbers in these companies is approximately 30%. The decrease is most significant in the generators, although it must be remembered that these companies now account for a smaller proportion of the total electricity generated in England and Wales than previously. This reduction from 73.1% to 60% of generation turnover (an 18% fall), however, does not fully account for the 61% decrease in employee numbers. The National Grid and the RECs also record significant reductions of 25.6% and 21.1% respectively. This confirms that the real reduction in employee remuneration is explained by the reduction in employee numbers not by the levels of remuneration. The need to maximise shareholder wealth, the reality of regulation, and the potential of competition have had a dramatic impact.

In their report the Electricity Association (1997) suggested that the reductions in employee numbers were due to "significant restructuring and cost cutting" and that it "has been achieved almost entirely through natural wastage, early retirements, and voluntary severance supported by counselling and outplacement services" (p.54). However, this does not answer the question as to how the industry continues to operate with these levels of employment. It is suggested here that there are four possible ways by which these reductions have been made:

- employees have been replaced by technology;
- the industry was previously over staffed (or 'inefficient');
- certain work is now performed by sub-contractors to the industry; and /or
- certain work is no longer being performed.

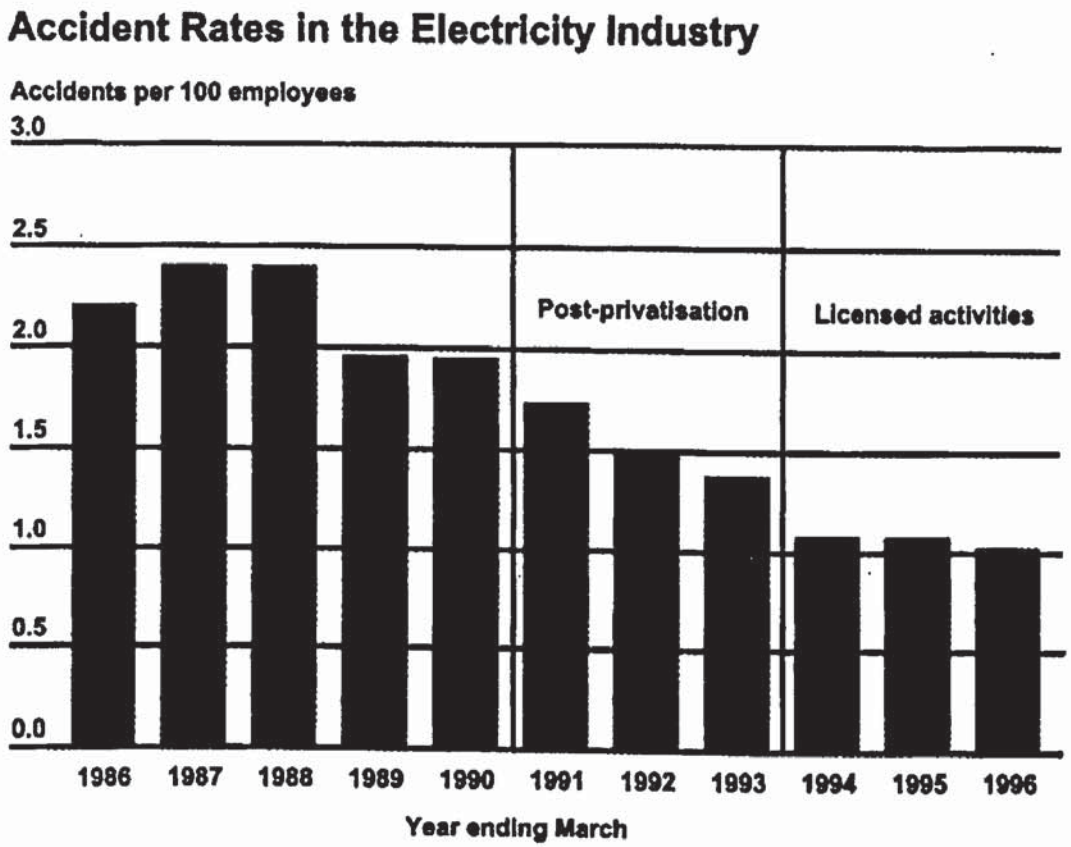
From communications with the major unions in the industry it was confirmed that there have been dramatic changes in the employment practices within the electricity industry. Since privatisation there has been a large decrease in the numbers of direct employees, there has been an increased use of sub-contractors, and employees have been subject to new working practices, such as multi-skilling. The decrease in employee numbers is a concern and although it is acknowledged that increased efficiency and productivity is a "valid element", there is a concern that this has now gone too far.

There has been an increased use of sub-contractors, specifically, work such as canteen services, meter repairs and reading, and security are now sub-contracted. Therefore the same work is now being performed by an outside agency at a reduced price or with greater flexibility. As these are all labour intensive activities, it can only be assumed that these cost savings have been achieved through lower staff numbers or reduced rates of pay. This again raises concerns about the quality of service provided. The final possible explanation for the decrease in employee numbers was that certain work might not be performed now which previously was. Ferner and Colling (1991, 1993) recognised that if this was the case then there should be a subsequent effect on the quality of service provided. If this is the case this should become apparent in the consumer analysis below.

6.4.3 Health and Safety

Health and safety concerns were expressed in interviews with Unions and this is obviously a key issue for employees. The Electricity Association (1997) reported on the safety records of the companies in the UK electricity industry, and on page 55 they state that: "The chart below shows the improvement in three-day accident rates over the last 10 years." Interestingly they note that the "spread of accident incidence rates among member companies ranged from 0.22 to 3.06", which suggests that there is quite a disparity between the best and worst performing companies.

Chart 6.1



Source: EA Annual Safety Report 1995/96

The statistics reported by the EA relate to injuries that require an absence of over 3 days. The Health and Safety Executive also report on "all reported injuries" for the "production and distribution of electricity, gas and other forms of energy". The figures reported by the Health and Safety Executive are as follows:

Table 6.21: All reported employee injuries – rate per 100,000

	1990/1	1991/2	1992/3	1993/4	1994/5
Production and distribution of electricity, gas and other forms of energy	1942.1	N/a	1533.8	1363.0	1181.8
Total manufacturing industries	1268.2	N/a	1229.4	1174.0	1200.4
Construction	1907.0	N/a	1602.8	1311.8	1315.0
All industries	818.0	N/a	739.5	720.9	723.6

Unfortunately the Health and Safety Statistics do not separately report on the electricity industry, but the downward trend reported in this broader category appears consistent

with those published by the Electricity Association above. Also, over the period it is worth noting that the reported levels of accidents have fallen more quickly in energy production and distribution than in any of the other categories used for comparison above, although it is clear that across all industries and especially non-service industries the levels of reported accidents have also fallen over this period.

6.4.4 Concluding thoughts on employee analysis

Labour's share of value added fell dramatically in the period from privatisation until March 1995. The reason for this fall was the significant reduction in numbers of employees. In the industry total employment fell by approximately 30% and this dramatic reduction in numbers following year on year must result in increased job insecurity in the industry. The change is made more stark by the fact that previously the industry had been considered one of employment for life. Privatisation and subsequent regulation has also resulted in higher expectations of productivity such that any slack has been reduced and employees are required to work harder to ensure that the work is completed. Having said this, the remaining employees have benefited from good levels of remuneration and "increased responsibility" (Company interview). Also, over this period of time Health and Safety levels have improved, although Union interviewees suggest that this trend will reverse if employees continue to be asked to be ever more productive.

If we take employees as a group, they have certainly lost as their numbers and relative reward have been significantly reduced. Also, as individuals, levels of job insecurity and work have increased leading to the suggestion that morale and job satisfaction has suffered. Against this it is argued that the industry was previously inefficient and overmanned and hence the changes are appropriate. This appropriateness of the changes is not to be argued here, but it seems that overall employees have lost in this period.

6.5 Consumer analysis

In Chapter 5 it was suggested that consumers' primary concerns (as consumers) are price and quality. The attention here is on the consumer, the end-user, of the product and so as it is the RECs, the supply and distribution companies, that are the contact point for these consumers the analysis necessarily concentrates on these companies. Given these objectives it was decided to consider the following measures of performance for consumers:

Section 6.5.1 Average prices;
Section 6.5.2 Minutes lost per customer;
Section 6.5.3 Performance against the regulator's guaranteed and overall standards; and
Section 6.5.4 Numbers of complaints.

Given the nature of these measures, the majority of the information is not required to be published in the annual report and accounts of the companies, although companies can choose to do so voluntarily. In practice the reports produced by the regulator are an important source of information for this analysis. Such valuable information is not so readily available in other, unregulated, industries and so at present such an analysis would be much more difficult to achieve elsewhere.

Section 6.5.1 Average prices

Table 6.22 below summarises the developments in the regulatory price-cap.

Table 6.22: Price cap regulation in the electricity industry in England and Wales

DATE	
April 1990	Transmission RPI – 0
	Distribution RPI + 1.3 (average)
	Supply RPI – 0
April 1993	Transmission RPI – 3
April 1994	Supply RPI – 2

The Conservative government, in April 1990, set the first price-cap for all regulated elements of the industry. Hodges (1997) and Hodges and Wright (1995) examine reports produced by the National Audit Office (NAO) which relate to assessments made of the government departments responsible for 26 privatisations. The objectives have not been the same for each privatisation but usually would include a combination of some or all of the following:

- A timely sale;
- Maximising sale proceeds;
- Minimising costs;
- Widening of share ownership; and
- The advancement of competition and efficiency in the industry.

Therefore the advancement of efficiency is only one of several objectives set at the time of privatisation and it should be recognised that not all of the objectives would lead to a similar level of X being set. For example, a lenient X would be more conducive to a successful and timely sale than it would to maximising the efficiency incentive.

The first post privatisation review undertaken by OFFER in England and Wales was performed on the transmission element in 1993. This saw a tightening of X from 0% to 3% and the review of the supply element of the industry in 1994 saw a similar tightening of X from 0% to 2%. Not every element of the industry is regulated and therefore the actual final price to the customer may not necessarily move in line with the price-cap levels set by the regulator. Some electricity is supplied at a standard price to anyone requiring it, while some is delivered according to pre-agreed contracts, at a lower price. Such contracts relate to large customers, and the opportunity of providing such negotiated supply to large customers at a lower price is of course greater in the more industrialised regions. The average price to consumers can be calculated using the following formula:

$$\text{Average price} = \frac{\text{Electricity supply revenue (£)}}{\text{Electricity supplied (GWh)}}$$

Calculating the average price using this formula Table 6.23 shows the average price to consumers as a whole and how this has changed over time.

Table 6.23 - Average price to consumers (p/KWh)

	31/3/91	31/3/92	31/3/93	31/3/94	31/3/95
England and Wales	**5.3**	**5.7**	**5.9**	**5.7**	**5.6**

From Table 6.23 it can be seen that the average price of electricity increased in the years 1991/2 and 1992/3 and then fell in England and Wales in 1993/4 despite there being limited change in the price-cap set by the regulator. However, it is worth noting here that prior to the 1994 periodic review of distribution in England and Wales the RECs were offering significant rebates on customer tariffs. Over the period the price has increased by nearly 6% as compared with an increase of 7.9% in the cost of living. Therefore in this period the real price of electricity fell marginally.

The Electricity Association (1999) has considered electricity prices in the UK as compared to world and EU prices. Further, this data distinguishes between domestic and industrial electricity prices. Table 6.24 provides a summary of this data.

Table 6.24 – EA Electricity prices

	1/1/91	1/1/92	1/1/93	1/1/94	1/1/95
UK – Domestic prices (p/KWh)	7.81	9.00	9.29	9.01	9.23
Domestic EU ranking	4/12	5/12	4/12	4/12	4/12
Domestic World ranking	11/21	12/21	11/21	11/21	11/21
UK – Industrial prices (p/KWh)	4.79	5.18	5.29	5.29	5.29 or 4.56
Industrial EU ranking	8/12	8/12	7/12	7/12	7/12 or 3/12
Industrial World ranking	15/21	15/21	14/21	14/21	14/21 or 9/21

The domestic price changes in the UK, as opposed to other EU countries, for this period suggest that benefits gained by consumers in England and Wales have been in line with gains in other countries. The UK price has been consistently been the fourth cheapest of the twelve EU countries for which data was given in every year. There has been an 18.2% increase in domestic electric prices between 1/1/91 and 1/1/95 and this is lower than the price increases in 7 of the other 11 countries in the EU. Compared to an increase in the RPI of 12.1%, however, this suggests a real domestic price increase of approximately 5.4% over the 5-year period. This picture changes slightly if we extend the analysis back one more year. As at 1 January 1990 the domestic price of electricity in England and Wales (note that in this year it is not the UK price that is quoted) was ranked the second cheapest in the EU at a price of 7.26p/KWh and therefore slipped two places in the year leading up to privatisation. This suggests a nominal increase in domestic electricity prices of 9% in the year, which exactly equals the increase in the RPI for the year. Overall the real domestic electricity price increased slightly more than inflation in the period and the gains made in the UK were equivalent to those made in other non-privatised electricity industries.

If we now consider the industrial electricity prices we see that two prices are quoted for 1 January 1995. The higher of these is the price available "based on published tariffs" and the lower price is the "estimated price available under contract". In previous years it is only the price based on published tariffs that is published, except in 1994 when the comment is made that "contract prices at this load are expected to be approximately 12% lower". This represents the opening up of the market for industrial users and the opportunity to contract / negotiate with the electricity companies for electricity. If we simply consider the published tariff prices, the nominal increase is 10.4% over the period and hence there was a slight real decline in industrial electricity prices over the period. This increase is the third lowest increase in the period as compared to the other twelve EU countries. If we consider the contract price, the nominal price of industrial electricity actually falls by nearly 5% in the period and this would be the second best performance for industrial consumers in the EU. Again, if we extend the analysis back one year, at 1 January 1990 the price in England and Wales was 4.51p/KWh and was ranked the fourth

cheapest of the twelve countries. This represents a 6.2% increase, below the rate of inflation, but sufficient for the ranking in the UK to slip from fourth to eighth.

Overall the real price of industrial electricity has fallen over the period and the gap between industrial and domestic prices has increased and by 1 January 1995 the price of electricity for domestic consumers is twice the contract price for industrial consumers. From this it would appear that industrial users have benefited at the expense of domestic consumers. This could have been anticipated, because the industrial market is opened up for competition, so the price will be competed down and levels of cross subsidies can change. Therefore, if industrial consumers were previously subsidising domestic consumers, as has been suggested was the case, then one way for electricity companies to become more competitive by offering lower prices is to reduce that cross subsidy. It is not easy to say whether consumers have benefited in terms of price. Industrial users have, as it is now cheaper in real terms, but whether it was necessary to privatise the industry to achieve this is unlikely. Similarly, domestic users end the period with a higher real price of electricity and the same effect could definitely have been achieved within the public sector.

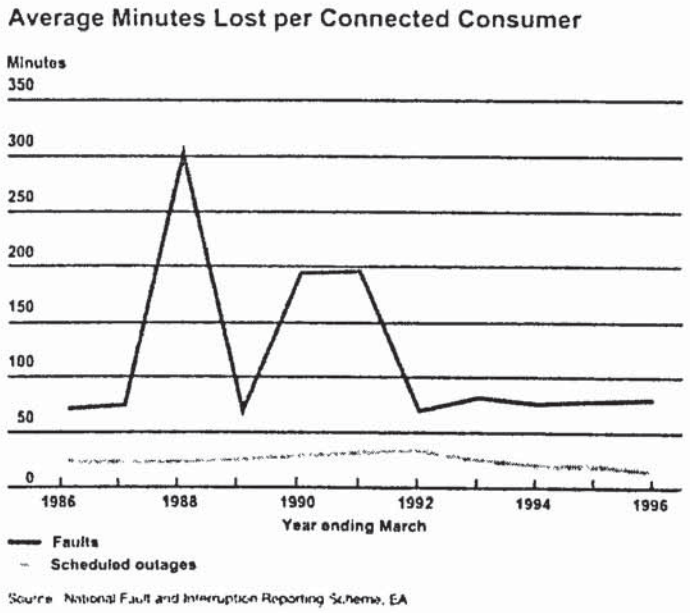
6.5.2 Minutes lost per customer

This was acknowledged as the key service standard measure within the industry. EA (1997) report the following:

> "the guaranteed standards introduced by OFFER after privatisation have put new emphasis on maintaining continuity of supply. Companies monitor their performance very closely by keeping a weekly track of every job carried out. Minutes lost, or availability, have improved for all companies, partly due to shorter, less frequent planned outages. The average minutes lost per connected customer due to pre-arranged outages has more than halved over the last five years from 35.5 minutes in 1991/2 to 17.0 minutes in 1995/6."

The chart below shows the average minutes lost per connected per connected customer for the years ending in March 1986 to March 1996.

Chart 6.2



This chart shows that in eight of the eleven years reported here the level of faults have been of the same scale falling between 65 and 85 average minutes lost per connected customer and this suggests that electricity was available on average for 99.98% of the time. The other three years show much higher levels of faults and presumably these will have been caused by bad weather conditions. Interestingly, if we exclude the three exceptional years, the four years with the highest average customer minutes lost are the four most recent years. Therefore it would appear that in years where there are no exceptional circumstances the minutes lost due to faults were actually marginally lower before privatisation than after. In terms of the scheduled outages, the lowest levels are found in the last three years (1994-1996) and there does appear to be a reduction over this period. The level in 1994 is very marginally lower (1 or 2 minutes) than the levels achieved in 1986-88, and in fact the worst two years are those ending March 1991 (during which year privatisation occurred) and March 1992, the first full year after privatisation. The falls in scheduled outages in 1994–1996 appear to equal the increases in faults and therefore the performance could be said to have slightly worsened as one

would imagine a consumer is happier with a scheduled outage, with warning, than a fault. Actually, the lowest total average minutes lost appear to be in 1986 and 1987, although the years 1986, 1987, 1989, 1994, 1995 and 1996 all have very similar levels of total average minutes lost, ranging from 95 – 98 minutes.

This consideration of the statistics provided by the EA would suggest that, if we exclude the exceptional years, the performance in the pre and post privatisation periods have been very similar. In fact, if anything there appears to have been a shift from scheduled outages to faults, which can only be considered to be a negative effect. This result may not be that surprising for two reasons. Firstly, it was noted earlier, both in the literature and from the interviews, that there has been a shift in emphasis from engineering to finance. Whereas the primary objective in the public sector was keeping the lights on, almost at any cost, this is now one of many competing objectives such as shareholder wealth maximisation. In this light it may be considered reassuring that the performance has not deteriorated more significantly. Secondly, a shift to repairing faults rather than scheduled maintenance work was highlighted by the Unions as one way in which working practices had changed and how lower employee numbers have been achieved.

6.5.3 Performance against the regulator's guaranteed and overall standards

A deterioration of service levels would directly affect consumers and therefore OFFER introduced Standards of performance for the companies in 1991 (these are either guaranteed standards or overall standards and have been updated in 1993 and 1995) (OFFER 1997). We now consider the performance of the companies against the guaranteed and overall standards set by the regulator that came into force on 1 July 1991. The standards themselves are provided in Appendix 2. The total number of failures against the guaranteed standards are set out in Table 6.25 below:

Table 6.25 Total payments made for failure against Guaranteed Standards (GS)

	1991/2	1992/3	1993/4	1994/5
GS1	134	82	38	43
GS2	525	358	500	377
GS3	113	179	42	22
GS4	326	200	75	19
GS5	2090	1931	1296	828
GS6	43	28	24	25
GS7	85	115	80	92
GS8	438	593	239	473
GS9	6870	6023	4195	2637
GS10	296	315	194	444
Total	10920	9824	6683	4960
Total – GS5 – GS9	1960	1870	1192	1495

Source: OFFER (1992, 1993, 1994, 1995)

The figures stated here for 1991/2 actually relate to the 9 months from 1/7/91 – 31/3/92, therefore the decrease in payments between 1992/3 and 1991/2 is more marked than would appear. In 1991/2 by far the largest number of payments related to GS9 – Appointments, and GS5 - Notice of Supply interruption, and there have been definite improvements against these standards. In fact it is the improved performance against these standards that explains the vast majority of the fall in total failures. Having said this, failures against most standards have clearly improved over the period. This is not really the case for GS2 – Restoring electricity supplies after faults, GS7 – Meter problems, GS8 Charges and Payments queries and GS10 – Payments owed under standards. Given the "emphasis" placed upon security and availability of supply, perhaps the most important guaranteed standard is GS2, and there is no clear downward trend in failures against this standard over the period, although the largest problem was in 1991/2 especially when it is remembered that this is a 9 month period.

The information provided by OFFER against the Overall Standards changes in the year 1993/4. In 1991/2 and 1992/3 details of the number of services and failures were provided and then performance, as a percentage, calculated. In 1993/4 only percentages are reported. This lessening of information makes it significantly more difficult to comment on the overall performance of the companies. For example, we could again argue that OS1A and B are the most important overall standards as they relate to failure to reconnect customers within a given time period. The percentage performance is calculated as follows:

$$\text{Actual performance (\%)} = \frac{\text{Number of customers reconnected within time limit}}{\text{Number of supplies lost during the period}} * 100\%$$

This means that a company's percentage performance can improve by failing the same number of customers, but by having a greater number of supplies lost. This appears to give the companies a motivation to let the system fail as long as it can be repaired quickly i.e. within 3 hours for OS1A. For this reason the total number of failures and losses of supply are valuable pieces of information in their own right, but are no longer provided. For the two years where the information is available we see:

Table: 6.26: Supply failures and reconnections

	1991/2	1991/2 * 12/9	1992/3
Number of customer not reconnected within 3 hours	1,165,031	1,553,375	1,780,703
Number of customers reconnected within 3 hours	10,173,212	13,564,283	15,640,076
Number of customer not reconnected within 24 hours	6,420	8,560	18,574
Number of customers reconnected within 24 hours	11,331,823	15,109,097	17,402,205
Number of supplies lost	11,338,243	15,117,657	17,420,779
OS1A	89.7%	89.7%	89.8%
OS1B	99.9%	99.9%	99.9%

Source: OFFER (1992, 1993)

In 1992/3 the supply was restored within 3 hours 89.8% of the time and within 24 hours 99.9% of the time. This performance appears, as reported by OFFER, to suggest constant or marginally improving performance, but in actual fact the system has failed to supply customers more times and it has failed to reconnect a greater number of people within the specified time limit. Due to OFFER's failure to report this data in later years we can not say whether the number of interruptions has continued to increase or not, but this certainly questions whether an increased percentage under OS1A and B is actually good or bad. Table 6.27 below records changes in levels of performance against the overall standards by simply averaging the percentage performance of each of the twelve RECs. Although this is not ideal it should still give an indication of changing performance over the period.

Table 6.27: Performance against overall standards

	1991/2	1992/3	1993/4	1994/5
OS1A	88.8	89.1	88.8	89.2
OS1B	100.0	99.9	100.0	100.0
OS2	94.5	94.1	97.2	99.2
OS3A	97.1	98.1	99.9	99.9
OS3B	98.0	98.9	N/a	N/a
OS4	97.8	99.7	99.4	100.0
OS5	96.0	98.1	99.5	99.6
OS6	94.0	96.5	98.2	98.5
OS7	96.4	97.8	98.7	98.6
OS8	98.7	99.3	99.8	99.9

Source: OFFER (1992, 1993, 1994, 1995)

Given this average performance by the companies it seems quite clear that performance against these overall standards has improved. The poorest performance is against OS1A where companies continue to be unable to reconnect more than 10% of customers in less than 3 hours after supply has been lost. The problems with this measure have been discussed above, but this marginal change in addition to the evidence provided above would suggest that security of supply has remained relatively constant since privatisation.

6.5.4 Numbers of complaints

The number of complaints is monitored by the regulator as another form of monitoring customer satisfaction with the industry. The data reported by OFFER relates to the number of complaints made to the regulator and the consumer councils by customers. These customer complaints are those that have been previously raised with the company, but the customer is not satisfied with the response. Therefore it does not reflect the total number of complaints made to the companies. Table 6.28 shows the number of complaints over the period.

Table 6.28: Numbers of complaints

	1991/2	1992/3	1993/4	1994/5
Total number of complaints	14,771	13,934	9,567	8,741

Source: OFFER (1992, 1993, 1994, 1995)

This table shows a reducing number of complaints being made to the consumer councils and the regulator and would therefore indicate either an improvement in the customer performance or improved complaints handling processes by the companies.

6.5.5 Concluding thoughts on the consumer analysis

Real domestic electricity prices have increased over the period and at the same time the quality of service provided, primarily concerned with security of supply, has not noticeably improved in terms of average customer minutes lost or performance against relevant GS and OS for reconnection of supplies. Having said this, performance against most other standards and the number of complaints have improved and this would appear to show an improvement in customer service. The number of complaints does not really provide evidence on whether the security of supply has improved because only a minority of complaints actually relates to this. In 1991/2 a total of 1,081 complaints, 7.3% of total complaints recorded by OFFER, related to "supply interruptions and the quality of supply". Unfortunately, this detailed breakdown of the reasons for complaints was not provided in later years and therefore we can not see whether the number of complaints relating to quality of supply has improved in line with the total. In the two key measures, quality of supply and price, domestic consumers do not appear to have benefited greatly in the post-privatisation period, although industrial consumers have experienced a price reduction. Overall this analysis would suggest that consumers as a group have benefited marginally from privatisation, but certainly not to the same extent as shareholders.

6.6 Supplier Analysis

There are two aspects to the analysis to be undertaken here. Firstly there are some basic accounting measures to see how suppliers are being treated in terms of payment. Therefore, in Section 6.6.1, we measure the number of creditor days and the current ratio to see whether the privatised companies appear to have changed their policy in terms of how long suppliers need to wait for payment. Also of interest is how the different primary

fuel industries that supply the electricity industry have fared since privatisation. Therefore in Section 6.6.2 we consider the mix of primary fuel.

6.6.1 Supplier payment terms

Firstly we shall consider the current ratio for each of the companies over the period. This measure simply divides the current assets by the current liabilities to consider how liquid the companies are, i.e. could they manage to pay their current creditors out of their current assets.

Table 6.29: Current ratios (Appendix 5i)

	31.3.1991	31.3.1992	31.3.1993	31.3.1994	31.3.1995
East Midlands	1.3	1.5	1.3	1.3	0.9
Eastern	1.4	1.4	1.3	1.0	1.4
London	1.1	1.4	1.1	1.7	1.0
Manweb	1.4	1.5	1.6	1.5	1.0
MEB	1.3	1.5	1.1	1.2	0.9
Northern	1.3	1.5	1.6	1.8	1.2
Norweb	1.5	1.7	1.6	1.6	1.1
Seeboard	1.4	1.3	1.4	1.5	1.1
Southern	1.6	1.5	1.3	1.4	1.6
Swalec	1.3	1.1	1.0	1.0	0.7
SWEB	1.2	1.2	1.2	1.5	1.0
Yorkshire	1.4	1.3	1.2	1.2	1.2
National Grid	0.7	0.5	0.7	0.8	0.4
National Power	1.1	1.2	1.2	1.9	1.2
Powergen	1.2	1.2	1.4	1.1	0.8

In twelve of the fifteen companies the current ratio is lower in 1994/5 than it is in 1990/1. The real change is actually between the final two years as there is little consistent pattern until this time. The difference between 1993/4 and 1994/5 is very apparent in twelve of the fifteen companies with the ratio falling by at least 0.3 and is caused by both falls in current assets and increases in current liabilities. Even in 1994/5 ten of the fifteen companies have current ratios more than or equal to 1.0 and this would suggest that they should not experience significant difficulties in paying their current liabilities. Also, given that the regulator is required to ensure that the companies are financially viable, these companies should not fail to pay their debts.

Given that it is unlikely that the electricity companies will fail to pay their debts, it is perhaps of greater importance to the suppliers as to how quickly they are paid. Creditor days can be calculated from accounting data, although this is based on the year-end trade creditor figure and this may not be a fair reflection of the level of trade creditors throughout the whole year. Such window dressing is not contrary to law or Accounting Standards, but can fool people analysing the data. Having said this, it is hoped that by looking at the fifteen companies over a period of time the analysis should not be seriously weakened. The following formula has been used to calculate creditor days:

$$\text{Creditor days} = \frac{\text{Trade creditors}}{\text{Purchases}} * 365$$

NB: purchases are as per value added calculations

Table 6.30: Creditor days (Appendix 5j)

	31.3.1991	31.3.1992	31.3.1993	31.3.1994	31.3.1995
East Midlands	25.2	26.3	28.7	42.0	41.9
Eastern	29.5	24.9	27.3	33.3	47.4
London	27.1	25.1	26.7	39.6	43.0
Manweb	22.9	34.5	33.2	36.0	37.1
MEB	21.9	16.0	27.2	34.2	33.0
Northern	29.0	28.1	29.2	35.6	30.6
Norweb	17.0	28.0	31.7	33.1	34.0
Seeboard	28.0	25.5	28.4	32.4	41.4
Southern	20.1	21.7	28.5	32.9	43.0
Swalec	24.8	25.5	33.5	37.2	38.1
SWEB	33.0	36.1	31.2	35.5	36.5
Yorkshire	20.4	22.0	23.6	22.6	23.7
National Grid	138.2	164.2	168.0	203.5	229.6
National Power	22.4	24.5	39.0	27.0	24.4
Powergen	37.8	38.7	54.3	43.5	48.9

In every single company the creditor days calculated in 1994/5 is higher than that for 1990/1. In many of the RECs the increase is approximately a 50% increase, although the increases in Northern, SWEB and Yorkshire are much smaller. The RECs have increased their purchases over the period and so the increase in trade creditors is higher even than 50%. This would certainly suggest that over the period suppliers have lost out in terms of creditor days in the period. The results are similar in the National Grid with creditor days

increasing by 66% and an increase of 11% in purchases the result of a very significant increase in trade creditors. Creditor days have increased in the Generators, but to a lesser extent. There was a large increase between 1990/1 and 1992/3, but then levels have fallen back between 1992/3 and 1994/5.

6.6.2 The mix of primary fuel

As well as considering how companies have performed for suppliers as a whole it is also interesting to see how different supply industries have fared in relation to each other. We can consider this here for the primary fuel used to generate electricity. The table below considers the changes in fuel input for electricity generation as reported in the Digest of UK Energy Statistics.

Table 6.31: Fuel Input for Electricity Generation (%)

Type of fuel	1990	1991	1992	1993	1994	1995
Coal	67	64	60	51	49	47
Oil	9	10	10.5	8	5	5
Gas	0	1	2.0	10	13	16
Nuclear	18	22	23.5	28	28	28
Hydro	2	< 1	< 0.5	< 1	1	1
Other	0	1	1.5	2	2	1
Imports	4	2	2.0	2	2	2
Total	100	101.0	100.0	102	100	100

This table shows a shift from coal and oil and into gas and nuclear. Therefore we could argue that the coal and oil industries have lost out over this period of time when compared to the gas and nuclear industries.

6.7 Environmental analysis

The environmental impact of the electricity industry is significant in many ways, but most obviously in terms of greenhouse gas emissions and spent nuclear fuel management. We have already noted in Section 6.6.2 above that there has been a shift in fuel used for electricity generation from coal and oil into gas and nuclear. The environmental effect of

this, in terms of emissions, should be positive as gas and nuclear are cleaner than coal and oil. In order to consider the process of the electricity industry we are going to analyse data relating to primary fuel used through to electricity supplied. This process will attempt to take into account the efficiency of generation, transmission and distribution, and final use. This is achieved in the following sections:

Section 6.7.1 Fuel used in generation to electricity generated;
Section 6.7.2 Electricity generated to electricity supplied; and
Section 6.7.3 Electricity supplied as compared to changes in GDP.

In addition we shall also consider the absolute level of emissions caused by the generation of electricity (Section 6.7.4) and finally a closer look at the developments in renewable energy through the period (Section 6.7.5). The government reports on the UK energy industry and therefore throughout this analysis figures for the UK (not England and Wales) are used. The data considered here is taken from the Digest of United Kingdom Energy Statistics 1991-1997.

6.7.1 Fuel used to generate electricity

The purpose here is to consider the actual efficiency of the process of generating electricity from primary fuels. Renewables are included within other, but are considered in more detail in Section 6.7.5 below.

Table 6.32: Fuel used in generating electricity (Million tonnes of oil equivalent)

Type of fuel	1990	1991	1992	1993	1994	1995
Coal	49.84	49.98	46.94	39.61	37.11	36.10
Oil	8.40	7.56	8.07	5.78	4.05	3.60
Gas	0.55	0.57	1.54	7.04	9.86	12.54
Nuclear	16.26	17.43	18.45	21.49	21.21	21.37
Other	1.28	1.33	1.55	1.39	1.50	1.59
Net imports	1.03	1.41	1.44	1.44	1.45	1.40
Total	77.36	78.28	78.00	76.75	75.18	76.60

This would suggest that the total fuel used to generate electricity in the UK over this period has remained relatively constant, fluctuating by 4 % over the period. The significant changes are the decrease in coal and oil and increase in gas and nuclear as suggested above. In terms of million tonnes of oil equivalent, coal used has dropped by 27.6% between 1990 and 1995, although this is 29.1% if we consider the actual tonnes of coal. Oil has dropped by 57.1% using million tonnes of oil equivalent, but by 52.4% using actual tonnes of oil. Gas used has increased from 6,405GWh to 145,835GWh, a level 22.8 times higher in 1995. If we now consider the total electricity generated by this fuel we see:

Table 6.33: Total electricity generated (GWh)

Type of fuel	1990	1991	1992	1993	1994	1995
Conventional steam	245,390	244,420	232,277	202,651	190,228	186,442
CCGT	292	622	3,400	23,418	37,873	49,657
Nuclear	65,749	70,543	76,807	89,353	88,282	88,964
Other	8,308	7,290	8,557	7,679	9,018	9,391
Total	319,739	322,875	321,041	323,101	325,401	334,454

Total electricity generated has increased by 4.6% over the period, an increase that has not been matched in total by the increase in fuel input according to Table 6.32. The fall in electricity generated by conventional steam stations (this primarily relates to coal and oil) has fallen by 24% whilst we note larger falls in both coal and oil input. A weighted average of the fall in coal and oil used would suggest a fall of 32.6% and this would suggest that these fuels are being used more efficiently. Similarly, if we consider the levels of gas being used by the major power producers, we see the electricity generated per gas input (in terms of GWh/million tonnes of oil equivalent) rising from 3,326 to 3,960 between 1993 and 1995 (the period of time where CCGT makes a significant contribution to electricity generated). If we consider the nuclear element we see the productivity change from 4,044 GWh / million tonnes of oil equivalent to 4,163 GWh / Million tonnes of oil equivalent. Therefore each of the main fuels appears to improve in efficiency over the period. If we consider the total efficiency we see an improvement to 4,366 GWh / Million tonnes of oil equivalent in 1995 from 4,133 GWh / Million tonnes of oil equivalent in 1990; an increase of nearly 6%.

6.7.2 Electricity generated to electricity supplied

The data above suggests an improvement in the efficiency of electricity generation, but this generated electricity still has not reached the final users. The electricity is then transmitted and distributed to customers through the network. Electricity is also lost through this process. Table 6.34 below provides data on the amount of electricity lost in the network.

Table 6.34: Efficiency of the electricity network (GWh)

	1990	1991	1992	1993	1994	1995
Electricity available	309,410	317,060	315,240	318,580	322,730	331,690
Losses in network	24,990	26,220	23,790	22,840	30,950	24,920
Total supplied	284,420	290,840	291,450	295,750	291,780	306,170
Efficiency (%)	91.9	91.7	92.5	92.8	90.4	92.3

This would suggest that the efficiency of the network has remained relatively constant over the period. There appears to be an improvement from 1991 to 1993, but then there are high losses in 1994. The figures quoted here are not equal to the total electricity supplied as it only considers the electricity that uses the network and hence excludes electricity used on the site where it is generated. This explains the different "total electricity supplied" figures considered in the next section.

6.7.3 Electricity supplied as compared to changes in GDP

This section considers how efficiently electricity is being used in the UK. This is done by considering how the total electricity supplied has changed as compared to changes in the GDP. This is done in Table 6.35 below.

Table 6.35: Efficiency of the electricity usage

	1990	1991	1992	1993	1994	1995
Total electricity supplied (TWh)	300.1	302.8	300.8	303.8	307.9	317.1
GDP at factor cost (£bn 1990 prices)	478.9	468.9	466.5	476.9	495.9	508.2
Efficiency of use (£bn / TWh)	1.60	1.55	1.55	1.57	1.61	1.60

The absolute level of energy usage in the UK has increased by nearly 6% in the period under consideration and this matches the increase in GDP. The usage of electricity in 1995 can therefore be said to be of equal efficiency to the usage in 1990 and has not demonstrated an improvement as would be hoped for.

Overall in terms of efficiency of the electricity industry we can see improvements in generation, but not in the networks or the usage. The actual level of electricity generated and supplied has increased and this is disappointing as there is believed to be considerable scope for improved efficiency, especially at the point of consumption.

6.7.4 Levels of emissions

The analysis to date has suggested that the total levels of electricity generated and supplied in the UK have increased, but that this has been generated marginally more efficiently from cleaner fuels. Given this we would expect the levels of emissions to have decreased over the period. Table 6.36 provides data on emissions for the period 1990 to 1995.

Table 6.36: Levels of emissions (Thousand tonnes)

Emission	1990	1991	1992	1993	1994	1995
Carbon Dioxide	54,000	53,000	51,000	46,000	44,000	44,000
Sulphur Dioxide	2,722	2,534	2,427	2,089	1,759	1,588
Nitrogen Oxides	777	718	694	570	526	498

These are the most significant, in terms of volume, environmentally damaging emissions made by the electricity industry. The table clearly shows a reduction in levels of emissions in the period. It has been suggested in earlier chapters that the most important

emission is carbon dioxide, and this has fallen by 18.5% over the period. Even larger decreases have been made in emissions of sulphur dioxide and Nitrogen oxides, 42% and 36% respectively. These decreases are excellent news, but according to environmental groups such as Friends of the Earth (FOE), not sufficient. FOE (1997) suggest that 1990 levels of carbon dioxide emissions in the UK need to be reduced by 22% by 2010 and by 89% by 2050. The question is then, can this reduction achieved between 1990 and 1995 be maintained until 2010 and then drastically reduced by 2050? In order to make these kinds of levels there would need to be a new emphasis on nuclear and renewable sources. Replacing coal and oil with gas is not sufficient as this still produces emissions. Greater use of gas would reduce levels of emissions, but another problem is that UK gas reserves are not inexhaustible and may run out within 20 years.

Generating electricity with nuclear fuel is clean in terms of the emissions that we are discussing here, but leaves a significant problem in terms of spent fuel management as well as public health and safety concerns from nuclear plants. Public concerns about these problems appear, for the present, to make more nuclear power politically impossible. Therefore the levels of nuclear generation could actually be falling between now and 2050, with the Magnox fleet of nuclear power stations being decommissioned. This therefore leaves renewable sources, and we consider these in the next section.

6.7.5 Renewable sources used to generate electricity

The best way to reduce the environmental impact, including nuclear spent fuel management, of the electricity industry is to increase the amount generated from renewable sources. Therefore it is interesting to consider how the levels of electricity generated by renewable sources have changed over the period.

Table 6.37: Electricity generated from renewable sources (GWh)

Type of fuel	1990	1991	1992	1993	1994	1995
Onshore wind	9	11	33	218	342	352
Small scale hydro	127	142	149	159	159	212
Large scale hydro	5,080	4,482	5,282	4,143	4,935	5,072
Landfill gas	139	208	377	447	517	566
Sewage sludge digestion	316	328	328	378	361	367
Municipal solid waste combustion	223	239	281	399	717	747
Other biofuels	0	1	52	140	280	344
Total	5,894	5,411	6,502	5,883	7,311	7,649
% of total generated	1.8%	1.7%	2.0%	1.8%	2.2%	2.3%

There have been increases in the use of electricity generated from renewable sources in the period except in the case of large-scale hydro. The levels produced from large-scale hydro are relatively constant and such developments are not favoured by environmental groups[22]. If we therefore ignore large-scale hydro, we see that the electricity generated from other types of renewable sources has increased by more than 3 times. This sounds a lot but actually relates to an increase from 0.25% to 0.77% of the total supply.

6.7.6 Concluding thoughts on the environmental analysis

Some improvements appear to have made in terms of the environmental performance of the electricity industry. Simply considering the emissions from the industry paints a hopeful picture, with significant reductions over the period, although the ability to take these reductions further is open to question. In terms of efficiency and the use of renewable sources of energy there have been marginal improvements over the period, but in neither case do these appear sufficient for optimism about larger increases in the future. Having said this, the industry is very much in the hands of the Government in this respect. It is the Government that sets energy policy, as can be seen by the more recent introduction of targets for electricity generated from renewable sources. Therefore in terms of how the environment has fared from privatisation, the answer appears to be that

[22] Large-scale hydro developments "are no longer considered desirable 'by anyone'. It has been recognised that this type of generation is bad as it effects the local freshwater habitat of fish. In the US such hydro plants are being demolished. (Quoted from Environmental interview No. 1, see Appendix 4j)

it has neither benefited nor lost. This is because the same policies could have been set by the government irrespective of whether the industry was publicly or privately owned. In fact it could be argued that environmental policies would be easier to implement and face less opposition if the city / shareholder was not directly involved.

6.8 Conclusion

The following table summarises the major changes in the distribution of value added within the industry, by comparing the years ending in 1991 and 1995.

Table 6.38: Major changes in the distribution of value added 1991-1995

	Sales	Purchases	VA	Lab costs	Int + Tax	Net change
Generators	Down £191m	Down £1,031m	Up £840m	Down £241m	Up £270m	Up £811m
National Grid	Up £284m	Up £46m	Up £238m	Up £4m	Up £5m	Up £229m
The RECs	Up £1,790m	Up £876m	Up £914m	Down £91m	Up £180m	Up £825m
Total	Up £1,883m	Down £109m	Up £1,992m	Down £328m	Up £455m	Up £1,865m

This table demonstrates the most significant changes identified from the value-added analysis. It demonstrates that there has been an increase in value added primarily caused by the squeezing of purchases and labour costs, which have not increased in line with sales. This would appear to suggest that approximately £1,865million of cash has been generated in the year ending 1995, as compared with the year ending in 1991. This extra cash could be used to pay dividends, buy capital equipment or be retained or used in other ways. The following table indicates how this extra cash has been used:

Table 6.39: Analysis of changes in spending 1991-1995

	Extra cash	Increased Dividends	Increased Capital exp.	Retained or other
Generators	£811m	£187m	£69m	£555m
National Grid	£229m	£58m	£104m	£67m
The RECs	£825m	£731m	£215m	-£121m
Total	£1,865m	£976m	£388m	£501m

This clearly shows that the majority of the redistribution from suppliers and employees has gone to shareholders in the form of dividends. In addition there has been some increased level of capital expenditure. The more detailed stakeholder analysis performed

in this chapter also shows that the shareholders are definite winners from privatisation. Employees of the industry at the time of privatisation have been rewarded in monetary terms either through "generous" redundancy packages or levels of pay that have increased over the period. In terms of job security, however, there has been a significant worsening and given the changes in employee levels it can be said that employees as a whole have lost out. The sacrifice of employees for profit suggests a significant reduction in the influence of employees as a group. Domestic consumers appear to have lost out in terms of prices as compared to industrial consumers and the rate of inflation, but quality may marginally have improved. Overall industrial consumers may have benefited very marginally from privatisation. Suppliers appear to have lost out as they now have to wait significantly longer for their money than was previously the case. Finally the environment is now experiencing lower emissions, but this is not as a result of privatisation rather because of Government energy and environmental policies.

Chapter 7: 31/3/95 – 31/3/97 – Take-overs, regulation and a Labour Government

7.1 Introduction

This Chapter considers a very turbulent period of time for the industry. The government disposed of its golden shares and the RECs disposed of The National Grid. In addition, a change in the regulatory reviews occurred and the price-caps became much more demanding. Finally, at the end of this period a general election was in the offing and it was widely predicted, and correctly so, that the UK would see its first Labour government for nearly two decades. This in itself brings risks to the privatised utility industries as there is talk of a windfall tax being levied upon them. It is for these reasons that this period of time has been distinguished from that discussed in Chapter 6. These changes in circumstances clearly affect all of the stakeholder groups, but for some the changes simply reinforce earlier trends whereas in others it marks a change in fortune. Therefore for some of the stakeholders we will see that the benefits and costs to the stakeholder group are significantly altered between the two periods, whereas for other groups, most notably labour and the Environment, the pattern remains the same.

As a result of the changes in ownership of the companies the data for analysis also becomes more difficult. The RECs become parts of larger groups of companies and lose their stock market listing. In contrast The National Grid is floated on the London Stock Exchange for the first time. These changes affect the information available and hence the analysis that can be performed. This said, the analysis performed below is similar in nature to that considered in Chapter 6. We start by considering the distribution of value added by the companies and then move on to the more specific stakeholder analysis. Important caveats are always necessary when discussing reported accounting results, but these must be made even more vociferously here. Firstly, the motivation for so-called creative accounting is high in this period, as the companies are threatened by take-over and government taxes. Secondly, for the RECs there are exceptional gains made on the sale of their holdings in the National Grid, and as they become incorporated into larger groups the difficulties of ring-fencing activities and ensuring accurate transfer pricing

become more acute. These concerns with the data are discussed throughout this Chapter as appropriate.

7.2 Value Added Analysis

7.2.1 The Generators

This analysis has been performed in the same way as that in the previous Chapter. If we first consider the generating companies, Powergen and National Power, it is important to remember that since privatisation the market share of these two companies has fallen. By 1995 it had fallen to 60% and by 1996/7 it had fallen even further to 56.1% [Source CRI, 1998]. This change explains the majority of the fall in total income between 1995 and 1997.

Table 7.1: Distribution of Value Added by Generation Companies (Appendix 5a)

	1995		1996		1997	
	£m	%	£m	%	£m	%
Total Income	6,838	*100.0*	6,881	*100.0*	6,298	*100.0*
Purchases (materials and services)	4,715	*69.0*	4,611	*67.0*	4,139	*65.7*
Value added / internal costs	2,123	*31.0*	2,270	*33.0*	2,159	*34.3*
Gross labour costs	320	*15.1*	298	*13.1*	274	*12.7*
Charged to Balance sheet	0	*0.0*	-1	*0.0*	-2	*-0.1*
Charged to profit and loss account	320	*15.1*	297	*13.1*	272	*12.6*
Depreciation	481	*22.7*	450	*19.8*	497	*23.0*
Net Interest	72	*3.4*	30	*1.3*	84	*3.9*
Tax	337	*15.9*	366	*16.1*	291	*13.5*
Dividends	300	*14.1*	418	*18.4*	1682	*77.9*
Retained profit	613	*28.9*	709	*31.2*	-667	*-30.9*
Value added	2,123	*100.0*	2,270	*100.0*	2,159	*100.0*

The level of value added increased over this period of time, as it had done consistently since privatisation. Despite this, and the already incredible decreases in labour's share of value added, this continued to fall. Not only did the relative level of value added continue to rise, but also total remuneration to employees in absolute terms fell over the period.

The level of depreciation for these years is higher than previously. Powergen has "accelerated depreciation" in each year since 1995, and the amounts involved are £61

million in 1995, £57 million in 1996 and £98 million in 1997. This is to reflect "the write-down of certain plant at coal and oil-fired power stations" (Powergen, 1997). Also, in 1995 the depreciation charge of National Power was significantly higher than in any other year, and this is only partly explained by "a charge of £31million relating to the permanent diminution in the net book value of a power station" (National Power, 1995). These items explain the raised levels of depreciation in 1995 and 1997.

In this period of time both companies are net interest payers, although the level of net interest paid is very small and is never above 4% of value added. This would appear to imply that debt is not an important source of finance in these companies, although it is being increasingly used (and in 1997 National Power restructured its capital to increase the importance of debt). The tax charge fell in 1997 and once again this means that in 1997 the level of value-added is higher than in 1995 and in addition shareholders' share of this value-added has continued to increase. In 1996 and 1997 the shareholder share of value-added was equal to 49.6% and 47% respectively. In 1996 both retained profits and dividends were increased markedly over 1995. In 1997 the level of dividends increased due to a special dividend of £1,207m paid by National Power, and related to a "major capital restructuring" (National Power, 1997; p5).

7.2.2 The National Grid

As mentioned above, The National Grid was floated on the London Stock Exchange in 1995/6 and this does effect some of the figures in the Table below.

Table 7.2: Distribution of Value added – The National Grid

	1995		1996		1997	
	£m	%	£m	%	£m	%
Total Income	1428.3	*100.0*	1487.0	*100.0*	1408.4	*100.0*
Purchases (materials and services)	469.2	*32.9*	525.6	*35.3*	258.3	*18.3*
Value added / internal costs	959.1	*67.1*	961.4	*64.7*	1150.1	*81.7*
Gross labour costs	197.8	*20.6*	171.9	*17.9*	173.4	*15.1*
Charged to Balance sheet	-28.3	*-3.0*	-22.6	*-2.4*	-19.2	*-1.7*
Charged to profit and loss account	169.5	*17.7*	149.3	*15.5*	154.2	*13.4*
Depreciation	144.6	*15.1*	147.4	*15.3*	134.5	*11.7*
Net Interest	34.4	*3.6*	40.6	*4.2*	51.2	*4.5*
Tax	175.8	*18.3*	195.5	*20.3*	188.8	*16.4*
Dividends	162.0	*16.9*	1957.0	*203.6*	190.7	*16.6*
Retained profit	272.8	*28.4*	-1528.4	*-159.0*	430.7	*37.4*
Value added	959.1	*100.0*	961.4	*100.0*	1150.1	*100.0*

There appears to be a change in the results of National Grid in the year 1996/7. Up to this time total income had increased every year and the percentage of value added had been relatively constant. In the year 1996/7 total income fell for the first time and the percentage value added rose significantly. The figures in fact suggest that purchases of materials and services fell by more than 50% in this year from £525.6million to £258.3million. The most significant cause of the increase in value-added was that there was a "profit on deconsolidation of a subsidiary undertaking" equalling £173.2m (National Grid, 1997). As this amount does not increase turnover, but is simply included as a profit figure, it effectively reduces the purchases figure. Therefore purchases before this deconsolidation profit is equal to £431.5million, which is equal to 30.6% of turnover. This is still a reduction on the previous years, but is not of the same order as that suggested in the table above.

This also effects the levels of profit attributable to shareholders in 1996/7, which according to the table appear to be approaching 54%. If this is recalculated without deconsolidaton profits we would see that the shareholders' share of value added is 46% in 1996/7. This is relatively in line with the levels of 44.6% and 45.3% in 1995/6 and 1994/5 respectively. In 1995/6 there is a very large dividend paid out to shareholders and this relates to "the capital reconstruction which occurred during the year ended 31 March 1996" (The National Grid, 1997, p12). Further reductions in labour's share of value added are made in 1995/6 as is evidenced by the fall in absolute remuneration. This

stabilises in the year 1996/7, and if the deconsolidation profit is ignored labour's share remains constant. Depreciation falls in 1996/7, although again if we ignore the deconsolidation profit the fall is not as significant. Interest is increasing, most probably due to the capital restructuring mentioned above, and the levels of taxation are similar in each year.

7.2.3 The Regional Electricity Companies

As mentioned in the introduction these companies sold their shares in The National Grid and were subject to take-over bids in this period.

Table 7.3: Distribution of Value Added – The RECs (Appendix 5b)

	1995		1996		1997	
	£m	%	£m	%	£m	%
Total Income	15418.5	*100.0*	13802.2	*100.0*	14727.4	*100.0*
Purchases (materials and services)	11664.2	*75.7*	9163.8	*66.4*	11502.8	*78.1*
Value added / internal costs	3754.3	*24.3*	4638.4	*33.6*	3224.6	*21.9*
Gross labour costs	1484.9	*39.6*	1272.4	*27.4*	1168.3	*36.2*
Charged to Balance sheet	-253.9	*-6.8*	-285.2	*-6.1*	-296.4	*-9.2*
Charged to profit and loss account	1231	*32.8*	987.2	*21.3*	871.9	*27.0*
Depreciation	469.9	*12.5*	503.7	*10.9*	552.5	*17.1*
Net Interest	59.6	*1.6*	119.8	*2.6*	267.5	*8.3*
Tax	491.3	*13.1*	668.1	*14.4*	545.5	*16.9*
Dividends	960	*25.6*	5120.9	*110.4*	1457.9	*45.2*
Retained profit	542.5	*14.5*	-2761.3	*-59.5*	-470.7	*-14.6*
Value added	3754.3	*100.0*	4638.4	*100.0*	3224.6	*100.0*

The percentage value added had been relatively constant until 1996, when the RECs sold their shares in The National Grid. Each of the RECs recorded exceptional items in the year 1995/6 relating to the profits from that sale. As a consequence of the flotation of The National Grid the RECs were also obliged to provide a customer discount in the year and this explains why total income is lower in 1996 than in the other two years. The other effects of the flotation are a dividend received from The National Grid, some tax effects and by far the largest is a "Specie dividend on flotation of The National Grid Group plc" (Northern Electric, 1996, p30). In total in the year 1995/6 £5,120.9million were paid out to shareholders in dividends, more than five times the amounts paid out in the previous year.

The absolute level of employee remuneration continues to fall over the period and so labour's share of value added in 1996/7 is well below that in 1994/5. This decrease in employee remuneration is in contrast to increases in depreciation, net interest and tax. Comparing 1996/7 with 1994/5 we see depreciation has increased by £82.6million and this is explained by the fact that some of the companies elected to accelerate depreciation in 1996/7. Net interest paid increases even more dramatically by £207.9million, and this is due to capital restructuring within the companies resulting in higher levels of debt. Until 1997 the net interest paid accounted for a small share of value added, but as the companies were taken over so debt levels have increased. In total the increases in interest depreciation and tax approximately offset the fall in remuneration. These changes do not therefore explain the lower levels of profit attributable to shareholders in 1996/7.

In 1997 profit attributable to shareholders falls back to 30.6%. If we compare the absolute levels of profit attributable to shareholders in 1997 as opposed to 1995 we see a significant drop from £1,502.5million to £987.2million. The other major explanatory factor of the decrease in profit attributable to shareholders is the £691.1million fall in total income as compared to a relatively smaller reduction in purchases (£161.4 million). The decrease in total income may well reflect the price reviews carried out by the regulator of distribution businesses in England and Wales. In April 1995 there was a price review that, on average, required companies to make a one-off price cut of 14% on the distribution element of their income and to reduce real prices by 2% in future years. In April 1996, however, the regulator decided that these price controls had not been strict enough and therefore ordered a further one-off price cut of, on average, 11% and an annual reduction of real prices by 3%. This change of heart by the regulator was claimed to be a result of the take-over activity demonstrating that the RECs had greater resources at their disposal than had been originally thought. Therefore in the 1997 accounts of the companies the distribution price of electricity was required to be approximately 23.5% lower than in the year ended 31 March 1995. The distribution business accounts for approximately one-quarter of the RECs turnover in both 1991 and 1997 (CRI, 1998). Therefore the effect of this reduction in distribution prices would be to reduce the

turnover of the RECs by approximately 5% and the actual turnover of the RECs fell by 4.5% from 1995 to 1997.

7.2.4 Concluding thoughts on value added analysis

The change in distribution between the different stakeholders is not so clear cut in this period. Labour's share of value added has continued to fall, although perhaps not as dramatically. Shareholders appear to have continued to prosper, with exceptional dividends being paid out by the RECs, The National Grid and National Power. However, for the first time regulation appears to have made its presence felt with the reduction in the RECs total income in 1996/7 feeding directly through to the shareholders. In addition, capital restructuring has meant an increased role for debt in the industry and many of the companies have deemed it necessary to accelerate depreciation.

7.3 Shareholder analysis

The shareholder analysis in this chapter will be a simplified version of that performed in the previous chapter. The profitability and accounting return on capital measures will be calculated in the same way, but the cash flow measures are not included. This is because the RECs have tended not to produce cash flow figures for the period subsequent to take-over, as they are no longer required to do so. This analysis is still performed for the generators and the National Grid. Most analyses of take-overs adopt either a market approach (see for example Franks and Harris, 1989), that consider the market returns for a period of time before and after the take-over date, or a profitability approach (see for example Ravenscroft and Scherer, 1987). Therefore for each of the RECs the market performance will consider the increase in value to the shareholders of the RECs prior to the take-over and the market performance of the acquiring company both before and after. In addition, the profitability of the RECs will be considered both before and after the take-over.

7.3.1 Traditional profitability measures

The definition of return on sales and earnings per share are the same as those used in Chapter 6. In the period from privatisation to 1995 we saw a very consistent picture of increasing profitability. In the years 1995 to 1997 the companies, with the exception of The National Grid, had an increase in exceptional (exc.) and extraordinary (ext.) items. Therefore for the Generators and the RECs the return on sales is quoted both before and after these items.

Table 7.4: Return on Sales (%) (Appendix 5c)

	31.3.1995	31.3.1996	31.3.1997
Generators after exc. and ext. items	19.3	22.3	21.5
Generators before exc. and ext. items	19.7	20.3	21.8
The National Grid	47.5	45.8	45.4
The RECs after exc. and ext. items	13.8	23.9	12.7
The RECs before exc. and ext. items	15.0	16.8	14.6

If we include the exceptional and extraordinary items the largest anomaly is the comparatively high return on sales made by the RECs in the year ending 1995/6. This is caused by the large profits made by the RECs on the sale of The National Grid in this year and the lower turnover caused by the customer discounts mentioned above. In 1997 the regulated elements of the industry, transmission and supply and distribution, show a reduction on profits over the year ending in 1995. This, I believe, is due to the new price controls enforced by the regulator at this time. The effect of the price controls is to restrict turnover and this feeds through to a proportionately greater reduction in profit before interest and tax. Therefore turnover in 1997 is lower than 1995 and this has also resulted in lower profits. Table 7.5 shows how the price controls have become stricter over the period.

Table 7.5: Price control reviews in the electricity industry in England and Wales

DATE	Price control review
April 1990	Transmission RPI – 0
	Distribution RPI + 1.3 (average)
	Supply RPI – 0
April 1993	Transmission RPI – 3
April 1994	Supply RPI – 2
April 1995	Distribution one off 14% and RPI – 2
April 1996	Distribution one off 11% and RPI – 3
April 1997	Transmission one off 20% and RPI - 4

The largest changes relate to the distribution aspect of the industry. Large one off cuts from the distribution price reviews came into effect in both April 1995 and April 1996. These were required as the regulator recognised that these companies had significant financial strength and had been able to make efficency gains at a faster rate than those implies in the earlier price-cap. The percentage of a consumer's final bill that relates to distribution varies between 19% and 29% for large and domestic customers respectively. Therefore the effect of these changes on the real price of electricity (between the year ending 31.3.1995 and the year ending 31.3.1997) of the RECs would be somewhere in the region of 4-7% (19to29% * 14+11%). The actual fall in turnover between the two periods is 4.5%. The fall in return on sales in transmission might also, in part, be explained by the tightening of the price-cap in 1993, although the levels of profits remain extremely high. It is therefore not surprising that the regulator also chose to enforce a much more stringent price-cap in April 1997, including a one-off cut of 20%.

In terms of earnings per share we also require information both before and after exceptional and extraordinary items. This is presented in Table 7.6 below.

Table 7.6: Earnings per share (£/share) (Appendix 5c)

	31.3.1995	31.3.1996	31.3.1997
Generators after exc. and ext. items	0.47	0.62	0.57
Generators before exc. and ext. items	0.48	0.54	0.58
The National Grid	1.08	0.40	0.24
The RECs after exc. and ext. items	0.77	1.31	0.51
The RECs before exc. and ext. items	0.87	0.72	0.64

If we consider EPS before exceptional and extraordinary items the results are similar to those for return on sales. The generators have continued to improve earnings per share, whereas the RECs have suffered a decline. For most of the companies this is caused by a fall in profits, but for MEB and Southern the decline is accentuated by the number of shares being doubled. Similarly, when the National Grid was floated on the London Stock Exchange the number of shares in issue was increased four-fold and the fall in profit is relatively speaking less significant.

7.3.2 Accounting Return on Capital measures

As in Chapter 6 both the historical cost and current cost returns on capital employed will be considered. Table 7.7 below summarises the historical cost return on capital employed for the industry in the period showing both before and after exceptional and extraordinary items for both the generators and the RECs.

Table 7.7: Historical cost return on capital employed (%) (Appendix 5c)

	31.3.1995	31.3.1996	31.3.1997
Generators after exc. and ext. items	25.0	25.9	21.3
Generators before exc. and ext. items	25.4	23.6	21.3
The National Grid	29.2	31.0	30.2
The RECs after exc. and ext. items	24.8	44.3	25.1
The RECs before exc. and ext. items	26.8	26.0	27.9

As can be seen from these figures the levels of returns on capital employed have remained high in the industry. The figure after extraordinary and exceptional items for the RECs in the year ending in 1996 is high due to the profits made on the sale of The National Grid.

As mentioned in the previous chapter, according to Edwards, Kay and Meyer it is inappropriate to compare the historical cost ROCE with the cost of capital. Instead current cost is required. The necessary information is not available for ten of the twelve RECs in the year 1997. In addition the information is only available for 6 RECs in 1996, but these figures are again distorted by the sale of the National Grid. It is therefore not

intended to include these results here. For the generators and the National Grid the following calculations were possible.

Table 7.8: Current cost return on capital employed (%) (Appendix 5d)

	31.3.1995	31.3.1996	31.3.1997
The National Grid	5.9	7.3	n.a.
National Power	3.5	5.8	n.a.
Powergen	4.5	7.2	10.6

An improvement is seen in the current cost returns in 1996 over 1995. If compared to the WACC, as calculated in Chapter 6 at 6.4%, we see that National Power remains below the WACC, but the other two companies are providing returns above the costs.

7.3.3 Cash flow measures

As mentioned above, once the RECs became subsidiaries of larger groups they were no longer required to publish cash flow information. It has been decided to not attempt to create a cash flow statement for these companies as the assumptions required are too great and the other measures calculated are already providing significant evidence as to the level of performance for shareholders. The cash flow return on investment has been calculated for the generators and the National Grid in the same way as was done in Chapter 6. The basic CFROI and the operating cash flow – tax CFROI are presented below in Tables 7.9 and 7.10 respectively.

Table 7.9: Basic CFROI (%) (Appendix 5e)

	31.3.1995	31.3.1996	31.3.1997
Generators	13.8	18.7	15.0
The National Grid	13.4	12.7	13.0

Table 7.10: Operating cash flow – tax CFROI (%) (Appendix 5f)

	31.3.1995	31.3.1996	31.3.1997
Generators	19.2	14.6	11.0
The National Grid	14.7	8.7	19.2

Overall we can say that these cash flow returns appear to demonstrate that the companies are achieving returns in excess of the cost of capital (6.4%). We would expect this to result in the shareholders also receiving excessive returns. We will now consider this in the next section.

7.3.4 Market performance measures

Shareholders benefit from dividends and increased share prices. The generators have been listed on the London Stock Exchange throughout the period and therefore we can consider the total shareholder returns for these companies. The other companies in the industry all changed ownership in the period and will need to be considered individually.

Table 7.11: Generator's Total Shareholder Returns (%) (Appendix 5g)

	31.3.1995	31.3.1996	31.3.1997
National Power	-4.6	14.0	45.9
Powergen	-10.9	19.9	17.0

We discussed the negative shareholder returns in the year ending in 1995 in the previous chapter. If we consider the following two years the returns to the shareholder are in excess of the maximum cost of equity of 13.1%. Therefore it would appear that the abnormal accounting and cash flow returns have indeed followed through into the actual returns to shareholders.

Table 7.12: The National Grid's Total Shareholder Returns (%) (Appendix 5g)

	31.3.1995	31.3.1996	31.3.1997
National Grid	N/a	-6.7	15.8

The National Grid was floated on the stock exchange in December 1995. The initial response was poor and the returns were actually negative in the period up to March 1996. It certainly seems that the National Grid was not unduly under-priced at the time of flotation, as there were very little gains to be made. In this case the strong returns suggested from the accounts and the cash flows do not appear to have benefited the new shareholders. This poor early response may also be in response to the large specie dividends paid to the former owners (the RECs) at the time of flotation. This left the

National Grid in a less financially secure position than would otherwise have been the case. The returns to the shareholders continued to be negative and the return index is at it lowest in September 1996. In the 6 months after this the returns to the shareholders were strongly positive and significantly in excess of the cost of equity.

If we now turn to the RECs the picture is made less clear by the take-overs in the period. The government redeemed its golden share in the RECs on the 31 March 1995 and this therefore opened the way for take-overs / mergers in the industry. The table below details the developments in the two-year period under consideration here.

Table 7.13: Take-over activity 31/3/95 – 31/3/97

Company name	Take-over bid	Outcome
Eastern	31/7/95 – Hanson plc	18/9/95 SUCCESSFUL
East Midlands	13/11/96 – Dominion Resources	13/1/97 SUCCESSFUL
London	18/12/96 – Entergy Corporation	7/2/97 SUCCESSFUL
Manweb	24/7/95 – Scottish Power	12/10/95 SUCCESSFUL
MEB	18/9/95 – Powergen 7/5/96 – Avon Energy Partners	24/4/96 FAILS 7/6/96 SUCCESSFUL
Northern	14/12/94 – Trafalgar House 28/10/96 - Calenergy	2/6/95 FAILS 24/12/96 SUCCESSFUL
Norweb	8/9/95 - North West Water 28/9/95 - Texas Energy Partners	8/11/95 SUCCESSFUL
Seeboard	6/11/95 – Central and South Western	11/1/96 SUCCESSFUL
Southern	2/10/95 – National Power	24/4/96 FAILS
Swalec	4/12/95 – Welsh Water	29/1/96 SUCCESSFUL
SWEB	13/7/95 – Southern Electric	18/9/95 SUCCESSFUL
Yorkshire	24/2/97 – American Electrical Power	1/4/97 SUCCESSFUL

As can be seen from this table, ten of the twelve RECs were successfully taken over by 31 March 1997. The exceptions are Southern, who were subject to a take-over bid by National Power that was not allowed, and Yorkshire, where the take-over was successfully completed one day later. We shall now consider the total shareholder returns for each of the RECs from 31/3/95 to the date of take-over or 31/3/97.

Table 7.14: Datastream Return index

Company name	31/3/95	Day before bid	End of bid day	Successful completion or 31/3/97
Eastern	297.9	379.7	493.1	525.1
East Midlands	315.7	532.5	542.5	580.0
London	304.7	499.2	508.7	526.1
Manweb	333.3	390.0	490.0	533.8
MEB	316.8 587.9	505.5 670.3	525.1 686.1	651.3 – 587.9 703.6
Northern	391.9	496.5	618.7	608.2
Norweb	315.9	521.1	538.7	637.0
Seeboard	354.9	567.9	671.6	676.2
Southern	303.9	483.0	520.2	572.7 – 522.6 524.9
Swalec	331.1	595.9	626.5	630.8
SWEB	327.4	484.1	489.8	520.5
Yorkshire	364.5	679.1	731.7	764.9

For some companies the announcement of a take-over bid makes a very large difference and the returns to shareholders on the day are extremely high. Chronologically the first bid after 31 March 1995 was for SWEB. There is little increase on the day of the announcement, but if we consider that the return index two weeks prior to the announcement was 347.3, in this two-week period there is a 41% return to shareholders. Manweb and Eastern were the next RECs to receive bids and on the day of the bid the return index suggests returns in excess of 25%. Not all of the companies experience such large increases in the period leading up to and including the announcement. It may be that the increase was incorporated once it became obvious that the RECs would be subject to take-over speculation and that the government would not block these[23]. This would suggest that somewhere between the 31/3/1995, when the government redeemed its golden share, and the time of acquisition (or 31 March 1997) this fact should be incorporated into the returns to shareholders. To measure the extent of the effect of this information the following table records the total returns to shareholders for the period from 31 March 1995 to either the acquisition date or 31 March 1997 whichever is sooner.

Table 7.15: Total shareholder returns (%)

Company name	Increase in return index	Period of time
Eastern	76.3%	5 months and 18 days
East Midlands	83.7%	1 year, 9 months and 13 days
London	72.7%	1 year, 10 months and 7 days
Manweb	60.2%	6 months and 12 days
MEB	122.1%	1 year, 2months and 7 days
Northern	55.2%	1 year, 8 months and 24 days
Norweb	101.6%	7 months and 8 days
Seeboard	90.5%	9 months and 11 days
Southern	72.7%	2 years
Swalec	90.5%	9 months and 29 days
SWEB	59.0%	5 months and 18 days
Yorkshire	109.8%	2 years

As can be seen from this table the returns to shareholders in this period are extremely high and far in excess of the cost of equity, which has a maximum of around 13%. The actual annualised shareholder returns are at least double this and in some cases very much higher still. The shareholders that held shares throughout this period made huge gains and this added to the gains that were made in the period from privatisation to 31 March 1995 further emphasises the fact that these shareholders really have won as a result of privatisation.

The shareholders of the acquired companies certainly appear to have benefited from this take-over activity. It is also interesting to consider whether the acquiring companies shareholders benefited. This is not easy to ascertain, although the results are considered below. Return index information was found for six of the ten companies acquiring RECs before 31 March 1997.

[23] The timing of the returns to shareholders in these companies would make an interesting study that could provide some evidence with regard to market efficiency. An event study methodology could be adopted to analyse exactly when the market incorporated the industry and company specific information.

Table 7.16: Datastream Return index – Acquiring companies

Company name	31/3/95	Day before bid	End of bid day	Successful completion	31/3/97
Hanson (Eastern)	161147.8	161577.0	160476.6	155817.8	118133.2
Dominion Resources (East Midlands)	583.4	712.3	723.5	715.2	673.6
Entergy (London)	406.8	604.1	615.1	587.6	547.4
Scottish Power (Manweb)	155.6	153.6	150.2	178.5	196.0
United Utilities (Norweb)	317.4	369.1	372.1	358.9	421.0
Hyder (Swalec)	353.4	397.9	416.3	443.0	501.9

Over this two-year period these companies will have undertaken many different activities and we can not suggest that any returns relate specifically or wholly to the purchase of a REC. The three RECs bought by UK utility companies (two water companies and a power company) have all seen positive returns since the announcement of a take-over. In the cases of Scottish Power and Hyder these post acquisition shareholder returns appear to be in excess of the cost of equity, although this is not the case for United Utilities. The two US companies and the conglomerate have all provided negative shareholder returns after the announcement of the acquisition and have therefore failed to provide adequate returns. Again it must be stressed that this is not necessarily a result of the acquisition, but we do appear to be able to say that shareholders in these companies have not fared as well as the shareholders of the RECs. This would appear to provide some evidence that it is the shareholders of acquired companies, as opposed to the shareholders of the acquiring company, that benefit from take-overs.

7.3.5 Concluding thoughts on the shareholder analysis

Historical cost returns still appear high for the privatised companies, although the RECs have experienced a fall in profits in this period as tougher regulation is introduced. The analysis of current cost and cash flow information is restricted by a change in disclosure by the companies. This leaves limited analysis that suggests an improvement in returns for the generators and the National Grid. The shareholders of the RECs continued to benefit from extremely high market returns up to the time when they were taken over. The story is not so clear cut for the acquiring companies. The RECs continue to make

excellent historical cost returns, but the actual returns to shareholders have not been consistently high. It is worth remembering, however, that the new owners have benefited from high levels of dividends from the RECs. Four take-overs (Eastern, Manweb, Norweb, and South Western) were all completed before the flotation of the National Grid and so the specie dividend was paid to the new owners. For example, on "23 April 1996 the Company [Eastern] paid a dividend in Specie to Hanson" equal to £416.8million. Also the levels of dividends in 1996/7, when most of the take-overs had been completed, was more than 45% of value added as compared to 25% in 1994/5. So the acquiring companies have been able to use the RECs as a source of dividends, but the shareholders do not appear to have benefited as much as those of the RECs.

7.4 Employee analysis

Once again the analysis performed here will be consistent with that undertaken in Chapter 6. Sections relating to employee remuneration, job security and health and safety follow.

7.4.1 Employee remuneration

If we firstly consider the remuneration paid to the employees and directors of the generators we see the following:

Table 7.17: Average remuneration in Generation (£) (Appendix 5h)

	31.3.95	31.3.96	31.3.97
National Power	32,522	33,810	33,476
Powergen	33,102	31,095	35,028
Total – Employees	32,774	32,558	34,142
Total – Executive directors	315,900	342,900	436,100

If we compare the changes in average pay for employees between 1997 and 1995 we see an increase of 4.2% as compared to an increase in the retail price index of 5.4%. This would suggest that in real terms the employees are slightly worse off on average towards

the end of the period. In contrast the average remuneration for executive directors has nominally increased by 38%, an increase far in excess of the rate of inflation.

Table 7.18: Average remuneration in National Grid (£) (Appendix 5h)

	31.3.95	31.3.96	31.3.97
National Grid - Employees	34,921	34,136	35,366
National Grid – Executive Directors	234,200 218,800	276,900 228,200	 223,000

This table again shows a small nominal increase in average remuneration for employees, but this increase is below the rate of inflation. Information was not available for pension contributions made by executive directors in 1996/7 and so executive directors' emoluments are stated both before and after these contributions. The increase in average executive director remuneration (excluding pension contributions) is very similar to the increase in average employee remuneration.

Finally, if we consider the average remuneration in the RECs we see the following changes over the period:

Table 7.19: Average Remuneration in RECs (£) (Appendix 5h)

	31.3.1995	31.3.1996	31.3.1997
East Midlands	23,153	24,095	25,061
Eastern	22,735	22,987	26,981
London	26,145	24,079	24,708
Manweb	20,976	25,302	23,496
MEB	22,627	15,686	21,392
Northern	22,449	22,584	23,590
Norweb	19,504	22,209	27,456
Seeboard	22,256	23,117	21,557
Southern	21,884	22,514	21,904
Swalec	26,341	29,393	25,144
SWEB	25,644	25,816	22,635
Yorkshire	23,097	23,845	24,332
Total – Employees	**22,760**	**23,028**	**23,903**

This total average employee remuneration shows a steady increase over the period and is 5% higher in 1997 than in 1995. Therefore real employee remuneration appears to have remained constant over the period. There are some specific anomalies relating to

Manweb, MEB and Swalec in 1996. These are caused by severance payments and changes to pension schemes and the net effect is very small. Due to the fact that the RECs were taken over in this period the information relating to directors' remuneration is no longer reported in sufficient detail. In addition the benefits to the directors from the sale of the National Grid and changes in directors as a result of the take-overs make a simple comparison difficult. It can be said that the directors appear to have been rewarded handsomely irrespective of whether they continued to work for the new group of companies or not. As in Chapter 6 we can also consider the New Earnings Surveys produced by the Department of Employment and these show the following changes in the period being analysed:

Table 7.20: Changes in pay for full-time employees on adult rates (%)

	4/95 – 4/96	4/96 – 4/97
Production and distribution of electricity	8.5	5.5
Matched sample	6.4	7.3

This would suggest that pay has increased more rapidly than that suggested by the simple averaging performed above. This also suggests an increase in real levels of remuneration, although this is over the two years consistent with the changes in the matched sample. The New Earnings Survey also provides some evidence on how the levels of pay are distributed between the employees and these are detailed in Table 7.21 below:

Table 7.21: Distribution of pay for full-time employees on adult rates (£/week)

	1995	% Change	1996	% Change	1997
10% earned less than	239.9	7.3	257.4	0.2	257.8
10% earned more than	643.0	10.9	712.8	8.2	771.6

Over the whole period the increases are 7.5% for the lowest 10% limit and 20.0% for the highest 10% limit. There is a large discrepancy in 1997, where the lowest 10% limit has hardly increased at all whilst the highest 10% limit and the average have both increased. This appears to suggest that the divide between the less well paid and the rest is increasing.

7.4.2 Job security

As explained in the previous chapter, it is not possible to calculate a true measure of job security from the information presently reported. Therefore this Chapter, as with Chapter 6, simply records the changes in levels of employment throughout the industry.

Table 7.22: Employee numbers (Appendix 5h)

	31.3.1995	31.3.1996	31.3.1997
Generators	9,618	8,996	7,841
The National Grid	4,871	4,565	4,414
RECs	64,804	57,188	48,180
Total	**79,293**	**70,749**	**60,435**

The fall in employee numbers has continued over this period of time. The largest decreases, both in relative and absolute terms, have been made in the RECs. This is perhaps not surprising, as cost savings, through employee reductions, are often the motivation for take-overs. In fact if we consider the RECs that made the largest reductions over the period we can see that the five largest reductions are all made by companies that were successfully taken over by the end of January 1996, namely SWEB, Eastern, Manweb, Norweb, and Swalec[24].

The reductions in the Generators and the National Grid are not as large as those made in the RECs, but suggest a continued downward trend in employee numbers that can not be sustained into the longer term. Job security in the industry must continue to be low throughout this period, especially in the RECs. The take-overs appear to have fuelled a further emphasis on reducing employee numbers.

7.4.3 Health and Safety

The health and safety statistics reported by the HSE were changed in this period. The information now provided were less segregated by industry and therefore it is no longer

[24] Seeboard was the only company to be taken over by January 1996 that did not count as one of the companies with the highest reductions in employee numbers.

possible to obtain information on "Production and distribution of electricity, gas and other forms of energy", instead there is an "Electricity, gas and water supply" section. This reflects the changes in Standard Industrial Classification between 1980 and 1992.

Table 7.23: All reported employee injuries – rate per 100,000

	1995/6	1996/7
Electricity, gas and water supply	1,225.9	1,475.6
Total manufacturing industries	1,199.0	1,210.3
Construction	1,262.0	1,508.8
All industries	685.4	698.6

This appears to suggest a jump in accidents and injuries, but the following caveat is placed upon the statistics: "1996/97p injury figures, excluding fatalities to workers cannot be directly compared to previous years figures as they were reported under different legislation (see Introduction and Revision of RIDDOR '85 to RIDDOR '95)" (HSE, 1997 p134). Therefore this tells us very little about changes in the health and safety performance of the industry. It is, however, an example of how changes to reporting can make the figures / statistics reported worthless. Without comparability these figures are difficult to discuss.

7.4.4 Concluding thoughts on the employee analysis

Over this period of time the employee group as a whole have lost out as numbers have decreased, requiring remaining employees to work harder, and levels of remuneration have not improved in real terms (according to annual report information). More worryingly the lower paid staff have fallen further behind as increases in their pay have not matched those of the better paid. Due to changes in reporting it is not possible to comment on changes in Health and safety levels, but there is no reason to suggest that this would be sufficiently positive to indicate that employees have won.

7.5 Consumer analysis

7.5.1 Electricity prices

In the previous chapter we saw that real domestic electricity prices had increased since privatisation, although real industrial prices had fallen slightly. We noted earlier in this chapter that regulation of the distribution and transmission elements of the industry appeared to be tightening up in the period from 1995 to 1997. The transmission changes only came into effect on 1 April 1997, so will not have influenced the findings here, but the distribution changes should have resulted in a slightly lower price for domestic consumers.

Table 7.24 – EA Electricity prices

	1/1/95	1/1/96	1/1/97
UK – Domestic prices (p/KWh)	9.23	9.23	9.01
Domestic EU ranking	4/12	3/12	3/12
Domestic World ranking	11/21	10/21	9/21
UK – Industrial prices (p/KWh)	5.29 or 4.56	5.29 or 4.53	5.29 or 4.14
Industrial EU ranking	7/12 or 3/12	6/12 or 2/12	8/12 or 2/12
Industrial World ranking	14/21 or 9/21	13/21 or 9/21	15/21 or 9/21

If we simply consider the prices we see that there has been a nominal and therefore real reduction in the period for domestic consumers. The decrease in the final year is nominally 2.4%, but more in the region of 7% in real terms. This is also sufficient to see the UK actually overtake some other countries in terms of reduced domestic prices. Industrial prices according to the tariff have remained constant, although those industrial consumers able to enter into contracts for their electricity have seen a fall of nearly 10% in nominal terms. This is also sufficient to improve the UK's ranking against the other EU countries. Therefore in this period there is a fall in the real price of electricity in absolute terms and some improvement when compared to other EU and world countries.

7.5.2 Minutes lost per customer

As discussed in the previous chapter this is one of the key measures of the quality of supply in the industry. Up to 1995 we could see that the time lost due to scheduled outages was falling, but that this was not necessarily the case for faults. The chart below (source EA 2001) takes this data further.

Chart 7.1

Source: National Fault and Interruption Reporting Scheme, Electricity Association

As can be seen in the years 1996 and 1997, the customer minutes lost due to scheduled outages (the lower line) continued to fall and have done so year on year up to and including 2000. The time lost due to faults (the higher line) remains less clear, although since 1996, which was the worst year since 1991, the trend does appear downward. It is clear that in 1997 the total minutes lost is lower than in any other year since privatisation and that this is improved upon in both 1999 and 2000. This would appear to suggest a definite improvement, although it still does not provide us with the reason for this improvement (i.e. is it because of technological improvements or improved performance or improved weather).

7.5.3 Performance against the regulator's guaranteed and overall standards

Firstly we will consider the changes in the numbers of payments made under guaranteed standards. This is considered in Table 7.25 below:

Table 7.25 Total payments made for failure against Guaranteed Standards (GS)

	1994/5	1995/6	1996/7
GS1	43	41	11
GS2	377	466	153
GS3	22	16	6
GS4	19	18	32
GS5	828	638	339
GS6	25	12	2
GS7	92	19	6
GS8	473	189	119
GS9	2637	1899	1111
GS10	444	167	132
Total	4960	3465	1911
Total – GS5 – GS9	1495	928	461

Source: OFFER (1996, 1997)

As can be seen from this table, the reduction in payments under guaranteed standards has been impressive and almost across the board. The only blemish is an increase in payments under GS2 in 1995/6. We argued in the previous Chapter that this is the single most important standard, but this increases in 1995/6. In the notes to this table the regulator comments that the majority of these incidents (331) relate to lightning storms and snowfalls in two specific regions. This demonstrates that to some extent these figures are not under the control of the companies. From interview with consumer groups the following issues relating to the reporting of standards were also raised. There is a severe weather exemption that allows the companies to not make GS payments, although they do usually make ex-gratia payments. OFFER have said that they will revisit the severe weather exemption and this may become increasingly important if such conditions become more frequent due to climate change. A further issue is that there is a measurement problem when companies make ex-gratia payments, as opposed to GS payments. Ex-gratia payments are good for consumers, but they distort the statistics, as they are not reported as GS payments, and therefore make the statistics less reliable. It must be remembered that the statistics are "manifestly a load of rubbish" (according to a

Consumer group representative). Another example of the statistics providing incomparable data was when Scottish Power reported 619,000 queries about bills as opposed to another company reporting 2. The collection and reporting of this data requires auditing and a more precise definition of terms. This problem will also arise with the Consumer Satisfaction measure that is to be reported from April 2002, as this will be based upon the number of complaints and this will need to be carefully defined.

The improvements in guaranteed standards appear impressive, but without external verification and information on exemptions allowing GS payments to be avoided the actual value of the statistics must be questioned. This is an area where the need for some form of external verification would appear necessary.

In terms of overall standards we can see the following trend in 1995 to 1997:

Table 7.26: Performance against overall standards

	1994/5	1995/6	1996/7
OS1A	89.2	89.2	90.1
OS1B	100.0	99.9	99.9
OS2	99.2	99.2	99.0
OS3A	99.9	100.0	100.0
OS4	100.0	100.0	100.0
OS5	99.6	99.9	99.9
OS6	98.5	99.4	99.7
OS7	98.6	98.7	98.8
OS8	99.9	99.9	99.7

Source: OFFER (1996, 1997)

The performance against overall standards has remained at high levels, although performance has slightly worsened against three of the standards. One of the standards that has a lower performance is OS1B, and this is related to restoration of supply within 24 hours.

7.5.4 Numbers of complaints

The numbers of complaints that are reported to the regulator (i.e. that are not successfully dealt with by the companies) are as follows:

Table 7.27: Numbers of complaints

	1994/5	1995/6	1996/7
Total number of complaints	8,741	6,904	6,119

This shows a continued reduction in numbers of complaints that have reached the regulator. In total these have more than halved since 1991/2 and this would suggest an improved customer service or complaints handling procedure.

7.5.5 Concluding thoughts on the consumer analysis

Overall there does appear to be an improvement in price and in the quality measures reported by the regulator. As noted over the last two chapters, the accuracy of these statistics can be and have been questioned. Nevertheless, given the decrease in real prices and in customer minutes lost, there does appear to be an improvement in customer performance. This is clearer than in the first post-privatisation period and does appear to suggest that the regulator is starting to protect the consumer.

7.6 Supplier analysis

As in the previous chapter the key measures here are the ability to pay suppliers, as measured by the current ratio, and the payment terms for suppliers, as measured by trade creditor days and these are considered in Section 7.6.1. In addition the mix of primary fuel is considered in Section 7.6.2 below.

7.6.1 Supplier payment terms

If we first consider the current ratio for each company we see the following.

Table 7.28: Current ratios (Appendix 5i)

	31.3.1995	31.3.1996	31.3.1997
East Midlands	0.9	0.8	0.9
Eastern	1.4	2.1	1.0
London	1.0	0.9	1.0
Manweb	1.0	1.4	1.5
MEB	0.9	0.7	0.5
Northern	1.2	1.4	2.3
Norweb	1.1	0.9	1.0
Seeboard	1.1	1.6	0.8
Southern	1.6	1.1	0.8
Swalec	0.7	1.0	1.1
SWEB	1.0	0.5	0.4
Yorkshire	1.2	1.3	1.4
National Grid	0.4	0.5	0.9
National Power	1.2	1.0	1.1
Powergen	0.8	0.7	0.8

These current ratios show some interesting developments. Four of the RECs have recorded significant decreases in current ratio and two now have current ratios as low as 0.5 and 0.4. In both cases this is primarily as a result of dramatic increases in current liabilities. Conversely Manweb and Northern report much higher current ratios. In the case of Manweb this is caused by higher current assets, but for Northern it signifies a much lower level of current liabilities. For National Grid both the levels of current assets and current liabilities increase over the period, but the increase in current assets is much greater and these are more than three times higher in 1997 than in 1995. We now consider the trade creditor days.

Table 7.29: Creditor days (Appendix 5j)

	31.3.1995	31.3.96	31.3.97
East Midlands	41.9	48.7	37.3
Eastern	47.4	37.2	36.9
London	43.0	46.5	37.8
Manweb	37.1	51.1	36.1
MEB	33.0	47.2	41.4
Northern	30.6	51.1	42.0
Norweb	34.0	49.1	44.5
Seeboard	41.4	61.6	59.4
Southern	43.0	68.9	45.1
Swalec	38.1	50.3	31.0
SWEB	36.5	65.8	39.7
Yorkshire	23.7	34.1	25.8
National Grid	229.6	218.1	441.3
National Power	24.4	28.5	22.9
Powergen	48.9	54.8	50.3

This does not provide a consistent picture of supplier performance. There are 6 RECs who appear to take longer to pay their suppliers in 1997 than in 1995, but there are also 6 RECs who appear to take less time. The RECS do appear to increase creditor days on 1996, but this falls back in 1997. The largest change is seen in National Grid in 1997. This is caused by the fall in purchases in the value added calculation as caused by the deconsolidation profits as discussed in the value added section earlier.

7.6.2 The mix of primary fuel

In Chapter 6 we noted that there has been a shift from coal and oil and this has been replaced by gas and nuclear. In the period 1995 –1997 we see:

Table 7.30: Fuel Input for Electricity Generation (%)

Type of fuel	1995	1996	1997
Coal	47	42.0	36.5
Oil	5	4.5	2.5
Gas	16	21.0	27.0
Nuclear	28	28.5	29.5
Hydro	1	0.5	0.5
Other	1	1.5	2.0
Imports	2	2.0	2.0
Total	100	100.0	100.0

This table shows that there is a continued shift from coal and oil and into gas and to a lesser extent nuclear. Therefore we could argue that the coal and oil industries have lost out over this period of time when compared to the gas and nuclear industries. The increase in other and decrease in hydro will be considered in more detail in the environmental section below.

7.6.3 Concluding thoughts on the supplier analysis

We have seen that there is no clear trend in terms of whether suppliers are worse off in terms of payment, but we can say that the gas industry has definitely gained at the expense of the coal industry. The fall in coal usage continued at a level of more than 10% in both years. This shortfall in fuel was met by the near doubling of gas used over the two years. Once again this should result in improved environmental emissions as gas and nuclear are cleaner than coal and oil.

7.7 Environmental analysis

As in Chapter 6 this section will consider the efficiency of the industry and the resulting emissions. The format will be the same as in the previous chapter and we start with the fuel used and trace this all the way through to the efficiency of electricity used.

7.7.1 Fuel used in generation to electricity generated

The purpose here is to consider the actual efficiency of the process of generating electricity from primary fuels. Renewables are included within other, but are considered in more detail in Section 7.7.5 below.

Table 7.31: Fuel used in generating electricity (Million tonnes of oil equivalent)

Type of fuel	1995	1996	1997
Coal	36.10	33.01	28.55
Oil	3.60	3.49	1.86
Gas	12.54	16.40	20.93
Nuclear	21.37	22.18	22.99
Other	1.59	1.52	1.75
Net imports	1.40	1.44	1.42
Total	76.60	78.04	77.50

This would suggest that the total fuel used to generate electricity in the UK over this period has remained relatively constant, although being slightly higher in 1996 and 1997 as compared to 1995. As noted above the key changes in terms of the make-up of this total is the decrease in coal and increase in gas. If we now consider the total electricity generated by this fuel we see:

Table 7.32: Total electricity generated (GWh)

Type of fuel	1995	1996	1997
Conventional steam	186,442	177,765	149,436
CCGT	49,657	67,112	88,474
Nuclear	88,964	94,671	98,146
Other	9,391	7,838	9,286
Total	334,454	347,386	345,342

The total amount of electricity generated has increased in 1996 and 1997 as compared to 1995. The increase is more than 3% and this is more than the increase in fuel used as shown in Table 7.31 above. Therefore this would suggest an improvement in efficiency, but either the change in fuels used or how efficiently each fuel is used could cause this. Both gas and nuclear fuels are generating electricity more efficiently in 1997 than in 1995 by 6.7% and 2.5% respectively. Therefore the efficiency of the electricity generated from gas has improved at a faster rate than average and this is where the majority of the gains

have been made. Efficiency gains also appear to be made by the conventional steam generation. So overall efficiency of generation has improved.

7.7.2 Electricity generated to electricity supplied

The data above suggests an improvement in the efficiency of electricity generation, but this generated electricity still has not reached the final users. The electricity is then transmitted and distributed to customers through the network. Electricity is also lost through this process. Table 7.33 below provides data on the amount of electricity lost in the network.

Table 7.33: Efficiency of the electricity network (GWh)

	1995	1996	1997
Electricity available	331,690	343,890	343,040
Losses in network	24,920	29,600	25,580
Total supplied	306,170	314,290	317,460
Efficiency (%)	92.3	91.4	92.5

The efficiency of the network worsened in 1996, but improved in 1997. The best year post-privatisation remains 1993, but 1997 is much closer to the level achieved in that year. There remains no discernible trend in this data and it can not be claimed that the efficiency is definitely improving or worsening.

7.7.3 Electricity supplied as compared to changes in GDP

This section considers how efficiently electricity is being used in the UK. This is done by considering how the total electricity supplied has changed as compared to changes in the GDP. This is done in Table 7.34 below.

Table 7.34: Efficiency of the electricity usage

	1995	1996	1997
Total electricity supplied (TWh)	317.1	329.6	329.0
GDP at factor cost (£bn 1990 prices)	508.2	524.5	540.6
Efficiency of use (£bn / TWh)	1.60	1.59	1.64

The absolute level of energy usage in the UK continues to increase. This is by nearly 4% over this 2-year period. As the level of GDP has also increased, but by a higher amount, the level of efficiency has improved. This improvement appears to be made in 1997 as the electricity supplied has not increased despite an increase in GDP. This would suggest an improvement in efficiency, but it must be remembered this is still an increase in the absolute level of electricity supplied.

7.7.4 Levels of emissions

The total amount of primary fuel used and electricity generated have both increased in the period, but as with the previous period there has also been a shift to cleaner fuels. The shift to cleaner fuels is the more significant change and we therefore expect the levels of emissions to continue to fall.

Table 7.35: Levels of emissions (Thousand tonnes)

Emission	1995	1996	1997
Carbon Dioxide	44,000	43,000	40,000
Sulphur Dioxide	1,588	1,318	1,025
Nitrogen Oxides	498	449	370

As predicted, levels of emissions have continued to improve throughout the period. In 1997 the emissions of carbon dioxide are nearly 26% lower than those in 1990. As mentioned in the previous chapter, Friends of the Earth suggest that emissions need to be 22% and 89% lower than 1990 by 2010 and 2050 respectively. The concern remains as to how this can be achieved if levels of electricity used continue to increase and the "easy" savings, by shifting to gas and nuclear, have already been made.

7.7.5 Renewable sources used to generate electricity

It was suggested in Chapter 6 that the best way to reduce the environmental impact of the electricity industry is to increase the amount of electricity generated from renewable sources. The amounts of electricity generated from these sources are:

Table 7.36: Electricity generated from renewable sources (GWh)

Type of fuel	1995	1996	1997
Onshore wind	352	486	665
Small scale hydro	212	86	159
Large scale hydro	5,072	3,275	3,969
Landfill gas	566	705	880
Sewage sludge digestion	367	400	400
Municipal solid waste combustion	747	778	934
Other biofuels	344	326	335
Total	7,649	6,056	7,341
% of total generated	2.3%	1.7%	2.1%

As can be seen from this table the percentage of electricity generated from renewable sources is actually lower in 1996 and 1997 as compared with 1995. This is caused by the reduction in use of large-scale hydro generation. Almost all of the other types of renewable fuels generate more electricity in 1997 than in 1995, the exception being other biofuels. In fact onshore wind has almost doubled, but this still equates to a mere 0.2% of the total electricity generated. The developments in usage of renewable sources remain disappointing in the UK electricity industry.

7.7.6 Concluding thoughts on the environmental analysis

Overall in terms of the efficiency of the electricity industry we can see improvements in generation and usage over the period, although it is not so clear in the networks. The actual levels of primary fuel used, electricity generated and supplied have increased and this is disappointing as there is believed to be considerable scope for improved efficiency especially at the point of consumption. The levels of emissions continue to fall, but the development of renewable sources continues to be very slow.

7.8 Conclusions

This Chapter considers the two years from 31 March 1995 – 31 March 1997. This is an interesting period of time for the electricity industry as the ownership of the companies (except the generators) changed. The following table summarises the major changes in

the distribution of value added within the industry, by comparing the years ending in 1995 and 1997.

Table 7.37: Major changes in the distribution of value added 1995-1997

	Sales	Purchases	VA	Lab costs	Int + Tax	Net change
Generators	Down £540m	Down £576m	Up £36m	Down £48m	Down £34m	Up £118m
National Grid	Down £20m	Down £38m	Up £18m	Down £15m	Up £30m	Up £3m
The RECs	Down £691m	Down £161m	Down £530m	Down £359m	Up £262m	Down £433m
Total	Down £1251m	Down £775m	Down £476m	Down £422m	Up £258m	Down £312m

There is clearly a change here as the level of sales has been reduced over this period of time. As a result of this purchases have needed to be further squeezed, but in the case of the RECs this was insufficient to compensate fully. Therefore further reductions have been made to employee costs, but again these are insufficient to cover the reduced sales in the RECs. This would appear to suggest that the Generators have managed to produce additional cash over this period, but that the RECs have not. We now consider what effect this has had on the levels of dividends and capital expenditure undertaken by these companies.

Table 7.38: Analysis of changes in spending 1995-1997

	Change in cash available	Increased Dividends	Change in Capital exp.	Retained or other
Generators	Up £118m	Up £1382m	Down £259m	Down £1005m
National Grid	Up £3m	Up £29m	Down £158m	Up £132m
The RECs	Down £433m	Up £498m	Up £115m	Down £1046m
Total	Down £312m	Up £1909m	Down £302m	Down £1919m

This table demonstrates that the pressure on cash caused by reduced revenues appears to have decreased the levels of capital expenditure, which is a concerning development. One of the justifications for privatisation was that the necessary levels of investment would not be made within the public sector. This evidence, however, does not suggest that increased investment is being made from within the private sector yet such investment is crucial to the future of the industry. If we examine how levels of capital expenditure have changed across the whole industry over the years 1991 – 1997 the CRI (1998) reports:

Table 7.39: Levels of capital expenditure

	1990/1	1995/6	1996/7	% Change 1996/7 on 1990/1
	£m	£m	£m	%
Generation	1,313	1,005	514	-61
Transmission	253	167	182	-28
Distribution	743	920	1085	+46
Supply	21	36	59	+180

Source: CRI (1998)

This table shows a mixed story. In terms of the actual equipment required to ensure that consumers receive electricity the supply side of the industry is the least important, as it is the generating capacity and the wires that ensure that this happens. There has been a large fall in the capital expenditure in generation and this is primarily due to the fall in capital expenditure in the nuclear part of the industry. There are no nuclear plants being built and closure dates have been announced for the Magnox fleet. This will require a new level of investment into generating plant, not necessarily nuclear, in the future. Capital expenditure has also fallen in the other areas of generation as well.

The transmission element of the industry has also seen a decline in investment, although slightly less at 28% in nominal terms over the period. In contrast the capital expenditure in the distribution network has increased at a faster rate than inflation and therefore suggests a real increase in investment. It is difficult to speculate whether these changes are results of more efficient programmes, changes in approach or the advent of new technology. We can suggest that investment in the infrastructure is crucial to the future supply of electricity and therefore should not be an area that is too readily cut.

The pressure on cash has not caused a similar decline in dividends, although part of the increased dividends in 1997 is a special dividend by National Power of £1,207m. The present trend for increased dividends from a lower level of revenue is not sustainable in the long term. It is this pressure that appears to provide a strong impetus to rationalise the industry through merger and takeover. Such rationalisation provides greater opportunity for cost reduction, but also reduces the specific influence of the capital markets. As part

of a larger group, these companies specific contribution to shareholders is hidden and therefore this provides greater flexibility. From the analysis in the Chapter it would appear that the large gains were made by the shareholders up to the time of the take-overs. The groups that now include RECs do not appear to be providing any sort of abnormal return despite the RECs themselves still providing excellent accounting returns. The change may, to some extent, be related to the regulation of the industry. Professor Littlechild first set the new distribution price cap in August 1994 but then reconsidered his proposals in March 1995. It was reported (in the Financial Times 8th March 1995) that 'Professor Littlechild cited recent share price rises as one of two main reasons why he was re-opening the price control review. The second is that the Trafalgar House bid for Northern Electric.... said Professor Littlechild "seems to indicate more financial strength (in the regional companies) than there seemed". This resulted in a more stringent price-cap and sent a clear signal that regulation was being tightened. This was not the only issue that was raised by Professor Littlechild's change of heart. A cornerstone of the present regulatory system is that the regulators stick to their side of the bargain. It is therefore not surprising that the Economist (29th July 1995) reported that "on July 25th a committee of Members of Parliament complained that his change of mind over the electricity price controls damaged the credibility of the regulatory system - a biting criticism, given that Mr Littlechild himself devised Britain's hands-off style of regulation." It is believed that such actions lead to an increased risk (a regulatory risk) for the privatised businesses and damage the incentive for efficiency on which the system is based. Again this may well influence the stock market performance of the companies in the industry.

In contrast the consumers appear to fare better in this period. The real price of electricity has fallen and quality, as measured by customer minutes lost, the regulator's standards and number of complaints, has improved. The reliability of these quality measures can be questioned, but it seems reasonable to suggest that some improvements have been made. Also some improvements have been made in terms of emissions, although little headway appears to have been made in terms of efficiency and renewable sources. In contrast employee numbers continue to tumble and therefore workloads must be becoming higher

and higher. The information for suppliers is rather tenuous, but there is no evidence that they have benefited in this period.

Chapters 6 and 7 have analysed the relative benefits and costs to the stakeholders groups since privatisation. In summary the analysis has shown the following:

Table 7.40: Summary of winners and losers from privatisation

Stakeholder group	From Privatisation to 31/3/1995	From 31/3/1995 to 31/3/1997
Shareholders	Significant gains	Gains for acquired shareholders Less clear for the acquirers
Employees	Significant losses	Continued losses
Domestic Consumers	Lose on price some gains on quality	Some gains on price and quality
Industrial Consumers	Marginal gains on price and quality	Some gains on price and quality
Suppliers generally	Significant losses on payment terms	No clear message
Coal and oil industries	Significant losses in market share	Continued losses in market share
Gas and nuclear industries	Significant gains in market share	Continued gains in market share
The environment	Significant reductions in emissions	Continued reductions in emissions

These results are interesting and the reasons for these changes need to be better understood. Therefore Chapter 8 will consider how these changes came about and how they might be explained. In order to do this resource dependency theory and institutional theory will be used to analyse the events.

Chapter 8: Explaining the results

8.1 Introduction

The previous two chapters have considered the performance of the privatised electricity industry over two periods of time. In Chapter 6 the period from privatisation until the 31 March 1995, when the government relinquished its golden share in the RECs, was considered. In Chapter 7 the period from 1 April 1995 to 31 March 1997 was considered, as this was a period of great change for the industry. After the government relinquished its golden share in the RECs all of them were subject to take-over bids and ownership of ten of the twelve RECs changed hands in this two-year period. These companies changed from being owned by individual and institutional investors and became parts of larger groups of companies. In fact non-UK companies took control of approximately half of the RECs[25]. Table 7.40 (on page 208) summarises the actual stakeholder performance of the privatised companies over the two periods, as analysed in Chapters 6 and 7.

As yet no theoretical explanation for these relative changes in benefits has been offered. This chapter considers these findings in light of institutional and resource dependence theory. More specifically this analysis draws heavily on the work of Oliver (1991), which considers "the convergent insights of institutional and resource dependence perspectives" (p.145). This Chapter will next consider these theories and the framework developed by Oliver (1991) before discussing its applicability to the present case. Then the results of the previous chapters will be reviewed in light of this framework to discover whether it can more fully explain the developments over this period of time.

8.2 Institutional theory

Institutional theory gives prominence to the cultural and social environment within which organisations and individuals exist and act. More specifically "social knowledge and cultural rule systems" (Scott, 1995, p. xiv) are considered key to understanding

behaviour. Scott (1995) charts the early history of institutional theory into three distinct strands of its role in economics, political science and sociology. Important within this early work was the concept that there were cultural and historical forces that resulted in a social framework within which actions are undertaken. Some of these theorists did analyse institutional structures, but it was later that organisations became the main concern of the theory and analysis. Selznick (1957) suggests that:

> "Institutionalization is a process. It is something that happens to an organization over time, reflecting the organization's own distinctive history, the people who have been in it, the groups it embodies and the vested interests they have created, and the way it has adapted to its environment.
>
> "In what is perhaps its most significant meaning, "to institutionalize" is to infuse with value beyond the technical requirements of the task at hand."
>
> (pp.16-17)

Neo-institutional theory appeared in the 1970s and has spawned a significant amount of literature. The key concern of this literature are the causes of organisational stability or change and DiMaggio (1988) claims that drivers of change and stability have been identified on the basis of "preconscious understandings" (p3). Further, he suggests that central to institutional theory is an assmuption, often implicit, that there is a universal desire for the reduction of uncertainty and for survival.

At an individual level behaviour is shaped by the rules and norms of the organisation and in this way decisions can be made more easily as the process becomes routine with set processes to follow (March and Simon, 1958). Decisions can be made more easily as cultural forces restrict the options open to the decision-maker (North, 1986). This is to say that despite an unlimited range of possible choices and strategies only a very small percentage of these are considered as appropriate due to the institutional context. Thus in the words of DiMaggio and Powell (1991):

> "Cultural frames thus establish approved means and define desired outcomes, leading business people to pursue profits, bureaucrats to seek budgetary growth, and scholars to strive for publication." p28

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[25] See "Table 7.3.4.3: Take-over activity 31/3/95 – 31/3/97" for a more detailed analysis of the changes in ownership in the period.

These outcomes are institutionalised in our modern society and as such they refer to institutionalisation as an outcome. It is important to distinguish between this and institutionalisation as a process. As an outcome institutionalisation is not political and relates to rules and "taken-for-granted scripts" that influence individual's behaviour within organisations. These rules and scripts are useful as they help in reducing uncertainty, legitimating certain activities and hence assisting in the continuation of the organisation. DiMaggio (1988) recognises that there is a "strong parallel" with these taken-for-granted scripts and the "false consciousness" discussed by neo-Marxists such as Lukes (1974). Both literatures suggest that some actions are inconceivable to individuals, despite the fact that they would benefit. This is argued to be because there is a preconscious understanding that these actions are not acceptable in that society, but in reality this means that they would be obstructed by "political or economic elites". Bordieu (1979) and Giddens (1984) have also considered the role of the taken-for-granted in the dominance of certain interests in society more generally.

If an organisation has become institutionalised, i.e. institutionalisation is the outcome, then this is seen as a hindrance to change and innovation. The rules and scripts ensure that activities are performed in a common manner. This is to say that they become ritualistic and the actual purpose and appropriateness of the action is no longer questioned, but simply accepted. It is in this respect that institutions, or organisations that have been institutionalised, are considered difficult and slow to change. In fact DiMaggio and Powell (1991) suggest that organisational change will be "episodic and dramatic" and will occur when the rules and taken-for-granted scripts are questioned and considered to be inappropriate. By the very nature, and definition, of institutionalisation this can only happen infrequently. Burns and Flam (1987) argue that it is the setting and changing of rule systems that has resulted in the "major power struggles in modern societies" (DiMaggio and Powell, 1991). This is an extremely interesting argument in relation to the case under consideration here. With the election of the Conservative government in 1979 there was a change in political and economic ideology that had a direct and material impact on the electricity industry. The shift towards the right and the free market meant

that the institutional practices that were taken-for-granted in the industry since nationalisation were no longer accepted without question. A new set of rules and culture were demanded. This appears to fit exactly the episodic and dramatic change identified by DiMaggio and Powell (1991). They further suggested that:

> "Fundamental change occurs under conditions in which the social arrangements that have buttressed institutional regimes suddenly appear problematic". p11

This will be returned to later in the Chapter when a more detailed consideration of the case study will be undertaken in light of the theories discussed here. If we now turn to institutionalisation as a process we can see that there are very different considerations. First and foremost, power, authority and interest are essential ingredients of institutionalisation as a process, but institutionalisation as an outcome is unaffected by them. Therefore the process of institutionalisation is influenced by powerful actors. DiMaggio suggests that the form of an organisation and the levels of institutionalisation will be dependent upon the "relative power of the actors who support, oppose, or otherwise strive to influence it," (p.13). Similarly Meyer and Rowan (1983) suggest that institutional rules are, and can be, manipulated and used creatively by actors to achieve their own ends. The process does not end here though, as the powerful actors will want to maintain these institutional rules and therefore they require "strategies of control". Two specific strategies are the indoctrination of newcomers such that they do not question the taken-for-granted scripts and also reliance on the support of government and legislation to reinforce the legitimacy of the rules.

In actual fact Scott (1995) suggests that there are three different processes that create and maintain institutions. These are referred to as the "Three Pillars of Institutions" and he summarises the key differences between these three pillars as follows:

Table 8.1: Varying Emphases: Three Pillars of Institutions

	Regulative	Normative	Cognitive
Basis of compliance	Expedience	Social obligation	Taken for granted
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules, laws, sanctions	Certification, accreditation	Prevalence, isomorphism
Basis of legitimacy	Legally sanctioned	Morally governed	Culturally supported, conceptually correct

Source: Scott (1995) p. 35

Each of the three pillars affords an organisation some level of legitimacy that, in institutional theory, is seen as a pre-requisite for continued acceptance and activity. By being seen to be legitimate organisations achieve a level of support within the society where they operate. Obviously the regulative pillar can be easily recognised as relevant to this case as it is a regulated industry. The normative pillar reminds us of the discussion in Chapter 2 concerning business ethics and the concern as to whether the business is managed ethically or to certain moral standards[26]. According to Scott the third pillar, the cognitive pillar, is given greater emphasis by neo-institutional theory. A cognitive conception of institutions emphasises that organisations "attempt to be isomorphic in their structures and activity pattern" (Scott, 1995, p44) and this is most clearly portrayed through imitation. It is therefore suggested that both individuals and organisations attempt to combat uncertainty by copying the actions, processes or structures of others that face the same set of environmental conditions and hence uncertainties (Hawley, 1968). The degree of isomorphism and its causes has been one of the key areas of empirical institutional research. DiMaggio (1988) suggests that this research has provided convincing, i.e. that it has been frequently replicated, evidence that isomorphism does occur. It is suggested that early adopters of new innovations can be predicted by the fit of the innovation to the specific circumstances of the organisation. These can be considered to be rational organisations and DiMaggio and Powell (1983) consider this to be "competitive isomorphism"[27]. In contrast later adopters can not be so easily predicted and

[26] The work in this area, such as that of Parsons, suggests that shared norms and values were regarded as the basis of a stable social order in much the same way as Adam Smith suggested certain moral standards were a necessity for business.

[27] DiMaggio and Powell suggest that the work of Hannan and Freeman (1977) is concerned with this competitive isomorphism.

as such appear to be imitating the early adopters and in fact are not doing this on the grounds of efficiency. In these cases DiMaggio and Powell argue that institutional isomorphism is present.

DiMaggio and Powell (1983) suggest that there are three drivers of institutional isomorphism. These are coercive isomorphism that is political in nature and aids organisational legitimacy, mimetic isomorphism that is used to counteract uncertainty, and normative isomorphism that is associated with professionalisation. DiMaggio and Powell contrast this with the work of Weber, commenting that he correctly recognised the move towards bureaucracy, but that in fact organisations have gone further than this. They argue that this is because Weber was incorrect in emphasizing the importance of the rational, competitive pressures of capitalism that he likened to an iron cage imprisoning humanity "perhaps until the last ton of fossilized coal is burnt" (Weber 1952: 181-182). Instead, they argue it is the institutional drivers that lead organisations to "become more and more homogeneous" beyond that which can be explained by competition. DiMaggio and Powell further argue that it is "the state and the professions, which have become the great rationalizers of the twentieth century" (p.147).

Returning to the drivers of isomorphism, we see that this idea of the state and professions as powerful actors in institutional theory is reinforced. We see that the state is a prominent, although not the only source, of coercive isomorphism. The authority of the state, where authority is defined as legitimated power (Scott, 1987), to impose legislation upon organisations is prevalent in modern societies and was certainly the key instigating factor in the privatisation programme in the UK. Meyer and Rowan (1977) and Meyer and Hannan (1979) suggest that it is primarily as a result of the power of the state that the homogeneity of organisations and their use of rituals has increased. Also the spread of the professions with normalised education, teaching accepted techniques and rules has led to the increase of normative isomorphism. Scott (1991) proposes that the professions are actually even more heavily associated with cognitive (or the mimetic) modes of influence than the normative. It is the proliferation of the professions throughout organisations that results in the mimicry apparent in mimetic isomorphism.

This is not the only instance where a distinction is drawn between competitive and institutional pressures. Meyer and Rowan (1991) suggest that organisations can be placed on a continuum that has organisations that are subject to competitive market forces at one extreme and institutional pressures at the other. Therefore organisations that operate within competitive markets are forced into looking for technical solutions to problems and the emphasis is very much on efficiency improvements. In contrast Scott and Meyer (1991) define institutional organisations as those where there are rules and requirements that must be adhered to if they are to be considered legitimate and given the necessary levels of support within their own environment. These institutional pressures will be in the ascendancy when the competitive pressures are restricted and this is the case where there are barriers to entry into an industry, or in non-profit organisations, or in publicly owned organisations. This may well explain the preponderance of institutional research into public or non-profit organisations as they are not under the same level of market forces. Hinings and Greenwood (1988) suggest that public and privately owned organisations operate under different "institutionally legitimate definitions of efficiency and effectiveness" (p.56). Therefore there are differences in ownership, but also differences in performance expectations and measurement. Private sector companies are monitored almost completely against economic criteria and comparatively non-profit organisations have greater flexibility in defining performance. This is another reason why institutional theory is relevant to the transformation of the electricity industry from public to private ownership.

Not all institutional theorists see competitive and institutional pressures as mutually exclusive and therefore organisations can and are subject to both institutional and competitive pressures[28]. Scott and Meyer (1991) are actually very specific about the possibility of organisations being subject to both technical and institutional pressures, as the following quote demonstrates:

[28] Meyer and Rowan also appear to recognise this later in their 1991 paper as they discuss the conflict between institutional and competitive pressures.

> "Organizations such as utilities, airline companies, and banks are viewed as subject to highly developed technical *and* institutional pressures. They face both efficiency / effectiveness demands as well as pressures to conform to procedural requirements. As a result, we would expect their administrative structures to be larger and more complex than those of organizations facing less complex environments. In general, organizations of this type carry out tasks that combine complex technical requirements with a strong "public good" component" p123

Where technical and institutional pressures are both evident there is a conflict and the organisation needs to manage this if it is to survive. Institutional theory suggests that one way in which this is possible is to de-couple, or loosely couple, the different components of their activities. It is argued that where organisations are not operating in competitive markets, but are facing institutional pressures, they can de-couple their activities by setting poorly defined broad goals and attempt to avoid evaluation on efficiency criteria. The lack of competition enables the organisation to not optimise its performance on technical criteria and it is more important that they are seen to conform to the institutional pressures. If this is successfully achieved the organisation can be seen to be legitimate. Obviously in the electricity industry the companies have been protected, to some extent, from competition through government regulation, but as mentioned above they are still facing technical pressures for efficiency. This, therefore, makes it more difficult to completely de-couple the operations, and measures of efficiency and effectiveness are certainly made in annual reports and in the measures considered by the regulator. There was, however, a clear example of a lack of integration between different constituents evidenced in Chapter 5, and this suggests that there is some degree of loose coupling being utilised. Such devices are used to provide a buffer around different operations to protect them from the technical and competitive forces.

In conclusion institutional and neo-institutional theorists are sceptical that organisations are truly efficient and further that all organisations are institutionalised to some degree. DiMaggio and Powell (1991) suggest that this must be the case given that the rate of "environmental change frequently outpace the rates of organizational adaptation" (p.33). This implies that inefficient organisations survive and they argue can continue to do so over relatively long periods of time. The survival of such organisations is largely thanks to the institutionalisation of organisations generally. We have also seen that

institutionalisation is believed to reduce uncertainty by restricting the strategic choices open to the institutional actors. Interestingly, this is an area of the theory for which there appears little empirical evidence. Instead the majority of empirical study has concentrated upon organisational form and the degree and causes of isomorphism. A significant exception is the study and framework designed by Oliver (1991). This framework incorporates resource dependency theory and therefore we shall very briefly outline the central tenets of this theory before discussing the framework in more detail.

8.3 Resource Dependency Theory

In resource dependency theory there is a focal organisation with which other organisations interact and undertake transactions. From this alone there is already a strong resonance with the idea of stakeholders as defined and discussed in earlier chapters. This theory suggests that the focal organisation is structured and managed in such a way so as to ensure that the resources essential to its activities are forthcoming (Pfeffer and Salancik, 1978). Further, the more important a resource is, or in other words the more dependent the focal organisation is on a resource provided by another organisation, the more the relationship will require careful management. As the resource becomes more important so the focal organisation becomes more dependent on that provider. Obviously the scarcity of the resource and the lack of alternative supplies increases the dependence on an individual supplier. If alternative sources can be identified so the level of dependence falls and this was tested empirically and supporting evidence found by Pfeffer and Leong (1977). Crucial to this theory is the concept that the need for the resource results in a power relationship. According to Emerson (1962), the power of actor A over actor B was equal to the dependence of B upon A.

In resource dependency theory the focal organisation will have its choice of actions restricted by the external pressures from organisations upon which it is dependent. Therefore the focal organisation will need to take into account and respond to these external demands if it is to continue to operate and hence survive (Pfeffer and Salancik, 1978). The fact that the focal organisation has multiple relationships with external

organisations of varying dependence means that it needs to manage the conflicting interests (Pfeffer, 1982). As this is the case, central to resource dependency theory is the management of these conflicts and, more proactively, attempts are made to manipulate the external environment of critical resources (Thompson, 1967). Empirical research premised on resource dependency theory has considered the effect these power relations have on administrative structure (Tolbert, 1985) and is therefore interested in similar research questions to those considered by institutional theory. The ability to manipulate the external environment, however, is seen as a way to reduce uncertainty and provide stability and survival into the future. In effect this management of the external environment in resource dependency theory is a significant departure point from institutional theory (Pfeffer, 1982).

8.4 Combining the theories

There are both similarities and differences between institutional and resource dependency theories. It is the emphasis that is different - instead of resource streams, information flows and influence relations, institutional theory proposes cultural and historical factors and their sources as crucial (Scott, 1987). These factors result in rules and practices that Scott suggests are "important types of resources and that those who can shape them possess a valuable form of power" (p. 508). This suggests that institutional theory could be added to resource dependency theory as it simply identifies another resource, which can be added to the more normal tangible resources considered.

As these theories both consider organisational structure, but do so from different standpoints, it is perhaps not surprising that the two approaches have been combined in some instances. Tolbert (1985) argues that:

> "By combining resource dependence and institutionalization perspectives, a much fuller explanation of the process of administrative differentiation was provided than could have been by either perspective independently.
>
> "Organizational phenomena are much too complex to be described adequately by any single theoretical approach." (p.12)

This combination of the approaches is intuitively appealing to me as it combines the consideration of power with the acknowledgement of institutional pressures. The management of key resources[29] and attempts to manipulate their importance were apparent in the interviews undertaken in this research. At the same time the newly privatised companies clearly copied organisational structures from other private sector companies as they attempted to distinguish themselves from their public sector history. These issues are to be considered in more detail in the coming sections. Firstly, though, it is important to clarify that the purpose of this chapter is not to consider organisational structure per se, but to consider the "strategic response" of the companies over the period from privatisation to 31 March 1997. Oliver (1991) notes that the empirical research into institutional theory has concentrated upon institutional processes, organisational structures and organisational change and has relatively neglected strategic responses to its institutional environment. In order to address this omission Oliver developed a framework that draws on both institutional and resource dependency theories to consider "Strategic Responses to Institutional Processes". This framework has subsequently been used in the management accounting literature to consider the design of performance measurement systems (Modell, 2001). It is to this framework that we now turn.

8.5 Oliver's typology

Firstly Oliver (1991) provides a comparison of resource dependency and institution theories. She summarises this into the following table:

[29] This was considered as stakeholder management in Chapter 5.

Table 8.2: Comparison of Institutional and Resource Dependence Perspectives

		Divergent foci	
Explanatory Factor	**Convergent Assumptions**	**Institutional Perspective**	**Resource Dependence Perspective**
Context of Organisational Behaviour	Organisational choice is constrained by multiple external pressures	Institutional environment Non-choice behaviour	Task environment Active choice behaviour
	Organisational environments are collective and interconnected	Conforming to collective norms and beliefs Invisible pressures	Coping with interdependencies Visible pressures
	Organisational survival depends on responsiveness to external demands and expectations	Isomorphism Adherence to rules and norms	Adaptation Management of scarce resources
Motives of Organisational Behaviour	Organisations seek stability and predictability	Organisational persistence Habit and convention	Reduction of uncertainty Power and influence
	Organisations seek legitimacy	Social worthiness Conformity to external criteria	Resource mobilisation Control of external criteria
	Organisations are interest driven	Interests institutionally defined Compliance self-serving	Interests political and calculative Non-compliance self-serving

Source: Oliver (1991, p.147)

This provides a useful starting point and hopefully confirms much of the discussion from earlier in this chapter. The next development is to consider what strategic responses are open to the actors within organisations. If we consider the very first difference noted by Oliver, it is that there is a difference in the degree of choice of behaviour dependent upon which theory, or perspective as Oliver terms them, is adopted. In fact it is this difference that is a key distinction and seen from another perspective can suggest alternative responses. The response chosen will depend upon the exact pressures being exerted and as such will specifically be influenced by the degree of institutional pressures. On the occasions where institutional pressures are high the response is extremely limited to what habit and convention suggest are socially acceptable. In contrast where institutional

pressures are low then the choices open to the organisation are greater and will revolve around the specific management of the conflicting visible external pressures.

Oliver provided a more detailed breakdown of the different potential responses depending upon the environment faced by the organisation. The more institutional pressures faced the more likely the organisation is to respond to these pressures through the habitual adoption of techniques that have worked in the past, the copying of techniques that have worked for other organisations, or compliance with the rules and norms of the environment. This was termed acquiescence and is at the institutional extreme. As the institutional pressures are high so the response is very much an institutional theory one. So we see ritual, isomorphism and obedience to rules and norms that are straight from the realms of institutional theory. In this case the institutional pressures are dominant and so the appropriate strategic response is to reduce uncertainty by following and copying institutionalised routines. This strategy should, according to institutional theory, legitimate the organisation's activities and hence ensure its survival.

The second possible strategic response was labelled compromise by Oliver. This begins to recognise the conflicts that are apparent in organisations. The different constituents, or stakeholders, have different needs and demands and these need some form of management or strategic response. At this level of strategic response the emphasis is on balancing, placating and negotiating with the different "institutional stakeholders". This response still encompasses and accepts a great deal of institutional pressure, but there is some degree to which the organisation takes a more active role in attempting to promote their own interests.

Thirdly, the organisation can attempt to avoid conforming and where this is done it must be concealed. Therefore to the external constituents it appears that the organisation is conforming to the institutional pressures, whereas in reality it is not. The tactics employed here are akin to the loose coupling and de-coupling discussed earlier under institutional theory. Another tactic suggested by Oliver is escape and this actually entails leaving the arena where the institutional pressure is being exerted. Therefore

organisations can relocate either geographically or in terms of the activities undertaken in order to escape stringent institutional pressures.

Defiance is the fourth strategic response. As with avoidance, the institutional pressures are resisted, but this is done openly. Therefore this would suggest institutional norms are simply ignored and this is not concealed. Going even further, or being even more active, the actual institutional rules can be contested or 'assaulted' such that their efficacy is questioned. Given the implication that institutional pressures and rules can lead to inefficiencies, this is one way in which the institution itself can be attacked.

Finally the most active strategic response is to actually manipulate the environment within which the organisation operates. This can be done by co-opting the source of the pressure, influencing the shaping of the values and criteria, and controlling or dominating the actual institutional stakeholders and processes. This is the most extreme form of proactive management of the environment and institutions. Therefore it is still within the realm of institutional theory, but it is looking at institutionalisation as a process and is attempting to influence this process. As noted earlier, this process, unlike institutionalisation as an outcome, is seen to be extremely political and is therefore dependent on the interests and power of the organisations that attempt to influence the process.

The different strategic responses can also be contrasted in terms of resource dependency theory. To acquiesce suggests that there is only institutional pressure and further that the conflicts between the different resources is insignificant. All of the other responses are alike in that they recognise the conflict, but differ in the extent to which they are the more dependent or the more powerful in the given relationship. As we move towards defiance and manipulation it can be seen that the power of the focal organisation is sufficient for it to be setting the agenda, and not being dictated to in the same way.

If we accept these strategic responses it is next important to consider what factors enable different organisations to enact different strategic responses. Therefore, what particular

environmental, historical, social or legal factors result in the adoption of a specific strategic response? To this end Oliver identified five institutional factors, each consisting of two predictive dimensions. It is hypothesised that depending on the influence of these predictive dimensions an organisation will adopt a given strategic response. The two tables below are taken from Oliver (1991, p.160).

Table 8.3: Oliver's Antecedents of Strategic Responses

Institutional Factor	Research Question	Predictive Dimensions
Cause	Why is the organisation being pressured to conform to institutional rules or expectations?	Legitimacy of social fitness Efficiency or economic fitness
Constituents	Who is exerting institutional pressures on the organisation?	Multiplicity of constituent demands Dependence on institutional constituents
Content	To what norms or requirements is the organisation being pressured to conform?	Consistency with organisational goals Discretionary constraints imposed on the organisation
Control	How or by what means are the institutional pressures being exerted?	Legal coercion or enforcement Voluntary diffusion of norms
Context	What is the environmental context within which institutional pressures are being exerted?	Environmental uncertainty Environmental interconnectedness

Table 8.4: Oliver's Institutional Antecedents and Predicted Strategic Responses

Predictive Factor	Strategic Responses				
	Acquiesce	Compromise	Avoid	Defy	Manipulate
Cause					
Legitimacy	High	Low	Low	Low	Low
Efficiency	High	Low	Low	Low	Low
Constituents					
Multiplicity	Low	High	High	High	High
Dependence	High	High	Moderate	Low	Low
Content					
Consistency	High	Moderate	Moderate	Low	Low
Constraint	Low	Moderate	High	High	High
Control					
Coercion	High	Moderate	Moderate	Low	Low
Diffusion	High	High	Moderate	Low	Low
Context					
Uncertainty	High	High	High	Low	Low
Interconnectedness	High	High	Moderate	Low	Low

In the next section we shall examine each of these five factors and responses in turn to see whether this adequately explains the performance of the electricity industry since privatisation.

8.6 The Electricity industry in England and Wales (1991-1997)

The privatisation of this industry saw a dramatic change in its institutional environment as it was transferred from the engineering driven public sector to the financially driven private sector. Therefore we see that the two "great rationalizers of the twentieth century" that create a lot of institutional pressures have both gone through a dramatic change with reference to this industry. The Conservative governments from 1979 onwards were clearly following a privatisation programme that was predicated on the efficiency of the private sector. The efficiency of the private, as opposed to the public, sector was the key argument for privatisation and the regulatory regime was also selected for its emphasis on efficiency. As part of this process the old public sector industry was characterised as inefficient and over-manned and therefore not socially legitimate. Viewed from this more institutional perspective the changes in the performance of the industry start to become more transparent. In actuality it is the government that is the primary institutional factor and this has been recognised by the privatised companies. Despite the transfer of the organisations from the public sector it is still the government that has the greatest power over the future of these organisations. We shall now look at this in more detail by first considering each of the predictive factors in terms of the companies' relationship with the government and then with each of the stakeholders identified.

8.6.1 The government

On privatisation the companies were to act under conditions as set out in the Electricity Act and they were to be subject to price-cap regulation as initially set by the government, but to be the responsibility of the regulator (OFFER) from that time onwards. At the time of this privatisation the government had already privatised the telecommunications, gas and water industries and the rationale in terms of economic efficiency was well tried and

the government had been re-elected subsequent to the privatisations of these other utility industries. Therefore it appears quite clear through the selection of the regulatory regime and the rhetoric of the time that there was a great deal of pressure towards economic efficiency. In addition, due to the election of the government under its free market, relatively right wing, policies, it can be argued that this was also seen as the socially legitimate way to run the industry. This is not so clear cut and the debate of the time and subsequently have shown that there were many dissenting voices that felt that this was not socially legitimate. Given that this legislation was accepted through parliament and that the government was elected when its desire to privatise the industry was known it would appear that the privatisation was considered to be legitimate by the electorate. Therefore the cause of the institutional pressures on the newly privatised companies was for both economic efficiency and for social legitimacy. As this is the case Oliver (1991) suggests that the strategic response of the companies should be to acquiesce (see Table 8.4).

These privatised companies are obviously operating in a complex environment and are faced therefore with conflicting demands. What was interesting to note, however, was that all of the privatised companies visited recognised the government and the regulator as key constituents in their activities (see Chapter 5). The government both directly and indirectly through the regulator have resources upon which the companies are dependent. The government has the power and authority to enact new legislation that can have a significant impact on the companies' activities and the regulator can also redefine the environment within which the companies operate. For example the periodic price reviews, the climate change levy, the introduction of the New Electricity Trading Agreement to replace the Pool, the importance of fuel poverty, and the need to meet renewable energy targets by the year 2010. This is a clear demonstration of the dependence that the companies have on these institutions. Therefore given this high level of dependence we would again be led to believe that the companies must acquiesce to the pressures from the government and the regulator.

The key institutional pressure is for the companies to be economically efficient, although the other areas of interest noted above are also important. In terms of economic efficiency, there is great synergy between this and the desire to create value for shareholders. In recent time there has been a shift in institutional pressures on publicly listed companies to adopt explicitly shareholder value approaches to management[30]. Therefore, as publicly listed companies, the electricity companies are also under pressure to manage for shareholders. The management of the companies have accepted this goal readily as it is consistent with their own desires. Especially as their own remuneration has in many cases been linked to this goal of economic efficiency. Oliver suggests that where there is consistency between the aims of the institutional pressure and the aims of the organisation then we expect the level of acquiescence to be high.

Moving on to consider control as a predictive factor we see that, as the government initiated this change and has enacted legislation and regulation, there is clearly a coercive nature to the institutional pressures. With a high degree of legal coercion there is unlikely to be resistance and again the companies would be expected to acquiesce.

Finally we come to context as a predictive factor. Arguably the biggest uncertainties facing the companies throughout this period were the outcomes of the periodic price reviews and the introduction of competition into the market. These uncertainties are specifically dependent upon the government and the regulator and again this would tend to suggest that acquiescence is the appropriate strategic response. Also the environment in which these companies operate is interrelated, as contrasted with highly fragmented or purely competitive environments and this again points toward acquiescence.

To conclude under each of the five predictive factors the companies are likely to acquiesce to the institutional pressures of the government and the regulator. This suggests that the government is the dominant force in this industry and that institutional pressures are still high despite privatisation. This would tend to suggest that in this way the industry

[30] See Cooper, Crowther, Davies and Davis (2001) for research into reasons for adopting shareholder value approaches to management.

is still more like a public sector, highly institutionalised organisation, than its private sector counterparts. Another distinction commonly made in the institutional literature is that between the competitive and institutional environments, and in the period considered there was minimal true competition between the companies. This again suggests that it is not surprising to find that institutional pressures are indeed in the ascendancy.

This section suggests that the institutional pressure of the government and the regulator was high and this forces the companies to acquiesce to their demands. This has been discussed in general, but we now turn our attention as to how this has affected the specific stakeholders. Therefore we shall now consider whether the institutional pressures, primarily through governmental and regulatory actions, can explain how the different stakeholders have fared over the period. The table in the introduction to this chapter summarises how each of the stakeholder groups has fared since privatisation. The following sections look at the predictive factors most relevant to each stakeholder group in order to attempt to highlight whether these adequately explain this performance.

8.6.2 The shareholders

Obviously a key feature of the privatisation programme was to create a new stakeholder group in the form of shareholders. The legitimacy of this stakeholder group is high in modern capitalist societies such as the UK. They have a legitimate claim as they are the owners of the organisation and they are taking a risk by investing in these organisations. Therefore legislation in the UK is such that the directors of these companies have a fiduciary duty to manage the company with regard to the requirements of the shareholders[31]. The legitimacy of this group would, therefore, suggest that the company must acquiesce to their needs. This is also consistent with the general aims of private sector companies. The Conservative government was very much attracted to the idea of popular capitalism. A key component of this was to encourage more individuals to hold investments in companies. The privatisation of utilities was deliberately designed such

[31] These duties and the primacy given to shareholders remain the same despite a recent parliamentary review (see DTI 2000a).

that levels of shares available to individuals and institutions were restricted to ensure a high number of shareholders. This desire can be argued to lead to a governmental desire to see good returns to shareholders on two different levels. Firstly, if these individuals are to be encouraged to invest more in the stock market then it is essential that their first experience with such investment is a happy one. This is to say that these individuals are less likely to invest again if they do not benefit from good returns from their investments. At a second level the success is important as popular capitalism was one of the cornerstones of the Conservative government's electoral success and so a failure, i.e. a great number of people losing money on a privatisation, could have severely disadvantaged the Conservative party in future elections. This is to say that a great number of voters getting a large windfall in terms of capital gains in shares could only be positive at the time of the next election. McAllister and Studlar (1989) conclude that the selling of shares to the public increased the Conservative vote, in the 1987 election, by 1.6%.

Each of the above arguments would appear to suggest that the companies are likely to acquiesce to the needs of shareholders. However they are only one of a multiplicity of constituents and the power of any single shareholder could be seen to be relatively low. More broadly speaking it is the capital market as a whole that is extremely powerful. It is argued that a failure to provide appropriate returns to shareholders will result in the sale of shares, a devaluing of the share price, and the company becoming a take-over target. Until the government sold its golden share in 1995 there was no such threat of take-over. This would appear to suggest that the actual dependence of the companies on shareholders was actually quite low up until 1995. After the government's sale of its golden share this all changed and in fact the ten of the twelve RECs were purchased before 31 March 1997. This was an important time in the history of the industry and there was much debate concerning the efficacy of these acquisitions many by non-UK companies. At this time the government, through legislation or the workings of the Monopolies and Mergers Commission, had the opportunity to prevent these acquisitions. Instead they were allowed to go ahead[32] and again there were great benefits to the

[32] It was only the attempted take-overs by the generating companies that were not allowed to proceed.

shareholders at that time. As we saw in Chapter 7, the returns to shareholders leading up to the take-overs were very high. This represented another windfall to the followers of popular capitalism, although it must be noted that many of them had sold their shares long before this point in time. The new owners, larger companies, many controlled outside the UK, can be argued to be less obviously important to the government. Certainly in terms of voting they have no direct say in elections and so it could be suggested that there would be less institutional pressures from the government to provide returns to these companies.

Overall the key point appears to be that the shareholder is seen as a socially legitimate stakeholder entitled to benefit from the risk of their investment. Further, this is supported be the government who had a vested interest in good returns being provided to shareholders. In addition, Carter and Crowther (1999) provide evidence that there was also a change in institutional pressure from professionals. They argue that prior to privatisation the engineering profession was dominant, but this changed to a financial / accounting dominance. As mentioned earlier, professionalisation is a great source of institutional power. The success of the accounting / financial profession in gaining this position of ascendancy also favours shareholders. Certainly traditional finance and accounting clearly privilege the shareholder over all other stakeholders, so this further suggests that the appropriate strategic response is to acquiesce to the needs of shareholders.

8.6.3 Employees

The rights of employees and their collective associations, the unions, were very much in decline through the 1980s. When elected Margaret Thatcher had a clear goal to reduce the power of trade unions as is evidenced by the following passages from Margaret Thatcher's (Thatcher, 1993) memoirs:

> "We also had to deal with the problem of trade union power, made worse by successive Labour governments and exploited by the communists and militants who had risen to key positions within the trade union movement – positions which they ruthlessly exploited in the callous strikes of the winter of 1978-9." (pp. 97-98)

The Conservative administration of that time made a clear statement of its opinion of Unions with the steel strike of 1980 and the coal miners' strike of 1984-85, which it resisted at all costs.

> "Yet the coal strike was always about far more than uneconomic pits. It was a political strike. And so its outcome had a significance far beyond the economic sphere. From 1972 to 1985 the conventional wisdom was that Britain could only be governed with the consent of the trade unions. No government could really resist, still less defeat, a major strike; in particular a strike by the miners' union. Even as we were reforming trade union law and overcoming lesser disputes, such as the steel strike, many on the left and outside it continued to believe that the miners had the ultimate veto and would one day use it. That day had now come and gone. Our determination to resist a strike emboldened the ordinary trade unionist to defy the militants. What the strike's defeat established was that Britain could not be made ungovernable by the Fascist Left. Marxists wanted to defy the law of the land in order to defy the law of economics. They failed, and in doing so demonstrated just how mutually dependent the free economy and a free society really are. It is a lesson no one should forget." (pp.377-8)

There was a clear message that the labour market needed to be more efficient and that this would be the best support for employees generally. At the same time it was made abundantly clear that publicly owned utilities were inefficient and over-manned. This effectively sent out an extremely strong message to the organisations that they had a responsibility to reduce employment levels. It is also argued that another motive for privatisation is the inability to reduce the power of trade unions from within the public sector. Therefore a transfer of ownership to a fragmented private sector also fragments the power of the Unions. Also, as discussed above, the primacy of profit over employee has been clear within the private sector, and this is as well institutionalised as any rule in modern societies. This is even made clear in the literature of the Nineteenth Century in France, where Zola (1885) writes:

> "Is it right, whenever a crisis comes, to let the workers die of starvation so as to keep the shareholders' dividend intact? However you put it, sir, the new system is a disguised wage-cut, and that is what we are up against, for if the Company must economize, it is quite wrong for it to be doing so wholly at the workers' expense."
>
> (1954 ed., pp.215-216)

In terms of the predictive factors, we can see that the social legitimacy of trade unions and at a different level the rights of employees were being questioned. In addition it was the behaviour of employees that was blamed for economic inefficiency. The nature of the

regulation was specifically to target efficiency, but the implied definition of efficiency is to reduce costs and as employee costs is one of the largest costs this also applies a significant institutional pressure to reduce employment. Individual employees had little power and as a combination their power was being reduced and undermined by the government. This shows that there was an inconsistency between the stated aims of the organisations and the needs of employees. Due to the governmental stance on Unions and the labour market there was certainly no coercion to defend employee rights, and overall it is clear that the appropriate strategic response is to defy or manipulate the employee group. There are limits to how far this could go because there is still employment law, in terms of health and safety and working conditions, and there is some protection from the labour market[33], but overall the companies were in a position to defy employees on many matters. As some employees are still required it is necessary that these are appeased and so the remaining employees have been paid relatively well.

8.6.4 Consumers

If we consider the relationship between the consumer and the company it is clear that at this time the power was with the companies. Due to the lack of competition the consumers, with the exception of the largest customers towards the end of the period under review, had no choice as to who provided their electricity. Also, as argued earlier, there is no realistic alternative to or substitute for electricity in modern society and so they are heavily dependent on the Electricity Company. This would suggest that the companies could defy or manipulate these customers, but this was recognised by the government at the time of privatisation. Customers were supposed to win as part of the privatisation deal and at the same time it was clear they needed protection. Therefore within the duties of the regulator it is clearly stated that the consumer must be protected in terms of price charged and continuity of supply. The very nature of the regulation was also focused upon the price to consumers. The priority given to consumers, however, was made clear in the duties of the regulator, where they were specifically considered

[33] The exact level of protection afforded by the labour market is a moot point, but it is certainly not perfect.

secondary as opposed to the primary duty to be able to finance activities (McGowan, 1993).

The needs of customers were certainly considered legitimate and the design of the regulatory regime was specifically to target prices to the customers and economic efficiency. The regulator is certainly a strong source of institutional pressure on behalf of the consumer. There is coercive pressure for the companies to appease the regulator, but no institutional or competitive reasons for them to go beyond this. Therefore the real gains or losses to the consumer in terms of prices over the period are clearly mandated by the regulator. Even more interesting is that the price-cap is negotiated and as such the companies have the opportunity to influence the level at which it is set. This is truly where the companies can try to manipulate the outcomes. The more stringent the price-cap the harder it will be to keep shareholders happy and also there is great uncertainty as to the exact scope for cost cutting that leaves the process open to manipulation. The leniency of the initial price-cap can be considered to be a success story for the organisations' ability to manipulate the process. The government had clearly stated its intention to privatise the industry and this placed it in a relatively weak position. It did not want to be seen to fail on one of its promises. Therefore the major obstacles to the privatisation needed to be appeased and obviously the organisations were one such obstacle. An easier price-cap was also consistent with a successful sale and the uncertainty surrounding future performance suggests that in this instance the government acquiesced to the organisations' demands. This I feel is a key instance where the organisations were able to use significant pressure to manipulate the environment in which it was to operate for the next five years. At the time of the regulator's price-cap reviews it had become apparent from the gains made by the companies that the price-cap had been too lenient. The organisations, however, again had an input into the review process and they strongly fought for a relatively lenient setting again. Again, the uncertainty concerning the future actually makes the regulator's, as the decision-maker, task more difficult. They were faced with multiple pressures with employee groups, the organisations and shareholders wanting a lenient price-cap and the consumers requiring more stringent cuts. In addition the companies were the providers of the key financial

information as to their performance over the previous period. Again at this point in the process there is a strong incentive for the companies to "game" the system - to try and suggest that returns are not good and that future returns or efficiency gains will be hard to come by. An interesting case is the 1995 review of electricity distribution in England and Wales. It was considered necessary to introduce a one-off price reduction of 11%, 14% or 17% for each of the RECs. This was as well as a tightening of X, which was in line with those seen in the earlier reviews (from X = -1.3% on average to X = 2%). However, this was not the end of the story as this review was reconsidered by OFFER one year later. Therefore, one year after being told to cut distribution charges by at least 11%, the RECs were told to make a further 10%, 11% or 13% reduction. This was deemed necessary as within this year the regulator had noted further evidence regarding the financial strength of the RECs. This suggests that in the original process the financial information provided to the regulator underestimated the financial strength of the companies. In fact it was the Trafalgar House bid for Northern Electric, a market mechanism, that warned the regulator as to the true strength of the companies. This would appear to suggest that the companies again successfully manipulated the regulatory process to provide a lenient price-cap. This would certainly appear to be an area where the companies themselves were able to follow a far from acquiescent approach and this was to the detriment of the consumers, who in total benefited very little from privatisation.

The quality of supply and service is more difficult as there are standards in place to guarantee performance, but the penalties attached are certainly not at a level that makes any failure unthinkable. In fact companies have failed against standards throughout the period. A real quality of supply would involve employees and investment, and this is inconsistent with the shareholder aims discussed above. What is interesting here is that a strategic response actually stated by one of the companies interviewed was a desire to be "average". This strategy was based on the belief that exceptional behaviour, either good or bad, would simply result in more attention from the regulator, i.e. more institutional pressure, and therefore a strategy of avoidance has been adopted.

Overall the companies have acquiesced to the governmental / regulatory coercion to follow the price-cap formula, but have done little else. The defining moment for this group is the periodic review by the regulator. At this stage the companies have certainly attempted to manipulate the process. In addition the companies have attempted to avoid further interference from the regulator by following a strategy of mediocrity.

8.6.5 The Suppliers

If we start with suppliers generally we see a philosophy towards contracting out and cost cutting in the public sector[34]. Therefore suppliers generally were given little attention and their needs were left to the market for redress. The demands for economic efficiency are inconsistent with building trusting relations with suppliers, instead it is price that first and foremost is the decision criterion. In addition due to their size and purchasing power, the electricity companies are, in almost all cases, more powerful than the suppliers. The suppliers will tend to be more dependent upon the electricity companies than vice versa. There are also a large number of potential suppliers with whom the companies can choose to transact. All of these features point towards an ability to defy or manipulate their relationships with their suppliers. Therefore it is not surprising that suppliers in general have not fared well in the analysis performed.

If we consider the specific suppliers of the primary fuel to the industry we see another interesting institutional environment. The ability of a fuel to be used in generating electricity depends upon its generating capacity and the criteria by which the pool, as it was at this time, chooses which generators should be used. This decision is primarily of importance to the generators and the industries supplying the primary fuel as opposed to the National Grid or the distribution and supply companies. In this period of time the big change noted is the increased use of gas over coal and this was dependent upon a political decision to allow extra gas-fired generating capacity to be built. This decision has been justified on marginal cost grounds, but according to the coal industry if the full cost is

[34] It was only later with the election of the Labour government that new public management and best value became the philosophy.

considered then these facilities were actually more expensive than the idle coal generating capacity that they replaced. In addition gas fired generation can claim to be greener and cleaner than its coal counterpart and this consistency of objectives will be revisited below. The coal industry clearly feels that the process was manipulated by the gas industry that, it claims, had more resources at its disposal to manipulate the decision making process. In contrast the Conservative government had clearly shown its disapproval for the coal industry and its powerful trade union, through its resistance to the earlier coal miners' strike. This battle, eventually lost by the coal industry, really questioned the legitimacy of the coal industry on economic efficiency grounds and hence paved the way for its lack of influence later. The ability of the gas industry to influence the political decision to allow the "dash for gas" demonstrates their greater power than that of the coal industry, who in contrast had to silently acquiesce to a smaller and smaller proportion of generation capacity.

8.6.6 The environment

The environment has seen reductions in the emissions of harmful gases that suggest that it has gained over the period. As with consumers the key to understanding this performance lies with the political interventions in the industry. The government has identified the area of climate change as an area of concern and therefore it must be considered. It is the government's decision to enable the dash-for-gas, as discussed in the previous section, which has contributed most significantly to the reductions reported. Therefore it is again very much the political process that has resulted in that decision. It is not really the electricity companies that are the focus of this decision, rather it is environmentalists and the primary fuel industries. The setting of targets for reduction is a negotiated process and also very much involves International opinion. This point was clearly made by the representative of the government, who suggested that the influences of the EU and the Kyoto agreement are crucial to the government's stance on the environment. As discussed in the previous chapter, there is agreement that something needs to be done, but the disagreement is as to what level of action is required. In these terms the influence of the gas industry again appears to have had a great deal of success,

rather more so than the environmental lobby. The targets set by Friends of the Earth are of a completely different magnitude to those presently targeted by the government. The Environmental groups are opposed to the use of gas as the primary source of electricity and would rather see renewable fuels being used, but again only very marginal advances have been made in this respect. Also the inclusion of a nuclear element is an interesting problem, as public opinion appears to be against any further reliance on or building of nuclear reactors. In this case the environmental cause appears to be more successful, although this may well be primarily due to events at Chernobyl.

From the companies' point of view there is a need to acquiesce to the government's legislation, but again little else has been done. The savings made have, to paraphrase one city analyst, been a happy by-product of the dash-for-gas, which was undertaken primarily for different reasons as discussed above.

8.7 Conclusions

This Chapter introduced institutional and resource dependency theory and attempted to use them to explain the performance of the electricity industry. The insights are telling and appear to further illuminate the findings through consideration of the factors that can predict the strategic response of the organisations. This Chapter has demonstrated that in many ways the electricity companies are simply acquiescent to the demands of the government and its regulator. It is important to reiterate the importance of the government, the regulator and the political, and negotiated, process that has significant impacts upon how the different stakeholders fare. During this period of time the companies were not subject to true competition, although the RECs were compared under yardstick competition, and therefore the institutional pressures were still dominant. The importance of the government to this supposedly private sector industry is overwhelming and is therefore the primary cause of companies' strategic responses. In many ways it is the government's view of the importance of a stakeholder group that defines how that group will fare under the treatment of the companies. The coercive pressure of legislation enforces the companies to behave in a certain way.

Finally, there are interesting examples of the companies attempting to manipulate, with some success, these political processes. There is also some evidence of avoidance as a strategic response, through attempts to be average and through a strategy of diversification, thus reducing the regulated element of the business. In terms of the environment, the electricity companies again appear happy to acquiesce to the demands of the government, and it is really the primary fuel sector, which should be the focus here. The comparative success of the gas industry certainly becomes clearer and relates to the fact that this industry has greater resources and was able to manipulate the political process.

One source of power, or one resource, is information and this is one reason why social accounting is important, as it provides information to different stakeholder groups within society. Therefore one way of empowering a stakeholder group is to provide them with information from which informed decisions can be made. A social account, or corporate social report, could provide such valuable information. Over the last ten years there has been a marked increase in environmental reporting, but the vast majority of organisations have resisted the call for social accounts on the grounds of cost and the lack of appropriate standards. The next Chapter explores recent developments in Internet reporting and Social accounting standards to consider what impact these may have on the future viability of greater social reporting.

Chapter 9: Recent developments: The Internet and Social Accounting Standards

9.1 Introduction

One source of power is information and it is interesting to note that the less powerful stakeholders also appear to receive less information. Therefore one step forward towards redressing the power imbalance is to make companies more formally accountable for their actions. This could be done through a modern day corporate report and could incorporate a specific stakeholder framework. There are two immediate problems with this suggestion to increase social or stakeholder reporting by companies. The first is that this would greatly increase the work required by organisations to report to these stakeholders. Certainly in the past the issue of costs of disseminating such information has been seen as a deterrent, although not for shareholders. It is therefore considered here that this would only be appropriate for the very largest of organisations, which are effectively those with the most power. Also there is now a new medium for reporting information, the Internet, which raises possibilities and reduces costs, both economically and environmentally, in terms of trees, that was inconceivable at the time The Corporate Report was produced by the ASSC (1975). Therefore the next section considers the Internet as a reporting tool with specific reference to the use already made of it by companies participating in the electricity industry in England and Wales. Finally, much non-financial reporting is voluntary and therefore at present there is great scope for different organisations to report different information and to use different definitions in so doing. This is not a new problem, as financial accountants have faced the same problem for a considerable time. The response of the financial accountants has been to issue more and more standards, which include more and more strict definitions of terms, in an attempt to reduce uncertainty and ambiguity as much as possible. Again the success or failure of this process is a PhD topic in its own right. What is interesting to note, however, is that there have been three social accounting standards, or initiatives, produced recently that UK companies could voluntarily adopt. Therefore the Section 9.3 considers the appropriateness and usefulness of these standards.

9.2 The Internet as a medium for social accounting

This section firstly considers the actual use made of the Internet by the electricity companies operating in the UK. This analysis was performed at a later date than the period discussed earlier in the research. This analysis was initiated towards the end of 2000 when the actual industry had changed markedly from that at 31 March 1997. The following table details the number of companies operating in each part of the industry at this time.

Table 9.1: The electricity industry in the UK in the year 2000

Generators in England and Wales (DTI)	7 companies accounting for approximately 80% of total in Winter 1999/2000 plus approximately 25 smaller companies
Transmission in England and Wales	1 company, the National Grid
Distribution networks in England and Wales at 31 August 2000 (DTI)	8 now owned by non-UK companies 2 now owned by the Scottish Electricity companies 1 owned by a UK generator 1 has been merged to form a multi-utility
Suppliers in England and Wales (OFGEM)	29 Business Electricity Suppliers, 18 of whom also supply Domestic Electricity
Scotland (DTI)	2 vertically integrated companies 1 other generation company Some "other suppliers" the majority of which also supply in England and Wales

As a result of the mergers and take-overs in the industry there are now many groups of companies that offer vertically integrated electricity companies, and some that own more than one supply company. The analysis here will be based on 35 groups of companies, and this covers all of the industry except some of the smallest generators. As a first step it is necessary to see which of these 35 companies have Internet sites. The websites visited are provided as Appendix 6. All of the companies contacted either had a website or one was "under construction". In the three cases where the website was under construction there was a web address and a holding page in place, and some contact details were provided. Two of these companies are small independent supply companies and the third a small generator. The lack of a website is probably a resource issue, either in terms of

time or money, as it is certainly the case that all of the larger companies had websites. In addition there were three companies generating in the UK that are subsidiaries of larger US groups of companies. In each of these cases there were no separate websites specifically relating to the UK activities, although one did list the UK generating capacity, and therefore the information was subsumed within much larger group information. There appears a difference here with the supply and distribution companies owned by non-UK interests, as there were separate websites for these companies. This is an interesting difference and it may well be that the fact that the generators are further removed from the final consumer, and therefore not operating in the competitive market for end users, results in less of a need for UK stakeholder communications.

The next stage was to visit each of these sites with the express intention of considering what information was available and how this was targeted at the different stakeholder groups. Specifically of interest is the amount of information, but also whether there appeared to be any hyperlinks or interaction with stakeholder groups. Due to the potential for companies to update their websites at any time this research only provides a snapshot. The websites were visited over a two-week period at the end of February - beginning of March 2001 and will, no doubt, have subsequently changed. This limitation is acknowledged and an interesting area for further research would be to monitor the evolution of the websites over a period of time. Further it is noted that this is very much exploratory research, due to the limited history of the Internet and academic interest in the stakeholder concept. The next section considers each of the stakeholder groups in turn.

9.2.1 Shareholders

Given the earlier research we would expect that companies would give priority to this stakeholder group and that we could expect to see some shareholder communication through company websites. In actual fact for the purposes of shareholders the companies can be split into three categories. Those companies that are privately owned, that are a subsidiary of a larger group, and those companies that are listed on a stock exchange. The

privately owned companies are all small supply companies, provide no financial information and may, in the case of a closely held company, report who the owners are, but may not. This lack of information is understandable as the shareholders are not as far removed from these businesses and probably have other more comprehensive communication channels. As such these shareholders are effectively internal to the business and will therefore receive internal communication. British Nuclear Fuels Limited (BNFL) is owned by the UK government and this is made clear on the website. Despite this the annual report is still made available, and in this instance the publication of the annual report must be aimed not at the shareholder, who will have other avenues of information, but a wider financial and stakeholder audience.

Subsidiaries of larger groups can be distinguished between generating companies and supply and distribution companies. As mentioned above, the generating companies owned by US companies do not have separate websites and there is very little UK-specific information. For supply and distribution companies there are separate websites and these are linked to the group companies. It is at the group level that shareholder communication is made as it is the group that is publicly owned. The US companies provide comprehensive "Investor Relations" sites that encompass annual reports, SEC documents, company presentations, press releases, share price and dividend information. This is a relatively standard shareholder offering and is also provided by the companies that are listed on the UK stock exchanges, with the exception of the SEC documents. Two of the more innovative elements were the opportunity for investors to join email lists providing company information and the provision of contact details for brokers or analysts that are following the companies' activities. The contact details for analysts or brokers, although hyperlinks were not provided, are more prevalent in US companies and the one UK company, Innogy plc, that have a broker coverage section were updating this page at the time this research was performed. These services are provided by a minority of companies, but appear to offer valuable information for existing and potential shareholders. Scottish Power do provide a link to the Shareholders' Association in Scotland (UKBASCOT), but otherwise up-to-date share prices externally provided were the only explicitly shareholder links.

9.2.2 Employees and Managers

This is an example of a stakeholder group that is internal to the organisation and therefore there is, presumably, less of a need to use the Internet to communicate with them. This is supported by mention of employee newsletters and the Intranet as communication tools with employees, and there are also meetings and contact with managers that make the Internet an unlikely source of employee or management communication. This is borne out by the research. For the vast majority of companies the Internet is not used to communicate with existing employees, but rather potential employees. Therefore job opportunities are frequently listed on Internet sites and for the larger companies on-line application is possible. Within the ambit of recruitment most, but not all companies, refer to and provide their equal opportunities policy. Only two companies go further and refer to their involvement in national schemes that are linked to equal opportunities, such as Race 2000. Also some, usually the larger companies, are attempting to sell themselves as good employers with the kitemark "Investors in People" and more unsubstantiated statements of "positive working environments" and as "learning" organisations. Finally the larger companies cite benefits, in terms of remuneration packages.

Health and Safety is an issue that is important to employees and as such some companies have produced Health and Safety reports (sometimes these are combined with environmental reports) that detail the safety record of the company. Approximately half of the companies provide a health and safety policy and report performance, although the smaller supply companies did not. Most of the reports appear to be unverified, but TXU Europe appears to have taken health and safety reporting a stage further. They "use the RoSPA [Royal Society for Prevention of Accidents] audit system" and provide a great number of links to safety bodies. This is in sharp contrast to the other companies, that might provide a link to the H&SE, but little else. Again it must be remembered that policy and performance may well be reported internally not externally, but it is interesting that some companies see it as necessary and others do not. In the case of BNFL and British Energy, the two companies involved in the nuclear industry in the UK,

both companies provide Environment, Health and Safety reports, and this is not surprising considering the central importance of safety in this industry. Scottish Power includes within its library an "Employee Relations Report", although this relates to 1997/8, which has sections on Employee Development, Employee Relations and Employee Support, and this appears to go further than the other companies. This is, however, still not of the same scope, nor does it include the range of employee measures that are common, in employee reports in the late 1970s. In fact the decline of such employee or employment reports is evidenced by their absence.

Scottish Power refers to having positive relations with Trade Unions, although this is completely unsubstantiated, and there is no opportunity given for the Trade Unions to comment on this, nor are we told which Trade Unions are recognised. Similarly BNFL comment that there is a "high level of employee union membership", but this is not taken any further. In fact the only company to provide a hyperlink to unions was Northern Electric, no other company mentioned Trade Unions.

9.2.3 Customers

Purely generating companies did not mention customers at all on their websites. It is only those companies that deal with the end users that comment on consumers. For these companies, most make such claims as to be "focusing on customers" and assert that customer care is "a way of life". Such similar declarations mean that companies do not distinguish themselves from their competitors by saying this. Another constant feature for the supply companies with operational websites is that most provide the consumer with a "savings calculator". This enables the user to enter their present supplier and energy use and their potential savings from swapping supplier are calculated. It is interesting that none of the supply companies provide a full list of suppliers and their respective prices. The calculation is simply made in comparison to the consumers' present supply and does not take into account alternative suppliers. This is not that surprising, as only one company will be able to claim to be the cheapest supplier for a specific user and this will not be the same for all users. Also the companies do not, at this point, offer links to

OFGEM's site where more complete comparisons are made. This is despite many of the companies actually providing links to the OFGEM site in other parts of their website. This is a seemingly obvious case of the companies making use of the Internet to control the message given to the stakeholder, or in the language of institutional theory, appears to be a case of decoupling.

In addition to price there is the issue of quality. Many of the more established companies reproduced OFGEM's guaranteed and overall standards. The information provided tended to be the standard and the required payment if this was not attained. For the distribution sector, there is a quality issue in terms of security and availability of supply. Most, but not all, of the distribution companies reproduced their quality of supply reports on their websites.

9.2.4 Suppliers and Business Partners

This is a stakeholder group that receives very little information on company websites, irrespective of the size of the company. In fact there were only two companies that provided any real information for suppliers or prospective suppliers. Both National Grid and Centrica have procurement policies and both operate a Vendor Qualification system through Achilles (a company that provides a "full range of procurement services" and "EC legislation and Supplier Database software" www.achilles.co.uk). Centrica operate this vendor database for contracts covered by EU directives and both of these companies provide links to the Achilles database. It may be that the nature of these two companies and their history in monopoly operations are the reason for this additional information.

A few other companies may refer to business partners, but this tends to be infrequent or limited to a small number. The exception to this is East Midlands Electricity, who provide a policy and a list of present external service providers. Overall this stakeholder group is by far the least represented on the company websites.

9.2.5 The Environment

The environment became an extremely important issue in the 1990s and continues to be so in the new millennium. The increase in the use of environmental reports is widely reported (see for example the work of Rob Gray). It is therefore not surprising that the environment is seen as an important issue for the electricity companies, to address on their websites. Therefore most companies do provide an environmental policy and access to externally verified environmental reports on their websites. Some companies have not provided this service, but they are the exception rather than the rule. Environmental reports are now well established in the electricity companies and this is probably due to the environmental impact of the industry noted above. The reports produced are significant and provide performance to date and targets for the future. The voluntary nature of environmental reporting means that these reports do not follow a standard format and this does make comparison difficult. Having said this, the largest environmental issue for the generating companies is the emission of greenhouse gases from the generation process, and performance is reported for each of the greenhouse gases. The recognised importance of the environment and the increased use of the Internet have coincided over the last decade, and therefore the ability to provide environmental reports electronically, rather than having to print vast numbers of copies, does make for a powerful argument for Internet reporting.

The companies report their performance and set targets for future performance, but do they provide links or an opportunity for comment by environmental pressure groups? Approximately half of the companies that report on environmental performance also provided links to some external environmental interest group. The most commonly linked sites were the DETR, the Environment Agency, the Environment Council, and Business in the Community. Also specific interest groups, such as the RSPB and the Wildlife Trust, were linked by a small number of companies, and this was usually because of a specific project undertaken by the company in concert with the group. The companies were almost all silent in terms of the more aggressive or confrontational environmental groups, such as Friends of the Earth and Greenpeace. In fact the only company to provide

links with these organisations was BNFL, and this may be due to the fact that nuclear energy does not produce greenhouse gas emissions. Having said this, these groups are concerned about nuclear energy and therefore this link is unusual as it takes the stakeholder to a site that provides adverse commentary on the business. Two other companies refer to Friends of the Earth with respect to their Green Energy League Tables. These companies both performed well, but not the best, in these tables and draw the stakeholder's attention to this fact, although they do not provide a link to this website. This failure to let the stakeholder easily link to the special interest site allows the company to select the information given and does not provide the whole story.

Finally, one exceptional case was that of Shell. They have a subsidiary that operates in the electricity market and this provides links to the group site. Shell are well known for their social reporting and there is one unusual aspect to their website as well. This is that there is a section for comments on the Shell Report, and these are published irrespective of whether the comments are positive or negative. This allows the stakeholder to see numerous perspectives on Shell's performance as opposed to that reported. For example, there are especially strong comments against Shell's involvement in Nigeria. Most of the companies ask for feedback / comments on their websites or environmental reports, but Shell are the only company that is willing to publish these. This is an exceptional case of a company allowing individual stakeholders the opportunity to voice their thoughts on the social performance of an organisation.

9.2.6 The Government and the regulator

The companies do not specifically refer to or appear to be communicating with the government or the regulator. Any information is included more for the primary stakeholders' information. Therefore some companies provide a historical background to their companies and the UK electricity industry, and hence the role of government, the regulator and competition, but this is for the benefit of shareholders and consumers. In fact these secondary stakeholders can be seen to be a further information point for the primary stakeholder. One way that companies can assist their stakeholders in finding out

more about their 'rights' and the working of the industry is by providing links to the secondary stakeholder. This is done by approximately half of the companies, with the most popular links being to OFGEM, the DTI and the DETR

Arguably the most widely reported social issue in the electricity industry is that of fuel poverty, and this has certainly received significant governmental and regulatory attention. Therefore the links to OFGEM and the DTI should help inform interested stakeholders about this issue. In addition there is a special interest group called National Energy Action (NEA) that are specifically concerned with fuel poverty and report statistics relating to this issue. It is surprising that twelve of the larger electricity companies are listed as business partners of this organisation, but only a minority of these companies mention or provide a link to the NEA. This seems to be contrary to the expectation that the companies would use such support as evidence of a social conscience.

9.2.7 Other stakeholder groups represented

Local communities are a very popular section on the websites of large companies. All of the larger companies made some reference to being "good neighbours". In order to support these claims companies provide examples of the projects they are presently undertaking that constitute some form of community involvement. There is a great deal of similarity between the schemes used by the competing companies, and they tend to focus on special need groups, such as the disabled or elderly, the environment (as discussed above), the arts, sport and education. In this area the larger companies were actually more likely to reproduce a policy statement and also to provide links with their partnership organisations. Therefore several of the companies provided links to Age Concern and Help the Aged, and many provided "learning zones" for school children with links to "Channel 4 Schools" and other educational sites.

Perhaps the weakest element of the reporting to local communities was some form of measurement of performance. This is difficult to do and therefore this scattergun approach of detailing projects undertaken appears to have been universally accepted. A

feature of the US companies is the different emphasis placed upon the monetary amount of assistance provided. In the UK this is not emphasised, although information on how to apply for sponsorship is given.

The trade body the Electricity Association was a popular link for the electricity companies. Similarly the nuclear companies also provide numerous links to nuclear associations, both nationally and internationally. These associations are funded and supported by the companies and are extremely positive about the activities of the companies. It is therefore to be expected that the Internet user will be directed to this other source of positive public relations.

Finally, one of the most popular aspects of the companies' websites was media relations. The major feature of this section is as an archive of company press releases. All large companies provided this service and some other summary fact sheet about the company. The companies do not provide a more complete service of news about the company. This is to say that it is only company press releases that are provided and not press comment generated from other sources. It can be argued that such a service would provide a more balanced view of the companies, but this has not been undertaken. The companies do not refer to their competitors except as part of their savings calculator, discussed above, and neither do they provide links to their websites. Due to the possible adverse affect of such links, where it might be possible for customers or potential customers to find a better deal, this is not surprising.

9.2.8 Concluding thoughts on the Internet as a social communication media

It must be remembered that this research is essentially exploratory, as there is little previous work in the area. It is possible that the websites contain more information than I accessed. In defence, a strict routine of trying to access all pages was followed in order to ensure that the coverage was as complete as possible. Similarly the site searches and site maps were used when possible, although not all sites offered these services. A further

defence could be that, if the information could not be found through this process, then it is not easily accessible and therefore will not be found by most stakeholders.

As evidenced above, the Internet is already being widely used by the electricity companies, but the voluntary nature of this reporting leads to distinct differences in quantity and quality of information. Considering only the larger companies, the most consistent features are the shareholder information, and this includes an electronic copy of the annual report. Also all of the large generating companies provided environmental reports, although the actual content of these was not analysed in great detail. This would seem to provide further evidence of the importance of these two groups for social legitimacy. In contrast the information for customers and employees was minimal and aimed, on the whole, at targeting potential customers and employees. Suppliers receive even less information and overall this may well reflect the free market attitude taken to these three stakeholder groups.

The companies are extremely selective in the links provided and it is very unusual to find any adverse commentary included in any way. It may well be that this can be changed in the future, but one wonders where pressure for such a change will come from. The companies themselves would clearly not benefit unless they were seen to be in some way superior to the other companies.

The selective reporting and lack of dialogue on the Internet raises significant doubts as to whether it has resulted in greater accountability. The lack of links to other stakeholder voices appears to be a form of decoupling where these sites are propaganda vehicles for the companies in which there is no room for dissenting voices. The majority of the information provided was previously available in other forms and so the actual use of the Internet does not necessarily mark a significant change in the competitive pressures for information. The widening access to the information, as it is now accessible from anywhere in the world (assuming you have a computer and a link to the Internet), may in the future improve accountability. At present this is still debatable as access to the Internet, although growing rapidly, is still in the hands of the minority. Also education,

geography and wealth will limit certain stakeholders' ability to access information via the Internet. This could also be argued to be true of other media used by companies, but should not be ignored as a very real accountability issue in the future. At present it seems possible to conclude only that the Internet has the potential to improve accountability, but that this is by no means a forgone conclusion, as it will depend on both how organisations' use of the Internet develops and how truly accessible the Internet becomes.

9.3 Social accounting standards

This section considers the development of three accounting standards relating to social, ethical and environmental reporting. These are:

> "The Global Reporting Initiative (GRI) is a long-term, multi-stakeholder, international undertaking whose mission is to develop and disseminate globally applicable sustainability reporting guidelines for voluntary use by organisations reporting on the economic, environmental dimensions of their activities, products and services."
>
> (GRI, 2000; p.1)

> "AccountAbility 1000 (AA1000) is an ***accountability*** standard, focused on securing the quality of ***social and ethical*** accounting, auditing and reporting. It is a ***foundation*** standard, and as such can be used in two ways:
>
> a) As a common currency to underpin the quality of specialised accountability standards existing and emergent
>
> b) As a stand-alone system and process for managing and communicating social and ethical accountability and performance"
>
> (Institute of social and ethical accountability,)

> "This standard [SA8000] specifies requirements for social accountability to enable a company to:
>
> a) develop, maintain, and enforce policies and procedures in order to manage those issues which it can control or influence;
>
> b) demonstrate to interested parties that policies, procedures and practices are in conformity with the requirements of this standard;
>
> The requirements of this standard shall apply universally with regard to geographic location, industry sector and company size."
>
> (SAI, 1997; p.4)

Each of these three standards will now be very briefly reviewed to consider the level of social accountability that could be reached through their adoption.

9.3.1 The Global Reporting Initiative (GRI)

The GRI provides reporting guidelines for entities in the three areas of economic, social and environmental reporting. The guidelines hope to provide a consistent and clear format for corporate social reporting. It is recognised within the guidelines that of these the most advanced is the environmental, but that each area still requires further work. The guidelines include generally applicable measures under each category as well. The compete list of measures is included in Appendix 7. This thesis argues that a key component of social accounting is a need for a stakeholder dialogue that would lead to a social account reporting "the voices of stakeholders" (Gray et al, 1997). "Stakeholder engagement" is "central" to the "Policies, Organisation, and Management Systems" section of the GRI. More specifically, in terms of "Stakeholder Relationships" the GRI advocates that a report should include:

> 5.11 Basis for definition and selection of major stakeholders (e.g., employees, investors, suppliers, managers, customers, local authorities, public interest groups, non-governmental organisations).
> 5.12 Approaches to stakeholder consultation (e.g., surveys, focus groups, community panels, corporate advisory panels, written communications). Frequency of such consultations by type.
> 5.13 Type of information generated by such consultations.
> 5.14 Use of such information (e.g., performance benchmarks and indicators), including use for selecting organisation-specific performance indicators in Section 6.

The rest of this section considers whether the information needs identified in this thesis are incorporated into these GRI measures. The interviews with shareholders identified information relating to prospective revenue growth as a key information need. Related to this the GRI (p.24) suggests that organisations should report:

> 2.7 Relevant information on the scale of activity ...
> - Net sales
> - Product produced (mass/amount/quantity)
>
> 2.8 Breakdown of sales/revenues by country/region ... as well as by major products and / or services.
> 2.14 Significant changes in size, structure, ownership, or products/services that have occurred in the reporting period

This provides an historical record of the organisation's size and revenue and in addition the "reporting organisation is asked to present its vision for the future" (p.25). This could well include information on how the organisation is to grow, but the GRI suggests that

> "This may involve a discussion of how economic, environmental, and social goals and values intersect and are balanced in the organisation, and how such linkages and balancing shape the organisation's decision-making processes" (p.25)

This is not the type of strategic intent that the shareholder representatives are looking for, as they want to understand the organisation's growth prospects. There is a fundamental difficulty here, as the shareholder representatives identify shareholder wealth maximisation to be the key goal and NOT in balance with social and environmental goals. The specific economic performance measures identified by the GRI include:

6.37	Net profit/earnings/income
6.38	Earnings before interest and tax (EBIT)
6.39	Gross margin
6.40	Return on average capital employed (ROACE)
6.41	Dividends
6.42	Geographic distribution of items 6.37 to 6.41
6.46	Other capital investments

These measures certainly provide information on cost control and efficiency and capital expenditure, which are identified in Table 3 as important. What is not really covered by these reporting requirements is information on the discount rates and interest rates, stock market mood and regulation. With the exception of the discount rate, these items relate to wider non-company specific effects and are therefore probably best reported in other ways.

Employee information falls primarily under economic and social performance. The relevant measures are:

2.7	Relevant information on the scale of activity ...
	➢ Number of employees
6.48	Total wage expense, by country
6.49	Total benefits expense, by country
6.50	Labour productivity levels and changes, by job category
6.60	Employee retention rates

6.61 Ratio of jobs offered to jobs accepted
6.64 Ranking of the organisation as an employer in internal and external surveys
6.65 Job satisfaction levels
6.66 Health and safety reportable cases (including subcontracted workers)
6.67 Standard injury, lost day, and absentee rates (including subcontracted workers)
6.68 Investment per worker in illness and injury prevention
6.69 Ratio of lowest wage to national legal minimum
6.70 Ratio of lowest wage to local cost of living
6.71 Health and pension benefits provided to employees

Also, as noted above, profitability levels are incorporated into the economic measures and therefore the employee measures included within the GRI seem to comprehensively cover those identified here.

Consumers are not so clearly identified in the GRI and tend to fall under the heading of "products and services". As well as the profitability and capital investment measures already discussed above, relevant information includes:

2.2 Major products and/or services, including brands if appropriate
2.5 Nature of markets or customers served (e.g., retail, wholesale, governments)
6.95 Major social issues and impacts associated with the use of principal products and service. Include qualitative and quantitative estimates of such impacts, where applicable.
6.96 Customer satisfaction levels.

What appears to be omitted here is any specific product or service quality measure, although it is difficult to know what exactly would be included in item 6.95. It is certainly conceivable that the issue of fuel poverty would fall under this heading.

Suppliers are mentioned more frequently, but this is more in terms of reporting on whether an organisation's suppliers are also adhering to the same environmental, economic and social standards as the organisation itself is. The exceptions to this are the economic indicators relating to outsourcing and 6.58 dealing with honouring contracts and payment terms with suppliers. The comparative cost information identified in this thesis is too commercially sensitive to be made public in any detail and the amounts of primary fuel available is relevant to the wider industry, as opposed to specific companies. The levels of emissions are considered in the Environment section below.

It is recognised within the guidelines that of these the most advanced is the environmental, but that each area still requires further work. Specifically relevant to the information needs are:

6.1	Total energy use
6.2	Amount of electricity purchased, by primary fuel source, where known.
6.3	Initiatives to move towards renewable energy sources and energy efficiency.
6.4	Total fuel use. Vehicle and non-vehicle fuel, by type.
6.5	Other energy use (e.g., district heat)
6.14	Greenhouse gas emissions (per Kyoto protocol definition) in tonnes of CO2 equivalent (global warming potential).
6.21	Emissions to air, by type (e.g., NH3, HC1, HF, NO2, SO2 and sulphuric acid mists, VOCs, and Nox, metals, and persistent organic chemicals) and nature (point or non-point).
6.28	Major environmental issues and impacts associated with the use of principal products and services, including disposal, where applicable. Include qualitative and quantitative estimates of such impacts, where applicable.
6.29	Programmes or procedures to prevent or minimise the potentially adverse impacts of products and services, including product stewardship, take back, and life-cycle management.

Finally this research suggested that external verification of information is necessary. On this point the GRI (p.9) says:

> "Accordingly, the GRI supports in principle the independent verification of GRI reports, while recognising that organisations need time to assess their needs, readiness, and options for verification."

Overall the GRI appears to cover stakeholder dialogue, stakeholder information needs, as identified here, and recognises the need for external verification. Most of the information not included in the GRI is either too commercially sensitive or more relevant to an industry or the economy rather than the individual organisation. The exception to this appears to be in the consumer area where it does appear that more information on product quality could be incorporated. In certain cases the definitions of the measures could be clarified and there does appear scope for some creative measurement at present.

9.3.2 AccountAbility 1000 (AA1000)

This foundation standard considers the principles underpinning social and ethical accounting and also provides a set of "process standards" by which it can be carried out. As such it differs from GRI as it does not provide a list of measures that need to be

reported. Firstly, it is not only concerned with reporting, but the wider process which also includes planning, accounting, auditing, embedding and stakeholder engagement. Part of the aim of the standard is to provide a way for organisations to identify appropriate measures through "stakeholder engagement". Therefore, as in this research, it is through communication with stakeholder groups that stakeholder issues are identified.

The principles and process model as detailed by the standard are summarised in Appendix 8. Specific consideration of the process model shows this standard to primarily relate to a process, very similar to a standard accounting process, that organisations can follow to help them become accountable to their stakeholders. As mentioned above, the standard does not provide specific measures, but in fact refers to GRI, SA8000 and ISO14001 as other standards that can be integrated with AA1000 to provide a more comprehensive social and ethical accounting system.

9.3.3 Social Accountability 8000 (SA8000)

This standard is primarily concerned with labour and is concerned with the need for organisations to comply to national and international labour law. The specific areas of concern are child labour, forced labour, health and safety, collective bargaining, discrimination, disciplinary practices, compensation, and management systems. This again is a different tack to that taken in the GRI as the reporting would be of adherence to legal requirements and conventions as opposed to specific measures. Owen, Swift and Hunt (2001) call for companies to report more generally on compliance, or non-compliance, with legal requirements as a first step towards a more substantive social reporting.

9.3.4 Concluding thoughts on social accounting standards

These three standards are very different in scope and design. In fact AA1000 suggests that they can be integrated into a more complete social and ethical accounting system. Specifically in the area of reporting, GRI appears to offer the most comprehensive

standard that would, in my opinion, enhance the present level of social reporting. The reporting requirements identified in the GRI do appear to be consistent with those identified in this research. The most significant difference is in the area of reporting to consumers where the guidelines in the GRI are rather vague. SA8000 suggests that organisations should be accountable for their actions with respect adherence to laws, which would appear to be a minimum requirement for ethical organisations. Overall these standards do provide guidance for organisations who want to go further than is presently common, but this should be seen as a starting point for the future development of social accounting – an area that will continue to evolve, as the business context changes to societal and environmental pressures.

9.4 Conclusions

Evidence is provided in this Chapter that organisations are reporting some social information via the Internet and that some social accounting standards are now available. This appears to suggest that there is scope for greater social reporting, without greatly increased costs, and that this could be more standardised than is presently the case. Owen, Swift and Hunt (2001), however, express concern as to the appropriateness of the social accounting standards. They believe that these are based too heavily on the 'business case' for social and environmental accounting and fear that the "radical edge" of the early movement of Social Audit Ltd has been lost. In fact they suggest that, due to the high level of corporate representation in the bodies responsible for these standards, it may well be the case that these standards have been "captured" by corporate interests. The "business case" may result in companies only ever being socially or environmentally concerned for instrumental, as opposed to ethical, reasons. They further fear that this results in stakeholder management, as witnessed in this research, instead of stakeholder accountability. These themes will be returned to the Final Chapter of this thesis as the future implications of this research are considered in more detail.

Chapter 10: Contribution, Limitations and Public Policy Implications

10.1 Introduction

This research started with a consideration of the role of businesses in modern capitalist societies. It argued that the traditional shareholder view of that role was originally reached within a moral and ethical context, which suggested some restrictions were necessary on the activities of businesses. It is through a form of contract with society that these businesses are incorporated into modern societies and therefore, it is argued, the responsibility such organisations have to society should not be forgotten. Given this social contract it was argued that there is a need to understand and appraise how these organisations perform for the societies within which they operate, and a stakeholder perspective was adopted to do this. This was argued to be appropriate, as it enabled the different interests within a society affected by an organisation's activities to be considered. Stakeholder theory takes a pluralistic view of society, in that there are multiple factions and interests that make a single society. In order to provide a contextual setting for this consideration of societal performance it was decided to consider the electricity industry in England and Wales. Utility industries are especially interesting as they include a natural monopoly component that was owned and operated by the UK government for several decades until the privatisation programme of the 1980s and early 1990s. In addition to the natural monopoly, the other elements of the industries had benefited from a monopoly status over the nationalised period. Therefore these industries were sold to the private sector without the normal free market mechanisms to protect consumers, and more widely society, from possible monopolistic behaviour from the companies. This general feature of the privatised utilities and their necessity to modern societies makes them a productive area for research. In addition the structure of the electricity industry, in terms of the vertical and horizontal separation into fifteen companies on privatisation, was a new development that suggested that this was a more advanced privatisation than the earlier ones.

Given this foundation, the later chapters, three to eight, provided a framework of measures by which to consider the stakeholder performance of the industry, which was grounded in both performance measurement literature and industry specific interviews with both stakeholders and organisations. This framework was then used to appraise the stakeholder, and hence social, performance of the industry. The results of this analysis were then interpreted with the assistance of institutional and resource dependency theory as developed into considerations of strategic response by Oliver (1991). In addition Chapter 9 considered some relatively recent developments that, in my opinion, have relevance to how this type of research can move forward in the future. These were firstly, the Internet as a medium for providing information, and secondly, the development of social accounting standards. This Chapter suggested that the potential for standardised social accounting is now greater than ever before, but there is a concern amongst some academics that this will not result in true stakeholder accountability.

10.2 Contributions and limitations

In many ways this research is inspired and refers back to past work that to some extent has been forgotten in much of the present day accounting literature. As such three inspirations for this work were: firstly the work of Charles Medawar (1976, 1978) and Social Audit Ltd (1973a, b), which in many ways did similar analyses to the one attempted here. In many ways Tony Tinker's "Paper Prophets" is similar and this was also a great stimulation. Finally, "The Corporate Report" published by ASSC in 1975, was a more institutional attempt to consider a wider stakeholder form of accounting, which unfortunately eventually failed. It would be an interesting case for further research to see exactly which pressures were responsible for its eventual failure, although it would seem clear that they are likely to be institutional pressures either from the actual accounting practitioners or the government. Therefore if this research is original, which I believe it is, this is due to the reconsideration of ideas and techniques that to some extent have been discarded in the context of a societal development, privatisation. This research provides an in-depth consideration of a unique case that is both political and economic in nature. The documenting of such cases in detail is a valid and important form of research

and can be likened to documenting the history of the present. It is important that multiple perspectives and understandings of this case, and more generally the operations of businesses, are provided so that future research can be informed and that the theories and frameworks developed can be progressed.

The most significant contribution of this thesis is that it provides a detailed stakeholder analysis of the electricity industry for the period 1991 to 1997. This analysis uses publicly available information (primarily the companies' annual reports, the regulator's reports and government statistics) to demonstrate that certain stakeholder groups have benefited more than other groups in this post-privatisation period. Most clearly this can be seen in the redistribution of wealth that has occurred over this period of time. The analysis in Chapters 6 and 7 clearly demonstrated in 1997 shareholders received dividends that were £2,885m higher than in 1991, although £1,207m of this related to a special dividend paid by National Power for the purposes of "major capital restructuring". Nevertheless the ordinary level of dividends has increased by £1,678m. Over the same period purchases fell by £884m and labour costs fell by £750m. Therefore there has been an incredible redistribution of wealth from suppliers and employees to shareholders. This should be considered in the light of the fact that at the time of privatisation the government White Paper suggested that:

> "a modern, competitive (electricity) industry will be created, widely owned by the public, and more responsive to the needs of customers and employees... There are real benefits in prospect for the customer, employee and the economy" (Cm 322, 1988, p.16).

This analysis shows that for the majority of consumers any gains have been minimal and that employees have clearly not benefited at all. A further contribution of this research is that it considers a broader range of stakeholders than done in previous research (for example the research of Shaoul and Froud et al). This is most clearly demonstrated by the consideration of the environmental effects of the industry. The most significant contribution in this respect is the finding that the role and power of the regulator and even more so the government is still very strong. Therefore despite privatisation the industry is heavily influenced by the need to acquiesce to the needs of government. This thesis provides evidence of how the privatised companies attempt to align themselves with the

government and the regulator. In this context Oliver's framework, which draws upon institutional and resource dependency theories, was useful to explain how the strategic responses of the companies is constrained. This finding has importance for the future of public policy and therefore this is discussed in Section 10.3 below. A further contribution of this research is that it uses Oliver's framework from an external perspective at a macro level to consider strategic responses.

One contribution is the use of an interview based case study approach to consider performance measurement. This is still a relatively under used research method in this context. The benefit of using this approach, as opposed to say a survey-based study, was the ability to discuss the issues in more depth and clarify points to a much greater extent than is possible using surveys. Also my own personal experience of using surveys (Cooper et al, 2001) resulted in an extremely disappointing response rate that can question the validity of the results. This case research method can also be seen as a limitation. Due to practical time considerations and the availability of appropriate stakeholder representatives, only two of each kind were interviewed. Further, this was restricted, on the whole, to one interview with one representative from each organisation. It was considered imperative that two different organisations were approached for each stakeholder group so that any organisation or interviewee bias could be cross checked with an independent source. It is recognised, however, that in an ideal world further interviews would have been carried out. Again, referring back to the work of Social Audit Ltd, it is clear that the number of interviews performed for these reports were far more extensive, but so were their resources. It is hoped that these interviews are of considerable value due to the wide-ranging perspectives and backgrounds of the interviewees, organisations and stakeholders that they represented. The interview data provides some unique and telling insights into the workings of stakeholder management in these electricity companies. The findings suggest that this is being managed in an instrumental way that is certainly not consistent with the more normative aspirations of stakeholder theorists.

A further contribution was the combination of the literature and the interview data to produce a stakeholder performance measurement framework. This grounding in the literature and interview data enabled the framework to be focused on the particular industry and also to draw on what is of practical use at the moment. In some cases this focusing may have gone too far, as in the case of the Environment where the issue of climate change came through so forcefully that it was the only issue considered. It is not the opinion of the author that this is the only important environmental issue being raised by the operations of these electricity companies and multi-national organisations more generally. In practical terms this focussing on a single environmental issue again helped restrict the research, and if this had not been the case the environmental aspect to the research may have ended up dominating the social. This research was specifically interested in the social implications of this industry and as such the environment was considered to be only part of the issues to be considered. It is definitely the case that there is a whole separate PhD considering purely the environmental performance of the electricity industry and its reporting. A further limitation is that in some ways the framework developed is a compromise, as the information available to be analysed was also a consideration. This was most clearly a problem for the employee and supplier stakeholders, and this would appear to be yet further evidence of their relative lack of power as stakeholder groups. The employment reports advocated and actually used by some organisations after the Corporate Report was published contained a relative plethora of segmented information that is simply no longer available. Government and company information is aggregated and allows little true analysis other than at industry and company levels. This lack of information is another resource that is withheld from the public that allows these companies to operate within society. In my opinion it would definitely be in the public interest for this information to be made available such that these companies can be made more fully accountable. A further concern is the accuracy of the information actually provided. This was specifically highlighted by an important figure in a consumer organisation, who suggested that the reliability of consumer information could as a minimum be questioned, but at worst is actually worthless or misleading. This is a limitation of relying upon publicly available data as a source. This information is secondary and as such has not been gathered personally from the source

directly by the researcher. In contrast, many would argue that such publicly available data is more reliable as it has been audited or submitted to the regulator, where there are penalties if the information were to be discovered to be inaccurate.

At no time in this research was it considered appropriate to use statistical techniques to analyse the data, as much of the interview data was qualitative and the actual analysis was based on the whole population of the industry. These contributions, with their acknowledged limitations, are seen by the author as being firmly in the realm of social accounting. There is, in my opinion, a definite need for more social accounting as the power of large multinational organisations appears to inexorably grow and globalise. The increased size, power and influence these organisations have should be a cause for concern for societies and their governments. It appears that the real power lies with the organisations, who can choose where to operate and hence put intense pressure on countries to accede to tax breaks or special concessions to ensure their continued operations in a specific country. This appears to be a reversal of the power relations that would be expected if the social contract approach to companies were accepted. Given the importance of power within modern society and specifically the considerable power of the government, the final section of this thesis will consider the public policy implications of this research.

10.3 Public policy implications and recommendations

This research has demonstrated that following privatisation of the electricity industry in England and Wales there has been a redistribution of wealth to shareholders from other stakeholders, most notably suppliers and employees. Therefore the claims that the privatisation of utility industries would result in benefits to all does not appear to be substantiated with the benefit of hindsight. Therefore the first public policy implication is that, where there is a constrained future revenue stream, as there is in the regulated utility industries, increased returns to private shareholders can only be achieved through redistribution. Therefore claims that such privatisation will benefit all can not be made for any future privatisations. Further, perhaps even more damning evidence has recently

been provided by the Rail industry and the collapse of the privatised Rail network company Railtrack.

The privatisation programme appears to have been completed and the government now has a policy of Public-Private Partnerships (PPP), which includes the Private Finance Initiative (PFI). Shaoul (2002) states that PPP is justified on the grounds that it is a way to generate funding, which would not be available from the public sector, and that such initiatives provide "greater value for money". This is similar to privatisation in that it is looking to the private sector to solve the investment problems of the public sector. Froud and Shaoul (2001) provide analysis of the PFI for NHS hospitals and they conclude that the PFI process does not necessarily provide better solutions. Shaoul (2002) undertakes "A Financial Appraisal of the London Underground Public-Private Partnership" and concludes:

> "Finally, this analysis demonstrates why the capital-intensive public infrastructure industries, and other public sector activities that provide vital public services on a universal and comprehensive basis, have been in public ownership not just in Britain but all over the world. They are simply too risky and/or not cash generative enough for the private sector. If the project goes ahead, the private sector partners and their financial backers, far from assuming risk under the PPP, are set to get income streams guaranteed in one form or another by the public sector, while the Government, Transport *for* London, London Underground, the workforce and the public as individuals carry the risk." (p.59)

This has an incredibly strong resonance with the findings in this thesis. When the private sector requires its return, a return that is not required within publicly funded projects, then this could well be at the expense of some other stakeholder group. Similarly, it was noted here that the "real risks" associated with the electricity industry remained with government and were not transferred to the private sector, in exactly the same way as is suggested in this PPP initiative. To date the lessons of privatisation do not appear to have appreciated by the Government and therefore we are in danger of repeating the same mistakes over and over again.

Finally, there has also been the UK Company Law Review and the Turnbull committee report that appear relevant to government policy towards corporate governance, which is

at the very heart of the stakeholder – shareholder debate. The UK Company Law Review Steering Group decided to reject a wider, more pluralist approach to directors' duties. Instead they preferred "an inclusive approach", which suggests that directors need to consider both the long and the short term with "a view to achieving company success for the benefit of shareholders as a whole" (DTI, 2000a). This appears to reinforce the primacy given to shareholders that was discussed in Chapter 2, and the importance of the wider society, as suggested by a social contract, is again left either implicit or non-existent. Therefore the present New Labour government appears to have moved away from the concept of stakeholder capitalism, with which they were associated prior to the 1997 election, and towards an enlightened shareholder approach.

In contrast, Friedman and Miles (2001) suggest that the Turnbull committee report may hold some hope of increased accountability for social, ethical and environmental issues. This is because it suggests that there is a need for directors to manage risk (Lake, 1999), and part of this risk is reputational risk. There is some hope that the need to consider risks to reputation may put social and environmental behaviour "onto their corporate governance agenda" (Friedman and Miles, 2001). It would appear to me that this is unjustifiably optimistic, as once again the link is left unclear or implicit and is unlikely to have any realistic effects on corporate governance and corporate ethics. Until government explicitly recognise the importance of the social and the environmental it seems to me that the present inequalities will continue to worsen.

Given the failure of the privatisation and the PFI policies to actually produce the promised benefits for all the justification for such policies needs to be revisited. Further, the government's social and environmental role needs to be made more explicit. Three ways in which this could be done are through legislation, regulation and mandatory reporting.

This thesis argues that there is a need for companies to consider a broader range of stakeholders and to engage with their needs, as recommended under AA1000, if there is to be an increased level of accountability. Unfortunately the recent company law review

did not support this view, but it is the author's opinion that this is a missed opportunity. Secondly, in a regulated industry the role of the regulator should be expanded to incorporate the social and environmental aspects of the industry. Some very minimal steps have already been taken in this direction, but much more could be done. This thesis has highlighted a redistribution of wealth between stakeholders in a regulated utility and therefore would strongly recommend that the regulator should be appraising these companies' performance using an explicitly stakeholder approach. Therefore the use of value added analysis and a stakeholder performance measurement model, as designed in this thesis, should be an important analytical tool for the regulator. Alternatively, the regulator could require the companies to produce a social report along the lines of the GRI. This provides a comprehensive measurement of performance under social, economic and environmental performance and would greatly increase stakeholder awareness of the issues in an industry. This would also address the lack of information presently available to certain stakeholder groups identified in this thesis. A requirement to produce such detailed social reports should be mandated to all companies above a certain size, possibly based on market capitalisation such as the FTSE 100. This would certainly mean going further than requiring companies to discuss social, environmental and reputational issues, as suggested in the company law white paper discussed above. Finally, it is the author's belief that the introduction of these three recommendations would be beneficial to society, as some of the endemic power asymmetries would, to some extent, be redressed. The reduction of such power asymmetries should be a priority for government within a pluralistic understanding of modern society in the 21st Century.

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Appendices

Appendix 1

Typical Corporate and Stakeholder Issues (Clarkson, 1995, p. 101-102).

1. Company
   - 1.1 Company history
   - 1.2 Industry background
   - 1.3 Organizational structure
   - 1.4 Economic performance
   - 1.5 Competitive environment
   - 1.6 Mission or purpose
   - 1.7 Corporate codes
   - 1.8 Stakeholder and social issues management systems
2. Employees
   - 2.1 General Policy
   - 2.2 Benefits
   - 2.3 Compensation and rewards
   - 2.4 Training and development
   - 2.5 Career planning
   - 2.6 Employee assistance program
   - 2.7 Health promotion
   - 2.8 Absenteeism and turnover
   - 2.9 Leaves of absence
   - 2.10 Relationships with unions
   - 2.11 Dismissal and appeal
   - 2.12 Termination, layoff, and redundancy
   - 2.13 Retirement and termination counselling
   - 2.14 Employment equity and discrimination
   - 2.15 Women in management and on the board
   - 2.16 Day care and family accommodation
   - 2.17 Employee communication
   - 2.18 Occupational health and safety
   - 2.19 Part-time, temporary, or contract employees
   - 2.20 Other employee or human resource issues
3. Shareholders
   - 3.1 General policy
   - 3.2 Shareholder communications and complaints
   - 3.3 Shareholder advocacy
   - 3.4 Shareholder rights
   - 3.5 Other shareholder issues
4. Customers
   - 4.1 General policy
   - 4.2 Customer communications
   - 4.3 Product safety
   - 4.4 Customer complaints
   - 4.5 Special customer services
   - 4.6 Other customer issues
5. Suppliers
   - 5.1 General policy
   - 5.2 Relative power
   - 5.3 Other supplier issues
6. Public stakeholders
   - 6.1 Public health, safety, and protection
   - 6.2 Conservation of energy and materials
   - 6.3 Environmental assessment of capital projects
   - 6.4 Other environmental issues
   - 6.5 Public policy involvement
   - 6.6 Community relations
   - 6.7 Social investment and donations

Appendix 2

'Report on customer services: 1995/96' (OFFER, 1996)

Guaranteed Standards

Service	Performance Level
1. Respond to failure of a supplier's fuse	Within 4 hours of any notification during working hours
2. Restoring electricity supplies after faults	Must be restored within 24 hours
3. Providing supply and meter	Arrange an appointment within 3 working days for domestic customers (and 5 working days for non-domestic customers)
4. Estimating charges	Within 10 working days for simple jobs and 20 working days for most others
5. Notice of supply interruption	Customers must be given at least 2 days notice
6. Investigation of voltage complaints	Visit or substantive reply within 10 working days
7. Responding to Meter problems	Visit within 10 working days or substantive reply within 5 working days
8. Responding to customers queries about charges and payment queries	A substantive reply within 5 working days
9. Making and keeping appointments	Companies must offer and keep a morning or afternoon appointment, or a timed appointment if requested by the customers
10. Notifying customers of payments owed under Standards	Write to customer within 10 working days of failure

Overall standards of supply

1. Minimum percentage of supplies to be reconnected following faults within 3 hours and minimum percentage within 24 hours
2. Minimum percentage of voltage faults to be corrected within 6 months
3. Connecting new tariff customers' premises to electricity distribution system. Minimum percentage of domestic customers to be connected within 30 working days and minimum percentage of non-domestic customers to be connected within 40 working days.
4. Minimum percentage of customers who have been cut off for non-payment to be reconnected before the end of the working day after they have paid the bill or made arrangements to pay
5. Visiting to move meter when asked to do so by customer within 15 working days in minimum percentage of cases.
6. Changing meters where necessary on change of tariff within 10 working days of domestic customers' requests in minimum percentage of cases
7. Ensuring that the company obtains a firm reading for customers' meters at least once a year in a minimum percentage of cases.
8. Minimum percentage of all customers letters to be responded to within 10 working days

Appendix 3

The Environmental Performance Evaluation Diamond

Source: Bennett and James (1998, p.14)

Appendix 4

Appendix 4 contains notes from the interviews undertaken as follows:

Appendix 4a

Shareholder Meeting 1: with NN, Institutional investor, 1 June 2000

What information is presently available and used

The most important sources of information are the meetings with management. These can be either one-one or presentations by the management. The one-one meetings happen approximately twice per year and tend to discuss the strategy of the Group for the coming 12 months but rarely longer term. These meetings can not be too detailed but will provide an overview of the company's position and strategy. Therefore the message may be "we have got money to spend and we want to restructure the business. However if no appropriate opportunities arise then the money will be paid back to the shareholders." Another example is that National Grid use these meetings to reinforce their interest in Telecoms and the US without providing any detail as to potential acquisitions. Indications are given but NN sees an important part of his job as "reading between the lines". In addition NN has been invited to visit new acquisitions to see for himself and "kick the tyres as it were".

The company will also present preliminary and interim results and these are attended. Other presentations may well be provided on specific issues through time. A recent example of this was a presentation made by National Power about their forthcoming demerger into International and Domestic. These presentations are important as you can "get a feel for how gung ho the management are and if they have a good feel for the market." In this example Mr Giller (the new chief exec of International?) came across very well as knowing the market and so NN thinks that much of the interest will be in the International company.

The second most important source of information are brokers' reports. There are more than 20 electricity analysts and these all regularly produce reports on the industry and the companies. Within these 20 reports "more weight is given to some than others" as it is known that the analysis has tended to be better in the past. [Ian Graham at Merill Lynch is considered to be one of the better analysts].

In addition NN produces his own research on each of the companies and produces a company note. The depth of research for these company notes is dependent upon the time available but a fully researched company note will include a DCF valuation of the company [this is through a DCF model developed by NN which he would like to spend more time on to make more accurate and he is unwilling to share the model as it is sensitive information]. Also the momentum of the company will be considered along with comments on the management and a detailed description of the business and how it is structured. These notes will be influenced by the annual report and accounts but Neil does not tend to analyse the regulatory accounts, due to time pressure, and relies upon the brokers reports doing this.

Also NN thinks it is "best not to go into too much detail" ["can't see the wood for the trees"] as the "macro influences" can be "huge". Therefore it is very important to consider the mood of the market in terms of whether they want "defensive" shares or not.

Following on from this analysis an investment recommendation is made.

Are environmental reports considered / used?

Two or three years ago the answer would have been no. However there has been a change in emphasis and growing importance of corporate governance the consideration of managerial performance means that environmental reports are looked at. NN himself only very briefly considered the environmental reports and he relies more on a colleague and the brokers' report for detailed analysis. A colleague considers the corporate governance and environmental issues and will pass these on to the relevant industry analyst. This institutional investor does have an ethical investment fund and on which companies environmental performance is considered before inclusion [NN to send me a copy of the ethical criteria].

In specific cases where it has come to light that a company environmental performance has been poor a letter is written to the management expressing concern. Further in exceptional circumstances the shares will be sold. An example of this would be Shell and Brent Spar. In this type of case the information becomes price sensitive and so must be considered. In terms of the electricity industry NN agreed that nuclear energy was the biggest issue. Other important areas are the concerns over the possible links between electricity and leukaemia in children and the need to comply with Carbon dioxide and Sulphur Dioxide emissions and this affects the debate over coal and gas. (The moratorium over the development of new gas generators is soon coming to an end).

What information do you use from the annual report and accounts?

Firstly NN reviews the statement of strategy in the Chairman's report to ensure that the message is consistent with his own understanding of the situation. He will also consider the breakdown of performance by division. In terms of actual numbers the most important tend to be cash flow, cap ex, and any exceptional items or provisions in the accounts. Because of the nature of the utility industries this is not the same as for other industries. The electricity profits are greatly effected by changes in pool price and regulation and therefore these are important issues much more so than P/E ratios for example. In these terms it is the DCF model valuation that is considered most important.

What other information would be useful?

There is little extra information required. The Brokers' reports tend to be very thorough and they can provide International peer group analysis, for example, if required. A knowledge of what discount rates are being used by the companies and other analysts would be extremely useful but will never be available. Obviously this is important as it can have a huge effect on the DCF valuation.

Also "would love to know what the regulator is thinking". Do go to regulator briefings and it is important both that the regulator gets to know the city and vice versa.

Would more segmental information be useful?

The companies already provide very detailed breakdowns of the performance of different segments, much more than is available in the annual reports. Therefore the generators provide information for each generating capacity [NN believes that this information is publicly available upon request from the companies].

Are Total Shareholder Returns considered?

Total returns are important and when considering the future valuation both dividends and share price movements are included. Past performance, in this respect, is not considered to be as important.

Are EVA and MVA measures used or would they be useful?

Not really, NN considers there to be a lot of hype but nothing new. They would not add any extra value on top of the DCF valuations already performed. In fact NN considers them to be a form of DCF model.

How is performance measured?

The valuation through the DCF model is considered most important. One of the drivers of this performance will be earnings growth. But due to the nature of the industry it is not considered beneficial to consider too long a period. Therefore it tends to consider the previous years earnings and forecasts through the next couple of years.

Are the regulatory accounts considered?

NN does not consider these again he expects the brokers' reports to identify issues from these. He acknowledges that the issue of Historical cost vs. Current cost is important and a view has to be taken on the rate of asset replacement necessary in an industry. These assets tend to have a long life span and it is thought that the water industry "will hardly ever replace" the assets.

What is the view on job losses in the industry?

NN believes that this is part of the political game with the regulator where companies are saying "if you cut profit we cut costs". It is also believed that the job cuts really do demonstrate the inefficiency of the nationalised industries and how the nationalised industries were used to help governments with employment policy. Therefore news of job cuts are regarded positively as "it can only be good news for the consumers".

Similarly the government was not able to face the capital expenditure required by the industries and therefore privatisation was a way out of this.

Appendix 4b

Shareholder Meeting 2: with PG, Broker, 9 August 2000.

PG is a researcher at Brokers who has specific responsibility for utility industries. He interfaces with Investment Banks, Portfolio managers, Pension funds and Hedging funds as well as stockbrokers. The research department is seen as a knowledge pool but commercially driven. As time permits he produces reports on the utility industries, although these are seen as "less valid as there are so many parts", and specific companies within those industries. Brokers reports are sent to clients with an estimation of future share price and whether the share is considered to be a "market outperformer, market underperformer, or market performer". The report will make an investment case for the company that will be supported by a great deal of detail on each company. (PG was good enough to provide reports on: Scottish & Southern Energy, 5/3/99; Powergen, 4/8/99; Enel SpA, 20/3/2000; and the Pan-European Utilities Conference, 22/11/99).

What information is presently available to shareholders and their representatives

There is a "vast amount" of information available and this is "ever increasing". The web has revolutionised the dissemination of information so that companies really can now communicate with the market, or anybody who is interested. The difficulty is more with sorting the information into what is useful and what isn't. Sources of information include meetings with management and other "key players in the industry to get a balanced view about what is going on", annual reports, web sites, Reuters, and Bloombery (that gives a history of announcements). In terms of the industry as a whole "you need to think more laterally". Want to consider electricity prices as these drive share prices and can get information on this from publications such as Power UK or Power Europe (which are now on-line). Also Heren produce reports on the market and this is made available. In addition you want to find out what the counterparties, "the people who buy", are doing. In terms of the electricity market PG sees it moving more toward the oil industry with a spot market etc.

The key source of information are discussions with management and these tend to happen about 3-4 times per year. Due to the nature of the work performed by researchers and the influence they have over clients PG is in a very strong position and can call a meeting with a CEO relatively easily. CEOs want to perform well at these meetings as they can have a significant effect on the CEO's own personal wealth. "Access is not a problem" and this is consistent across the companies, "if the company is too busy to see you then you know that they are up to something". These meetings are usually held with the CEO or CFO and somebody from Investor relations. Obviously these meetings must be in "open season" (i.e. not within the 2-month period prior to results being announced). If the meeting, or presentation, is called by the company there is usually a particular message that the company wants to send out and this is especially relevant when the company's share performance has been poor. When meeting with the CEO the discussion tends to be raised to strategic matters and do not want to get "bogged down in the numbers too early". The detail can be bypassed and collected from other sources. The purpose of the meeting, for PG, is to try and infiltrate the CEO's mind to "see what he's thinking, what he's seeing, where he sees it going". This will often be in terms of overseas, selling and buying and if you can understand why these things are happening you have a better chance of predicting what will happen in the future. If PG calls the meeting it is usually on the basis that he is producing a report on the company or industry and wants to get their input.

Another important source of information is the broker's own client base. A dialogue is maintained with these clients as they can inform each other. The market is, after all, a mixture of views with information being circulated and recycled. The clients of the broker can be split into three types. There are the more sophisticated shareholders that will have their own in-house

analysts and their own models. There are often daily talks with these clients but their emphasis tends to be more on "short term research" for fund managers. The fund managers will be inundated with research and broker reports and they will tend to concentrate on the 2 or 3 that they trust the most. Smaller clients tend to rely more on the broker as they have less time for the detail, of say announcements by companies and the regulator, themselves. There are also the hedge funds who tend to be "more aggressive, trading" in nature. They are "in pursuit of information"; they want to "find things out from brokers" and are looking for "short-term" gains.

Annual reports are looked at but are less important and there are always analyst's reports. "Sometimes there is something tucked away but generally not".

Valuation models

The models used to value a company's worth "distils down to a DCF model" but ratios are important as well. The ratios are considered important and both a detailed financial ratio report and summary financial ratio (one page) are produced. Both the absolute and relative measures are important but more weight is given to the relative figures.

The DCF model is built up in a bottom up approach so for a generator would be done "power plant by power plant". Once the operational model has been designed this can then be developed into a financial model. Often the largest benefit of such models is the "thinking" that is necessary "to get to the DCF model". Therefore you will be considering such questions as "what are the implications if fuel prices drop". The objective is for the model to be interactive and as such it can be "as short or as long as you want". Effectively you try to "crystallise what drives the business into 5 or 6 things". This will be different depending on the precise nature of the business and where it fits in terms of fuel, manufacture, transport and supply. For the transportation aspect of the industry, i.e. the wires, there is regulation and this process is "quite systematic". The regulator uses NPV models so you "attempt to replicate the model and use it". Therefore "it helps to have a view on what the next review will bring". Therefore for this part of the industry the key drivers are outperforming regulatory targets in terms of cost and capital expenditure. This part of the industry is a "cash cow and efficiency based". Also important are the "service deliverables". Therefore the management is "playing the regulator" and needs to be an "efficient management" with good "quality of supply" and "techniques for efficiency". The competitive and commodity parts of the industry are different. Therefore the key drivers would be "fuel costs, other costs, power price, type of plant, and efficiency of plant". Trading is more difficult to be clear about and the "trading division ensures working". The final customer end of the industry is characterised by low margins, customer costs and competition. As the margin is 3-5% this can easily be lost or turned into 6%. Other important drivers are expected IT spend and also what steps the companies are taking to get bigger. It is felt that the companies "have to get bigger to survive, theoretically speaking if don't get to 5million customers the fixed costs are too high" as the margin is so low.

The industry has changed in structure significantly and will continue to do so over the next three years. The regulated network or "wires" section of the industry is not required by companies as the wires can be rented. Despite this there are companies that have become vertically integrated and like the wires, as this is a cash cow. Alternatively some companies just supply power and others just own power plants. "People spread across the supply chain more often than not". Powergen and National Power have had to shrink their generation businesses because of regulatory pressure and have "switched into wires and customers". There were two analogies at the time this was happening. "Power has remained in the upstream whereas food wholesalers have been shafted as the likes of Tesco have turned the industry on its head." This demonstrates that "if the other person is powerful enough" they can change the dynamics of the industry.

Appendix 4b

The role of the regulator

The regulator plays a crucial role in the development of the industry and "sometimes misses the bigger picture". For example in Spain the generators were told "to go and buy themselves 2 RECs to make themselves bigger" whereas in the UK "Powergen and National Power were not allowed to do this until the mid 1990s." This has led to problems for Powergen and National Power as their excess profits were obvious and is they had been allowed to integrate earlier it would have brought more balance. As it was the "market worked out the problems facing them and National Power had to have a huge demerger to restore faith and Powergen is selling more" generation capacity.

The present companies are a "product of regulation". However, companies have emerged from this in different ways. National Grid and Scottish Power have "outshone the rest". They have both "led in their own way". Scottish Power was originally on the fringe of things, in Scotland, but have been "acquisitive and have had better managers". National Grid has been innovative in terms of their telecommunications business, Energis, and in the US. This history has left the companies operating in the UK electricity industry with many different shapes whereas the Water industry is much more homogeneous.

The brokers tend to look at companies individually as their clients like this. Due to the changing ownership of the electricity companies this has meant that information such as the "relative multiples" have become less valuable. The regulatory process presents a good opportunity, every five years, to "see how the companies are getting on". At the time of the regulatory review there is an opportunity to "read across DCF and NPV, costs and capital structure".

In the future PG expects there to be further consolidation in the industry with the UK operators "wanting to get their hands on the UK assets from the States". As returns are squeezed down so "we'll end up with a smaller number of companies" (the names mentioned were National Power, Powergen, Scottish Power, National Grid, British Energy, Centrica and BG / Transco). "In the future Transco will be split and this will leave the equivalent of RECs and one company the equivalent of National Grid". On top of this there are international factors to consider.

The New Electricity Trading Agreement (NETA)

The replacement of the "pool" with NETA will mean that there is a "real time, balancing market". This will make it a "more complicated and risky market", "a living thing". As a result of this the risks faced by the generators, who "have had it too easy" in the past, will increase. If you are producing electricity you need to be thinking about what "supply is hedged". The old skills and the old IT will have to change. The crucial questions will be concerned with "fuel prices, temperatures, whose plant is available, and gaming". The general assumption is that "prices will fall to the long run marginal cost of new entrants". If electricity prices do go down there will be different effects on different companies, so British Energy will suffer but Centrica as a net buyer of energy will be winning. What tends to happen in the stock market is that such an announcement results in all industry shares going down and then distinctions are made between companies. The buyers of power tend to be risk averse and want to "lock out risk" by integrating and internalising.

The share price performance of companies in the industry

Appendix 4b

1999 was a bad year in terms of share prices. The first two months of 1999 were "false anyway" as the prices were too high at the end of 1998 and "the growths market was where the money was". In April 1999 there was "mayhem" as the traders over reacted and this could be the case in the future "if circumstances are ripe prices could be weak or could rocket." Also in 1999 there was a regulatory review that was "tough" and there were concerns over fuel prices. At the moment utilities are back in favour as the "Dot.com model burst". The smart money sold tech and bought utilities in March(?) time.

"The first 5 – 7 years after privatisation are the most generous. Therefore Railtrack should have good opportunities and Transco is in an interesting position." At the "other end of the spectrum" the water companies have just had their "first tough review and it has come as a jolt to the system." This has resulted in some of the water companies wanting to "throw in the towel and get away from the regulated part" of their business. In PG's opinion the managers that are in the water industry are not as competent as those managers in the electricity industry are.

In terms of future performance what happens in the "broader market" is crucial. This is in terms of interest rates, whether the tech stocks recover as they have "come off a long way", and other macro effects such as the regulator and competition are significant.

Recently corporate governance has been changing and the shareholders have become more aggressive and can also get good access. If something goes wrong the major shareholders tend to act "in concert".

Environmental Reports

These are produced and PG does have copies of them however he "doesn't look at them very much". Having said this "environmental issues should not be ignored" and therefore data on coal burn and limits on emissions is important. This puts constraints on the use of "dirty plant". "The big picture" is what is important such as the Kyoto agreement. Power plants are being targeted "more than motor vehicles" and this has resulted in the government being "keen to see more gas" generation. The need to reduce greenhouse emissions could suggest that nuclear is the way forward but there is "no easy answer to nuclear waste" so for the moment it is stored "under the Lake district" and there are issues with moving shipments. In terms of international commitments to reduce emissions the "US won't make their target" and overall the environment "takes a poor second place to economics and politics." Effectively for PG the key question is how do the environmental issues effect mining and productivity.

Renewables

At the moment the industry is on the "cusp of change". There will be "more innovation in terms of wind power and micro turbines and these have taken off in the US to some extent". It is difficult as "wind farms are as much of an eyesore as pylons". Micro turbines are interesting as they can capture waste and reuse it. There will continue to be new technology and this will become more efficient. "Innovation gets to the point where it works" and then will be used. Combined Heat & Power stations operate at 80% efficiency as opposed to CCGT 60% and Coal 30%. PG believes that there needs to be more government subsidy and focus in this area and this will lead to technologies that work.

There will be the "disappearance of king coal" as UK coal is high in Sulphur and not attractive. There is a political angle to this as the mining employment is in the "Labour heartland" and

therefore "let's do them a bit of a favour". This is also exemplified by the moratorium on gas but this does not change the fact that coal is a dirty fuel.

Generators have their own "pet projects". So National Power has CHP (Co-generation) and wind power and overall "it is growing as there is a place for it." In the future wind farms off shore could well be more acceptable to those on shore.

Employee cuts

The reductions in employee numbers are the "inevitable end" as the nationalised industry was "overmanned and overpaid" and partly a result of the governments previous employment policies. The "legacy fund and retirement provisions at privatisation were generous" and those people that left and retrained in IT are now in a great position. The employment had to change and become more flexible with different incentive packages, multi-skilling and retraining to take on new challenges. There is a need to move on from the "economy of the old UK" to the new. "The steel, coal and car manufacturing industries can't compete and are dinosaurs". Privatisation has taken the industry forward and the new pressures, including competition, has led this change. From a more global view this has provided companies with an opportunity to "steel the march". The UK companies have the ability to "accelerate the efficiency process" when compared to other countries' incumbent suppliers but in order to be able to do this it is important to "carry the unions with you." In Australia this is less likely as "union power is high and aggressive" whereas the States is more productive.

More recent redundancies are "done and dusted before announced", and "are not forced but through natural wastage". It is healthy that the older generation are replaced as there is a need "younger people to innovate." In this sense Scottish Power have been "quite productive" with MBA training and "grooming for succession". As the company has grown this has resulted in some people "being thrown in at the deep end" but "you can tell if succession has been planned".

Appendix 4c

Employee Meeting 1: with SW, Union A, 23 August 2000

Union A claim to be the lead union in the electricity supply industry, although one other union has a similar number of members, and Union A is certainly the most prominent in terms of press comment. Union A's members are spread relatively equally across generation, supply and distribution. The total membership of the Union A is 730,000 members across many industries. Union A is structured with a head office and then regional offices around the country. In the head office there is the "Executive Councillor" for the Energy industry. In the regional offices there are a total of 18 full time people in the electricity industry who are then in close contact with the shop stewards.

SW works in the research department that consists of 6 people and this is organised by industry sector, each researcher is responsible for 4 or 5 different industrial groups. The union is similarly organised by industry group. The research department is responsible for collating information, such as wage rates, following developments in employment legislation, and providing briefings on this, and lobbying. Within their role they have "to focus on a lot of audiences". Specifically SW is responsible for sending bulletins to keep members up to date and also produces a Magazine that comments on developments in the energy industry.

Union A holds a National Conference biennially and this is a high profile event with a lot of press coverage and last year, when the conference was held in Jersey Peter Mandelsen attended. In the alternate years there is a National Industrial Conference, one week in Blackpool, and this will set the union's policy for the coming two-year period. However, the General Secretary and the Executive Council, forty elected lay members, do have the power to alter the policies from conferences. There are also National Industrial Committees, comprising of 20-30 lay shop stewards, who are elected by the industrial conference "to look after policy for 2 years". SW spends a lot of her time dealing with these committees and helping to organise the meetings and speakers for the meetings.

Another important role for the union is providing legal assistance and representing full time officials, who are the key people in the union.

Union A and the electricity industry

The union was against privatisation of the electricity industry at the time but this has now happened and the union has to move on. Union A now tries to work with the companies in a form of partnership. The more recent challenges have come in the form of mergers and acquisitions and also "the impact of the Labour government putting an effective regulator in place." This has had an "impact on companies' thinking that they need to make cuts" in employment levels. Union A felt that the recent distribution price review could lead to more job cuts and due to this campaigned and commented strongly against the proposals (see document detailing their response to proposals). The result of the price review is thought to be that 5,000-6,000 jobs were lost from the distribution companies and this was after "a lot of people thought that [the levels of employment] had reached a plateau". The requirements have resulted in people being laid off but then being contracted back in. Union A see this as very much short-term thinking by the companies and they do not believe that it is "economic in the long-term". Replacing experienced people with less experienced people on worse terms and conditions will result in less loyalty.

Union A are concerned that the level of reduction in employees has gone too far across the whole industry. There are problems in generation and the NII was very critical about the level of employees in the nuclear industry. The NII report is one of the first official documents that actually reports "links between over cutting employees and the threat to health and safety and efficiency". Union A shop stewards report, anecdotal, evidence of health and safety problems and suggest that this is a worsening problem but the company and Electricity Association statistics show improved health and safety performance. The shop stewards feel that this is due to inefficient recording by the "lower levels of management" so the true picture is not being seen. Also there are issues related to how accidents are defined. Union A does not keep its own records on this matter and SW thinks that she may write to the shop stewards to try and do this as there is a lot of anecdotal evidence. A separate source of statistics is the HSE who has figures on fatalities but these have always been very low in electricity.

Appendix 4c

Employee reductions in the industry

Some of the reduction in employee numbers in the industry is from the drive to increased efficiency and these were happening even before privatisation. This is a "valid element" of the reduction and there have been "massive increases in productivity, 40% since privatisation". This is "bigger than any other industry". One of the causes of these gains has been the multi-skilling of employees. Union A recognise that some of these changes are "inevitable and improvements" but they have not been introduced well. The measures were "blatant cost-cutting" exercises and "not enough training and support" was given to employees. The changes have been "radical and far reaching" and have left employees with a feeling of job insecurity and the Union A feel that this is primarily down to "bad management of change".

There is also a change in the way that the companies employ people. Employees are often made redundant and the contracted back in. This means that they are no longer direct employees of the company and leaves the question "how many direct employees jobs are there?" Contracting out is "happening across the board" in the electricity industry and "across all manufacturing". This increase in contracting has been accentuated by the merger and acquisition activity and the drive for efficiency savings. In response to this Union A "need a strategy to keep members and look after them." However, there is a conflict if the union has traditionally looked after the direct employees and now also recruit contracted employees. Union A's concern is also with health and safety issues, do contractees have the same standards.

The use of contractees is very high for certain tasks in the industry. Metering is a good example. In Yorkshire Electricity 200 employees, who had worked for the one company for a significant length of time, have been transferred 6 times in the space of one year. Contractees sometimes get more money but they do have less security and this is one reason why they may want to join the union. They are often lapsed members who have "been unemployed for a couple of years".

For the company the use of contractees is considered desirable as it increases their flexibility. It is a way of cutting and "watering down" the terms and conditions of the employees in the industry.

As mentioned above Union A hope that the job cutting has now reached an end. Especially in generation it is hoped that the NII report, mentioned above, will have a real effect. Already BNFL are recruiting 800 new employees. Although British Energy are in a "great crisis" with over capacity. Union A feel that distribution is "now at a point of crisis" in terms of the ability to repair lines. Since privatisation there has been lower standards and, for example, "over Christmas there was not enough manpower to cover the necessary repairs in stormy weather". This problem is accentuated in some geographic areas, such as Scotland.

Negotiations with employers

The way in which negotiations take place has changed since privatisation. The negotiations have changed from being industry wide to company wide to now in many cases functions within companies. Union A provide the stewards with information on the deals to date in other companies. The negotiators will then use "the best deal they can see" to negotiate their own settlement. "It is a matter of having the information" and the negotiators also like seeking advice on an average deal "below which they wouldn't go". Also since privatisation the structure of pay is very different with, for example, PRP and individual bonuses becoming more important and therefore the "single % deal means less than before".

Also the negotiators like to have as much on the company as possible. Certainly the annual report and accounts is important and last year's profitability. Working practices are also cited where improvements have been made. This is mainly at a company wide level and it is only in the case of redundancies is site-specific information required. Employee newsletters are also received but that "doesn't amount to much".

Additional information that the unions would like to receive

Appendix 4c

"The really sensitive information" usually concerns mergers, acquisitions and redundancies. The information on which these decisions are based would help the unions. A recent example of information that Union A felt that they should have been able to see was OFGEM's consultant's reports on each of the companies. These reports assessed the efficiency of the companies, the wage rates and absenteeism rates. A couple of these reports did recommend redundancies and Union A wanted access to these reports to see what this recommendation was based on. It was felt that the report was "done by someone who didn't know HR at all".

Union A also want to build a partnership with the companies where they are involved in the decision making process. The consultative mechanisms are relatively advanced in the electricity industry although "not necessarily effective". There has recently been a consultative group set up, 24seven and this is "more akin to European Works councils". Information is available to unions in most European countries when there are closures and take-overs and this is a right in law but this is not the case in the UK. Also in France the government can intervene in levels of redundancies, in terms of the numbers and timing. However, Union A feel that such legislation may be "unhealthy and conflictual" and would prefer to work with the companies in a "consultative framework". A "watered down version", but not too much, of the European law would be good but Union A stress the "scope for partnership" rather than conflict. Overall "stronger consultative mechanisms and access to information" is what the unions want rather than too much of an interventionist approach. Situations like Rover are different and investment and support is needed and assistance with training and redeployment.

Employee remuneration

This is still "pretty good" in the industry especially when compared to say the car and other manufacturing industries. "This is partly due to the effectiveness of the unions" and also that it has always been a higher paid industry. The remuneration is "above average in general" as can be seen in the Income Data Services, the Bible on such things. It is well known that if there are unions there are better pay and conditions. Everyone is covered except managers and some of the lower paid employees, such as call centre employees and some on the contracting side such as low skilled maintenance employees who have worse terms and conditions and are not unionised.

This has been the case until now. Last year and this year there have been "real signs of pressure on companies to slash costs". The companies attempt to go to the "lowest common denominator" so "if one company establishes [lower pay or worse conditions] others will and do follow". If electrical contractors rates of pay are pushed down then direct employees' levels will also be pushed down. Recently companies have been citing JIB as what they envisage employees should be on.

The companies are trying to change the terms and conditions of employment as they involve "weird elements of pay" such as rota days. Also the move is toward "making pay more individual" through PRP and bonuses so that the % round will be made meaningless. Overall the companies are trying to reduce pay and conditions but Union A tries to be more positive trying to motivate the companies on training.

Also the pensions in the industry are really good. ESPS is one of the best schemes, "maybe only firemen get a better pension" but the companies are "trying to chip away at the edges". Despite this Union A believe the scheme to be "fairly safe".

Also the voluntary redundancies given by the industry have been "good settlements". "£50,000 - £70,000 at the top end". The people made redundant were not given 1 week / year settlement but 1 month per year.

Employee welfare

Union A do "odd surveys" of employee satisfaction but this is not a regular event. The more usual source of feedback is through communication with key stewards and also full time union officials will spend a day on site talking to "all 150 members". Since privatisation the decreased level of satisfaction is almost "universal, almost like teachers demoralising." This is through the undermining of job security that has left employees with "no idea whether they will have a job" in the future. This is particularly the case in area

such as metering (where there may be as many as 7000 members) where the function and technology are changing. Also in generation there are particular problems and for example in British Energy there is "massive disillusionment" and a "strained relationship". There is more optimism in BNFL and Union A is trying to "look for solutions" but in the nuclear industry there are concerns about where the industry is going.

Part of the problem is that job cuts are "new to people" and in certain parts if the industry, generators and supply, "there were a lot of job cuts straight away". In contrast "distribution did get away with it for years" (off the record). The gains in productivity, through flexible working patterns and multi skilling, do indicate that there must have been opportunities for such gains. Another problem is that the efficiency pressures and terms and conditions are newer to the electricity industry than others. The productivity gains are reflected in the experiences of individual employees such as "a few years ago we did 3 jobs in a day but now we do 6". Union A believe the problem is that this has gone too far.

The key factors in decreased employee welfare are job insecurity plus the stress and pressure in terms of workload. In terms of maintenance employees it is "hard work, long hours and there are safety considerations". There are security issues if there aren't enough people plus when there is a "limited pool of people each one is called out night after night."

The electricity companies' performance

There are two aspects to the way in which the company performance is considered by Union A.

Firstly the union sees itself and its members the employees to be in partnership and are not anti-business. They want the company to be profitable and competitive and feel that employees help the companies achieve this. On the other hand they do feel when cuts need to be made for efficiency gains it should not always be employees first. Profits should be cut and not jobs. The cutting of the workforce is "stupid, short-term approach to take and it effects long-term profits." There should be an equal distribution.

Shareholders

Union A tries to be progressive in that whilst they were opposed to privatisation, and have been "vindicated" in their concerns, this is now done. Therefore the aim now is to achieve a "balance" of interests. Shareholders benefit directly from the massive cuts in jobs and Union A recognise that management has an obligation to the shareholders and also must have customers. The problem is that "employees are overlooked and ignored." The shareholder has too much influence and this results in the electricity companies making short-term decisions. This "will always be bad for employees" and leads to uncertainty in their jobs. This is a particular concern with the US owned companies where the "profits are going back to the US and the shareholders aren't even in the same country."

There are long-term effects of these short-term decisions. One result is lower investment in the distribution and transmission systems and also less money spent on maintenance as "shareholders don't want to see investment in the long-term". When "companies are asked to cut prices they cut employees and capital expenditure" never profits. Less investment means that the system will be less secure. There is a lack of manpower, investment and planning and this is because "decisions are made to get share prices up".

Employees as shareholders "is a big thing". More than 60% of members have a lot of shares in their companies and this has become an important part of their salary."

Consumers

Immediately after privatisation "prices rocketed" as the companies still had monopolies. Union A feel that consumers are an interesting group to work with especially as all members are consumers. It is felt that there should be more "common ground" between consumers and employees and recently in the AEEU's response to the distribution price control they "phrase all their arguments in consumer language" and are "talking from the consumer perspective". The common ground is in terms of the "good long-term future" of

the industry and a "safe and secure supply". It is felt that the consumer councils do not see employees and unions, that they are "invisible".

"Consumers interest is best served by well managed and well regulated and stable electricity systems". Within this Union A recognise that shareholders do have a "valid role" but the interests of consumers "aren't necessarily served by short-term price cuts". Overall since privatisation the prices to consumers are lower now but they didn't get a "good deal" immediately.

The regulator and the DTI

There is a relationship between the union and the regulator although they "hadn't met until recently". Recently there has been a "big issue" with distribution and Union A met with both the regulator and the DTI about this. This issue has lead to some "difficulty with the regulator recently". (See earlier comments about access to consultant's reports to the regulator that suggested the need for redundancy in some companies). It is hoped that this relationship will be "more productive in the future" as the regulator has recognised the need to consult with the unions.

Government Lobbying

The lobbying by the research department will tend to be on specific bills that are relevant to the industry group; therefore SW was involved with the lobbying on the Utilities Bill. The union also has a specific political department, consisting of 2 people, who are responsible for lobbying. Union A is affiliated, and has strong links, with the Labour party and "using the Unions political contacts". The union is no longer allowed to sponsor MPs but they do still have "friendly MPs" such as Bill Tynon and Linda Gilroy. Also with the latest Distribution price review a "delegation was sent to number 10". The aim of the Union in these cases is to "encourage more consultation with employees".

The Labour government is "very friendly with" Union A and they have a "very good relationship". Union A is affiliated with the Labour party and has always been very active. In the context of "eighteen years of anti-union" conservative government where there was no positive legislation for workers the Labour government has introduced "forty pieces" of legislation for workers since the election. There is now a "different climate" and there has been a "huge step forward".

In terms of the union as a whole, if the General Secretary needs to see the Prime Minister, for example in circumstances such as Rover, then this can be arranged and they will have meetings with him. At this level the issues tend to be about investment, regional development, unemployment black spots, and how help can be given to "communities adapting to change." Also Union A, being primarily a manufacturing union, are pro the Euro.

Company management

If there are redundancies then top-level salary increases are a problem. However, Union A would not go so far as to call for a cap on executive pay. Instead they support the government proposals where executive pay must be linked to performance. Companies should be made to "demonstrate how the executives got that pay". Immediately subsequent to privatisation Union A campaigned against the large changes in executive salaries whilst at the same time jobs were being cut.

Supply and the environment

Union A is pro the nuclear industry as they have members there. They acknowledge "concerns over reprocessing" but "generally support the company line". One factor in favour of the nuclear industry is that makes a "contribution to the Kyoto targets". In terms of the environment Union A "don't do as much as we should". However, members contribute to lots of small energy efficiency projects and idea schemes.

Overall Union A want to see a balanced energy policy, "so not too focused on any single fuel". An issue for the union has been the 'dash for gas' as gas power stations employ one quarter to one fifth of a coal fired

station. Renewables are not seen as a danger and Union A try and "embrace change". Also this "will be a slow process" and a more pressing issue for the union is the "decline in nuclear" and the question is "where are the jobs being replaced".

New Electricity Trading Agreement (NETA)

This is not expected to have much effect on members. It is only one element of how the industry is changing and any resultant lower prices should not lead to massive cuts in employment.

Partnerships with companies

Union A see its role as helping its members manage change and try to look at change in a constructive way. Also the promotion of training and working with the company are important. An example of working with a company is British Energy where, with the company, Union A have helped design a new grading structure for technicians so that people "know where they stand in the structure".

Another example is the "really effective partnership working toward voluntary redundancies" since privatisation. This process and the fact that there have been no compulsory redundancies are a "tribute to the way the partnership was handled". Even in the case of multi skilling, which is often to the detriment of members, Union A worked with the company. However, recently there was a case where Scottish Power wanted to make 450 compulsory redundancies. In this case Union A lead the way in calling for industrial action, which is unusual as they have been criticised as a union for rarely calling for action as it is very much seen as a last resort. There was an intended unified action with two other unions with a 5:1 vote for action and complete hostility from to the redundancies from the entire workforce. In the face of this 24 hours of negotiations, 2 days before the strike resulted in the situation being resolved and "Scottish Power backed down". This was "really important" as others would have followed if Scottish Power had succeeded.

The partnership achieved with the electricity companies is better than in most industries as it used to be in the public sector. The latest views on relationships with the companies are contained in the "Company report" a highly confidential document. This better than normal relationship may also be due to the very high union membership in the industry, although this is declining. The weakest areas are in the new retail, white collar, and call centres (which are difficult places to get into). In fact the companies are determined to keep the unions out of these parts of the business. This has been especially apparent in Eastern and Norweb.

Appendix 4d

Employee Meeting 2: with CK, Union B, 31 October 2000

Union B is the fourth largest in terms of members in the electricity industry in terms of membership. The members are in both Generation and Supply and Distribution. CK is mainly involved at the "policy end" of the union, so is not really involved in specific wage negotiations, although he has done this in the past. Many of the wage negotiations are "common agreements" with the other unions and often the larger union takes the lead role.

Generally speaking CK is involved with drafting responses to consultation documents produced by the government and the regulator. Sometimes these are jointly produced by the Electricity Supply Trade Union Council (ESTUC) in which the EMA is the lead organisation. At other times Union B may well produce their own response as they will want to emphasise slightly different issues to those raised by ESTUC. There can be "conflicting interests of the different unions". ESTUC is more concerned with economic and engineering side of things whereas Union B are concerned with a "a balanced energy policy" and security of supply (see below). Also a lot of time has been taken up with dealing with share save schemes, as these have become complicated as companies have been acquired or merged.

Security of supply

Union B feel very strongly about the need for security and restoration of supply. This is one area where they take a different, rather stronger line, than the other unions. This does not mean that they consider that electricity is less safe since privatisation, "plugging it in is not less safe", but do feel it takes longer to restore supply. This is because there is a "lack of bodies and skilled bodies" to deal with the problems when they arise. This is because a lot of the skilled labour has now left the industry. Also it used to be the case that when a problem arose the skills would be moves to the problem area from all over the country. This was not a problem as they were all CEGB employees. Since privatisation these skilled employees now work for different companies and therefore could not be called upon. This has recently been improved with some companies coming to agreements and also "can get help from the Republic of Ireland".

The potential problems of security and restoration of supply are seen as the "biggest weapon" that the union has. In order to be able to achieve this the supplier must have adequate skilled staff or contract the work out. There is a greater use being made of contractors in the industry. Contractors employ predominantly people that are new to the industry, but some that are ex-electricity company employees. The people that have taken voluntary redundancy, say in the age range 45-55, have received a lump sum and a pension. Also these people, as with their counterparts from the gas industry, are relatively highly skilled and therefore able to take opportunities outside of the electricity industry. The security of the pension and the lump sum have enabled these people to experiment with their interests and this may be starting their own business.

Also there is a dual problem for the companies and the Trade Unions at a time of voluntary redundancies. As the severance pay is "reasonable" you are "likely to have more people who want to go". This means that there either needs to be a selection criteria, where justification needs to be given why one person is selected over another, or if allow all to leave then need to replace some of them. The problem here is that there are not enough new people interested in working in the industry. It is not as exciting as a dot.com.

There is a potential long-term problem in that the companies are not providing the training that the CEGB once was. Therefore the old Seeboard would have had 30 apprentices and this is

simply not happening any more, at present "the average age of electricians is over 40 and over 30% of these would have trained with the nationalised industry". A result of this may be that there will be a skill shortage in the future.

Another problem is that the people that have remained are now doing less diverse work. Therefore you need different people to deal with meters, fuses etc. The universal service engineer has had their job chopped into bits so "instead of one guy you now need three or four". This has resulted in customers needing to make multiple calls to get a problem fixed and have such lost out. The employees themselves are more limited in terms of their scope for dealing with problems and experience that they receive. CK sees them more as an emergency service than as a temporary repair service. Also as contractors are used another problem may arise. For example with the separation of metering, and the greater use of contractors, the question is who takes responsibility. If the Electricity Company has contracted out the metering to a national firm then what happens to customers if something goes wrong. There is a strong chance that there will be a delay in sorting out the problem.

CK believes that this will all catch up with the industry in the future. "The old regulator believed in market forces and therefore that the gap would be filled, but this means that the gap occurs first". In effect the industry is "storing up problems for the future, and this has already been identified in the gas industry."

Levels of employment in the industry

CK believes that there will be one more round of redundancies in the industry. There will be the closure of some coal plants and a big closure of nuclear plants. These will probably be replaced with gas and renewable sources and these require lower manpower. Gas plants require two-thirds less employees than coal fired plants (Didcot coal fired station 160 employees and a gas fired station 40 employees). Also there will further mergers and take-overs that will lead to a reduced number of employees (predominantly in administrative and IT roles).

The changes in the industry have resulted in some jobs being more repetitive in nature, for example call centres, and this could be argued to be more efficient. It is definitely acknowledged that within the old nationalised industry there was some inefficiency. This "slack in the system" was a result of the "philosophy of security of supply and quality of service". This quality of service is under threat and in the gas industry there were 80,000 complaints and in the past it has been 2,000. There is an economic argument here in that due to the level of fines for failure in the industry it may well be cheaper to pay the fines than employ sufficient people to ensure restoration of supply. CK is surprised that the consumer bodies have not been stronger in this area.

Employee welfare

It cannot be proven that employee health and safety is worse than it was in the nationalised industry. There is more stress, deskilling, and less career opportunities in the industry. People employed in the industry "aren't happy" and one reason for this is the idea of the "job for life has gone". Also there is insecurity as people are unclear as to where the industry is going. Morale is definitely worse, but it must be remembered that it "wasn't all wonderful" before. One large difference is that in the nationalised industry people "genuinely believed that they were providing a service to the nation" through providing "a very reliable and secure network". Also it is felt that the privatised companies "would never have built the system", this was only possible through the CEGB investment. With the events since privatisation some employees feel that "part of them has

been destroyed". Also the ability for employment elsewhere in the CEGB has gone and new employees tend to be worse off.

Employee remuneration

The levels of pay in the industry are still good, but new entrants to the industry in administrative staff have more work to do, it is more repetitive and less interesting and in addition rates of pay have gone down. Also call centres are now being used but compared to other call centres the rates of pay are "OK". Union B does not see there being a lot of pressure on the rates of pay as yet. The industry is still restructuring, it is presently about "two-thirds" of the way through, and this helps to keep pay up as the companies want to make changes quickly. It is expected that the redundancy "pay-off" will be smaller in the future.

In terms of negotiations with the unions the starting point is often the financial viability of the organisation. The financial viability is often looked at in terms of profit and turnover. Secondly the trends in the industry are important and similar deals in other companies are used as a source of information. Also as the companies have been restructuring, and have wanted to do this quickly, then the companies have been willing to "pay the bill". There has also been a move to two-year deals to "take some pain away from next year" and a move to introduce PRP schemes. Thirdly efficiency gains are considered in terms of "profit per employee and output per employee" in order to ensure that the employees "get our share".

The pensions at present have not been reduced although this is an area of concern.

Information needs for employees

Under English Law the companies are required to give share sensitive information to the stock exchange before anyone else. Therefore the unions hear about it at the same time and this means that the decision has already been made. This specifically relates to things such as mergers and acquisitions and plant closures. In Europe the Works Council and Trade Unions get the information earlier and this enables them to have more input into the decision.

Another difficulty for Trade Unions is when a new Chief Executive is appointed. Often this results in a complete change of direction. Previously with the CEGB there was a 5-year plan. These plans are probably still produced but they are a lot more variable.

Regulation and Increased competition

Union B supported the move to a single regulator and consumer council for energy. The increase in competition in the industry, from the entry of the likes of Centrica, means that some companies will have to lose. At present it appears that United Utilities and Hyder are losing, whereas some new entrants, such as Centrica and Electricite de France, are building a base in the industry.

United Utilities recently tried to sell the supply side of their business and there were plenty of potential buyers. It is expected that "within 15 years there will only be 6 real big suppliers" and these may be Centrica, Scottish Power, Electricite de France, and may be N Power and Powergen if they integrate.

Consumers

Appendix 4d

Union B believe that consumers are worse off since privatisation. They have benefited from a reduction in price (somewhere between 2-3% and 15%) but have received a worse service and worse guarantee of service. Also there has been a change in the way people pay as their monthly bills are lower but electrical repairs (that are may be only needed every 5 or 6 years) are more expensive. Union B has been surprised that the Consumer Councils "didn't pick up these issues" and appeared to think all about "cost and competition and forget the other issues".

Shareholders

Shareholders have "done very nicely" especially in the first five or six years after privatisation. Also the stock market as a whole benefited as the privatisation programme created more large companies. This means that institutional investors can spread their ownership and there are more companies for them to choose from.

Directors

The "fat cats". The concern here is that the increases in directors' remuneration has not been linked to performance. They "have done very well without accountability". Even if they fail they "get a nice pay-off".

The Environment and Suppliers

When commenting on the make up of primary fuels into electricity generation Union B tend to concentrate upon a need to balance the fuels used, "a balanced energy policy". This is argued to be because a diverse supply of materials will be more secure in the future "you lose control if go one way". There is also a self-interested element in that Union B has members in the electricity, gas, coal and nuclear industries. Therefore Union B does see a continued role for coal and is keen to see research and development in the area of Clean Coal Technology. It is believed that the nuclear industry will be run down as the plants are closed and considering the cost of a new nuclear plant "who would take that risk?" The private sector would not fund such a risky project and in effect "privatisation killed nuclear".

There could also be an expansion in the use of Combined heat and power plants and localised generation. These will probably be predominantly gas-fired and in the future the required amount of gas will need to come from North Africa and the old USSR.

CK feels that energy conservation and therefore the environment has lost out since privatisation as "conservation and competition don't sit well together". If the companies sell more then they get more profit.

The UK as a nation

The country has gained some large new companies and 3 or 4 of these are "winning companies". N Power, Powergen and Scottish Power are "clear UK winners in the world economy". Against this there has been "a lot of exporting of capital assets, asset stripping" that has cost the UK. Also a lot of skills have been lost as has the key training ground for these skills. In terms of differences between UK and US owners this is not really noticed on the shop floor. Privatisation was the big change at shop floor level and uncertainty was the biggest problem.

Appendix 4e

Consumer Meeting 1: with LL, Consumer Group A, 7th September 2000

LL has been involved in the Utilities section of Consumer Group A for several years, but has recently changed jobs to concentrate more on telecommunications. A colleague is to take over the other utility responsibilities but has only been in the job a few weeks. Consumer Group A was set up with a remit to protect the interests of domestic consumers and more specifically disadvantaged consumers. The funding for Consumer Group A is still largely from the DTI. The Consumer Group A is organised such that all policy statements and initiatives must be approved by the Council.

At the time of privatisation the Consumer Group A lobbied the government but actually took the view that "ownership was not an issue" and in fact felt that there was evidence that under public ownership the treasury had kept prices up at the expense of consumers. LL now believes that this view has changed as the Consumer Group A has monitored the industry post privatisation. Consumer Group A produced a work called "Paying the Price" that concentrated on the post-privatisation price of electricity and concluded that "privatisation hadn't benefited consumers" but this "was not popular" with the Conservative government of the time. Consumer Group A approach is that there should be a fair share of benefits accruing to the consumers, shareholders and the company and this hadn't happened. "The initial controls had been far too generous" in order to ensure a "successful flotation".

Due to the scale of the work involved and restricted resources Consumer Group A has very much concentrated on pricing issues. Therefore in terms of quality of service it is better to talk to the electricity committees. Although LL believes that OFFERs standards are "pretty minimal and the cash penalty is also minimal". Some people are faced with constant interruption (in Buckinghamshire) and the question is "have the companies been investing enough?" If not this leads to supply interruptions. The Guaranteed and Overall standards "focus on certain things" and "didn't care about poorer customers". The Gas Consumer Council is concerned about falling standards as British Gas used to be "very good" but their standards appear to have fallen and the smaller suppliers are not as good. There must be minimum standards and the big omission by OFFER concerned prepayment meters and it is only recently that something has been done about this. Overall in the electricity industry "quality probably has improved" but Consumer Group A has not worked on this area. There is a question as to whether with the "technological improvements" quality "would have improved anyway".

Information presently available and used by Consumer Group A

The main information sources for Consumer Group A are company accounts, the regulatory accounts, occasionally the Electricity Association information, and the Centre for Regulated Industries.

Consumer Group A is very much constrained by their resources but not only this they do not gain access to all the information that OFFER does and there is still "information asymmetry" between the regulator and the companies. Also the perspective of OFFER and Consumer Group A are different as the "regulator has to balance a number of concerns" whereas Consumer Group A is "partisan" about consumer needs. The analysis performed by Consumer Group A has concentrated on the accounting information from the companies and they have calculated such items as "Rate of return on capital and profit margins" and then compared these to the "customer benefits" over the same period of time. Their analysis is based on the premise that certain elements of the industry, transmission and distribution, are monopolies and as such are very low risk. There is no competition and the regulator has a responsibility to ensure that the companies are able to finance themselves. LL does not believe that "regulatory risk" is significant as the regulator only makes "changes at certain times and then for years the company knows what is going to happen". This low risk is also exemplified by the companies being able to get "very good borrowing rates". LL would say that the cost of capital for the core electricity business is "not much above government bonds". Therefore Consumer Group A "would expect very low rates of return". In 1994/95 the companies were "building up mountains of cash" and "Steven Littlechild knew and we knew" it was "fairly clear that it was there". In the first two years after privatisation the price of electricity increased by 13% and Consumer Group A think that this was not justified as the returns earned by the companies were so high. Consumer Group A calculated that by 1994/95 the customer had overpaid by about £600m and this was increased to £954m in 1995/96. These were based on cautious estimates. When the Conservatives sold off the National Grid they

said that customers should benefit and suggested £15-20 per household. Consumer Group A based on their calculations of over payment said that "people were owed between £40 an £50" and Tim Ayker, the conservative minister, actually eventually suggested £50 because of Consumer Group A's estimate.

Consumer Group A has "a way at looking at company accounts" and from this produce reports saying "this is what we think". The hope is that their views will be accepted or if their analysis is wrong then someone should explain why. The analysis of company accounts has become "much more difficult" because of the take over activity and the "money flowing" to parent companies. The information in company accounts "could be better". Also Consumer Group A finds it impossible to reconcile the figures in the regulatory accounts, the company accounts and elsewhere. Since the take-overs it has become more "difficult to see the relationship between the regulated business and the parent company". It used to be the accounts of the RECs would relate 94% to the core regulated activity but it is now more difficult. There is still a problem with transfers between supply, distribution and parent companies. There is a need for "standardised accounting" where you can "follow the money" and see if there has been a "correct allocation of costs". There is a concern that companies "dump costs in distribution as it continues to be monopoly". The regulators did do something on this a couple of years ago. Another problem is that OFFER revalue each year for inflation and this is "not helpful". This can't be related to accounts nor the bills that customers receive. Also the basis for inflation should be clearly explained. Further "figures change and you don't know why". This all "hinders meaningful comparisons" and Consumer Group A would prefer to see "figures published before inflation".

Information needs of consumers

Consumer Group A would like more information on household bills. The CRI did produce some information on this but they appear to have lost their funding and closed down their London office. The CRI continues to exist but is now based in Bath, where Peter Vass is, and appears to concentrate more on running seminars than producing reports. LL believes that OFFER should produce regular reports on household bills but in the past this has only been done occasionally. Further this information should be broken down by method of payment, i.e. prepayment meter...

Consumer Group A would like to see more information published on fuel poverty. On privatisation "nobody took responsibility for social effects". The Conservative government assumed that they "could walk away from social issues" and the regulator was "not social". This is changing as "Battle and Liddle" have been more concerned with fuel poverty and have asked the regulator to produce a "Social Action Plan". Also OFGEM now appear to be attempting to bring down the prices of prepayment meters. Against this there is "still a great reliance on competition working" and a "trend to deregulation too quickly". Consumer Group A is concerned by this as they are unsure of the evidence on the increase in competition. In gas the reported numbers of customers switching is "dubious" and suggests "incompetence and fraud" in the counting. They including people who were switched and "didn't want to be" and also people switching back to their original supplier. Also in the electricity industry there are smaller margins than in gas and therefore people "can't be bothered to switch" and therefore it is a "worrying assumption that competition will sort everything out".

On fuel poverty Consumer Group A are pleased that "disconnections have gone down a lot". But they are concerned about prepayment meters. Bigger investigations need to be done in this market as people may be not getting electricity as can "only afford it 2 hours / day". Also the prepayment meter customers need to know more on where their money is going i.e. "50% to cover debt and 50% for current use". This is further confused by the fact that "not everyone is fuel poor who has a prepayment meter" and that there are "other fuel poor" (people on fuel direct which comes out of DSS benefits). Consumer Group A wants customers to have "a full choice of payment methods" and not to have "prepayment meters forced down throats".

If there is to be competition then "consumers need to make informed choices" but as things stand at the moment it is "difficult to compare prices" and there is a suspicion that the companies are using "confusion marketing". The "regulator should ensure independent advise" is available. There was a move to put an "Energy Price Index" on bills but this did not seem to be a good idea as it may lead to more confusion. "Which?" (published by the Consumer Association) have published prices in the past. It should be possible

to publish "standard prices and discounts" for all of the companies. The other concern is marketing. In Gas the government did not put a clause concerning fraudulent marketing into the licences. There were "millions of complaints" and therefore a licence condition was "belatedly introduced". People have a right to written information but they do not know this and in addition this is a market that "people are not used to". "If get a builder in then people worry" because they have heard stories or if you buy something in a shop then you "know to take it back". People "are not used to shopping for gas and electricity" and the "doorstep selling". Another distinguishing feature is the "essential nature of the service" and Consumer Group A have concerns about people with learning disabilities or low income ending up paying more than they used to. LL is concerned that competition will not be the answer and after all in a "perfect market you should have perfect information".

Relations with OFFER

OFFER has not always listened to Consumer Group A but have discussed the issues. Steven Littlechild has said that Consumer Group A has made reasonable comments. This is in contrast to OFWAT where there are more difficult relations as they appear to be "stung personally" by any criticisms or differing views. OFFER has been less defensive in this respect. Consumer Group A wants to see clearer consultation documents and specific consultation with consumer organisations. The reports produced should "spell out implications for consumers" of the different possible reviews. Also OFFER need to address criticisms of their proposals.

The last price review still "hadn't gone far enough but was more open". Therefore OFFER have "got a bit better" but still "can't get to grips with household prices". Also Consumer Group A wants to see OFFER produce breakdowns of the causes of decreases in prices. This is to say how much of lower prices has been caused by "changes in world energy prices, decreases in the fossil fuel levy, changes in generation and the pool, and then regulation". Steve Thomas of Sussex University has done some interesting work on the changes in world energy prices. Consumer Group A would like to see this breakdown of price changes so that the relative importance of the major factors can be gauged and "so can see if consumers get the benefit".

Overall the "general feeling" is that "OFFER's action OK but could have gone further". People are "still paying too high a price" and this is across each of the sectors of the industry (generation, transmission, distribution and supply). Consumer Group A has never done work in electricity generation but there is a "very clear case for competition in generation and it should have been broken up more". Privatisation has made the industry "relatively more transparent but could have had independent regulator and been publicly owned."

The National Electricity Consumer Councils are attached to OFFER. The relationship with Consumer Group A has been strained as "they didn't like being told not independent". They were "very touchy and relations were difficult". Although with a change of personnel "things have got better".

Shareholders

Shareholders "did really well for a number of years and then sold for a high price". This is in an industry that is "still low risk" (see above). Consumer Group A thinks that the shareholder has had more than a "fair share" and also the consumer has paid too much toward new investments. There has been very little, or no, rights issues in the industry to finance activities.

Government Lobbying

Consumer Group A has also been active in producing papers on how "regulation needs to change". Therefore recently they produced a submission to government on the Utilities Bill. Consumer Group A feels that there should be a Board of Regulators (especially in Water and Gas) as the individual regulator has "a lot of discretion". "OFGEM will be a Board and should be more transparent". What Consumer Group A needs is "much more information in useable form". Also they need time to respond to proposals as "everything has to got through Committee and Council".

Appendix 4e

The main lobbying for the Utilities Bill concerned "rights of access to information." The new Gas and Electricity Council "can have direct rights of access but there are too many caveats" on this. The companies argued commercial sensitivity but Consumer Group A view is "tough if doing something wrong then go out of business". Also wanted a right of appeal on competition issues and price control reviews but lost. Lobbying was not as successful as companies.

Other stakeholders

"Other stakeholders can't fit in as [Consumer Group A] are supposed to be partisan". Having said this they have talked to Unison but Consumer Group A feels that the Unions "should be doing similar investigations". They need to do this so that they "can say wrong if employee numbers fall too far". Consumer Group A is "not close enough to quality of service issues to say if job cuts have gone too far". Unison say that they don't have the resources to do this but Consumer Group A feels that they should "crawl over company accounts". Also Consumer Group A are members of PURG (Public Utilities R? Group) that was set up by unions and consumer groups.

Consumer Group A also talked to the large users in 1995/96 as they were doing similar work. Consumer Group A also a member of the Public Utilities Access Forum which brings together consumer associations and where they exchange ideas and drafts. Also Consumer Group A ran the NICC (Nationalised Industries Consumer Councils) but this is being wound up.

Consumer Group A as a whole has done work on "green claims" where companies provide "confusing information" and the DETR and EC have also done work on this. There was also a Consumer Group A publication entitled "Can consumers save the planet?" More work on energy conservation as a way to cap fuel bills is considered desirable by Consumer Group A but so that they consume less and still comfortable. Also they have considered energy efficient appliances and there is an environmental economist on the Council. LL recognises that if prices go down too much then could be an environmental issue but where is the line drawn at poorer or middle-income families. Consumer Group A is getting more environmentally minded and they attempt to "balance" the needs of "future and present consumers" but this is very difficult.

Other concerns

Consumer Group A has two other major concerns and these are not necessarily linked. The first is that the industry becomes more concentrated and vertically integrated. The second is that the companies continue to use more and more outsourcing. The problem with outsourcing is that who would be responsible for the quality. Recently this was exemplified in the water industry by Kelda (Yorkshire Water) wanting to become a mutual. Consumer Group A opposed this as the shareholders would get a huge pay off and the intention was to out source certain duties and the question was "who would be liable for water quality?"

Other contacts

LL suggested that she could give me contact details for:

The Combined Heat and Power Association
Rodney Brook – Chairman of National Electricity Consumer Council and Yorkshire
Pauline Ashley – Surrey electricity consumer council
Leicester University – Centre for Utility Law

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Consumer Meeting 2: with RB, Consumer Group B, 29 November 2000

RB was the Chairman of the recently disbanded Consumer Group B. It is the view of RB that consumers have three main concerns they want low prices, high quality and safety from their electricity supply. Safety is not considered to be a particular problem as electricity supply is relatively safe.

Quality of supply

Quality in terms of electricity supply is primarily concerned with the number, or frequency, of interruptions that consumers suffer and also the length of time that it takes to restore supply if interrupted. These quality issues can be measured in terms of the number of customer minutes lost, and they provide the electricity companies with conflicting expenditure needs. In order to improve the system and therefore reduce the number of interruptions the companies need to make capital investments to improve the network. Restoring supply quickly requires expenditure of a more revenue nature in terms of employees to repair the problem. Multiple interruptions are another quality issue. These interruptions may be relatively short in nature, but such regular interruptions can significantly reduce the consumer's quality of life.

There is a very real concern about the level of long-term investment in the system. This is not necessarily uniform across the whole of the industry as Southern have invested huge amounts, all of the money they were supposed to, whereas Seeboard have only spent half of their amount. The problem is that the benefits of this investment "don't show up in the short-term". It is in 15 years time where there could "conceptually be a massive black out". RB believes that there is "enormous short-termism" in the industry, because people change jobs whereas there is a significant need for long-term investment.

There is also a "conceptual problem" in terms of how companies restore supply. There is supposed to be a mutual pool of help among companies such that employees from one company can assist another company to restore supply. The problem, however, is that if the companies are rewarded and penalised on comparative performance then there is an incentive to not help. Also since privatisation the number of employees has been reduced significantly and as their numbers have "diminished" there is a "much smaller pool" of employees to help restore supply. This decrease in employee numbers has been further accentuated in the case of Eastern and London where they have merged their distribution systems.

The Guaranteed Standards (GS) as published by OFGEM (previously OFFER) do require the companies to restore supply within a set period (24 hours in 1998/9). If supply is not restored within 24 hours then the companies are liable to make a payment. There is a severe weather exemption that allows the companies to not make GS payments, although they do usually make ex-gratia payments. OFFER have said that they will revisit the severe weather exemption and this may become increasingly important if such conditions become more frequent due to climate change. A further issue is that there is a measurement problem when companies make ex-gratia payments, as opposed to GS payments. Ex-gratia payments are good for consumers, but they distort the statistics, as they are not reported as GS payments, and therefore make the statistics less reliable. The statistics are "manifestly a load of rubbish". Another example of the statistics providing incomparable data was when Scottish Power reported 619,000 queries about bills as opposed to another company reporting 2. The collection and reporting of this data requires auditing and a much more precise definition of terms is required. This problem will also arise with the Consumer Satisfaction measure that is to be reported from April 2002 as this will be based upon the number of complaints and this will need to be carefully defined.

Overall RB believes that improvement in quality reflected in OFFER/OFGEM's statistics is a fair reflection in that Consumer Group B did get a feeling that quality was improving. He is not so sure that the statistics are "robust enough to base rewards and penalties on". Yorkshire highlighted another example of the problems with the measures. They reported zero disconnections for debt and both OFFER and Consumer Group B congratulated them on this, however when a different person had to complete the submission the number of disconnections was not reported as zero and in fact had a very high number. As a result of this the practice of Yorkshire was looked at and they found that about one-third of the cases were genuine where the consumer had "duffed up" the debt collector or appeared to be "getting ready to moonlight".

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Therefore the statistics reported by Yorkshire should not have been expected to be as low as zero as there are circumstances where the company would need to disconnect for non-payment.

Recently the Information Incentives Project has been published that attempts to give companies incentives to supply information on the quality of supply issues.

The price of electricity

One of the things that has affected the price of electricity since privatisation has been the "gaming on electricity". Due to "very clever gaming by the generation companies" there were "price spikes" where the price was "£100 compared to 2p" (per kWh). More recently the generators have also used the capacity payment system to increase the price, the pool price, SMP, could be equal to £10 (per kWh), but then they also receive a capacity payment of £120 (per kWh). This gaming has resulted in several large changes to the industry firstly the generators, Powergen and National Power, have been required to divest generating capacity and NETA is also to be introduced. The introduction of the New Electricity Trading Agreement (NETA) was to have already happened, but has been delayed and will now not be introduced before March next year. It is hoped that NETA will reduce the scope for gaming although RB is not sure that it will do it. At present the intention is that OFGEM will have the power to interfere if NETA goes wrong and this indicates a lack of trust in the new system.

It is possible that the new system will lead to discrimination against domestic consumers, as they cannot be controlled. This is to say that domestic consumers tend to peak at the same time and also you "can't guarantee what they need" for example if "the world cup final goes into extra time". This means that domestic customers are more expensive to serve. OFGEM believe that everyone will gain under NETA as the benefits from the new system will be large enough even if domestic customers do not benefit as much. The delay in the introduction of NETA is seen to be bad news for the government as it was hoped that the system would be in place in time for the electorate to see improved bills before the election. Instead due to the increase in the price of gas the price has risen not fallen.

The price of electricity is also influenced by changes to the industry. The introduction of competition has increased consumer's bills by £4/year. Therefore if a consumer hasn't switched suppliers they will be less well off from the introduction of competition. At present it is believed that about 20% of people have switched and considering the small savings to be made this is not considered to be too bad. Further the new trading system will cost £16billion, which needs to be paid for, and some say that it won't work.

Another price issue concerns prepayment meters. At present the premium on prepayment meters has been limited to a maximum of £15 but in addition there is a discount for Direct Debit of £10-£15. This means that people with prepayment meters are paying up to £30 more than DD customers do. If it is assumed that it is poor people that pay by prepayment meter this higher cost is an area for concern. However, RB notes that this is not necessarily the case and, for example, Age Concern are against any subsidy of prepayment meters, as these do not tend to be used by older people who may also be poor. In fact many students use prepayment meters.

The price of electricity is also increased by the renewables levy on consumers. This is set to be increased from £1.20 to £3.60 per annum and is also to be implemented on gas bills. This means that in total there will be a cost to the consumer of £7.20 per annum. The companies then use this money to meet targets for renewables. This has been criticised as a form of stealth tax and also that it is regressive, as it is a flat charge irrespective of financial circumstances. Against this there are longer-term benefits in that consumers will have an alternative source of energy supply, rather that just gas, in the future. RB believes that nuclear and coal will not be used in electricity generation in 20 years time and also the UK reserves of gas will be exhausted by this time. If not for renewables this would result in the UK being dependent upon Russia and Algeria for gas in the future and these are not the most stable places in the world. If the price of gas rose then the price of electricity would "shoot up". Therefore an alternative supply is considered to be important for consumers in the future and hence justified, although a progressive tax would have been preferred.

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One problem with switching suppliers is the complexity of the pricing information that is available. This makes it difficult to shop around, although OFGEM have produced a sheet on prices. There have also been problems with misselling and misadvertising with there being 2 or 3 complaints every month. The malpractice can range from misrepresentation, i.e. say cheapest when isn't, to forgery, i.e. when salesman forge sales as they want the commission. There are no penalties that OFGEM can impose in these cases with the exception of revocation of the licence. Possibly more effective is the threat to go public and expose malpractice.

Advanced meters

One solution to some of the problems in the industry would be the introduction of advanced two-way communication meters. The advantages of these are that problem with generation can be avoided and it would allow suppliers to profile customers. If they were introduced it would become cheaper to supply domestic consumers as it would be possible to stop consumers doing certain things at peak time i.e. using the washing machine. This would make electricity cheaper for consumers as the price can vary from £0 to £200 (per kWh?). Also due to the two-way communication the distribution companies would know immediately when somebody goes off supply. The distribution companies would also be able to see where a problem was as it would be obvious where supply was on and where it was off. This would speed up repairs to the system, as mentioned earlier this is a key quality issue. They would also know if a consumer self-disconnects which is a problem that can not be measured at the moment. Similarly if a customer was on the "vulnerable list", i.e. an old person living by themselves, and they suddenly went off supply the company would be able to phone or visit them to see if there was a problem. Other by-products would be that if a consumer transferred suppliers they would be able to know precisely the electricity used for each supplier and there would also be no need for meter readers.

The cost of these meters is "not all that much" and they are "used in every country in the world". The expense is in terms of the central system, where a computer system would be required to analyse the data and also in the cost of labour time installing the meters. This and the possibility of the consumer switching to another supplier at any time means that there is no financial incentive for the companies to install the meters. Also there would be benefits across the whole industry supply, distribution and generation but it is the supplier that has responsibility for the meters. This means that the advanced meters will not be installed unless OFGEM create "a regime that makes it financially viable". Instead OFGEM has targeted competition and is also wary of insisting on a particular technology and such commonality of technology would be important if consumers were to be able to switch suppliers. Meter manufacturers are keen on the idea as they would benefit for the need of new meters and it is possible that consumers could benefit by as much as 10%.

Industry structure

The structure of electricity industries tends to be vertically integrated as by doing this the risk premium related to relying on a separate company for generation can be avoided. There is thought to be a 6% risk premium for the possibility of the price increasing or decreasing. Therefore vertical integration should bring with it a price benefit to consumers. Consumer Group B was not opposed to restructuring and RB feels that consumers will "probably be better off with five or six suppliers competing across the whole country". A problem with these developments is that these companies were once seen to be the "backbone of the regional economy" and as a result of the changes the head offices are being moved at best to London and at worst overseas. As the companies are owned by US or French companies the commitment to regional sponsorship will go. This is possibly what will happen with Yorkshire. An Ohio company and a Denver company own half each of Yorkshire and the Ohio company has also merged with a company from Texas that own Seeboard. At present the Denver company is holding on to its half share of Yorkshire but in a couple of years it may well sell and then Yorkshire and Seeboard could be merged and the new HQ set up near Gatwick.

There are also strong reasons for the companies to become not just electricity companies in the future. The companies will be looking for ways to add value and Virgin and the AA have done this where there is a potential for cross selling through the client list, so insurance and car rescue services can be offered.

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Another interesting development has been the local authorities becoming generators themselves, and also buying in bulk for tenants. The size of a local authority provides it with "buying muscle to cut prices" and then use this saving to invest in HECO (Home Energy Conservation Organisation) to reduce energy consumption. So local authorities may become more like energy service companies that can lead to greater energy efficiency.

Financial performance since privatisation

The companies were "sold too cheaply" as "nobody realised the extent of over-manning". This resulted in the companies being able to make "colossal profits for seven or eight years" and at this time "real profits of 20% to 40%" were being made. This all came to a head in 1995 when Steven Littlechild had to revisit the price control review as Northern had shown their true financial strength in attempting to defend a take-over bid. Since this time there has been "acute pressure on distribution and to some extent supply". This is reflected in the fact that the market value of the companies taken over is presently lower than when they were sold. This also raises concerns as the reaction to such pressure has been to cut expenditure in the short-term and this has been done in terms of cutting employees and under investment with less emphasis being placed on the future implications of these cuts. This was exemplified at the last distribution price review where the immediate effect was that each company "shed 500 employees" and this is "dictated by the profit level".

Powergen and National Power have "behaved stupidly" and "exploited their market advantage". This was bad behaviour and as a result they have been left in a position where they were told to divest generating capacity. This means that these companies have missed an opportunity to become market leaders in international terms. National Grid may have an opportunity to "make huge amounts of money" when NETA comes into operation. Under NETA the National Grid will be able to trade in the market in order to balance the demand and supply, but also they can trade in the futures market. The possible problem is they may well have an information advantage. Transmission pricing will be generally more complicated under NETA and it is intended to trade three and a half hours ahead and RB would prefer to see a "move to real time trading".

The environment

As mentioned above Consumer Group B is in favour of research into renewables as it is important for security and price of supply in the future. Consumers are in favour of green issues "as long as it doesn't inconvenience or cost them anything". The actual take up on green tariffs has been very marginal. Some companies are considering introducing a completely new pricing structure, whereby there is a fixed amount per month irrespective of usage. If this is done this gives the companies the incentive to encourage energy efficiency steps. This is interesting as it goes against the idea being suggested in the water industry that charge per use will make people more water efficient.

Appendix 4g

Consumer Meeting 3: with AM, Consumer Group C, 9 March, 2001

AM is the Communications Manager for Consumer Group C in the Central Region and has previously worked for the Gas Consumer Council and OFWAT. Consumer Group C has only recently been formed and replaces the Gas Consumers Council and the National Electricity Consumers Council. Consumer Group C was established by the Utilities Act 2000 and this Act provides Consumer Group C with certain important powers. Firstly there is the power to acquire information, the only restriction on this is where the information is of a personal nature, where this is the case an independent arbiter must rule whether Consumer Group C needs the information or not. Also within the Act is a ban on energy prepayment meters being used to recover other debts, such as Cable TV. Consumer Group C also has investigative powers on safety issues. In addition to the investigative power Consumer Group C are also required to provide advice and information on consumer matters and are the point of contact if a consumer wants to complain. Consumer Group C has a duty to represent all users; this means both domestic and large users.

Consumer Group C is independent from both the regulator and the government and work to a Council who decides policy. Consumer Group C, in the spirit of devolution, is required to have separate committees in Scotland and Wales, although this will probably not be the case in England. Consumer Group C has produced a work programme entitled "What we plan to do" and AM provided a copy of this. A key role for Consumer Group C is to try and help consumers understand the market. The consumers need to understand that they have a choice and that they need "to keep an eye on price".

Information needs

At present there is a lack of information and this is especially the case on pricing. There is not enough "simple pricing information" to aid the consumer and this is especially concerning for less educated consumers. In electricity the savings to be made are "not very large" and average in the region of £10 per year. OFGEM have a responsibility for pricing and they update pricing comparisons, which are available on their web site, every 2 months. There is a code of practice for the companies' web sites and they are "only" required to provide comparative data for three companies.

Similarly there is a deficiency in the quality of service information. OFFER, and now OFGEM, have always had guaranteed, individual and overall, standards as introduced by Statutory Instrument. OFGEM have said that there has been a huge increase in standards and there is the possibility that some guaranteed standards will be dropped as there is now competition to guarantee standards. The level of competition in the market is a moot point and Utility Week recently had McCarthy (OFGEM) on page 1 saying "stiff competition" and Robinson (Consumer Group C) on page 2 saying not enough competition. Consumer Group C have performed some analysis on the level of competition in the industry and they believe that an important aspect of this is market share and this indicates the lack of competition in the energy markets. A colleague of AM is the best person to talk to at Consumer Group C about changes in prices and the competitive market. BG still has 70% of the gas market and AM suspects, although is not sure, that 80% of customers are still with the RECs. Also rural customers are a special case as they "haven't switched as much", probably as doorstep selling is less prevalent in these areas. Further, Scotland is less competitive and there is therefore less choice. It is these facts that lead Consumer Group C to believe that competition is not protecting customers at present. Therefore the service standards should remain in place.

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At present the information on complaints is poor as it only records those complaints that "get to the final stage" and does not include complaints to the companies. Consumer Group C has a "duty to publish information on complaints" and this will incorporate both the complaints to the companies and the complaints to themselves. There will be a need for tight guidelines in this area as there is "so much potential for ambiguity". Consumer Group C want to see overall performance measures in place that are easily available and preferably in some league table form.

Consumer Group C have an obligation to consider certain special interest groups, such as disabled, chronically sick, elderly etc, and are therefore presently developing information and are working in collaboration with Age Concern, the Citizens Advice Bureau and Trading Standards (this is especially important in the instances of poor marketing).

Prepayment meters and fuel poverty

Firstly it is not necessarily true that people with prepayment meters are in fuel poverty, nor that everybody in fuel poverty pays by prepayment meter. Some people are not in fuel poverty, but actually like to pay by prepayment meter. There is a different price to consumers using different payment meters. The most significant difference is between prepayment meters and direct debit. The regulator has recently restricted the surcharge on the fixed payment for prepayment meters to £15, but the actual price of the electricity can also vary. The regulator has also recently published the "Social Action Plan". This introduces Codes of Practice, although there is scope for the companies to not follow these Codes, as they are only required to do so "wherever practicable". AM thinks that there are "some good things in the Codes" and believes that it is a "positive step", but does not like the "wherever practicable" element as this allows companies to not follow the Codes. The Social Action Plan also introduces five social obligations and these are:

- Payment of bills: the companies are required to ensure that the customer can afford to pay.
- New rights on prepayment meters.
- Energy efficiency
- Rights for old, disabled and chronically sick etc.
- Rights for blind and deaf people.

These specific obligations certainly give Consumer Group C more leverage if, for example, a disabled customer comes to them with a complaint. A specific problem area is disconnection fees. The charges made by some companies are "ridiculous", as they are so high. This means that a consumer that is already struggling to pay their bill is then left with another large amount of debt. Consumer Group C want to see a standard debt code brought into place in the future. Debt is a major issue and customers in debt can actually be prevented from switching suppliers. Consumer Group C want to see the emphasis shifted from debt management to debt prevention. This would entail debt counselling and energy efficiency measures. One step to help has been the opportunity to make regular payments through the year rather than bills fluctuating with use. Consumer Group C monitor disconnections and are pleased to see that these have fallen.

Pricing is obviously also important for eradicating fuel poverty. The government has set a target of eradicating fuel poverty by 2010 and claim that 700,000 people have been taken out of fuel poverty, although AM would like to see how this is broken down. Obviously the more prices can come down, especially for low-income groups, the fewer people will be in fuel poverty.

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Energy efficiency

There are government energy efficiency schemes and company schemes (see below). The government has the home efficiency scheme (HES) and the Warm Front Initiative. Responsibility for the Warm Front Initiative is with the DETR. This enables people on benefits to obtain grants for draft proofing, insulation and partial Central Heating system (if the person is a pensioner).

There are also Energy Efficiency Standards of Performance (EESOPs) that place a levy on customer bills. EESOP3 increased the levy from £1 on electricity bills to £1.20 per customer per bill and there is a DETR consultation document that suggests this will treble to a total of £7.20 for a household with both gas and electricity. This money is used by the companies in energy saving schemes. Any company is allowed to provide energy efficiency services to a consumer whether they are their customer or not

There are also 5 warm zones in the country, Sandwell, Stockton, Newham, Northumberland and Hull, where consumers will be offered free energy efficiency advice. These schemes are run by private companies such as the Eaga Partnership in Sandwell.

Company developments

The companies also research into various issues and a recent example of this is the Electricity Association research into "Self disconnection is it a problem?" The companies have also started to develop some quite innovative schemes. One example is Npower "health through warmth" and this involves training within the NHS to recognise cases of hypothermia. Powergen have vowed to get rid of the £15 surcharge on prepayment meters over the next 5 years and also have an "age Concern tariff", which entitles elderly customers to a wall thermometer, and a 20p reduction if the temperature falls below a certain level. Scottish Power also provide a power for lower income bill, which also incorporates energy efficiency measures. Eastern / TXU are offering a flat rate charge irrespective of use for pensioners, again combined with energy efficiency measures, although they do withhold the right to reassess the charge in the second year. Equigas is a Christian motivated gas tariff where actually direct debit customers pay more to subsidise other customers; there are very limited numbers on this scheme. This is allowed as the Utilities Bill allows cross subsidisation. Also the Electricity Association has a task force looking at fuel poverty and providing schemes. There is a need to look at what the new entrants are doing in these respects.

Consumer Group C want to see "affordable warmth" and energy efficiency has a role to play here, but one of the problems is that "poor people don't believe that you get something for nothing" and are therefore suspicious of some of the schemes. Consumer Group C try and get information on the take-up of energy efficiency schemes. In addition they will provide some publicity and act as a referral for consumers.

Transferring suppliers

Two of the biggest areas of complaints are sales and transfers. Consumers need to know their rights more. There have been complaints about telesales and people not even realising that they have agreed to change suppliers. Also with doorstep sales, there is feedback that vulnerable people, such as elderly or less literate, are receiving the "hard sell" and end up signing just to get rid of the salesperson. Complaints are low in this area, but AM feels that this is not a good indicator. Many people are not sure who to complain to, or just leave it. There are still a lot of problems with transferring supplier. A lot of transfers still go wrong as the wrong meter reading

is taken or the wrong house is switched. Consumer Group C want to see standards introduced for the transfer process.

Price levels and quality of supply

Price controls have brought prices down since privatisation (see NAO paper "Giving Electricity Customers a Choice of Electricity Supply"), but Unison published a paper, "Privatisation in Public Utilities", to suggest that the prices were "jacked up by 30% before privatisation and then came down since by 30%". One concern has been the market abuse of the pool and this has resulted in the move to NETA. OFGEM failed to put in a market abuse clause. The actual implementation of NETA has been delayed, but should go ahead soon.

The NAO (page 20) suggest that the number of complaints has actually risen six-fold for customers that have changed supplier.

Information Incentives Project

AM is concerned that this is an excuse to not have service standards. Also there is a problem that it is the companies themselves that provide the information and Consumer Group C are still considering how to combat this problem. One is to use an "Information capture system" as used by OFWAT. Also OFWAT use a system of auditing the information that at present OFGEM do not. In this respect Consumer Group C's power to collect and acquire information is extremely useful.

Performance of the industry

AM does not know whether the customer has benefited as much as the shareholder. The Utilities Bill s97 (for gas) states that price-controlled companies must state if and how remuneration for directors is linked to levels of service standards. A potential outcome of this will be that companies will not link remuneration to service standards.

The future of regulation

OFGEM are looking to pull back from regulation and would prefer to rely more heavily on competition. This means that they "are not keen on service standards" being continued indefinitely into the future. Consumer Group C believe that some kind of regulation is needed and only if consumers are fully confident in the market will this need to be looked at again.

Appendix 4h

Supplier Meeting 1: with NY, Supplier A, 3 August 2000

Background

SUPPLIER A is the largest coal producer in the UK with 60% of the market and they have operations from Northumberland to Warwickshire. The company is centralised with one large head office in Harworth near Doncaster. NY works in the marketing office and is responsible for sales to power stations, Supplier A supply 50% of the coal for UK coal fired electricity generation. He reports directly to the Chief Executive, who is an extremely powerful and autocratic leader and also owns 3% of the shares of the company. When Supplier A first purchased the collieries from the Coal Board many people believed that the business would be reduced in size in order to maximise the cash, but the actual mission has been to try and keep the business as large as possible.

On privatisation the generators were somewhat "lukewarm" or "negative" about the role of coal. These "incumbent generators were happy to go along with the decline of the coal industry". This was especially apparent with National Power who "wanted to go on and do more exciting things" and have therefore virtually withdrawn from coal generation. At the time the last contracts were renewed there were three owners of coal fired power stations National Power, Powergen and Eastern. These companies have since divested some of their coal fired power stations for example Drax has been sold to AES. For the duration of the present contracts the coal is still sold to the original three who then sell it on to the new owners. When the contracts are renewed, this will be done in all cases by April 2003, there may be as many as ten owners of coal fired stations as opposed to the three previously. This will obviously require more negotiations but is seen as an opportunity by Supplier A as the new players are far more interested in coal and this new attitude is already starting to take effect in Fiddlers Ferry and Ferry Bridge.

In terms of the future of electricity generation NY agrees with Ed Wallace who has suggested that there will be a "handful of large players" dominating the market in the future. These may be vertically integrated. NY suggests that some of the companies already appear to be heading that way with Powergen and Eastern already having a very strong brand.

Coal in the UK market

Supplier A believe that the decline of the coal industry in the UK was "inevitable" given the nature of the electricity pool and the form of regulation. The "old regulator put competition over consumers" and because of this consumers have had to pay a higher price. This is because in order to increase competition new gas fired power stations were built but these could not produce the energy as cheaply as the existing coal generators. Supplier A believe that they have proven this and that it is now "beyond dispute" and reflected in the 1998 Government White Paper. The first generation of gas fired power stations produce electricity at a cost of 3.2p/unit as compared to coal at 1.6p/unit (figures available from website information). These figures are comparing continuation of the existing coal fired power stations at higher levels, at present they are operating far below their potential, to meet the demand as opposed to building the new gas fired stations. Therefore the cost of the gas includes capital costs that are not included in the coal figures as these plants already had "fairly low written down values". NY admits that if you compared the cost of electricity of a new coal fired plant as opposed to a new gas fired plant the gas station would be the cheaper.

The "initial dash for gas was almost politically inspired" and has also been somewhat "fortuitous on environmental emissions" but has not been "economically ideal". In terms of the environment the "dash for gas" has resulted in lower sulphur emissions that the government may have had to address any way although the sulphur issue is now largely resolved. At the time of the initial dash for gas, late 1992, the first coal contracts with the generators were coming to an end (they ran from 1990-1993) and these contracts had been at "very high prices". British Coal were holding out for similar prices in the contract negotiations for the 1993-1998 contracts and this fuelled the dash for gas and the increase in port companies looking to import cheaper coal. Once the gas fired power stations were built they had "take or pay" contracts for the gas and therefore bid low prices into the pool despite being "clearly more expensive" and this meant that coal was squeezed to a lower level.

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Supplier A believe that the replacing of the electricity pool with the New Electricity Trading Agreement (NETA) coupled with the divestment of the coal fired plants will have an uplifting effect on the UK coal industry. This is not to say that that the level of coal will increase but rather that there will be some further decline and then this will stabilise. External consultants, WEFA who are relatively respected by NY, presented their forecasts for the UK coal industry and showed a decline from 50million tonnes per annum to 40million tonnes per annum from now until 2020. WEFA do not believe that the Kyoto agreement will be met and this has influenced their forecasts. This is similar to but slightly more optimistic than Supplier A own forecasts.

Coal in the world market

The importance of coal throughout the world is much higher than in the UK. Coal consumption is on the increase with predictions suggesting that in 2020 7,000 million tonnes of coal will be consumed as compared to 5,000 million tonnes in 2000. The US amongst others is "dependent on coal" and there will be "significant growth in China". In this respect Western Europe is out of line with the rest of the world. At present there is a definite cycle to the price of coal and this has been a five-year cycle over the last fifteen years. This is partly caused by the long lead times for new coal capacity and partly because coal is mined in many countries and sold by a large number of companies. Therefore when the price rises new capacity is developed and when this comes on to the market the price falls. There has been a desire to make the coal market operate more like a commodities market although as yet this is not the case. Therefore there is no derivatives market although a few swaps and futures are available. One of the problems is that coal has many different properties so it is sold by calorific value but then there are different levels of Chlorine, Sulphur and other chemicals that differentiate coal from different areas. Also only certain coal is acceptable for certain uses.

Overall the international coal market is an uncertain one. There are uncertain prices and fluctuating exchange rates, coal is invoiced in US$ internationally, that accentuate this uncertainty. This uncertainty has been used in some countries as an argument to protect indigenous coal production. This is seen as more economically acceptable than the employment aspect and Supplier A believe that they can charge a higher price to UK generators as they invoice in £s and can offer greater flexibility in terms of supply needs as they are local.

Supplier A presently produce coal at just above the price at which it can be imported. However, the international market has, Supplier A argue, been distorted by subsidies given to coal production in the rest of Europe. Supplier A received no government subsidy from the time they purchased the collieries until very recently (see below) although they did benefit from the high prices negotiated by the coal board with the generators. Therefore in a period of time when Supplier A was receiving no such benefit the German coal industry was subsidised to the tune of £3billion per annum. In total there has been a £14.6billion government subsidy paid to the coal industries in Germany, France and Spain since 1995. Supplier A commenced a court case in Europe "a few years ago" on the grounds that the German and Spanish subsidies were illegal and had distorted the international coal market. Germany produce coal at three times the cost of the UK and Supplier A argued that the 40million tonnes of coal able to be sold due to the subsidy have distorted the world price by approximately 10%. Supplier A would be able to produce at lower than this theoretical higher market price. The case was lost as it was claimed that the governments were allowed to subsidise these industries under ECSC 1952 a fifty-year treaty that predates the Treaty of Rome and relates to the coal and steel industries in Europe. The court decided that the UK government could equally have subsidised the coal industry in the UK and it had been their political decision not to.

Since the case was lost Supplier A and the UK government have sent a subsidy scheme to Brussels and this has been approved. The nature of ECSC is such that the subsidy can only be used for collieries that have a long-term chance of being viable. Therefore Supplier A will benefit from a subsidy on certain collieries until treaty expires in 2002. As a result of this subsidy providing assistance to Supplier A's long-term collieries Supplier A have been able to keep open two collieries that had been announced to be closing. These mines are not viable in the long-term, as they will be closed in two or three years time anyway when there is no more coal, but they have benefited indirectly from the subsidy. Supplier A recognise that this

subsidy will distort the market but feel that the distortion will damage the interests of coal importers and not the UK public. In the long-term Supplier A expect to be competitive with imports.

Coal's competitors

Supplier A feel that they were thrown straight into a competitive market when purchasing the collieries from British Coal and that this has not helped them. Competition is form other coal producers both in the UK and importers and from other sources of energy the main ones being nuclear, gas and renewables. Comparatively the electricity companies had it much easier as they effectively had 8-9years before competition.

The nuclear industry in the UK produces base load electricity and NY believes that this will continue to be the case. However, he does not believe that any more nuclear power stations will ever be built and therefore the amount produced by nuclear energy will reduce in the future when the "Magnox stations start to drop off".

The "dash for gas" has resulted in numerous gas-fired power stations in the UK. NY believes that those already built will continue to operate and provide base load electricity. An issue here is that gas prices are rising and as the price of electricity is anticipated to fall this may well provide less incentives to build many more gas-fired stations in the future. The moratorium on gas-fired stations ends in November but NY believes that "not many more will be built". The increased use of gas is "counter-intuitive" as it must run out. The proven gas reserves are less than 10 years, the proven and probable reserves are < 15 years, and the maximum is less than 20 years. As a result of this gas could well be expensive in 20 years time and the UK is expecting to be importing 90% of gas by 2020. NY does note that the gas producers are an incredibly powerful political and economic lobby and feels that this has effected how the market has developed.

According to the Utilities Act renewables are to account for 10% of electricity generation by the year 2010. This is thought to be an optimistic target and would require "an area the size of the Peak district to be covered in windmills". It is anticipated that the hydros will continue to run but even so it is felt that this target is too optimistic. Also the renewables are not price competitive.

In comparison coal is a "long-term resource ... almost limitless in current terms" and with clean coal generation should be viewed as a "sustainable" source of electricity. Supplier A believe that there will, "sooner or later" be a need for new coal stations unless renewables expand at a greater pace than they believe they can. By 2050 there will be an "extraordinary degree of decrease" in fossil fuel and this leads to a conflict. In the long-term the "best solution could be nuclear stations" but this has "very little political support". New coal-fired stations are being built around the world and these would be more efficient than the present ones. As with all new technology the first version will be more expensive, less efficient and therefore not economic but this is a stage of development that you have to have at some stage (and was the case for the first generation of gas-fired stations). The efficiency of power stations means the ratio of electricity of energy produced to the coal energy supplied. At present the OECD average is 38% efficiency and it is believed that with the use of new advanced materials with pulverised power plants this could be raised to 55%. This 50% increase in efficiency would reduce CO2 emissions by one-third. In fact in order to meet the Kyoto target reduction "you would only need to increase the efficiency of the world's coal-fired power stations by 1%".

Supplier A have a "Clean coal" project on paper and this is in partnership with Texaco and National Power. However, this project does not pay on "straight economics" and the funding is not available. "Nobody other than large multi-nationals will invest" and they would not do so "unless they get a definitive off-take set price".

The Environment

As mentioned above the problems of sulphur emissions from coal fired power stations have been resolved. Coal fired stations are now fitted with equipment that captures 99% of the sulphur. Carbon Dioxide is a significantly different issue. Supplier A are "not bothering with the argument as to whether the greenhouse

effect is real. The UK government sees it as real and so Supplier A see it as real." It is noted that the UK appears out of line with the US on this in terms of meeting the Kyoto agreement and they are not sure that this unilateral stance will be sustained.

Supplier A's customers the generators

As mentioned in the introduction the electricity generation industry in the UK is going through a process of change. The electricity industry was privatised en masse and this resulted in "CEGB bureaucracy lasting well beyond privatisation". There were huge numbers of staff and this has resulted in significant down sizing. However, a larger number of generating companies now own coal-fired power stations. In the past when contracts have been agreed with the generators the "political dimension has always featured" and the major power generators "want to stay on the right side of the government". Therefore the government can still significantly influence the outcome of these negotiations. For example in March 1999 the new contract was being agreed with Powergen who also wanted to buy East Midlands Electricity at the same time. "There are those that would suggest that there was a quid pro quo although this was all implicit". Supplier A have a bottom line in terms of price and volume and if these are not met then there will need to be it closures and when this would be Powergen's fault and announced as such. None of the previous contracts (1990, 1993 and 1998) were "conducted in a totally commercial market". Supplier A knew that they needed to sell 20million tonnes per annum and this amount was almost allocated between the two or three generators at the time (for example Eastern have a 25% share and therefore need to sell 5million tonnes to Eastern).

The new contract with AES (the new owners of Drax) is a "genuine commercial deal". AES want to continue to carry on generating using 9million tonnes of coal and as the import price has been rising recently and the exchange rate falling this makes a local supplier more attractive. Therefore there were more equal power relations in this negotiation.

Supplier A do look at the annual reports of the generators but the generators argue that there is a market price for coal and therefore the level of their profit is not relevant to contract negotiations. Supplier A has a slight disadvantage as compared to other UK coal producers because 80% of their coal is from deep mines as opposed to the cheaper surface mines that the others operate. However transportation issues can offset this. Supplier A are very determined to not drop their price below a certain level, as margins are very low, and they can usually maintain this because of their size in the UK market. Therefore Supplier A's negotiating strategy is to hold out rather than "allow them to chip away at it."

The government

As Supplier A only received a "luke-warm" response from the generators they have put considerable effort into lobbying government. However, there is not much money available for this activity especially in comparison to the gas producers. This lobbying has mainly taken the form of keeping "friendly" MPs and unions (especially BACM) well informed primarily through conferences where the aim is "to change the view of opinion formers". In addition Supplier A and / or CoalPro (the association of UK Coal producers in which Supplier A is the largest member and therefore plays a very important role) always respond to formal consultation.

In dealing with government Supplier A often use employment as a key and very emotive issue and have been surprised by how much success this has had. See employee's section.

Employees

In 1977, when NY joined the Coal Board, there were 240,000 direct employees and this compares to 10,000 today. However, as mentioned above the employment issue is still a political tool today. In total including the support industries the coal industries employs approximately 50,000 people but more importantly these jobs are in employment "black spots". The mining areas are unusual as they are not in big cities but also they are not dispersed throughout the whole country. There are many mining villages in Yorkshire and Northumberland where there is "no other reason for them to be there" and so if the mine

closes "there is literally nothing else for them to do". Therefore if the few remaining jobs were taken away it would have a significant impact. In addition to this many of the mines are in the "Labour heartlands". Overall the effect is "more emotional than anything else" and the level of political support has surprised Supplier A.

Supplier A has a good relationship with BACM who have been involved in a lot of lobbying and is in contact with Supplier A. When Supplier A purchased the collieries they "inherited a frightening situation from British Coal". There was a lot of hostility when they should have been on the same side. "Arthur Scargill did the most stupid things" and the "NUM did the most damaging things". As far as NY is aware all of the miners are still Union members but Supplier A do not formally negotiate with the Unions as they negotiate with the men direct. One of the problems is that the NUM and UDM won't talk to each other and NY thinks that the "NUM refused to sit at the same table as the UDM". Having said this the Supplier A do talk to the unions and try to use them when they have common interests.

The public

Public knowledge about the coal industry is very poor. Some people in Supplier A believe that in order raise public awareness the company should engage in a "huge advertising campaign". Many people "don't think there is a coal industry any more". However, Supplier A do not have the funds available for TV advertisements as this is incredibly expensive. The "removal of Supplier A from the final customer" makes this an extremely difficult problem. There was a scheme with Eastern where customers could choose to buy electricity generated from coal but this scheme was not successful and has been dropped.

Shareholders and Supplier A results for 1999

As with most Plcs Supplier A is mainly owned by institutional shareholders although there are employee share schemes that account for 7% of the shares. Supplier A feel that the city does not have a good understanding of the mining industry. The share price was £2 on privatisation and the company could not understand why the share price reached the heights, over £5, it subsequently did. The high share price is felt to have been because of the high profits and cash inflow from the original contracts with the generators but when the new contract negotiations started the share price fell as it became apparent that the same levels would not be maintained. NY sees the share price as based more on "prejudices and perceptions" than anything else. The subsequent low share price of 27p was felt to be way below the company's value. This gave Supplier A a market capitalisation of £40million when they owned coal stocks of £100million and over 50,000 acres of land. This would imply that the collieries themselves had a hugely negative value. There has been recent interest in a take-over and this has seen the price rise to 80p soon after the announcement and now stands at about 60p. The shareholders seem to have taken the view to hold on to their shares as they may get some of their money back. Overall Supplier A are frustrated by the continual need to explain what is happening to their shareholders.

The results of Supplier A for 1999 showed a fall in turnover and the closure of two collieries although these have subsequently not been closed (see above). Also the results showed an exceptional write down of £130million on fixed assets which meant that the company did not make "paper profits" in the year. However, Supplier A has incredibly good cash inflows and "virtually no indebtedness". This revaluation was based on the fact that Supplier A's expectation of future revenues was adjusted significantly downward in the period as the world coal price continued to be very low when compared to previous years although subsequently the price has risen again. There is very limited money for future investment in say the clean coal technology mentioned earlier.

Information used by Supplier A

The weekly information about the pool is extremely useful. This tells Supplier A exactly what the generation has been each week and the load factor, the percentage time generating, for each plant. In the middle of summer the coal-fired plants are used 30% of the time and on average at about 38% for the year. The gas and nuclear stations are run at higher load factors than this and the coal stations used to be much higher. The coal stations have not been closed but are run less. The coal-fired stations could have a load

factor of 70-80% but this would cause environmental problems. A load factor of 40-50% is feasible but the gas stations bid low into the pool so as to guarantee running because they have take or pay contracts. The three coal generators in the past have been more concerned with price and have therefore lost out in terms of market share.

The information from the electricity industry, in terms of generation, is good and there is a concern as to whether such information will still be available with the shift to NETA. Supplier A would like more information about the coal industry and this is mainly gleaned from gossip and publications such as Power UK (see website). Information about where people buy their coal from would be useful. Also monthly statistics concerning energy trends are available from the DTI. These provide information on coal stocks and much more.

Appendix 4i

Supplier Meeting 2: with PH, Supplier B, 16 February 2001

PH is primarily involved in the generation business of Supplier B (a nuclear company) and is not responsible for all stakeholder relations. Having said this he can "probably tell how stakeholders are managed" and will need to discuss plc policy as well. PH used a chart that detailed the different stakeholders for a subsidiary company, the previously independent generation business that was purchased by Supplier B, (SC asked for a copy of this). This chart was somewhat dated, but PH said that it was unusual for new stakeholder groups to appear that were not previously known about. Supplier B are owned by the government and so this remains the only part of the electricity industry that has not been privatised. Supplier B's operations fall into four areas: generation, clean up, spent fuel management, and front end services (where Supplier B have recently purchased operations in the US).

Shareholders and governments

As mentioned above, the government owns Supplier B and therefore the shareholder relations are really with the DTI. The DTI do have a significant input in that they are able to monitor and provide financial and strategic direction and also appoint the Board of Directors, although there is not a DTI Board member.

There is quarterly reporting to government and as Supplier B forms part of the PSBR the government also plays a role in the setting of budgets. The planning round is still going on this year, but PH thinks that there has been a shift from a profit basis to a cash basis. The investment and spend plans have to be approved by government and often Supplier B is "used to balance the PSBR books with dividend payments". On odd occasions Supplier B are squeezed for cash and decisions are made on an "avoidable cost" basis rather than a profit basis. In order to be allowed to proceed with the purchase of US operations Supplier B had to convince ministers that this was the "right use of money". This was especially important as these purchases are effectively nationalising US companies. Government involvement also means that Supplier B have to follow the "strategic framework set by government".

It must be remembered that Supplier B are "a very funny business" with liabilities of £34billion stretching 150 years into the future. This raises issues on how to discount these future liabilities and how to ensure that there is a sufficient income stream to meet these liabilities. Therefore a large treasury function for managing investments is required and investments are "earmarked" for future liabilities. These liabilities would be greatly effected by a change in policy on decommissioning and this is therefore of central importance to Supplier B, see stakeholder dialogue below.

With regard to the EU Supplier B does have an office in Brussels, but do not intend to supply into Europe. Similarly the links are not sufficient for European generators to make large inroads in to the UK wholesale market. The bigger issue from the EU again concerns regulation, energy and environmental policy, as with the UK government.

Supplier B tries to have a "no surprises policy" and an "open door policy" for MPs and MEPs. This means that if there is an incident or there is to be some public comment then the relevant MPs will be phoned the day before.

As the government are the shareholder the City are not perceived as an important stakeholder. Having said this Supplier B do have City relations, but this is much less important than media relations, see below.

Regulators

Supplier B is heavily regulated and this is primarily through three different regulatory bodies and these cover safety, environmental protection, and the electricity market. Within Supplier B there are managers that specifically deal with each of these regulators. There is also a trading department that deals with the commercial aspects and actually trades in the electricity market. Government policy is that Supplier B are not allowed to offer distribution and retail services as this would only be achievable through purchasing a

supply and distribution company. The government will not allow this, as it would effectively be nationalising a private company.

Consumer issues

Supplier B has some involvement with consumer issues through their membership of the Electricity Association, although as they do not supply or distribute electricity they have "none of the issues". Supplier B's actual customers, for electricity generated, are either the distribution companies through the pool / NETA, or direct to large consumers, "the ICIs of this world". At present Supplier B's nuclear fleet provide 7% of the electricity generated in the UK, although this is set to fall as Supplier B has announced closure plans for these stations. Therefore one station is to be closed next year, two in 2006, two in 2006-9, and the final two in 2013 and 2021, however these final two closures are subject to regulatory and commercial decisions. At present there are "no public plans" to replace these older plants with new nuclear generation facilities.

Media Relations

Due to the "controversial nature" of the industry this is extremely important and needs to be managed at a local and national level. PH is very much involved in this primarily at the local level. In addition, as Supplier B is operating the "oldest [nuclear] fleet in the world" that is "past its sell by date" this is even more sensitive. Supplier B has a central office at Risleigh and there are also employees based at Berkeley who cover two or three sites. These people provide clear points of contact for local and regional press, and aim to provide a mixture of "hard" and "good news stories".

Supplier B have defined "values and behaviours" (SC requested a copy of these) that PH finds "quite valuable" in his role as part of this is honesty and openness and he uses these as his guiding principles when there is an incident.

Local communities

These are particularly important and growing in importance, as there is a period of change around the sites. The communities are now "used to the power stations", but the closure programme raises the new issues of decommissioning, waste management and staff losses. Supplier B is trying to work proactively to "minimise the detrimental impact" that these closures will have on the local communities. It is acknowledged that the closure will impact upon the local butcher, pub and school and therefore Supplier B are offering "practical help for local suppliers". For example the retraining packages are being offered to people outside the company.

"Keeping the public informed" is extremely important in this industry and therefore a large emphasis is placed on this. As part of the planning process consultation is sought with the local communities affected and the local government. An example of this is the content of the Environmental Impact Assessments that are undertaken need to be agreed through consultation with stakeholders.

Supplier B also run "involvement programmes". These include visitor centres and free tour sites as well as public information services and a "talk service". In addition there is a formal community relations policy and this includes sponsorship and donations. Going further graduate trainees also "go and work in the community".

There are also Community Liaison Councils and these meet two or three times per year. This Council has "almost a strategy role" and is "enshrined in the [Nuclear Industry Inspectorate's] NII's expectations". The membership of this Council is "broad ranging" and includes members from parish and district Councils, emergency planning office, health services, emergency services, local farmers, etc. At each meeting there is a report of what has happened on site in the last period. There are also biweekly newsletters that must contain certain information such as lost time accidents. This newsletter contains a mixture of "soft and hard news". Supplier B are also obliged to put environmental monitoring information on the "public record" and therefore this is available in local libraries.

Appendix 4i

Employees

In this respect Supplier B are "not very different from any other company". Having said this there are "elaborate procedures " in place to encourage staff involvement and there is also a staff newspaper. Each of the four business areas has a business newspaper and this is seen as a "tool for briefing" staff. There is a policy that there should be discussion with all members of staff and often these are used to ensure the message from the key note speech is filtered down. Attendance at briefing sessions is monitored and there are always feedback services offered that can be anonymous or not. There is also an Independent Serious Concerns hotline, where staff can report issues relating to honesty and morality, and this is accessed straight to the board, or higher if necessary. Supplier B also has specific policies on stress, alcohol, and drugs.

There are formal partnerships with the Unions and these are considered a "major stakeholder". There are both local and national arrangements and the Unions are kept involved with business decisions. These decisions are discussed on a confidential basis so that "consensus announcements" can be made. An example of this is the recent announcement of closure dates where these were cleared at ministerial levels and the Unions' Principal Officers were "brought in a month before" the announcement was made. Supplier B also "encourage and support union lobbying for broader aspects of the nuclear industry" as undertaken through NCNI (the National Campaign for Nuclear Industry) and TUSNE (Trade Unions Supporting Nuclear Energy).

Safety

The NII has its own inspector for each site and they hold a "royal warrant" so that they can "enter at any time". Supplier B can shut down at any time and this may happen for many reasons, but it needs NII permission to restart and they are obliged to shut down on a 2 or 3 year basis. As such the NII is the safety watchdog, but Supplier B have their own internal and independent inspectors as well.

The NII also run "management of change", and within this "safety can't change" and numbers of staff can't change without NII approval. There is a minimum required manning level at all times. Therefore within each shift there must be a "safety capability" with two qualified safety personnel. If for some reason this is not achieved on a shift this is a "reportable event". There is also a "sophisticated emergency incident reporting" system whereby any incident is reported immediately into a special voice box. This message is then paged to certain high level people, including PH, immediately.

The environment

Supplier B's environmental performance is heavily regulated and it is something they are "boxed into". All discharges are regulated and there is a need to "stick to the limits" set by regulation, although internally Supplier B take "all practical means to minimise" discharges. Supplier B are obliged to put reports of any incidents on the public record and further are required to produce quarterly and annual notification reports.

The Nuclear Industry

Supplier B are a member of the BNIF (British Nuclear Industry Forum) of which there are approximately 80 members. Membership includes companies such as W S Atkins and Laings who are interested in decommissioning contracts. There is also a much more informal relationship with British Energy, as everybody knows each other as have worked with each other in the past.

Supplier B Education Programme

As well as the visitor centres, already mentioned above, Supplier B try to contribute to the education programme. This includes providing resources for certain key stages and some of these will have a nuclear content and some will have an energy content. A broader contribution was a CD-ROM on A-level Chemistry.

Appendix 4i

Stakeholder measures

This is difficult. Supplier B is intending to introduce a social and ethical reporting system, although no such report has been produced to date. To this end Supplier B are consulting with a group in London about designing such a reporting system for the future. Other measures are somewhat softer, but include Supplier B attaining Investors in People, ISO14001 and ISRS. Also Supplier B are looking to manage absenteeism amongst staff as this has been highlighted as a problem. Supplier B make use of MORI polls to measure MPs and industry's opinion on the nuclear industry.

Supplier B require sufficient stakeholder support to be allowed to continue to operate, not least from the NII and Environment Agency. Also public opinion can have a very significant influence as the NII has said that this is a legitimate factor in whether they continue to approve Supplier B's activities. It is therefore important that Supplier B gets "enough acquiescence from stakeholders and that they don't make a hue and cry."

PH's targets are very difficult to quantify and tend to relate to specific issues. For example at Bradwell the target was for no delay or additional costs to the business caused by stakeholder pressure. The internal process of managing stakeholder issues is via a Communication Issues Database. This sets out the main business issues and incorporates an "issues management programme" that further incorporates a "stakeholder plan". The issues are often communication problems and the plan is reported into the executive to document "how we are getting on with the priority list" and also to "look for guidance" on how to proceed. The stakeholder programme looks at the strategy, the approaches to be taken and the desired outcomes. PH's performance is then measured on how well the desired outcomes, such as no publicity, are achieved. It is through this programme that the different issues and stakeholders are balanced or prioritised as they are marked as high, medium, or low priority as part of the approval process. The stakeholder plan is also sent to government in the "ministerial boxes". Typically, the actual plan is set out into the following columns: stakeholder; contact; activity; when; special notes; and status. This provides a checklist of all stakeholders and adds a "large degree of formality" to the process such that even the suppliers from the procurements database are included.

Changes since the privatisation of the electricity industry

Supplier B has not been privatised and the privatisation of the electricity industry itself has not resulted in big changes for Supplier B. Having said this a big change in the period since privatisation of the industry has been the electricity pool and its replacement NETA. A group of employees has been set up to cope with these changes, as Supplier B now have to compete in the market. This is difficult for Supplier B at it needs predictability of supply as there are more constraints placed upon them, as they need NII and Environmental Agency approval to start up. These are extra dimensions that other generators do not have to cope with.

Another "fundamental change" has been the degree of external stakeholder involvement. This has impacted on the electricity industry in general through the increased importance of Consumers' Councils. Also as mentioned above regulators are now taking into account public opinion. This has resulted in a greater need to "look after stakeholders".

The Nuclear Industry in the future

PH believes that there is a future for nuclear in the UK. Many people do not realise that nuclear is the "biggest single source in the UK". Further the environmental difficulties of fossil fuel means that without nuclear the UK has "little chance of making Kyoto commitments". Another problem is that the "dash for gas bubble is bursting" as there is an "imbalance of supply and demand" causing prices to rise. Relying on unstable countries, like Russia and Algeria, for gas in the future means that gas is in "trouble". Also "coal is a dead duck" so this leaves nuclear and renewable supply. The risks attached to having a larger supply of renewable energy are much greater than nuclear. In the UK winter there is a tendency toward cold days

with little wind and if electricity is being generated from wind and waves this is a huge problem. If renewable energy counted for more than 10-15% of supply there would be "too much variation" and lack of electricity "could kill hundreds of thousands of people" that is on a completely different scale even to the damage caused by the Chernobyl accident. Ultimately there are limits to how far renewable sources can go and even 10% renewables is only equivalent to the closure of the Magnox fleet. The only other option is to "stop people burning electricity" and this is "not going to happen".

The new generation of nuclear plants is very different to the older plants as there is now a lot more known about nuclear energy. Supplier B are trying to start the debate in government and elsewhere on the next generation of nuclear plants, but already there "won't be time for continuity". It is important to convince the "chattering classes" if government is to be convinced. One problem that Supplier B faces is that in the UK the "vast majority of people are indifferent" about most issues and their scientific knowledge is very low.

There is a reluctance to accept the need for nuclear energy in the future and this is due to the two big issues of "safety and waste management". In terms of safety "people do worry that it could blow up" and this can be debated and there are some "convincing arguments" to allay fears over the safety of the industry. Waste management deals with "the legacy of nuclear waste" and this is much more complex as it is seen as a moral and emotional issue. There are experts who say that the waste can be contained for thousands of years, whereas others say, "you can't predict what the future holds" such as earthquakes or even ice ages. Despite this PH believes that it is "inevitable" that nuclear will have a future, although this will only be accepted with "reluctance".

Appendix 4j

Environmental Meeting 1: with MJ, Environmental Group A, 1 August 2000

Introduction

MJ works in the Energy team at Environmental Group A and this team is specifically concerned with climate change. In fact the group is to be renamed to reflect this. There are seven members of the Energy team (1 team leader, 1 deals with the nuclear industry, 2 are concerned with international conferences such as Kyoto, 1 transport campaigner, 1 assistant and MJ). Specifically in terms of energy the key objective of Environmental Group A is to attempt to reduce the emission of greenhouse gases (see below for explanation of the types of greenhouse gases) that are causing ozone depletion and hence climate change. There appears to be two main strategies that Environmental Group A undertakes in this area. The first is to "mobilise the public in its role as consumer" and the second is to lobby government and these efforts are concentrated on improving energy efficiency and making greater use of renewable resources (see later for definition of renewable resources).

As consumers are considered key to providing appropriate pressure this means that Environmental Group A has focussed on the performance of the end suppliers i.e. the supply and distribution companies. The Green Energy League Tables provide evidence of this as it compares the electricity supply companies by their environmental record and intentions. This is despite the fact that the key issue is actually how the electricity is generated. In public campaigning the emphasis is very much on Carbon emissions as it is considered important to keep the message simple (i.e. "are you doing your bit"). Therefore as Carbon Dioxide emissions are by far the most significant contributors to greenhouse gases (>80%) this is emphasised.

Lobbying government is an important role for Environmental Group A as legislation "is needed to get the progress required" (see more detailed comments re Government below). At this level the whole basket of 6 greenhouse gases will be considered. The second most important greenhouse gas is methane and this is more closely related to landfill gas and it would be beneficial to collect this and "flare it off". NOx is produced in a similar way to CO2 and therefore is addressed by similar advancements. The final 3 gases relate more to industry and are relatively less important.

Green Energy League Tables

The Head of the Energy team at Environmental Group A produced the first version of this in 1998 and subsequently work has been progressing toward a second table. Unfortunately the second table has been somewhat delayed by the Head being off sick since March 2000 but it is hoped that agreement will be reached on the content and methodology of the second table in the near future. The updated table will be more sophisticated and in-depth in its consideration of the companies who had criticised the first table as being overly simple. MJ provided me with the detailed notes to the first table and agreed to provide detail of the second table as soon as possible (hopefully by the end of August).

Types of electricity generation

At present the three main types sources of electricity generation in the UK are gas, coal and nuclear. In terms of greenhouse gas effects the worst is coal, then gas and then nuclear. The dash for gas, and hence away from coal, has and will result in lower CO2 emissions. This is because gas is a cleaner and more efficient source of electricity. This will therefore help in terms of

reducing emissions and will contribute toward lower emission targets set by the government (see Utilities Act later).

Despite nuclear energy not contributing to the greenhouse problem Environmental Group A are strongly opposed to this as a source of electricity. Nuclear is seen not viable on both grounds of cost and risk (in terms of long-term waste management). Nuclear energy is not a cheap source of power and has always been subsidised in the UK. The capital costs of building a nuclear power plant are huge (£2.6billion for Sizewell B) and in fact Turkey recently scrapped plans for their first nuclear power station purely based on the capital cost. This was before the maintenance and waste management costs were even considered. Further evidence of the economic unfeasibility of nuclear power is provided in the UK. The privatised price of British Energy (BE) (which owns and runs 8 nuclear power stations) was £1.5 – £1.6billion that is less than the cost of one of the plants just recently completed. The market capitalisation of BE has a market capitalisation of £4-5billion but has lost 80% of its value over the last 12 months. MJ believes that more problems lie ahead for BE as they have little cost flexibility and the price of electricity is set to fall further. BE has already cut employee numbers since privatisation but have then been "heavily criticised" by the Nuclear Industry Inspectorate (NII part of HSE) for this as questions have been raised as to whether core skills have been maintained at each nuclear station. Therefore cost savings, certainly in terms of employee costs, will be difficult in the future and when the "New Electricity Trading Agreement" (NETA – see the Utilities Act below) is implemented, it is presently proposed in November 2000, it is anticipated that the wholesale price of electricity will fall. The trading in electricity futures seems to suggest that the wholesale price will fall from 2.3p/unit to 1.8p/unit. Environmental Group A hope that this may force the government or BE to reconsider the role of nuclear power and some or all stations may need to be closed (Environmental Group A hope so). Environmental Group A hope that the role of BE is changed from that of producing nuclear energy to that of managing the nuclear inheritance that has been left by the industry (50 tonnes of plutonium have to date been created and need to find some sort of "safe" home).

Preferred forms of generation

Environmental Group A wants to see the level of renewables used in electricity generation increased substantially in the near future. At present the level stands at 2.9% ("nearly 3%" John Battle) and the UK has been relatively slow to develop in this area. Half of the present UK renewables are generated from large hydro plants in Scotland that are decades old. However, these are no longer considered desirable "by anyone". It has been recognised that this type of generation is bad as it effects the local freshwater habitat of fish. In the US such hydro plants are being demolished.

In addition there is presently a debate about the definition of what constitutes renewable sources. In the UK the government includes landfill gas and Municipal waste incineration as renewables. These are not considered appropriate by Environmental Group A. Municipal waste incinerators still emit CO2 at 80% of the level of a Gas power station. Recently there has been an EC Energy directive that has suggested that municipal waste incineration and landfill gases should not be included in the definition of renewables. This is therefore consistent with the Environmental Group A definition and hence preferred. Environmental Group A is as yet unsure as to whether the UK government will accept this definition. However, Environmental Group A is concerned that if the definition is changed the targets for renewables (see Utilities Act) may be lowered to accommodate this.

Environmental Group A's preferred renewables are wind (both on and offshore), water, solar and Biomass. Environmental Group A does not want to promote renewables that need continual

subsidy. Instead they hope to "use public support to bring renewable sources to the market and then for them to stand on own feet." This is what has happening with on-shore wind where the price per unit has fallen dramatically since it was first allowed to be produced. Therefore at the time of NFFO 1 – on-shore wind schemes were priced at 9p/unit whereas by NFFO 5 they were priced at 2.4p/unit as compared to an average of 2.3p/unit.

In the near future the two most likely renewable sources are offshore wind and Biomass. At present the DTI price cap for electricity generation is 4.5p/unit and at present both of these sources are marginally above this at 5p/unit and 6p/unit respectively. Therefore they can not go ahead at present. Environmental Group A hope that the government will make some of the Climate Levy funds available to these renewables and this subsidy would bring the price per unit below 4.5p/unit. At present the climate levy is primarily used (90%) to reduce employer NICs. The remaining 10% is more directly focused on offering Capital allowances (£100million), £27million for capital grants to SMEs to improve energy efficiency and they hope that the remaining £23million may be made available to renewables.

Interesting developments are also being made in the use of tidal flows. Previous attempts at this have caused damage to the shoreline and bird feeding grounds. This is because they were situated in estuaries and new designs actually aim to use shallow offshore areas. One proposal is a cloverleaf design that will have 3 storage areas and provide a more consistent output via turbines in the wall. A further advantage of this is that the wall could provide habitat, or resting places for birds, and could also be used as a base for offshore wind generation hence saving costs.

Energy efficiency

Environmental Group A target lower CO2 emissions through the use of different energy sources and greater energy efficiency. In terms of energy efficiency a recent change has been that the Energy Efficiency Standards of Performance (EESOPs) are "returning to the political domain". Therefore EESOPs will be the Minister's responsibility and not that of the regulator as was previously the case.

This move has been well received by Environmental Group A who saw the Regulator as very much an Economic Regulator who saw the more social and environmental considerations as an "add on" that was "difficult to deal with". In fact "Claire Spottiswood refused point blank to do anything on energy efficiency." However, there is a hidden levy in consumers bills that is linked to Energy saving and efficiency.

The EESOPs are similar to the economic regulation in that they are set for a specified period of time. EESOP3 was issued in April 2000 and will last for 2 years. EESOP4 is already being designed and will run from April 2002. EESOP4 is expected to increase this levy on the average annual bill from £1.20per annum to £3.00 per annum. Also this is being extended from just electricity to also include gas. The money raised by this levy is left with the company. Each company can draw up its own plans how this money will be used to promote energy savings. Levels of energy savings are required and it is up to the companies how these are achieved and therefore this does provide the companies with incentives to use the money effectively. The plans are sent to the Energy Savings Trust (EST) for approval. The feasibility of the plan in terms of producing the required energy savings is considered. The implemented schemes are then also audited, possibly by EST although MJ was not sure.

The government

Appendix 4j

Helen Liddle is the relevant minister and she does not appear to be "very interested in energy". It only constitutes part of her brief and she is more interested in the DTI. She is perceived by Environmental Group A to be ineffective. The senior Civil Servant (Anna Walker) appears "more dynamic and switched on". She appears more favourable to renewables and smaller generation.

One issue is employment. Environmental Group A reports suggest that there could actually be a net employment gain from a shift to renewables however the government is concerned about potential job losses in mining industries. Environmental Group A sees there to be a "contradiction in the Labour party". It has parts that are pro modernisation of the economy and industry that see IT, the Internet and globalisation as important and where the UK should be heading. Despite this there are parts that are very traditional that does not see the need to move away from coal and nuclear and are "stuck in the dark ages". Helen Liddle and the DTI are perceived to come from the more traditional part and also approximately half of the cabinet are from mining constituencies and therefore have a keen interest in employment levels in these areas.

An interesting aside is that Vesta, a Dutch Turbine company, have suggested that they would build a turbine plant in Central Scotland (Helen Liddle's constituency) if offshore wind were to become viable in the UK.

The Utilities Act

The Utilities Act has just received Royal Assent. The original bill incorporated the gas, electricity, telecommunications, and water industries. However, as the Bill progressed the government has dropped about half of the original content and it now purely relates to the electricity and gas industries. This effectively makes it an energy bill although the government has not changed the name for political reasons. As mentioned above part of the Utilities Act relates to the replacement of the pool with NETA. This effectively makes it now an "electricity commodities market" and the political impetus for this is an anticipated 10% fall in prices. If the changes are made in November, as is presently suggested, it is expected that consumers will feel the benefits of this fall in price before the next general election.

Another key part of the Act is that it will include a "renewables supply obligation" which is concerned with development, in the medium to long term, of more renewable supplies where the UK has been slow to develop. The expected targets to be included in the detailed legislation in the near future are 5% by 2003 and 10% by 2010 (see earlier section about present state of renewables in UK, definition of renewables and potential impact on these levels).

Environmental Group A thinks that this framework is well designed and the requirement to achieve a set % of renewables is a "good one". It is certainly seen as preferable to the Non-Fossil Fuel Obligation (NFFO) that allowed companies to opt in or out of.

Other thoughts

Environmental Group A would like to see the supply companies move away from being purely sellers of units of electricity. This provides the wrong sort of incentives in terms of energy savings and efficiency. They would prefer to see them as a more complete service that sells energy saving equipment and advice as well.

Appendix 4k

Environmental meeting 2: with UC, Environmental Group B, 11/12/00

There are a whole range of environmental issues related to the electricity industry but the emphasis of Environmental Group B, and UC in particular, is climate change. Therefore issues such as air pollution and site-based conservation are not undertaken because of a lack of resources and also as the fact that other NGOs take an active interest in these issues. Environmental Group B has undertaken a major national and international campaign on climate change. The three main activities of Environmental Group B on climate change are working with the electricity industry in a "solutions based" approach, political lobbying and attempting to raise public awareness.

Working with the electricity industry

Environmental Group B are very interested in both renewables and green electricity. One way this has been operationalised has been working with certain companies in order to assist them with the labelling of their products. Also Environmental Group B is a member of Yorkshire Electricity's green electricity development group although they are not linked with the product. They have good contacts with the more progressive companies, such as TXU, whilst other companies have actually approached Environmental Group B for help. In addition Environmental Group B are talking a lot to the smaller companies in the industry.

Political lobbying

The government has set targets for renewables as a percentage of electricity generated at 5% by 2003 and 10% by 2010. Environmental Group B would like to see more ambitious targets, although it is seen as more important to see a clear strategy on renewables, including more direct government support. Such a strategy would need to address the present problems associated with getting projects off the ground and problems with the planning process so that there is more consultation with the public. An example of where support could be given is a solar roof programme, similar to the one in Germany, where at present the UK is lagging behind and there is scope for improvement. There has been some governmental support for off shore wind and it is hoped that solar energy will be "one of the next wins". At present Helen Liddell, the minister at the DTI, still places emphasis on the markets when "clearly this doesn't work".

Environmental Group B, as well as other NGOs, are opposed to the government's present definition of renewables. This is because it includes energy from waste disposal, which they are opposed to. There has been "some movement" on this issue and this has also caused problems with the labelling of green energy. Environmental Group B don't oppose the incineration of waste as a source of energy in the short-term but believe that it shouldn't be subsidised and also that it should be sold as "brown energy" not green.

The Climate Change Levy

The design of the climate change levy has a number of problems. It does not reflect the carbon intensity of the fuel and therefore does not give the companies enough of an incentive to switch to less carbon intensive fuels. There are "stupid but political" reasons for this. There is a whole range of problems with the externalities caused by the industry but action on these is "politically not acceptable". There are social issues related to the domestic supply of electricity that means there is a conflict between the social and environmental issues. Therefore fuel prices need to be low, and a fuel tax can not be applied, otherwise there is a potential problem with fuel poverty. The political problems with attempting to levy a tax on fuel were shown with the attempted

introduction of VAT onto fuel bills. Environmental Group B believe that the better way to deal with fuel poverty is to give the support direct to the people who need it, rather than the whole nation having lower prices. Due to this problem UC is not sure that the levy will be increased in the future. The issue of taxes and will be important in the next election and any tax increases, such as in the levy, may well be seen as politically unacceptable. The enhanced capital allowances will fuel some change especially for big energy intensive plants. Although the benefits will be less obvious to small and medium sized enterprises and this is an area that Environmental Group B are keen to work in.

Energy efficiency

Environmental Group B talk a lot to the Energy Savings Trust (EST) and this is another example of them working with the electricity industry. This is also the area where the emphasis is very much on raising public awareness. Certainly steps have been taken to encourage their own members to become more energy efficient. This is also an area where Environmental Group B can work with the companies, as the companies will be pushed to find partners for the joint promotion of energy efficiency. Environmental Group B also lobby for greater use of Combined Heat and Power and they have good links with the Combined Heat and Power Association (CH&PA).

Environmental Group B are entering into the "climate savers programme" with companies, at present IBM, Johnson and Johnson, and Polaroid, to try and improve energy efficiency. This initiative works in partnership with the companies and primarily attempts to raise the awareness of employees to energy efficiency.

Consumers and green energy

At present there has only been a very small take up of green energy, UC believes somewhere in the region of 17,000 households and this is "nothing really". One of the reasons for this is that "no-one has done a big marketing push" on green energy. Another problem is that the public does not understand the links between energy and climate change.

Information needs

UC does not believe that any more information is required. Environmental Group B receives companies' annual reports, consultation documents from the government and OFGEM, and there is a very good network of contacts, in other NGOs, the EST and CH&PA, that ensures that there is a good exchange of information. Also the FT energy publications are a good source of information as well as some people within companies in the industry.

Post-privatisation performance

During the privatisation process and since Environmental Group B feel that there has been too much emphasis on low prices. Within this period of time it is felt that the environmental issues have always been "marginal". In the recent Utilities Act Environmental Group B wanted a primary duty for sustainable development to be included but this "was not really taken seriously" by the government. The companies "have to do a glossy environmental report" but the issues are still marginal. Environmental Group B "produce all sorts of materials and reports" but the "media is not interested in it." It is very difficult to get the message published in the media. An "impact report on species" is very widely reported on in the media but the relationship between energy use, climate change and the impact on species appear much less interesting to the media.

Appendix 4k

The increase in electricity and gas usage over the last ten years has been "phenomenal" and this is due, in part, to the low price of energy. There are other issues in terms of the use of computers and so on that will also contribute but there have been economic studies that suggest that cheaper energy results in greater usage. The low price of energy is "just not the right sign" to be sending out. This message is reinforced by the fact that all companies compete on price, and as consumers can switch suppliers, they will be looking to get the cheapest energy. Also some companies have introduced schemes such as the more electricity consumed the more air miles you get and this "doesn't help".

Environmental Group B does not, as a general rule, get involved with shareholders. An exception to this was recently when they supported a shareholder motion against BP. In terms of the change of ownership from public to private it must be remembered that the "CEGB was dreadful" and the "regional companies not much better". The nationalised industry was very much supply-side driven and this resulted in large plants and little environmental consideration. However, it is also felt that the environmental provisions at privatisation and subsequently were not strong enough. In fact at privatisation it was ridiculous as there was no real provision. Further since privatisation Claire Spottiswoode was allowed to go back on the provisions in place. It is only recently that the provisions have been getting stronger but this means that there have been ten, very important, years wasted. Since privatisation there has been a reduction in CO2 emissions due to the switch to gas but the gains could have been much greater. The gas plants opened since privatisation are not as efficient as they could be and there has not been enough use made of Combined Heat and Power plants. This is still proving to be a problem as the government has recently agreed to five new gas-fired plants but none of them are Combined Heat and Power.

Since privatisation there has been a very small increase, from 1 to 2%, increase in the use of renewables and this is "not a big step forward". Therefore Environmental Group B would have preferred to see a faster shift to renewables since privatisation. Also at present the largest source of renewable energy is the large-scale hydro plants but there will not be any more of these built in the UK. This is because there are no appropriate sites, although this is still an issue in Norway for example. Those already in place in Scotland will have caused environmental damage but this has already been done and so should continue to be used. There is a possibility for more small-scale hydro plants and this would generally be a good thing as long as appropriate consideration was given to the local environment. Environmental Group B were recently involved in the development of a small scale plant in Scotland and once the plans addressed certain local environment issues this was seen as a good scheme.

Overall the privatisation has resulted in a "somewhat better" industry, although it is felt that the same incentives could have been given under public ownership. The main criticism has been that there has been "lip service" paid to the environment and that things have not been greatly improved over the last ten years. For example most homes are still under insulated.

The nuclear industry

Environmental Group B are opposed to the nuclear industry as the "long-term risk involved is too great". Environmental Group B cannot see how the issues can be solved and the CO2 argument is not good enough to justify any more nuclear plants. This does not mean that they want the existing plants to be closed immediately, and in general Environmental Group B leaves other NGOs to lobby on the nuclear industry.

Appendix 4l

Industry Meeting 1: with CN, Generator, 8 February 2001

CN's role at the Generator's head office is as "Stakeholder and Political Strategy Manager". He is in the Strategy team that consists of four people and two of them specifically deal with the political and regulatory dimension. This is at a high level and is concerned with setting strategy for the group. Previously he was a Public Affairs Manager with specific role in the political, government area. In his new position he sees the political and strategic areas being brought together.

CN sees two key objectives:

1. To identify what stakeholders want from us; and
2. What needs to be done to deliver strategy?

In this vein the process has been somewhat "concocted" to "see exactly what they [stakeholders] want". As a result of this process it is hoped that some themes will emerge and then need to think about how this "marries up with the business". The stakeholder process is emerging as the work is done, but the aim is to identify themes and then clarify a message or position for the company. This will then be communicated externally through the communications department. Internally it is seen as important to have a clear strategy. Previously the strategy was to be vertically integrated and this was "very focused and worked well".

There is a list of stakeholders, but the "big two that affect us", the core stakeholders, are the government and the regulator. This is not to say that they are the only important stakeholders, but they are clearly most important for CN's department. The concerns of customers are dealt with by the retail business, shareholders by investor relations and the company secretary, and employees by the HR department. Also important are Energywatch, Consumer Councils, Industry Groups, Pressure Groups (environmental and fuel poverty), think tanks, and academics.

<u>The government</u>

The reason that the government and the regulator are considered to be so important is that they "can stop us operating and add costs to our business". In this regard the four objectives are to:

1. deliver business strategies;
2. avoid added costs and criticisms;
3. ensure that the Generator retains its licence to operate; and
4. build and enhance its reputation.

One strategy is that the Generator tries to "be aligned with government" and they have a policy "to engage with government positively". In order to do this it is important to identify at an early stage what government's concerns are. A good example of this is fuel poverty where The Generator has worked to produce products, such as new prepayment

meters, to help. An area where alignment is more difficult is wholesale electricity prices. The government is introducing NETA and expects prices to fall, but the Generator argues that the prices have fallen by 20% in the last year as the market anticipates these changes and there is not much further scope for reduction. The Generator argues that too low prices can be dangerous, as in California, and can restrict important investment. The price has already fallen below the new entrant price and therefore The Generator does not want to see this "pushed too much further". This issue needs to be managed.

Overall the government has been more concerned about the introduction of competition and less about the financial performance of the companies.

The regulator

The relationship with OFGEM is much more complex. A lot of the "nitty gritty" is pushed down to the distribution and supply companies. The higher level relationship regarding regulatory strategy and wider issues are dealt with at the group level. "McCarthy has been fairly forceful, whereas Littlechild was more relaxed". The Generator tries to work closely with the regulator, in order to get them "on our side", but in this they are competing with the other industry players.

In terms of communicating with the regulator this is only done when necessary. "Don't talk to them unless you have something to say" and it "has to add value to them and us".

Environmental issues

Emissions has been an important issue and the Generator has "helped shape" the emissions scheme. As a generator they have decreased emissions through shifting to gas, but have a long-term policy of having a balanced portfolio of energy supply. This is important for security of supply. Furthermore the primary fuel used is really seen as a government policy decision. For example the renewable obligation of 10% by 2010 is an energy policy decision. The Generator still owns and operates coal-fired stations and considers this to be one of its skills and also believe that there will "always be a place for coal" in energy generation.

The Generator does recognise the environmental issue and as a response have built up a renewable business and a Combined Heat and Power business. Also The Generator recognises the pressures on gas supplies and has produced a document "energy 2020" that considers the energy market in the future. The Generator has attempted to be proactive on energy efficiency and green issues and the "nucleus of a strategy" has been emerging to "start to deal with the environmental agenda". More generally the Generator hopes to be "operating in a more sustainable manner".

Shareholders and employees

The shareholders are primarily dealt with through the communications and investor relations' side. Again this is an area where The Generator works hard to develop a

message. Therefore if the Generator sells a power station it is important to do it so that everyone gains and that this message is communicated externally. A practical element of this is the timing. It is important to meet the requirements of the stock exchange, where the stock exchange is told first, and to let the employees know as well. The Generator does not want employees to hear about it first on the radio. The message to employees is "quite different" to that given to shareholders, but then their concerns are quite different.

A recent example of a possible conflict was in the restructuring of distribution. The Generator feels this was necessary and the message was that this business had to "shape up". "Employees know the business has to shape up or fail" and the "government does not want overmanned, inefficient" companies. This would not help when competing abroad and the Generator can often give a positive message to justify it. Often job losses are managed through transfers to external service providers, therefore "people weren't losing their jobs" and those that did lose their jobs received a "good pay out". External service providers are used as they can prove to be more efficient. The conflict in the area of job losses is "not always as bad as thought to be" and the New Labour MPs do understand.

The Generator does try and achieve Investors in People, although they have not always been successful.

How are stakeholder issues identified?

The press and attending relevant events / functions are important sources of information. Feedback from the "external environment" is another important source. It is "rare" that government come up with an issue that the Generator is not aware of. "If an issue starts to appear in the FT then people are worried".

Stakeholder measures

This is "fairly difficult" as how do you measure "what government and OFGEM think of you?" The Generator does poll some stakeholders, but not all answer. This is a difficult area that is "not very advanced". An employee survey is regularly undertaken, every eighteen months or so and the results are monitored. In the future it is thought that these results might form part of a Corporate Social Report. The Generator "feel the need to move towards a Corporate Social Report" and this year's annual report will include an "4 page pull out". This will set out the Generator's intentions in terms of reporting in social, environmental, economic and employee areas. This year's report will not set any targets, but is signalling their intent to do this in the future.

One difficulty is knowing how to proceed, as there are many different ways to produce Corporate Social Reports and also different standards to adhere to. Therefore there is the Business Impact Taskforce and also the possibility that the Environment Agency could comment on the Environmental Report. It is recognised that wider social issues "can help business performance". The Generator group now has millions of customers and at a corporate level it is "much more important" that the Generator is "liked as a company".

Appendix 4l

Changes in the industry

CN has been at the Generator two and a half years, but has seen significant changes in that time. Since the purchase of a supply company the supply market has been opened up to competition and generation is becoming more and more competitive. As a result the "company has recognised the need to be innovative and quick moving" and in this respect "competition has changed us a lot". The Generator wants to be the first to do things in all areas, whether this is weather sponsorship or product leadership. The Generator is "one of the most awake" players in what was once a relatively sleepy industry.

The future of stakeholder management

It is important that the Generator do not do this analysis and then stop, it needs to be kept going. How this is achieved is unclear and emerging at the moment. One of the aims is to make the "whole thing more explicit". The "concepts of stakeholders have always been there", but less is known on how this influences the business. Therefore the process has been to identify stakeholders and to look at the evidence on how successful they have been. Therefore you look at Friends of the Earth and they have "been partially successful" and so then "look at it and see what they want and make an assessment of how effective they can be".

As yet the process has not highlighted something that was "completely missed" before, but there is a "clear environmental threat". In response the Generator need to do a fundamental review otherwise there is a danger that they will not be consistent. This threat is clear because there are a number of "stakeholders lined up" on this issue. This places more emphasis on emissions and efficiency "if [the Generator] don't do something then they might get left behind". This is more compelling now that the analysis has been done.

Appendix 4m

Industry Meeting 2: with TS, National Grid (NG), 1 March 2001

NG is now a global electricity and Telecommunications Company, but this meeting was primarily to consider the UK electricity market. NG has a considerable number of stakeholders and these are:

- Shareholders, the city and investors. This also includes the analysts and brokers that are interested in the industry.
- The Government. This includes Civil Servants, MPs, the DTI, and the DETR at a national level. There is also the EU, which is important, but not as big as the national government.
- Local Authorities are very important, as NG has a network of infrastructure they need access to Local Authority land for repair and building work.
- Grantors are landowners who have allowed NG to put equipment on their land. There are approximately 20,000 grantors and this is a key stakeholder for NG.
- OFGEM, NG is price-cap regulated on a four-year cycle.
- Community groups around NG sites.
- The environment and environmental groups. TS sees these groups as falling into three categories:
    - best practice / business in the environment / environment council (groups that are there to help you) at one extreme;
    - the specific interest groups such as the RSPB; and
    - at the other extreme the more combative groups such as Friends of the Earth and Greenpeace.
- Own staff.
- The Media are important as they can influence the other stakeholders.
- Customers are so important that you "almost forget them", but NG is "unique" as they have the users of the grid rather than the end customers.

Stakeholder identification

These stakeholders are "pretty obvious" and there was no need to perform a specific stakeholder identification process. From "day one", on privatisation in 1990, the government, regulator, community groups, staff and media were all there. It has evolved over the last ten years due to the change in ownership. On privatisation NG was owned by the twelve RECs and so these were the "biggest" stakeholder. In 1995 NG was floated in its own right and the RECs gave their shares to their shareholders. This meant that NG suddenly had more than 1 million shareholders and this created new stakeholders in the form of these shareholders and the City. This required an investor relations department, but again this was "pretty obvious".

The lines of communication

The relationships with these different stakeholder groups can't be generalised and neither can the forms of communication, as they are so numerous. There is a department that will have specific responsibility for each stakeholder group. For example the communications team will deal with the media and environmental groups. The methods of communication are "vast and varied". The frequency of communication with stakeholder groups varies depending on the nature of the relationship. Therefore for the regulator there are cycles of meetings throughout the review period. With shareholder representatives groups of analysts are invited in and there are analysts' briefings when necessary.

Appendix 4m

Staff information is very comprehensive and is communicated in numerous ways. There are team briefings, staff newsletters, and a PC based news service.

Community groups are contacted less often, maybe once per year or most usually "when something is happening". Therefore if there is a new project at a sub-station then a letter will be sent to the residents or a meeting for residents held at the sub-station. Contact with environmental groups tends to be most with the best practice and specific interest groups rather than the campaign groups. There has recently been a stakeholder dialogue process to review and set out environmental policy and practice in line with Schedule 9.

NG does try to be proactive in all of these relationships.

How are stakeholders prioritised?

Each department that deals with a stakeholder group needs to take into account what is going on throughout the whole of NG. It is at the executive level that all the different stakeholder opinions and issues are brought together and decisions are made as to how they are handled. There is no standard hierarchy for stakeholders.

Stakeholder measures

For the City this is easy as share price and dividend information. There is also opportunity for feedback at the AGM and there are regular sessions with analysts. Up to now this hasn't been a problem as the City has been happy with the financial performance that NG has delivered. There have been regular increases in dividends.

There are customer satisfaction surveys, but it is "such a close relationship that we would detect unhappiness". This is handled through the commercial department and is a "rarefied interface" in that the relationship is so close.

There is a regular staff survey and there is also opportunity for two-way communication through the Intranet. Team briefings are long established in the company and this provides the opportunity to feedback issues through line management to the directors each month. There is also a staff newspaper and there are also PC based "Newsflashes".

NG undertakes, through an organisation equivalent to MORI, regular opinion surveys. Investors, analysts and financial journalists are all surveyed twice per year. There is also an annual survey of MPs and surveys of environmental journalists. This survey is undertaken on behalf of NG and other companies. The survey cover such items as:

- What is your perception of the company?
- What is your perception of the quality of management? (the City)
- What is your perception of shareholder returns? (the City)
- What are the big issues?
- What are the three main environmental issues? (Environmental journalists)
- Who are the most important environmentalists? (Environmental journalists)
- Which industries damage the environment?

NG now has a historic record of these surveys dating back to 1992/3. Each time the survey is to be performed the companies are asked if there were any questions that they would want to change.

Changes to NG

It is important that NG "don't sit back and do nothing". As a company NG was relatively unknown until it was floated in 1995, but this has clearly changed over the last five years. The biggest change to NG was the change in structure of the industry on privatisation. Whilst nationalised transmission was seen as a relatively small part of the CEGB, generation was seen as most important. Transmission in the nationalised industry could be likened to "Cinderella". This was suddenly and dramatically changed when NG was separated out on privatisation.

Privatisation resulted in a "huge culture change" and the "whole ethos is now different". As a nationalised company there was a very strong public service culture and this has not changed in NG, but there were no shareholders. The result is that NG is now much more customer and shareholder focussed.

Another implication of privatisation was job losses, at NG the work force has been effectively halved from 6-7000 to 3500. The terms were reasonable and most people were happy with these, but it was still "traumatic". The reduced numbers of employees also means that there is more pressure on the remaining employees. The fact that the nationalised industry was overstaffed made it easier, but the process was well managed. In fact industrial relations have always been very good at NG and a lot of work is done with the unions. Individuals now have additional responsibilities and are working harder, but in turn this means that employees face extra challenges, they are empowered and have more varied work. Also there is now a performance management process that means staff are rewarded for extra effort and all these changes seem to have resulted in happier employees and this is borne out by the survey figures.

The first employee survey was carried out in 1992/3, which was probably the "most dire time" for employees. TS was one of the people that persuaded the executive that employee surveys should be undertaken and "to give them credit they were quite brave" as the first survey was a risk. It was felt that there would be an interesting response, as staff had never been asked how they felt before. Since 1992/3, the "worst period in terms of morale and job losses", things have got better and the results from the successive surveys have also improved. Part of the problem was that some of the employees had specifically joined the industry as they wanted a "job-for-life" and this has changed and there is now a much higher turnover of staff. This also means that there are more vacancies and opportunities for staff that do choose to stay. The process of change had actually started as part of the CEGB.

Also, as part of the privatisation process, NG has been subject to regulation and the price control review every four years. This has placed a pressure on NG for "an ongoing reduction in cost base". This regulatory pressure has required good management, not least in the area of job losses and this is still ongoing. There are still continual downward pressures on costs and employee numbers, and the fact that there is a regulator watching you "puts pressure on". Staff "live with" these pressures now, and have done for ten years, but it is a worry at the time of the review. It "could be seen to be threatening" and it is therefore important that this process is managed.

The flotation in 1995 was a less dramatic change, although it meant that the City and shareholders were new stakeholders. This did require a new investor relations department, but has not

impacted significantly on most employees. The latest change has been one of diversification that is to result in NG becoming a global company operating in industries other than electricity.

Changes in messages

TS believes that there has been a change over the last ten years in the messages that NG are giving. In 1990 the messages were:

- technical excellence and an ability to ensure transmission was secure (as it was suggested that the lights would go out on privatisation);
- an efficiency message as NG was to be operating in a more commercial environment;
- an environmentally aware message; and
- good neighbours for local communities.

Some of these same messages still pervade, but there is more than this:

- NG is a FTSE 100 company and a good investment;
- NG is a global company that is growing overseas;
- NG is diversifying especially into telecommunications;
- NG is innovative and technical excellence is assumed as a given; and
- NG is environmentally AND socially aware (see below)

Corporate Social Responsibility

From fairly early NG recognised that it impacted upon society and in order to be able to report on this measures were needed. This culture was inherited from the CEGB, but has been evolved and developed to a much higher level now. NG were one of the first tranche of companies that produced an Environmental Report as it was recognised that there was a need to identify what their impacts are. This report and process has been reviewed and assessed. In the last environmental report there was a section on community and stakeholder programmes (written by TS) that details the "positives that NG put back into society". NG is considering corporate social reporting, but TS is not sure whether this will be a gradual change, extending the environmental report, or more of a one-off shift to a social report. This drive for social reporting has been recognised internally, although TS is also aware that the government have appointed a new Minister for Corporate Social Responsibility.

NG is hoping to go further and move towards "sustainable development". Their performance and interest in this area has resulted in NG being chosen as the Environment Council's corporate partner to support a Sustainability and Stakeholder Communication conference. Also NG has, and the utility industries more generally have, scored well in the Business in the Community ratings of companies.

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Industry Meeting 3: with AR, Distribution Company, 16/01/01

Firstly AR confirmed that confidentiality needed to be assured and assurance was given. AR is the "Key Customer Relationship Manager" and runs a team of four people (previously six) who deal with stakeholder management. Part of the stakeholder management role is "managing perceptions" and getting the Distribution Company's message across. This is especially important in terms of capital constraints and risk and crisis management. Examples of stakeholder management are the risk and crisis management caused by severe weather (Blizzards in 1990, and strong winds on 29/10/2000) and the major restructuring process that has been ongoing. In terms of crisis management emergency plans are in place and "it is amazing how everybody rolls up their sleeves and get on with it". The restructuring process saw many experienced members of staff leave and this "could have been done better". AR explained the relationship that the Distribution Company has with each stakeholder as follows.

Internal stakeholders

Owner (The Group)

The MD of the Distribution Company reports to a member of the main Group board. A business plan is produced annually, although it can be updated, and this represents the targets for the year. This year's plan is to be rolled out starting 24/01/01. Against this plan there is "standard reporting and standard format KPIs (see later) on a monthly basis." Due to regulatory requirements the Distribution Company and the Group must be separate and therefore the Group and the Distribution Company are kept as much at arm's length as possible. Also as part of business separation the MD of the Distribution Company cannot sit on the group board.

Business separation is also very important with the supply business. At present there are still some joint systems and the businesses are still registered as a single company, but this will change. The recent Utility Bill now allows the supply and distribution businesses to split into two separate companies. This has not progressed as far as it could have because Y2K stopped other things happening. The future is to have two separate businesses with different names and branding. It will need to be considered whether the brand is appropriate as it is region and industry specific and this is not the future.

Connected Customers

2.3 million customers are connected through the Distribution Company's distribution network. With the business separation between supply and distribution there has been a restructuring of the business. Previously there were six businesses that were based on geographic boundaries and all functions were performed in each area. Over the last two years this has been replaced with a single head office. Also before this restructuring there was a lot of commercial interactions and a very strong customer focus (employing about 180 people and costing £6million per annum), but this has all gone. Due to the separation of supply and distribution it is felt that the customer contact should be through the supply business and therefore the distribution business is attempting to build relations with the 27 supply companies rather than the end customers. It is recognised that there is a risk involved with not talking directly to the final customers but you "could say the supply companies are the customers" and the routine operations are with them. The distribution business is rather like a scorekeeper for the suppliers, through the EMAS system, and the Distribution Company are trying to "proactively manage the supply businesses". To date

only one or two of the supply businesses are really working with the Distribution Company and the biggest obstacles are the need to "assure them of confidentiality and separation". The supply companies are in a competitive market and are trying to distinguish themselves through quality, energy efficiency and green tariffs, although AR suggested that what most people want is a low price and to know that it works.

The Distribution Company now only interacts directly with customers when there is a quality issue. It is seen as important that this contact is done in a proper manner, but is reactive rather than proactive. In the storms the Distribution Company did speak with customers and in cases of genuine hardship then compensation would be provided. For example if a customer lost the contents of their freezer normally this would be covered by insurance, but some customers do not have insurance and so the Distribution Company would provide compensation. This is becoming more difficult as we are moving more towards a compensation society, but the problem is that the costs fall back on the price of goods.

For customers the key measures are customer minutes lost, restoration times and the worst performing customer statistics (this is in terms of the number of times customers have lost supply in the year). This information is reported in the quality of supply report that has been commended by OFGEM as one of the best reports in the industry.

Employees

At present the Distribution Company are in the early stages of introducing a performance management system that will, at some point, link Group strategy down to PRP. As part of this process there will be communication to all staff to explain how their role links into strategy. The group are "trying to get a culture" and "commercial orientation must be driven for". The attempted culture change has coincided with a period of restructuring and a large downsizing where the number of distribution staff has fallen from 2,500 to 1,100 over a period of two years. The redundancies have all been on "nice packages". This downsizing has been made possible by the use of external service providers who are now recognised as a key stakeholder (see below).

The restructuring has meant that staff have been "taken a long way" very quickly. Changes include the downsizing, but also as many employees no longer need to do the same levels of mileage they are no longer provided with company cars and this has been hard to adjust to. As a result of the changes productivity has been increased and therefore people are working harder. In terms of remuneration the Distribution Company is hoping to make the remuneration levels more relevant to the market place, i.e. more comparable to industry in general and therefore lower. As such a new pay structure was recently proposed, but despite the majority of people (80ish%) not losing out for a long time, the vote was 80% against the proposals.

The group does make use of employee surveys and this tends to be annual. "Most people tend to be satisfied on welfare", although job security is an area of concern as a lot of people have left. Over the last 12-18 months there has also been a shift in training and the message is now that "training is all about making people fit for the modern world, not necessarily" fit for the Group. The world of work is now seen as different and the training is more geared to make the employee more marketable. In the past training had always been job related and it is now more skills and academic training.

The Distribution Company failed to achieve Investors in People recently and this is felt to be not because the Distribution Company is a bad employer but because it followed shortly after the restructuring and the ballot concerning remuneration. Employees were saying that they "couldn't

cope with all this change" and that they "didn't know who their boss is". Also workloads have increased and employees were feeling some uncertainty about the future.

External Service Providers (ESP)

ESPs are seen more as partners than suppliers and the Distribution Company want to work with them to achieve joint cost reductions. This shift has also required a change in skills of the Distribution Company employees as the need is now for contract managers rather than project managers. The role of the Distribution Company employee is to manage the contract and it is up to the ESP to manage the project and get the work done. An example of an ESP is TNT who provides stocks direct to site and effectively TNT hold the stock and have the risk.

External environment stakeholders

The media

It is considered very important that the Distribution Company doesn't lose its reputation and therefore the media are considered "crucial" and are managed proactively. The media can be "very good or naughty" and are "not accurate at the best of times". An example of this was the crisis caused by high winds in October 2000 leaving many the Distribution Company customers without electricity. The Distribution Company managed this very proactively with regular press releases and this worked well for the first couple of days, but after that the media wanted more and more information. The Distribution Company has a lot of media trained people and these are the people that are expected to deal with the "crisis management in PR terms". Another recent problem was that the floods had damaged a bridge in the region and the council decided it needed to be replaced, but gas and electricity were supplied across the bridge. Local Radio was told that the electricity cable had not been moved and therefore blamed the Distribution Company for delays. Claims were made that the Distribution Company was not available for comment which were just not true as the Distribution Company has a 24hour media contact and the Local Radio station know this.

Recently the Distribution Company has spent a considerable amount of time trying to explain business separation to the media, but this has proven to be difficult and the media still chooses to use the Group rather than the Distribution Company sometimes. An example of this was the Local newspaper used the salary of the Group's, not the Distribution Company's, Chairman in a report.

Regional Development and Inward Investment Agencies

Organisations such as Advantage Region and the Regional Development Agency are considered important as they are supporting inward investment into the Distribution Company's distribution area and this can be a source of organic growth for the Distribution Company. If the region is more prosperous then it can only benefit the Distribution Company. Also these agencies can provide a valuable source of information. Contact with and involvement in these agencies is seen as another way of picking up issues for the Distribution Company.

Government Offices and Local Authorities

These are important as if you can find the important people they "hold lots of purse strings" and this can impact on the network infrastructure. An example of this would be the plans for an area where British Steel has closed and this has resulted in some "major social problems" and the

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Local Government Office is now looking to regenerate the area. This will possibly involve regenerating the housing and the building of a new railway. In turn this may mean that the infrastructure may not need to be upgraded or there may be some scope for joint costs.

The local authorities (LA) are especially important in terms of inward investment and crisis management. It is the LA that can be a valuable source of aid in times of "civil disaster" when wind or snow has caused serious problems with the electricity supply. The sort of assistance they can offer is in terms of helping with meals, fire brigade assistance and boats when there are floods.

Consumers committees

The Electricity Consumer Councils have recently been replaced by Energywatch. The Distribution Company see it as very important to have good relations with these committees. It is also important that they don't get too many complaints being sent to these committees. The important issues are energy efficiency and quality of supply.

Chambers of Commerce and CBI

These are seen as good forums to get messages across to major business customers. The Distribution Company therefore are involved with the relevant regional committees and when the opportunity arises do presentations.

Social Housing Providers

This is a remnant from earlier times when the Distribution Company used to sell heating (and therefore have strong links with storage heat suppliers such as Creda), but this is seen to becoming less important. To some extent this ties in with the fuel poverty issue where the emphasis is moving towards supply companies as the Distribution Company is only the carrier and it is the suppliers that are billed by the Distribution Company. "All the Distribution Company can do is to keep cutting costs". Prepayment meters is still an issue for the Distribution Company as at present they are metering but they are trying to sell this business. It may be the case that the Distribution Company will need to retain the assets and "someone else run it". Also it is felt that the regulator and government really have the decision on fuel poverty. It should be remembered that prepayment meters have helped with debt management, but the downside is that it costs more per unit of electricity. One effect of this has been that some supply businesses do not tout for prepayment meter business.

Energy Efficiency Forums

Since the separation of the supply and distribution businesses it has been the supply businesses that are expected to pick up the energy efficiency issue. This is one selling tool that can be used in order to obtain new supply business. Also EESOP2 has been funded through the supply businesses and the supply businesses "have to find a way of getting rid of EESOPs money".

The Distribution Company does not try and proactively sell electricity load as the incentives are small (the Distribution Company keeps less than 40%) and therefore would not be worth the up front costs. Therefore the Distribution Company now does not have a sales force any more. Previously the Distribution Company did sell on the basis that certain processes were more efficient using electricity than fossil fuels (this used to be demonstrated and this has now been donated to the Local University).

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OFGEM

There are links with OFGEM both at Group level and within the Distribution Company. The Distribution Company's links with OFGEM are important in terms of reacting to complaints but also the Distribution Company "wants to be OFGEM's partner of choice". If this can be achieved then the Distribution Company hopes that they will be able to "get their retaliation in first". Especially important are the five yearly reviews and the Information and Incentives Project (IIP) which is seen to be the way forward. It is believed that in the future the regulator will have a certain amount of money to run UK distribution and "good performers will get more money than poor performers". This extra money could be as much as 2% of revenue and would have a direct effect on the bottom line and so the Distribution Company are keen to ensure that the "criteria set are the right ones from the Distribution Company's point of view". Overall the Distribution Company tries to be as helpful as possible in an attempt to differentiate themselves from the other distribution companies.

It is also important to keep OFGEM, and Energywatch, informed in times of crisis. In the latest storms the Distribution Company were meeting OFGEM and Energywatch "all the time" and they believe this helped them "get good marks" for the way they handled the situation.

MPs

MPs "haven't got a clue" about the industry and "don't understand business separation", but are almost as powerful as OFGEM when constituents have complaints. Therefore the Distribution Company tries to inform the MPs and also uses them for certain PR activities such as asking them on helicopter rides when the wires in their constituency are being checked.

Environmental impact

This is not included as a stakeholder per AR's diagram, although it is considered important in certain ways, the present aim (as required by group) to achieve ISO14001, and recent initiatives on oil leaking. One environmental initiative has been "greenworking" which includes teleworking, car-sharing and public transport schemes.

The Distribution Company's poor performance in the Friends of the Earth Green League Tables was felt to be the result of an "unbalanced view". FoE chose the criteria and decided the key issue was whether a green tariff was offered, which the Distribution Company did not at the time. At the time the Distribution Company did have a "unique Environment and Energy Forum" of which FoE and English Heritage were members. This forum talked about and presented ideas about what could be done for the environment. It is believed that the Group would now score better as they do offer a green tariff and generate the most electricity from renewable sources. Further, the Group are entering into a joint venture to create the first off-shore wind farm in the UK.

Conclusions from stakeholder management to date

Much of the activity has been about trying to inform the stakeholders about the issues in the industry including the capital constraints and emphasising the need for value for money. Also the group want to be acquisitive and enter into joint ventures as organic growth is not seen as sufficient. It is believed that there is a greater chance of this happening if the various stakeholders are better informed about the Distribution Company. To date the stakeholder management has

been rather "a scattergun approach that now needs some prioritising" and AR has had a first attempt at this and a slightly modified version of this is:

DEGREE OF INFLUENCE AND HOW

Operational influencing ability	Direct influencing ability: L	M	H
H	Employees ESPs		Ofgem Energywatch MPs Media Customers
M	Inward investment partnerships	Local Authorities	Govt Office RDAs
L	Connected customers Social housing providers Energy Efficiency groups	CBI Chambers of Commerce	

This is also important as the Distribution Company is still under severe cost pressure and everything is being considered with a "fine toothed comb" to see what its value is. This is true even of stakeholder management, and AR's gut feel is that it is important but this is difficult to demonstrate, or measure, in an industry where cost and profit are key. This would be easier in some cases than in others, such as a favourable IIP outcome would generate an obvious revenue.

Keeping in contact with stakeholders is important and the more important stakeholders are contacted regularly. With modern technology, phones, emails and web links, it is much easier to keep in contact than previously and for all stakeholders these are important forms of communication.

Key Performance Indicators (KPIs)

There are some standard financial KPIs that are set for the Distribution Company at group level and these include ROCE. The Group wants a return from its investment. Both the previous owners and the new owners have also been interested in the level of cash generated by the Distribution Company. The Distribution Company was very much seen as a cash cow by the previous owners and it is felt that they took a lot of cash out of the business. Cash has become

more important to the Group since it acquired another subsidiary, they have been selling assets as they now have a higher debt level.

Also key are OFGEM's targets on customer service and how the Distribution Company rank in OFGEMs tables. In reality the Distribution Company wants to be in the middle of the pack as if were on top in all criteria may result in different cost expectations for the future or a belief that it does not need as much capital in the future. Also this may be due to the fact that a company just happens to be good in those criteria chosen rather than necessarily running a successful business. An example of this is the joint venture between Eastern and London (24 7) for all the maintenance to their networks. London came out very well on customer minutes lost (CML) as most of the cables are underground whereas Eastern is much more rural and therefore did not perform as well despite both being maintained by 24 7. For the Distribution Company the most CML are in a rural area where it is cheaper to use overhead lines. Also it is harder to repair faults on underground lines and underground lines still have an environmental impact as trees and hedges cannot be allowed to grow over them. These lines are being fitted with auto reclosers so that they can automatically come back on if they are hit by debris in wind. Another key measure is the worst served customer, where some customers are cut off more than 10 times per year. These statistics highlight problems with the network that are considered for improvement. It is then a relatively straightforward decision as the cost of improving the infrastructure can be calculated and the output is fewer interruptions for these customers. "If Fred Bloggs is cut off ten times per year this is not acceptable and how can this cost effectively be improved". Measures can be replacement of rotten poles, or corroded items to the more difficult area of tree management (to avoid debris hitting the line) but this can be difficult if the tree is on private land (which can result in costly negotiations). It must also be remembered that there are capital constraints and shareholders "want their pound if flesh" and need to see what benefits they get from, say, renewing lines.

Other KPIs include safety measures and public safety is a key concern. This is a difficult area as climbing guards are used and substations are locked but if anyone is determined to get in they can (and this happened about ten years ago when two kids were involved in an accident at a substation). This makes public safety for a distribution company with 67,000km of infrastructure more difficult to ensure than, say, a power station. The Distribution Company do try and get the safety message across to schoolchildren and it is hoped that the website will help with this in the future. Two softer targets are achieving Investors in People and ISO14001. As with public safety ISO14001 is seen as more difficult for a distribution company with its related infrastructure than for a generator.

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Industry Meeting 4: with GK, Supply Company: 7/02/01

GK is a commercial manager for Mass Markets at the Supply Company. Since the company was taken over by the Parent Company the distribution and supply businesses have been very much more separate business. The Supply Company is operating in the gas and electricity supply industries and has recently attempted to move into telecommunications. The customer base for the Supply Company is still primarily in its home region, although it is anticipated that the Parent Company as a national brand will help to make the customer base broader across the whole country.

Which stakeholders are considered key to your organisation?

Some stakeholders stand out as key for the Supply Company, although prioritising the different needs of the stakeholder groups is done more on an "ad hoc basis". In terms of stakeholder management "consumers are in a class of their own" and so are not classed as stakeholders. Consumers are "crucial to the whole business".

In addition to those listed per my attachment GK also pointed to Government, OFGEM, Energywatch (the new consumer councils for gas and electricity) and other consumer groups as key stakeholders. Government is important to the Supply Company, but is perhaps even more important at a group level.

The Parent Company set targets for the Supply Company and there is a monthly reporting process. This is based around the corporate strategy that has five pillars:

1. Delivering profits
2. Maximising use of assets (this is more relevant for distribution and generation)
3. 5 million customer accounts
4. Solving problems for government (avoiding upset consumers helps government)
5. Working together to get the most from the different business areas.

From these 5 pillars the 3 key stakeholders for the Supply Company are group (in terms of profits), customers (in terms of increasing present customer base to 5 million), and government. When the Parent Company purchased this company the customer base was 2.3 million that increased to over 3 million at the end of last year (2000) and 5 million is seen as a "bold but achievable target". The customer base is calculated on customer accounts so if an individual buys both gas and electricity from the Supply Company then this counts as two customers.

Shareholders

For the Parent Company there is a monthly reporting process and these are primarily financial measures, profit, and a measure of the customer base and other customer service indicators (see later). This has not changed much since privatisation. Retail has always been smaller than distribution.

Employees

Employees do not feature in these key pillars, but since the Parent Company took over surveys of employees has become more regular. On the retail side employees have not been a substantial issue as in fact employee numbers have grown as the size of the customer base has grown. The biggest concern has been with the changes in ownership and the communication of strategy, such as different parts of the business working together. Salary levels have not been a concern and historically call centre staff have been extremely well paid. As call centre staffing has grown so this has been made more comparable to the market price for such customer service, but these employees are still paid above average. Call centre staff are now the biggest group of employees and sales staff are out-sourced.

Consumers

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The Supply Company do a significant amount of market research and the key measure is complaint levels. Other important performance indicators are call centre response times. There are also the guaranteed standards and these can be, and OFGEM is proposing to do so this year, split three ways. Therefore there are guaranteed standards that effect distribution, retail, and metering. The retail and metering standards are both managed by the Supply Company. Therefore promptness in replying to customers, promptness in making any payments are important for the retail business. Similarly for metering there are standards related to metering appointments. It is expected that the standards relating to retail standards will be dropped at the end of the current price control period as competition is now in place and service statistics are now provided on the web (see uswitch.com).

The metering business in the Supply Company's region is operated by the Supply Company staff. For customers in other areas metering is out-sourced to the incumbent supplier.

The target of 5 million customers is seen as a "bold but achievable target". In order to achieve this it will be necessary for the Supply Company to acquire new gas customers and new electricity customers outside of its original region. This is to be achieved by "offering a savings message against the incumbent supplier". The Parent Company as a well-known brand should help achieve this. The headline is that there can be £100 saving if you switch gas, electricity and telecommunications to the Parent Company. This may be exaggerated in that if the customer is already with the most competitive deal then the saving might be half of this amount. The Supply Company has decided to lead on gas prices as it is felt better to concentrate on one product. Also if somebody agrees to change they will usually change so that there is one company supplying both gas and electricity, so if they change for gas they will probably change for electricity as well.

It is not thought that the levels of company or group profitability are relevant to customers they are simply interested in price and quality. Similarly fuel poverty is an important issue for a minority of consumers and a big issue for other stakeholders (government and OFGEM), but "won't get us more customers".

In terms of reliability of supply the Supply Company see it as very important that the consumer understands the relationships and that it is the distribution company that is responsible for this. The Supply Company believe that customers in its original region do have a good understanding of this and of the difference between the Supply Company and the Parent Company. So suppliers can not claim to make a difference on this. One role that the Supply Company has is when information on an outage is reported they pass it on to the relevant distributor. The retail business have lobbied on distribution price structures, as it affects their customers, but as yet have not campaigned on service issues. This should happen in the future.

The aim of the Supply Company is to be "better than average" on the different service standards. The service standards are complaint statistics, customer service, the transfer process, and direct selling for gas and electricity. At present the Supply Company are above average on all except the direct selling of gas. It is recognised that this performance will need to continually improve as the performance of competitors will also change / improve.

On the issue of two-way communicating meters, which has been suggested as a possible solution to some problems in the industry, the Supply Company see this as purely a business decision. In this vein they have been considered and have "failed on economics".

The environment

The Supply Company has experimented with offering a green product. Customers have been allowed to choose to change to a green product, for a higher price. This is all going to change in the future as the suppliers' renewable obligation comes into effect. This obligation to buy a proportion of renewable energy is initially to be set at 5 % rising to 10% by 2010. Already existing hydro plants do form part of this and therefore there will be a need for new supplies of renewables of 3% rising to 7%.

Within the last couple of weeks Friends of the Earth have produced their second Green League tables and the Parent Company are now in the "second block" of companies. This performance is markedly better that

their performance in the first table and the Parent Company did well because of their green energy product and their commitment to energy efficiency.

EESOPs are something that the Supply Company are "forced to do". In reality it is a stealth tax and this has resulted in some energy efficiency projects, such as low energy light bulbs, which they wouldn't necessarily have done voluntarily.

The Supply Company does not see a conflict in business goals of an energy company and energy efficiency. The increase in revenue that the Parent Company targets is from increasing the customer base or selling more products to the same customers. Therefore the Supply Company does not deliberately sell more, and they see it as preferable to sell energy solutions, as the customers are likely to be more loyal as a result. The scale of the energy efficiency programmes has not been that large to date, but the expected increases from £1.20 to £3.60 (for both gas and electricity) will change this. Therefore instead of receiving £1.20 for a household with both gas and electricity bills this will soon be £7.20. The inclusion of gas also means that the projects can now include gas-heated houses, whereas previously it was restricted to those heated by electricity. The potential for fitting cavity wall insulation into gas-heated houses opens up a new area of energy efficiency.

Suppliers

The Supply Company used to have to negotiate with generators, but this is now done at group level. Therefore this is much more integrated. OFGEM does not appear concerned with this group activity as the structures of price control are clear and there is a cap on the average PES costs (therefore the Supply Company individually has only a small influence on this average cost). This does provide the right incentives and is therefore not seen as an issue by the Parent Company or the regulator.

The Government

The relationship with the government is primarily driven by the group as the most important issues, such as plant disposal and emissions, have been generation issues. Another important political issue is fuel poverty and the Supply Company line is basically to help government. To this end when there is seen to be an "alignment of goals" with government then the Parent Company ensure that this is not "let go by default". An example of this is with prepayment meters where the Parent Company have recently announced a reduction in prices, which is consistent with government objectives on fuel poverty, and was considered appropriate by the Parent Company as some cost reductions had been achieved. Really a key objective is to ensure that there are no "bad headlines", such as on mis-selling, as this is bad for both the Parent Company and the government.

OFGEM

Within the Parent Company there is a Corporate regulation team (at group level) and a mass market regulation team within the Supply Company. The contact with OFGEM tends to be irregular as OFGEM don't tend to have regular meetings. An important role is seen to be to respond to the consultation documents and also attend workshops run by OFGEM. The consultation process is very important as it can be used as an "attempt to influence" OFGEM and face-to-face meetings are sometimes used to help with this understanding. There has been a noticeable change since 1998 with the move from monopoly to competition. OFGEM hope to rely more and more on competition in the future. OFGEM are now essentially taking initiatives to make the market more efficient and also to ensure that within this competitive market there is fair play. Within this the Parent Company attempt to suggest ideas how this could be achieved.

Energywatch

Contact with Energywatch is similar to that with OFGEM in that it is irregular and tends to focus on specific issues. There is a regular process to follow up customer complaints and Energywatch monitor and compare the statistics from each supply business. The Supply Company have found it difficult to set

complaint targets as complaints will always happen and again the Supply Company's aim is to be better than average. Implicit in this target of above average is the awareness that there will be a need to improve and further to improve faster than the competition. The Supply Company is aware that key areas of complaint are in selling and transfer of accounts and so these are areas that they concentrate on. At present the complaints to Energywatch stand, approximately, at 1/1,000 in customer transfer and 1/25,000 in sales. More complaints than this are made to the Supply Company, but some of these are satisfactorily dealt with at this stage and therefore do not progress to Energywatch. It is acknowledged that "statistics in the industry aren't very good" and it is a challenge to improve this. It is considered important to manage the relationship with Energywatch not least because they input into the consultation process.

Consumer groups

There are a lot of consumer groups and it is difficult to know how "they fit together and who knows who". GK's department monitor who comments on issues and consultations and tries to establish a relationship with them "in case something happens". An example of where this didn't work well was in the recent Utilities Act. The Parent Company proposed that a single gas and electricity prepayment meter would reduce costs, but this was not put to consumer groups in advance and so they rejected the idea. This is in spite of the fact that the Parent Company truly felt it would benefit the prepayment meter consumers by reducing costs.

The consumer groups that are important at the moment are "The National Right to Fuel", the "Citizens Advice Bureau" (CAB) and numerous energy efficiency groups. Also there are key MPs who represent consumer interests. The CAB are especially useful as a sounding board for getting advice to customers in difficulty.

Stakeholder management

It is the "generic" issues that are important. An example is fuel poverty and this has "shot up the agenda". When an issue appears the Parent Company tries to explain what it is reasonable to expect. Within the organisation the balancing of different issues is very judgmental and is done at a very senior management level. The MD of the Supply Company and the CEO of the Parent Company have relationships with MPs and other important stakeholders and tend to be "in tune with what stakeholders want and to understand consumers' needs". Basically for the Supply Company consumer interests do come out on top. Even here the business plan for the Supply Company aims to increase customers and this takes primacy over profits that will then be delivered in the long-term. Significantly less money is spent managing government.

Post-privatisation changes

Since privatisation one of the biggest changes has been the publication of standards of performance and the setting of minimum standards. Overall the "much bigger change" has been the introduction of competition. "Regulation has kept pace with the needs of going into a competitive market and has not been too intrusive". Overall regulation has been "not that unreasonable and quite well operated". An example has been that the regulator has seen that there have been complaints and knows that improvements can and need to be made, but does not expect them tomorrow. An example where regulation has been less helpful is the need for OFGEM to approve new products in the energy markets. This was introduced to safeguard customers, "but has inhibited innovation". In the future competition will be the "safeguard", but the regulator still retains some powers "if anything bad happens".

Movement into telecommunications

The Supply Company started selling telecom products last April. As a result of this there will be a need to gradually develop links with OFTEL and the advisory groups in this industry. This is also an area where it is hoped that good stakeholder management will benefit the Parent Company in the long-run. If the energy part of the DTI likes the Parent Company and the telecom part is less constructive then the energy side of the DTI may help.

Appendix 4p

Regulator Meeting 1; with PC; 9 February 1998

The role of the regulator is set out in statute specifically the Electricity Act. Section 3 of this Act states the duties of the regulator where the primary duties are "keeping the lights on", financial stability (so that the long term provision of electricity to consumers is ensured), and to promote competition. The secondary duties relate more specifically to the customers, the health and safety of employees and the environment.

Information asymmetry

OFFER sees the key to getting good information as the ability to compare the different companies. As this is the case the companies can be "less blatant in the games that they play". In order to achieve a good knowledge base OFFER make a lot of use of consultants who visit the companies as part of the price control procedure. From this OFFER "build a model of an efficient company". There are many issues such as levels of capital expenditure and specific data on processes that are also considered and there often "high level accounting adjustments" that need to be made. The process is a bit "phoney around the edges". The processes put in place by the companies are important as OFFER need to see how the data is collected. An obvious problem is that staff may have an incentive not to report failures as this reflects poorly on either the company or the member of staff themselves.

The changing structure of the industry in terms of mergers and take-overs has had little effect. One effect is that the published reports disappear from the public domain. Also as the companies were quoted on the stock exchange this provided a valuation of the company and could provide information that was used to estimate the cost of capital as a whole. However, this was never straightforward. In terms of the cost of capital OFFER can now look at the cost of debt and this is more relevant as it now accounts for a greater part of the capital structure of the companies. However, if the licensed company is a member of a group then OFFER gets information on all the group companies and the transactions between them.

Also in the case of the National Grid no such domestic comparisons have ever been possible. International comparisons were made but they were not conclusive. It is believed that in terms of international benchmarking National Grid is "pretty efficient".

Consumers

The duty to the consumers is seen as very important and is considered in terms of the price and quality of service. In terms of quality of service the "reliability and availability" of electricity is fundamental and this must be ensured through the transmission and distribution networks. In order to monitor this performance the number of customer minutes lost / customer is measured. Within this monitoring process allowance is made for regional differences, in terms of urban versus rural customers. The companies themselves supply OFFER with annual reports on their performance in this respect and this highlights the "worst performing circuits". The companies are also then expected to set themselves targets for improvements and at present these are for the period up to the year 2000. This approach is presently under review as it is being questioned whether it would be more appropriate for OFFER to set these targets. The measures of quality of service are encapsulated in the two sets of standards of performance (the overall standards and the guaranteed standards). Each of these standards are "reviewed for tightening in light of experience and expectations". As well as the standards OFFER also monitor the number of customer of complaints as an "indication of satisfaction" and the general trend has been that these have been falling.

In terms of prices much of the industry is price controlled and OFFER monitor conformity across customers and across companies. For the other parts of the industry, such as large industrial users where the market has been opened up to competition and these customers are "left to sort themselves out", OFFER survey the customers to obtain information. Since privatisation the cost of electricity to the consumer is "comfortably down in real terms" although this would be effected by changes in the cost of primary fuels. For customers of <100KW any increase in primary fuel prices, or increase in the price of generation as this is not regulated, would be passed through to the final customer. From the end of March a maximum price

will be set, this is considered to be "more appropriate" and would therefore mean that costs were not passed through.

Health and Safety

The key issue for OFFER in terms of employees is Health and Safety. Therefore OFFER attempt to ensure that the companies have proper machinery in place that limit the number of incidents. In order to fulfil this obligation OFFER talk to the Trade Unions who can provide information and evidence on the health and safety records of the companies.

Environmental

OFFER has certain specific objectives in terms of the environmental impacts that the industry has. The most important of these is the promotion of efficient supply. To this end there are "Energy Efficiency Standards" and "energy saving targets". In addition OFFER has a role in promoting schemes such as improved insulation that will also improve energy efficiency. Also since privatisation there has been an incentive for the companies to reduce the losses in the system. The reason for this that the companies can make higher profits if the system is more efficient and more of the electricity produced is sold. Previously the "costs were not geared to the units sold" and this resulted in an "incentive to increase use". OFFER believes that their attempts have had some effect but customers drive the demand. "The government needs to take account of externalities" such as the effect of VAT on fuel may decrease usage as the price to the final consumer increases but this impacts on certain "poorer" people more than others.

Primary fuel for generation

The long-term gas and coal reserves will effect the way that electricity is generated in the UK. There is 300 years of coal available but whether it is economic to use this is questionable. In terms of gas it is believed that "gas is there if needed companies just need an incentive to explore". Having said this the onus is really on the government as they provide, or do not provide, consent for new generating capacity. The previous government allowed anyone to "dash for gas" but the present government has frozen this. The benefits of gas fired power stations are that "gas is keenly priced, the technology is ready, the stations are quick to build, and they are environmentally more secure" as compared to coal burn.

Historic and current costs

Companies have provided historic cost accounts to shareholders and current cost accounts to the regulator. In addition they used to produce current cost accounts before they were privatised. The valuation of the 'regulatory asset base' has been a difficult issue for OFFER to resolve. This issue has a significant impact on the price control reviews as the life and value of the assets is extremely subjective. Therefore OFFER considered "how much did the investors pay to acquire these assets." However, even on this question there were conflicting opinions as to whether the flotation price, the value at the end of the first day ("the initial view of investors"), or the average over the first 100 days was most appropriate. Also there was a question as to whether the value would "adjust to change for expectations". For the distribution companies the decision was made that the best alternative was the value at the end of the first day + 15%. For National Grid this was further complicated by the fact that the initial investors were the RECs and it was only later that it was floated.

The effects of privatisation

Things have changed in the electricity industry since privatisation. Efficiency improvements have resulted in lower costs over all sectors of the industry and this was not the case before. There is already competition in supply for large customers and this will be expanded to more and more consumers in the future. There has also been an improvement in flexibility in the industry and soon companies will be competing more openly in the gas and electricity markets.

Appendix 4q

Regulator Meeting 2: with AW, 16/3/01

In the last two years the largest change to the regulation of the electricity industry is the formation of ofgem to replace offer and ofgas. In addition the Utilities Act has been introduced and the regulator has developed a social action plan. However, the effect of these changes on the day to day regulation is uncertain. The primary interest of the regulator remains the consumers.

The social action plan (SAP)

AW does not think that this has really changed what is done within ofgem. It is "more about drawing together and focussing bits of work" that were already going on. For example there were always initiatives to protect prepayment meter customers and codes of practice for disabled customers etc. It has meant that such issues are given a higher priority in ofgem and there is now a more focussed response to "people asking what are you doing for disadvantaged?" Ofgem are now providing a better external face to the public and there is a process by which people can comment.

There can be tensions between the statutory duties, as things are "pushing you in different directions". For example, the increased competition in the supply market, which is a key way to reduce prices and therefore help tackle fuel poverty, has tended to focus on better off and direct debit customers as these tend to have very attractive characteristics to the competing suppliers. This can result in the better off customers benefiting the most from competition and ofgem need to ensure that at least some of the benefit goes to the less well off. In the 1999 distribution price control ofgem did cap prepayment meter surcharges. In the period 1996-1999 there were 1 million less people in fuel poverty in the UK and most of this reduction (about two-thirds) has come from the reduction in energy prices of 20% (in real terms). The rest is due to changes in the distribution of income. It is a government target to eliminate fuel poverty by 2010 and this is a very significant job that will require resources to be targeted appropriately. This will be achieved through energy efficiency measures, but the people in fuel poverty will need to be found. This project is, and will continue to be, driven by government.

The Environment

The regulator has some duties for the efficient use of energy, although the EESOPs have been transferred to government. There are also some more administrative functions that relate to exemptions from the Climate Change Levy and some aspects of renewable energy supplies. By 2010 the supply companies will need to have in place contracts for 10% of the demand from renewable supplies. This will result in higher prices of possibly 4%. Beyond these limited interests it is felt that the environmental issues are within the domain of government. Certainly ofgem have "nothing to do with" the nuclear industry and there is no objective to reduce Carbon Dioxide emissions.

Shareholders

Ofgem prefer to consider the broader category of providers of finance. These companies are now relatively highly leveraged and so bondholders and shareholders are both important. There is no direct duty to protect the providers of finance, but there is a duty to ensure that the companies can finance their activities. Further ofgem believe that it is to the consumers' benefit that the companies have "access to finance on advantageous terms" and therefore it is "important that they are seen as relatively low risk".

Appendix 4q

Employees

Ofgem clearly has an interest in the service being provided efficiently. However, it is very much left to the management to optimise this efficiency. There is a duty for health and safety, but the Health and Safety Executive (HSE) have the primary responsibility as they set the health and safety standards. These standards "form a constraint on business activity and cost reduction". Ofgem attempts to co-operate with HSE and also take into account the companies' requirement to perform to these standards when setting the price control.

AW pointed out that employee numbers are hard to track in the industry. For example distribution has not been a separate statutory entity in the past and so has not published figures. Also the use of outside contractors and developments such as 24seven maintaining London and Eastern networks makes comparisons more complex.

Regulation and competition

Competition has increased in supply and generation and this is seen as the best way to protect consumers' interests. Therefore competition is preferred to regulation wherever possible and it is ofgem's aim to get to the point of competition where ofgem can forget about it. In supply the scope of the price controls has been reduced and it is hoped that it "will be removed altogether in the next few years".

On the generation side NETA is to be introduced in the near future and this should assist a more competitive market. The introduction of NETA has been far more controversial than deregulation in the supply market as there are a lot of vested interests. It is now definitely being introduced by the end of the month and the sheer scale of the project along with its complexity and a lot of IT changes have resulted in it being behind schedule. NETA was considered necessary, as the Pool was an "administered system" rather than a proper market. This and the lack of "vigorous competition" meant that it was "vulnerable to gaming and strategic behaviour". Having said this it may be the case that there will be even more "price spikes" under NETA as electricity is not storable and demand varies a lot over the day. Therefore "price spikes are a natural feature" of an electricity market. Within NETA most of the electricity will be supplied via contractual terms and the balancing mechanism will only be a marginal market. It is a mechanism to "trade around the contracts". There has been an "active debate" on what NETA should involve and ofgem wanted to include market abuse licence conditions as a "way of facilitating its role in competition". However two generators rejected the conditions and the MMC found against ofgem, therefore there will be a need to rely on Competition Act policy. Until NETA is experienced then it is hard to know how it will work.

Also within the generation market ofgem has a "competition policy type role". Offer was very proactive in this role and this resulted in divestment by the major generators and a less concentrated market. The levels of competition in the industry are measured in numerous ways and there is a "competition assessment for supply" on ofgem's web site. A wide range of indicators is used that includes "market share, ranges of prices, arrangements for transferring" and this is done for different customers in different areas. The level of competition in supply "does appear to be increasing". It may well be some time before complete deregulation as there are "some problems with [competition for] prepayment meter" customers. In general the 12 supply companies still have 60-70% of the market in their regions, however nationally Centrica is as big as any other company. In the future AW expects there to be a "diminished set" of companies as there will be "corporate activity" and there may also be some more integration. It may be that there will be 5 or 6 big supply companies and this is not a problem for ofgem. The

Appendix 4q

Competition Act is not concerned with dominance but anti-competitive behaviour. In principle there is not a problem with only 5 or 6 companies supplying electricity, but in practice there may be a problem with joint dominance. This is, however, beyond the scope of ofgem.

The actual savings to be made by shifting electricity supplier are not that significant, although AW believes it to be more than the £10 per annum suggested. AW believes that true savings are to be made by buying a whole package of services from a single supplier. Certainly Centrica, Powergen and Innogy are developing a whole range of services including gas, electricity and telecom that enable substantial savings to be made. Overall there has been a slow-down in the rate of gaining market share. Having said this ofgem are not necessarily concerned by this as long as there is a competitive market price for electricity and if a company starts to charge, say, 5% above this then they lose market share.

Codes of practice have been introduced on marketing and doorstep selling and this was to address some "teething problems". There is a report on ofgem's web site on customer transfers.

Quality of supply

The guaranteed and overall standards are in place, although as part of the competitive process it is intended to phase out the supply standards. Ofgem want to deregulate the market as far as possible and it may be that some companies will be able to offer a cheap service or better quality and these will be sources of competitive advantage. There will still be a need for codes of practice for vulnerable customers. The standards for distribution companies are staying in place and these are the more important ones. The monitoring of complaints is now the domain of energywatch, and they are an "independent monitoring body". Therefore if a customer has a complaint they should go to energywatch and their focus will be on disadvantaged and low-income consumers.

It is likely that through time ofgem will consider other areas of quality of supply. At present large business customers say that they do not get comparable treatment and the £50 fines are not sufficient for them. As the structure of the industry changes with more embedded generation and more renewable supplies this will also change the needs of the large customers. Ofgem hope to have a more rounded focus in the future.

Information Incentives Project (IIP)

This is a relatively recent proposal and ofgem has published the "Regulatory instructions and guidance". This relates to the reporting of quality statistics by the distribution companies. It is hoped that this will enable a better measure of quality of supply to be attained. There are no detailed proposals as yet and it is not known whether there will be across-company targets. Ofgem would prefer the targets to be comparative, but are unsure this is tractable given the different networks' characteristics, such as over and under ground cabling. At present the auditing side of the information provision is still being worked out. Questions of sample size and confidence levels are still undecided and work on sampling theory is still ongoing. The distribution companies themselves are working on putting the required new systems in place.

The "quality of supply" reports that distribution companies have produced in the past have an uncertain future. The Electricity Consumer Councils (that have been replaced by energywatch, who seem less interested) used to be closely involved, but much of the information will now be reported as part of IIP. These reports were "pseudo voluntary" and reported on customer minutes lost. It is the ambiguity in the measures and definitions used that IIP hopes to improve.

Appendix 4r

Government Meeting with IF, Government Department, 28/02/01

IF is head of the part of the Government Department that deals with both the electricity and gas markets in the UK. In line with the changes to the regulatory framework, OFGAS and OFFER being merged into OFGEM, this department deals with both the gas and electricity industries. IF remarked that it is important to remember that the "Government" is not unitary and that other Government Departments and central government, the Scottish Executive and the European Union Federal Government all have an interest in the industry. In the Government Department the actual stakeholder concept is not used or referred to. IF sees the role of the Government Department as dealing with "complexity not simplicity" in that their work is in relation to "intractable problems". The problems are intractable, as there are conflicting interests such that they are not resolvable. If they were tractable they would have been dealt with by now. An example is the question of energy prices. There is a strong social pressure to reduce prices to benefit consumers, especially those living in "fuel poverty", but at the same time higher prices would deter energy usage and hence be beneficial in environmental terms. In this case the social and environmental interests are in conflict, and they are "irreconcilable" in the long term. These tensions will persist into the future, as there is a dissonance of goals.

In terms of identifying stakeholders and stakeholder issues the Government Department "don't sit down with a blank sheet of paper", instead there is an ongoing engagement with the industry. As such there is a policy of no surprises and in order to achieve this a dialogue is maintained. The Government Department has an indirect role in the industry and therefore does not get involved in company decisions, but the government obviously does have a legislative role that provides the framework for the industry. Legislature is both national, as in the case of the Utilities Act, and passed on from the EU, as for the Electricity Directorate. Overall the Government Department try to be interactive with the industry. All of these relationships are important in helping to identify issues. You "have to know the game to identify the issues" and it is in this way that these relationships are very important.

The industry

The Government Department maintains a dialogue with numerous "stakeholders". Firstly there is the industry itself and this is seen as being in four, not three, parts. These are the generators, distribution, supply and investors. The market for corporate control and hence the financing of the industry is very important, therefore the Government Department see it is important to retain contact with the City. Through communicating with the companies it is hoped that the Government Department will "be clear on taking account of their views in negotiations with the EU." In terms of mergers and changes in the industry structure it is important to remember that formally merger control is handled by the OFT. It is really important that the OFT are and are seen to be independent. In cases such as Innogy and Yorkshire Electric, takeover announced today, the Government Department is careful to try to not influence the outcome, as this is not their job. It is very important that the Government Department "can't interfere with directors' duties". If the government interfered and this affected the value to shareholders this could leave the Secretary of State in a very awkward position. Having said this the Government Department "make real efforts to know what is going on".

Communication is at different levels within the companies, but the Government Department definitely keeps in touch with the Chairmen and Chief Executives on strategic matters. The government can help with, say, US acquisitions where they can speak with US authorities and

also keeping the companies up to date with what is happening in Europe. There are also contacts at lower levels and OFGEM are involved at a very much more technical level.

In addition to these four parts of the industry there are also the two big regulated companies, the National Grid and Transco. Communication with these companies is especially important, not least because of emergency planning issues. Also the government owns BNFL, and hence the Magnox fleet. This is an extremely complex business and although the Government Department is not represented on the board they are accountable for the activities. The UK nuclear industry and BNFL has had a difficult time, but it should be remembered that it has been a major export earner for the UK. Also they are doing things for the first time and so there are no comparators for them to use. They can't ask, "What did the last guy do?" "In effect they are making it up as they go along". The situation in Russia has been very different and does not provide any valuable insights.

The Government Department also has a role to play in dealing with "offshore investors" such as Electricite de France.

Regulation

There is a close relationship with the regulators, both OFGEM and OFREG (in Northern Ireland), although other people in the Government Department have closer relationship than IF. Basically the government provides a stable regulatory framework in the UK and then "OFGEM gets on with the job". In addition there are regulatory bodies in countries connected with the UK energy market, Belgium, France and Ireland, that it is important to communicate with.

Consumers and Energywatch

The Government Department holds the budget for Energywatch, although its actual operations are independent. There is also an administrative role as consumers write to ministers and these need to be passed on to Energywatch. The biggest domestic consumer issue for the Government Department is fuel poverty and schemes are put into place to address this. The actual day to day pricing and quality issues are the domain of OFGEM who also monitor investment in the industry.

Generally speaking the Government Department leave Energywatch to get on with it. Also on the consumption side the Government Department has a lot of dealings with the large energy users, such as the steel industry. The Government Department is available "on demand" to the large users. This can be as often as once per week and usually encompasses both electricity and gas. These discussions are very focussed on prices, as there is "no real quality issue" or if there is it never comes to the Government Department. The Government Department will look at pricing trends in Europe and the world market. Recently the price of gas has been increasing and the Government Department is keen to see that this is not the result of anti-competitive behaviour. In the electricity market concerns about anti-competitive behaviour have resulted in the Pool being replaced by NETA and this is now due to start operating on 27 March 2001. It is felt that the market has already responded to the forthcoming change and wholesale prices have already fallen and do not have much more to fall.

Governments

The Government Department has a role to fulfill in implementing both the renewables policy and the Utilities Act. There is also a "wider environmental community", specifically there is the DETR and there is an EU element as well. For this department this is especially with DG Tren (transport and energy) and DG Comp (merger control). The European Parliament has the ability to amend and veto laws and it is therefore extremely important to develop and maintain a relationship with these bodies. Therefore it is seen as very important to "build up relationship with key people" and to "take the time to develop a cooperative approach". Depending on "expertise" and "how badly you want it" you can have a significant influence within the EU. IF believes that the UK influence in electricity and gas is "second to none". This has reached a stage where the Government Department are "now preparing papers for internal use of the commission" and this is seen as a sign of influence. The Government Department want to maintain this close level of contact, IF is in Brussels one day per week, and it is a "genuinely intimate relationship". This is more often than IF sees the regulator, Callum McCarthy, who is seen probably once every ten days.

It is also important to build up good, close relationships with other governments especially France and Germany. The other governments are less important and these are seen as the other two key players. Although, as mentioned above, there is a close relationship with the commissioner who is Spanish and there are some steps to building a relationship with the Italian government. The others, such as the Danes who are extremely environmental, "don't matter".

Finally, in terms of government bodies there can also be planning consent issues that require dealings with local government.

Managing conflicting interests

Where there are conflicting interests, as between social and environmental concerns with energy prices, it is important to manage the situation. In this example the Government Department are involved in running separate programmes, one for fuel poverty and one for environmental emissions, simultaneously. It is important in government to "never fight unless you have to". Another example of conflict is with the introduction of NETA. This is a major government initiative, as it is believed that it will increase competition and decrease prices. However, some small Combined Heat and Power (CHP) plants, that are net exporters to the market, may lose out. This has resulted in them claiming that the government is not really supportive of CHP. The response to this has been to tell the CHP interests that NETA will go ahead, as it is an important government initiative, but that OFGEM will review its impact on CHP after a couple of months. In this way the CHP lobby group are given some comfort that their concerns are to be addressed, but that the more important government initiative is given priority. It is through such timing that the government prioritise stakeholders and issues.

Although the term stakeholder and the concept of stakeholder issues are not explicitly used at the Government Department, it is in effect "everything we do".

Diversity of supply and Kyoto

Diversity of supply is an important issue for the Government Department. There is presently a debate, both internal to the UK government and at a European level, as to how far into the future plans should be made. As yet there is no answer to this question, but the Government Department are aware that there is a potential problem. There is a growing dependence on gas, where the UK is now a seasonal importer (importing in the winter and exporting in the

summer), and BNFL are closing down the Magnox fleet of nuclear stations. Without nuclear there would be a need for more coal and gas, but this, especially coal, would mean that the Kyoto targets would not be met. Also as it is cheaper to import coal, which is also lower in Sulphur, which means that the UK would be dependent on other countries for primary fuel. This is also the case for gas as in the future the UK will need to import more and more as the UK's resources run down. This would leave the UK dependent upon the Belgian network for gas supplies. This reliance on importing primary fuel is a "real risk" not a "financial risk" and as such you "can't insure against" problems.

Building new nuclear power capacity is the obvious answer to environmental concerns about emissions, but in Germany there is a stance of "no nuclear and meeting Kyoto" targets. A European report, that Germany did not want published, has been produced on this issue COM2000 769 (available from www.europa.int).

At present the UK is on target to meet their Kyoto targets. There is, however, a legitimate question as to whether it is "worth doing?" If India, China and the USA do not join in then "what is the point?" The other countries can't unilaterally stop global warming and they will just be increasing their own costs and reducing their competitiveness. This is an instance where the lack of global agreement undermines the whole process. Having said this at present the UK is going ahead and are "demonstrating their commitment" to the targets.

The renewable energy target of 10% by 2010 is seen as ambitious and stretching. There is as yet no formal target for beyond this time, although it is expected to be higher than 10%. There is a limit as to how far renewable supplies can go, but IF does not know what this is. There are also technological advances being made that are physically changing the generation process that can make significant differences in the future and OFGEM have items about "better generation" on their website.

Employees

This is the one stakeholder group identified by SC that the Government Department "has almost nothing to do with". There is no conscious involvement as the labour market operates "reasonably well". This would be approached very differently in France where due to the make up of the industry, with a larger nuclear component, employees and decommissioning would be the biggest issues. Similarly safety is not really seen as an issue because the death figures, "tragic though each instance is", are heading down not up.

Appendix 5

Appendix 5 contains more detailed data and calculations supporting the Tables discussed in Chapters 6 and 7. The data has primarily been collected from the Annual Report and Accounts of the companies. The spreadsheets included are:

Value added analysis - Generators

Note: All figures taken from Annual reports and accounts

	1991		1992		1993		1994		1995		1996		1997	
	Npower	Powergen	Npower	Powergen	Npower	Powergen	Npower	Powergen	Npower	Powergen	Npower	Powergen	Npower	Powergen
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	4378	2651	4701	3097	4348	3188	3641	2932	3953	2885	3948	2933	3443	2855
Purchases (materials and services)	3569	2177	3627	2471	3246	2465	2461	2197	2679	2036	2691	1920	2245	1894
Value added / internal costs	809	474	1074	626	1102	723	1180	735	1274	849	1257	1013	1198	961
Gross labour costs	360	210	351	205	292	164	220	146	180	140	167	131	153	121
Charged to Balance sheet	-9	0	-12	0	-15	0	-4	0	0	0	-1	0	-2	0
Charged to profit and loss account	351	210	339	205	277	164	216	146	180	140	166	131	151	121
Depreciation	155	78	210	95	226	107	229	104	317	164	261	189	242	255
Net Interest	-52	-60	11	-33	19	27	58	9	72	0	24	6	81	3
Tax	149	102	149	117	160	140	155	131	180	157	198	168	140	151
Dividends	70	43	116	72	135	82	160	99	188	112	265	153	1522	160
Retained profit	136	101	249	170	285	203	362	246	337	276	343	366	-938	271
Value added	809	474	1074	626	1102	723	1180	735	1274	849	1257	1013	1198	961
Exceptional income / (costs)	0	-26	0	-6	0	0	45	0	-30	0	0	107	-22	2
Extraordinary income / (costs)	-124	-54												

Electricity Companies in England and Wales - GENERATION

	1991	1992	1993	1994	1995	1996	1997
	£m	£m	£m	£m	£m	£m	£m
Total Income	7029	7798	7536	6573	6838	6881	6298
Purchases (materials and services)	5746	6098	5711	4658	4715	4611	4139
Value added / internal costs	1283	1700	1825	1915	2123	2270	2159
Gross labour costs	570	556	456	366	320	298	274
Charged to Balance sheet	-9	-12	-15	-4	0	-1	-2
Charged to profit and loss account	561	544	441	362	320	297	272
Depreciation	233	305	333	333	481	450	497
Net Interest	-112	-22	46	67	72	30	84
Tax	251	266	300	286	337	366	291
Dividends	113	188	217	259	300	418	1682
Retained profit	237	419	488	608	613	709	-667
Value added	1283	1700	1825	1915	2123	2270	2159
	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	81.7	78.2	75.8	70.9	69.0	67.0	65.7
Value added / internal costs	18.3	21.8	24.2	29.1	31.0	33.0	34 3
Gross labour costs	44.4	32.7	25.0	19.1	15.1	13.1	12.7
Charged to Balance sheet	-0.7	-0.7	-0.8	-0.2	0.0	0.0	-0.1
Charged to profit and loss account	43.7	32.0	24.2	18.9	15.1	13.1	12.6
Depreciation	18.2	17.9	18.2	17.4	22.7	19.8	23.0
Net Interest	-8.7	-1.3	2.5	3.5	3.4	1.3	3.9
Tax	19.6	15.6	16.4	14.9	15.9	16.1	13.5
Dividends	8.8	11.1	11.9	13.5	14.1	18.4	77.9
Retained profit	18.5	24.6	26.7	31.7	28.9	31.2	-30 9
Value added	100.0	100.0	100.0	100.0	100 0	100.0	100.0

Value added analysis - RECs 1991

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1326.7	1720.1	1224.0	829.0	1329.1	776.4	1240.3	1047.5	1546.0	567.2	779.4	1242.5	13628.2
Purchases (materials and services)	1074.5	1385.9	956.8	649.0	1064.9	598.0	1000.6	842.5	1236.0	429.1	572.6	977.8	10787.7
Value added / internal costs	252.2	334.2	267.2	180.0	264.2	178.4	239.7	205.0	310.0	138.1	206.8	264.7	2840.5
Gross labour costs	133.8	173.9	141.9	95.0	144.2	97.0	137.5	119.5	170.7	75.6	109.6	125.7	1524.4
Charged to Balance sheet	-27.9	-23.7	-17.4	0.0	-21.0	-16.6	-18.6	-17.7	-24.8	-11.8	0.0	-22.5	-202.0
Charged to profit and loss account	105.9	150.2	124.5	95.0	123.2	80.4	118.9	101.8	145.9	63.8	109.6	103.2	1322.4
Depreciation	25.2	46.7	28.7	25.0	31.3	18.6	42.1	24.3	35.5	17.4	21.7	28.4	344.9
Net Interest	6.9	14.2	-22.0	6.0	6.6	-5.2	15.3	3.1	-5.1	3.1	12.9	3.7	39.5
Tax	33.1	34.3	40.8	15.0	26.4	25.1	28.0	25.9	31.8	16.5	15.0	40.0	331.9
Dividends	23.0	27.3	22.8	13.0	22.0	14.0	18.9	13.2	27.3	12.0	13.0	22.4	228.9
Retained profit	58.1	61.5	72.4	26.0	54.7	45.5	16.5	36.7	74.6	25.3	34.6	67.0	572.9
Value added	252.2	334.2	267.2	180.0	264.2	178.4	239.7	205.0	310.0	138.1	206.8	264.7	2840.5
Extraordinary income / (costs)	-4.9	-7.5	-5.8	-4.5	-6.6	-4.6	-6.9	-5.6	-5.9	-4.3	-3.6	-5.2	
Exceptional income / (costs)	0	0	0	-15	0	0	-13.8		-33	0	0		

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	81.0	80.6	78.2	78.3	80.1	77.0	80.7	80.4	79.9	75.7	73.5	78.7	79.2
Value added / internal costs	19.0	19.4	21.8	21.7	19.9	23.0	19.3	19.6	20.1	24.3	26.5	21.3	20.8
Gross labour costs	53.1	52.0	53.1	52.8	54.6	54.4	57.4	58.3	55.1	54.7	53.0	47.5	53.7
Charged to Balance sheet	-11.1	-7.1	-6.5	0.0	-7.9	-9.3	-7.8	-8.6	-8.0	-8.5	0.0	-8.5	-7.1
Charged to profit and loss account	42.0	44.9	46.6	52.8	46.6	45.1	49.6	49.7	47.1	46.2	53.0	39.0	46.6
Depreciation	10.0	14.0	10.7	13.9	11.8	10.4	17.6	11.9	11.5	12.6	10.5	10.7	12.1
Net Interest	2.7	4.2	-8.2	3.3	2.5	-2.9	6.4	1.5	-1.6	2.2	6.2	1.4	1.4
Tax	13.1	10.3	15.3	8.3	10.0	14.1	11.7	12.6	10.3	11.9	7.3	15.1	11.7
Dividends	9.1	8.2	8.5	7.2	8.3	7.8	7.9	6.4	8.8	8.7	6.3	8.5	8.1
Retained profit	23.0	18.4	27.1	14.4	20.7	25.5	6.9	17.9	24.1	18.3	16.7	25.3	20.2
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Value added analysis - RECs 1992

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1543.8	1878.1	1347.1	834.6	1454.1	813.7	1318.0	1157.0	1750.6	590.2	847.1	1342.6	14876.9
Purchases (materials and services)	1207.5	1493.4	1030.7	615.3	1122.6	599.5	1002.5	910.1	1381.5	420.2	603.5	1041.3	11428.1
Value added / internal costs	336.3	384.7	316.4	219.3	331.5	214.2	315.5	246.9	369.1	170.0	243.6	301.3	3448.8
Gross labour costs	162.7	184.5	150.6	92.4	170.0	104.2	144.6	127.7	166.1	89.9	121.1	137.0	1650.8
Charged to Balance sheet	-29.2	-24.1	-18.2	0.0	-20.8	-17.6	-19.0	-18.6	-25.0	-13.9	0.0	-20.6	-207.0
Charged to profit and loss account	133.5	160.4	132.4	92.4	149.2	86.6	125.6	109.1	141.1	76.0	121.1	116.4	1443.8
Depreciation	32.7	47.9	30.3	25.1	32.0	19.9	35.3	30.3	39.3	18.9	24.7	30.2	366.6
Net Interest	20.1	33.3	11.2	7.1	8.2	9.5	16.7	9.1	22.4	2.2	14.8	12.8	167.4
Tax	40.7	38.8	39.0	24.9	39.4	24.9	49.8	30.2	37.3	21.5	20.7	41.7	408.9
Dividends	37.3	45.1	36.6	21.7	36.1	22.8	30.6	22.0	45.0	19.7	21.2	36.8	374.9
Retained profit	72.0	59.2	66.9	48.1	66.6	50.5	57.5	46.2	84.0	31.7	41.1	63.4	687.2
Value added	336.3	384.7	316.4	219.3	331.5	214.2	315.5	246.9	369.1	170.0	243.6	301.3	3448.8
Exceptional income / (costs)	0	0	0.0	-9.0	-10.0	-1.7	0.0	0.0	-8.5	-11.2	-6.6	0	

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	78.2	79.5	76.5	73.7	77.2	73.7	76.1	78.7	78.9	71.2	71.2	77.6	76.8
Value added / internal costs	21.8	20.5	23.5	26.3	22.8	26.3	23.9	21.3	21.1	28.8	28.8	22.4	23.2
Gross labour costs	48.4	48.0	47.6	42.1	51.3	48.6	45.8	51.7	45.0	52.9	49.7	45.5	47.9
Charged to Balance sheet	-8.7	-6.3	-5.8	0.0	-6.3	-8.2	-6.0	-7.5	-6.8	-8.2	0.0	-6.8	-6.0
Charged to profit and loss account	39.7	41.7	41.8	42.1	45.0	40.4	39.8	44.2	38.2	44.7	49.7	38.6	41.9
Depreciation	9.7	12.5	9.6	11.4	9.7	9.3	11.2	12.3	10.6	11.1	10.1	10.0	10.6
Net Interest	6.0	8.7	3.5	3.2	2.5	4.4	5.3	3.7	6.1	1.3	6.1	4.2	4.9
Tax	12.1	10.1	12.3	11.4	11.9	11.6	15.8	12.2	10.1	12.6	8.5	13.8	11.9
Dividends	11.1	11.7	11.6	9.9	10.9	10.6	9.7	8.9	12.2	11.6	8.7	12.2	10.9
Retained profit	21.4	15.4	21.1	21.9	20.1	23.6	18.2	18.7	22.8	18.6	16.9	21.0	19.9
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Value added analysis - RECs 1993

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1570.0	1915.8	1367.4	919.9	1536.9	882.7	1413.5	1225.8	1796.5	586.0	892.0	1325.0	15431.5
Purchases (materials and services)	1225.6	1508.6	1055.8	684.4	1200.0	657.4	1078.9	968.2	1408.2	418.8	658.3	1017.4	11881.6
Value added / internal costs	344.4	407.2	311.6	235.5	336.9	225.3	334.6	257.6	388.3	167.2	233.7	307.6	3549.9
Gross labour costs	168.7	164.5	137.0	94.0	154.2	106.5	151.6	127.0	162.0	73.5	116.2	135.8	1591.0
Charged to Balance sheet	-38.8	-19.1	-18.3	0.0	-22.7	-20.0	-23.5	-18.7	-26.4	-14.8	-22.0	-23.8	-248.1
Charged to profit and loss account	129.9	145.4	118.7	94.0	131.5	86.5	128.1	108.3	135.6	58.7	94.2	112.0	1342.9
Depreciation	39.4	54.6	43.1	27.3	36.9	21.7	36.7	30.7	42.7	22.4	26.3	32.2	414.0
Net Interest	20.0	23.8	4.3	3.0	1.6	5.7	12.7	6.1	23.0	-0.9	12.1	7.1	118.5
Tax	38.8	48.2	37.5	28.9	50.0	26.1	45.6	33.5	39.8	26.1	23.4	45.0	442.9
Dividends	42.5	51.8	42.5	24.9	41.9	26.4	34.6	25.2	52.9	22.6	24.5	42.3	432.1
Retained profit	73.8	83.4	65.5	57.4	75.0	58.9	76.9	53.8	94.3	38.3	53.2	69.0	799.5
Value added	344.4	407.2	311.6	235.5	336.9	225.3	334.6	257.6	388.3	167.2	233.7	307.6	3549.9
Exceptional income / (cost)	-14.0	-13.7	-20.0	-5.6	-27.5	0.0	0.0	0.0	-10.2	0	-3.8	0	

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	78.1	78.7	77.2	74.4	78.1	74.5	76.3	79.0	78.4	71.5	73.8	76.8	77.0
Value added / internal costs	21.9	21.3	22.8	25.6	21.9	25.5	23.7	21.0	21.6	28.5	26.2	23.2	23.0
Gross labour costs	49.0	40.4	44.0	39.9	45.8	47.3	45.3	49.3	41.7	44.0	49.7	44.1	44.8
Charged to Balance sheet	-11.3	-4.7	-5.9	0.0	-6.7	-8.9	-7.0	-7.3	-6.8	-8.9	-9.4	-7.7	-7.0
Charged to profit and loss account	37.7	35.7	38.1	39.9	39.0	38.4	38.3	42.0	34.9	35.1	40.3	36.4	37.8
Depreciation	11.4	13.4	13.8	11.6	11.0	9.6	11.0	11.9	11.0	13.4	11.3	10.5	11.7
Net Interest	5.8	5.8	1.4	1.3	0.5	2.5	3.8	2.4	5.9	-0.5	5.2	2.3	3.3
Tax	11.3	11.8	12.0	12.3	14.8	11.6	13.6	13.0	10.2	15.6	10.0	14.6	12.5
Dividends	12.3	12.7	13.6	10.6	12.4	11.7	10.3	9.8	13.6	13.5	10.5	13.8	12.2
Retained profit	21.4	20.5	21.0	24.4	22.3	26.1	23.0	20.9	24.3	22.9	22.8	22.4	22.5
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Value added analysis - RECs 1994

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1444.5	1846.3	1308.4	929.6	1415.5	1030.5	1470.6	1218.1	1780.2	605.4	899.6	1307.9	15256.6
Purchases (materials and services)	1136.5	1479.6	964.5	672.8	1071.3	791.3	1104.7	966.6	1374.9	412.3	641.6	1022.7	11638.8
Value added / internal costs	308.0	366.7	343.9	256.8	344.2	239.2	365.9	251.5	405.3	193.1	258.0	285.2	3617.8
Gross labour costs	169.0	146.4	133.6	98.8	137.7	103.0	168.0	107.9	155.3	80.0	125.5	127.9	1553.1
Charged to Balance sheet	-37.0	-24.7	-15.9	0.0	-21.7	-19.4	-29.4	-20.5	-24.7	-14.9	-21.6	-28.8	-258.6
Charged to profit and loss account	132.0	121.7	117.7	98.8	116.0	83.6	138.6	87.4	130.6	65.1	103.9	99.1	1294.5
Depreciation	65.1	53.1	34.6	29.9	36.8	23.3	38.2	30.7	44.1	26.7	30.2	32.9	445.6
Net Interest	15.7	15.1	5.1	1.8	-3.8	3.6	10.8	1.9	9.4	-2.7	7.1	5.2	69.2
Tax	23.5	53.5	44.5	27.0	58.0	30.4	47.1	35.0	47.8	29.1	23.9	41.1	460.9
Dividends	49.7	59.6	49.3	29.1	49.0	30.7	39.1	29.8	61.7	26.3	28.9	48.7	501.9
Retained profit	22.0	63.7	92.7	70.2	88.2	67.6	92.1	66.7	111.7	48.6	64.0	58.2	845.7
Value added	308.0	366.7	343.9	256.8	344.2	239.2	365.9	251.5	405.3	193.1	258.0	285.2	3617.8
Exceptional income / (cost)	-129.5	-38.3	0	0	-25	0	0	0	-21.6	0	-4	0	

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	78.7	80.1	73.7	72.4	75.7	76.8	75.1	79.4	77.2	68.1	71.3	78.2	76.3
Value added / internal costs	21.3	19.9	26.3	27.6	24.3	23.2	24.9	20.6	22.8	31.9	28.7	21.8	23.7
Gross labour costs	54.9	39.9	38.8	38.5	40.0	43.1	45.9	42.9	38.3	41.4	48.6	44.8	42.9
Charged to Balance sheet	-12.0	-6.7	-4.6	0.0	-6.3	-8.1	-8.0	-8.2	-6.1	-7.7	-8.4	-10.1	-7.1
Charged to profit and loss account	42.9	33.2	34.2	38.5	33.7	34.9	37.9	34.8	32.2	33.7	40.3	34.7	35.8
Depreciation	21.1	14.5	10.1	11.6	10.7	9.7	10.4	12.2	10.9	13.8	11.7	11.5	12.3
Net Interest	5.1	4.1	1.5	0.7	-1.1	1.5	3.0	0.8	2.3	-1.4	2.8	1.8	1.9
Tax	7.6	14.6	12.9	10.5	16.9	12.7	12.9	13.9	11.8	15.1	9.3	14.4	12.7
Dividends	16.1	16.3	14.3	11.3	14.2	12.8	10.7	11.8	15.2	13.6	11.2	17.1	13.9
Retained profit	7.1	17.4	27.0	27.3	25.6	28.3	25.2	26.5	27.6	25.2	24.8	20.4	23.4
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Value added analysis - RECs 1995

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1369.0	2061.1	1209.4	878.6	1456.9	1080.8	1510.6	1195.6	1680.4	641.9	874.9	1459.3	15418.5
Purchases (materials and services)	986.7	1666.2	887.1	645.7	1137.2	832.0	1122.9	935.3	1302.0	423.8	626.8	1098.5	11664.2
Value added / internal costs	382.3	394.9	322.3	232.9	319.7	248.8	387.7	260.3	378.4	218.1	248.1	360.8	3754.3
Gross labour costs	140.4	147.1	129.5	97.1	132.5	101.2	162.2	105.3	149.0	85.6	120.2	114.8	1484.9
Charged to Balance sheet	-30.0	-28.8	-19.0	0.0	-25.1	-22.0	-28.7	-17.8	-26.2	-14.2	-20.6	-21.5	-253.9
Charged to profit and loss account	110.4	118.3	110.5	97.1	107.4	79.2	133.5	87.5	122.8	71.4	99.6	93.3	1231.0
Depreciation	47.5	58.7	38.3	38.6	38.1	25.0	39.9	32.4	53.7	25.7	32.5	39.5	469.9
Net Interest	10.4	13.9	1.1	11.4	-4.5	3.9	9.0	-1.5	1.2	-1.6	4.5	11.8	59.6
Tax	49.3	62.9	22.5	23.0	52.5	37.5	51.7	38.0	45.2	27.8	25.6	55.3	491.3
Dividends	242.5	70.8	58.0	34.4	56.7	36.8	43.0	35.1	77.9	28.6	32.2	244.0	960.0
Retained profit	-77.8	70.3	91.9	28.4	69.5	66.4	110.6	68.8	77.6	66.2	53.7	-83.1	542.5
Value added	382.3	394.9	322.3	232.9	319.7	248.8	387.7	260.3	378.4	218.1	248.1	360.8	3754.3
Exceptional income / (costs)	0.4	10.0	-42.5	-38.1	-17.5	1.6		0.0	-70.4	-10.3	-20	0	

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	72.1	80.8	73.4	73.5	78.1	77.0	74.3	78.2	77.5	66.0	71.6	75.3	75.7
Value added / internal costs	27.9	19.2	26.6	26.5	21.9	23.0	25.7	21.8	22.5	34.0	28.4	24.7	24.3
Gross labour costs	36.7	37.2	40.2	41.7	41.4	40.7	41.8	40.5	39.4	39.2	48.4	31.8	39.6
Charged to Balance sheet	-7.8	-7.3	-5.9	0.0	-7.9	-8.8	-7.4	-6.8	-6.9	-6.5	-8.3	-6.0	-6.8
Charged to profit and loss account	28.9	30.0	34.3	41.7	33.6	31.8	34.4	33.6	32.5	32.7	40.1	25.9	32.8
Depreciation	12.4	14.9	11.9	16.6	11.9	10.0	10.3	12.4	14.2	11.8	13.1	10.9	12.5
Net Interest	2.7	3.5	0.3	4.9	-1.4	1.6	2.3	-0.6	0.3	-0.7	1.8	3.3	1.6
Tax	12.9	15.9	7.0	9.9	16.4	15.1	13.3	14.6	11.9	12.7	10.3	15.3	13.1
Dividends	63.4	17.9	18.0	14.8	17.7	14.8	11.1	13.5	20.6	13.1	13.0	67.6	25.6
Retained profit	-20.4	17.8	28.5	12.2	21.7	26.7	28.5	26.4	20.5	30.4	21.6	-23.0	14.5
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Value added analysis - RECs 1996

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1194.5	2118.8	1187.7	722.1	1335.8	902.2	1445.8	751.6	1597.6	509.7	704.1	1332.3	13802.2
Purchases (materials and services)	762.7	1667.7	833.7	392.6	965.2	639.0	951.6	558.9	788.2	287.5	336.4	980.3	9163.8
Value added / internal costs	431.8	451.1	354.0	329.5	370.6	263.2	494.2	192.7	809.4	222.2	367.7	352.0	4638.4
Gross labour costs	123.0	142.1	107.1	86.7	81.2	89.1	156.9	75.1	143.3	77.4	87.0	103.5	1272.4
Charged to Balance sheet	-33.4	-41.4	-21.8	-18.9	-22.0	-20.6	-24.5	-11.5	-23.2	-18.0	-19.3	-30.6	-285.2
Charged to profit and loss account	89.6	100.7	85.3	67.8	59.2	68.5	132.4	63.6	120.1	59.4	67.7	72.9	987.2
Depreciation	44.8	68.7	41.1	61.7	39.6	30.6	44.0	24.2	52.0	25.8	30.3	40.9	503.7
Net Interest	9.9	22.4	4.9	-2.8	4.3	18.2	22.5	-1.8	12.9	1.6	7.6	20.1	119.8
Tax	49.8	38.3	36	31.9	95.0	83.0	19.7	51.3	94.3	63.1	16.1	89.6	668.1
Dividends	593.4	416.8	619.3	49.0	582.6	431.4	472.6	56.9	584.0	307.2	472.1	535.6	5120.9
Retained profit	-355.7	-195.8	-432.6	121.9	-410.1	-368.5	-197.0	-1.5	-53.9	-234.9	-226.1	-407.1	-2761.3
Value added	431.8	451.1	354.0	329.5	370.6	263.2	494.2	192.7	809.4	222.2	367.7	352.0	4638.4
Exceptional income / (costs)	31.4	-98.3	-16.2	-148.1	-300.6	-406.4	-122.2	-36.5	14.1	-28.9	-18.1		
Transferred from reserves re NG	205.2	132.5	286.3	239.7					-49.3	-159.3	-219	-306.5	

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	63.9	78.7	70.2	54.4	72.3	70.8	65.8	74.4	49.3	56.4	47.8	73.6	66.4
Value added / internal costs	36.1	21.3	29.8	45.6	27.7	29.2	34.2	25.6	50.7	43.6	52.2	26.4	33.6
Gross labour costs	28.5	31.5	30.3	26.3	21.9	33.9	31.7	39.0	17.7	34.8	23.7	29.4	27.4
Charged to Balance sheet	-7.7	-9.2	-6.2	-5.7	-5.9	-7.8	-5.0	-6.0	-2.9	-8.1	-5.2	-8.7	-6.1
Charged to profit and loss account	20.8	22.3	24.1	20.6	16.0	26.0	26.8	33.0	14.8	26.7	18.4	20.7	21.3
Depreciation	10.4	15.2	11.6	18.7	10.7	11.6	8.9	12.6	6.4	11.6	8.2	11.6	10.9
Net Interest	2.3	5.0	1.4	-0.8	1.2	6.9	4.6	-0.9	1.6	0.7	2.1	5.7	2.6
Tax	11.5	8.5	10.2	9.7	25.6	31.5	4.0	26.6	11.7	28.4	4.4	25.5	14.4
Dividends	137.4	92.4	174.9	14.9	157.2	163.9	95.6	29.5	72.2	138.3	128.4	152.2	110.4
Retained profit	-82.4	-43.4	-122.2	37.0	-110.7	-140.0	-39.9	-0.8	-6.7	-105.7	-61.5	-115.7	-59.5
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Value added analysis - RECs 1997

Note: All figures taken from Annual reports and accounts

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total Income	1247.7	2019.6	1349.8	750.4	1347.3	954.1	1391.1	1181.7	1767.1	539.2	850.5	1328.9	14727.4
Purchases (materials and services)	982.8	1651.1	1077.8	519.0	1023.1	733.0	1148.3	899.7	1296.2	406.8	638.2	1126.8	11502.8
Value added / internal costs	264.9	368.5	272.0	231.4	324.2	221.1	242.8	282.0	470.9	132.4	212.3	202.1	3224.6
Gross labour costs	117.6	126.9	110.4	70.2	105.2	87.9	113.6	90.4	148.1	35.6	64.5	97.9	1168.3
Charged to Balance sheet	-32.8	-46.2	-22.0	-16.1	-23.7	-21.0	-25.9	-20.7	-24.9	-16.2	-17.8	-29.1	-296.4
Charged to profit and loss account	84.8	80.7	88.4	54.1	81.5	66.9	87.7	69.7	123.2	19.4	46.7	68.8	871.9
Depreciation	47.4	66.1	45.1	36.6	42.7	31.0	44.7	31.5	57.8	25.8	52.8	71.0	552.5
Net Interest	22.5	38.2	18.5	-12.4	15.9	29.2	23.0	-2.0	34.4	7.4	59.6	33.2	267.5
Tax	27.2	34.6	164.8	57.3	49.0	16.9	21.2	49.5	54.6	21.8	11.5	37.1	545.5
Dividends	0.0	539.1	25.6	22.1	340.0	0.0	58.5	275.0	104.9	42.5	25.0	25.2	1457.9
Retained profit	83.0	-390.2	-70.4	73.7	-204.9	77.1	7.7	-141.7	96.0	15.5	16.7	-33.2	-470.7
Value added	264.9	368.5	272.0	231.4	324.2	221.1	242.8	282.0	470.9	132.4	212.3	202.1	3224.6
Exceptional income / (costs)	-64.6	-20.0	-36.5	0	-0.8	6.9	-37.9	0	-8.5	-22.7	0	-49.7	

	East Midlands	Eastern	London	Manweb	Midlands	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%
Total Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Purchases (materials and services)	78.8	81.8	79.8	69.2	75.9	76.8	82.5	76.1	73.4	75.4	75.0	84.8	78.1
Value added / internal costs	21.2	18.2	20.2	30.8	24.1	23.2	17.5	23.9	26.6	24.6	25.0	15.2	21.9
Gross labour costs	44.4	34.4	40.6	30.3	32.4	39.8	46.8	32.1	31.5	26.9	30.4	48.4	36.2
Charged to Balance sheet	-12.4	-12.5	-8.1	-7.0	-7.3	-9.5	-10.7	-7.3	-5.3	-12.2	-8.4	-14.4	-9.2
Charged to profit and loss account	32.0	21.9	32.5	23.4	25.1	30.3	36.1	24.7	26.2	14.7	22.0	34.0	27.0
Depreciation	17.9	17.9	16.6	15.8	13.2	14.0	18.4	11.2	12.3	19.5	24.9	35.1	17.1
Net Interest	8.5	10.4	6.8	-5.4	4.9	13.2	9.5	-0.7	7.3	5.6	28.1	16.4	8.3
Tax	10.3	9.4	60.6	24.8	15.1	7.6	8.7	17.6	11.6	16.5	5.4	18.4	16.9
Dividends	0.0	146.3	9.4	9.6	104.9	0.0	24.1	97.5	22.3	32.1	11.8	12.5	45.2
Retained profit	31.3	-105.9	-25.9	31.8	-63.2	34.9	3.2	-50.2	20.4	11.7	7.9	-16.4	-14.6
Value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Return on Sales, Earnings per share and ROCE analysis

Note: All figures taken from Annual reports and accounts

Return on Sales: Generators	1991	1992	1993	1994	1995	1996	1997	Before exc and extra 1991	1992	1993	1994	1995	1996	1997
National Power	9.8	11.2	13.8	20.2	19.7	21.0	22.8	12.6	11.2	13.8	18.9	20.4	21.0	23.2
Powergen	9.1	10.8	14.2	16.5	18.9	23.6	20.3	12.1	11.0	14.2	16.5	18.9	19 5	20.3
Average	9.5	11.0	14.0	18 4	19.3	22.3	21.5	12.4	11.1	14.0	17.7	19.7	20.3	21.8
Earnings per share: Generators														
National Power	0.16	0.29	0.33	0.41	0.43	0.52	0.50	0.26	0.29	0.33	0.37	0.45	0.52	0.52
Powergen	0.18	0.31	0.36	0.44	0.51	0.71	0.63	0.29	0.32	0.36	0.44	0.51	0.55	0.63
Average	0.17	0.30	0.35	0.43	0.47	0.62	0.57	0.28	0.31	0.35	0.41	0.48	0.54	0.58
ROCE: Generators														
National Power	20.07	20.34	20.80	20.09	24.35	25.20	19.46	25.89	20.34	20.80	18.86	25.29	25.20	19.46
Powergen	16.67	20.19	23.54	22.36	25.56	26.60	23.11	22.21	20.56	23.54	22.36	25.56	21.96	23.03
Average	18.37	20.27	22.17	21.23	24 96	25.90	21.29	24.05	20.45	22.17	20.61	25.43	23.58	21.25

Return on Sales: RECs	1991	1992	1993	1994	1995	1996	1997	Before exc and extra 1991	1992	1993	1994	1995	1996	1997
East Midlands	9.5	11.0	11.2	4.6	16.4	24.9	10.6	9.9	11.0	12.0	13.6	16.4	15.0	15.8
Eastern	8.4	9.4	10.8	10.2	10.6	13.2	11.0	8.9	9.4	10.8	12.3	11.0	11.6	12.0
London	9.8	11.4	11.0	14.6	15.1	23.7	10.3	10.3	11.4	12.4	14.6	18.6	20.3	13.0
Manweb	7.8	12.2	12.4	13.8	11.1	27.7	18.8	8.3	12.2	12.4	13.8	15.4	15.0	18.8
MEB	8.8	10.3	11.0	13.5	11.9	20.3	14.8	9.3	10.3	11.0	13.5	14.0	18.9	14.9
Northern	10.8	13.2	13.3	12.8	13.4	18.2	12.9	11.4	13.2	13.3	12.8	14.8	19.8	12.2
Norweb	6.9	11.7	12.0	12.9	14.2	23.9	7.8	8.7	11.7	12.0	12.9	14.2	13.6	7.8
Seeboard	8.1	9.3	9.7	11.0	12.8	14.0	15.3	8.6	9.3	9.7	11.0	12.8	11.2	15.3
Southern	8.7	10.8	11.7	13.0	12.1	40.0	16.4	9.1	10.8	11.7	13.0	12.1	21.2	16.4
Swalec	10.8	12.7	14.7	16.7	18.9	22.3	16.2	11.6	14.6	14.7	16.7	18.9	19.4	20.4
SWEB	10.2	11.6	12.7	13.8	13.3	40.9	13.6	10.6	11.6	12.7	13.8	15.5	16.3	13.6
Yorkshire	11.1	11.5	12.3	11.8	15.7	18.0	4.8	11.6	11.5	12.3	11.8	15.7	19.3	14.5
Average	9.2	11.3	11.9	12.4	13.8	23.9	12.7	9.9	11.4	12.1	13.3	15.0	16.8	14.6
Earnings per share: RECs														
East Midlands	0.37	0.50	0.53	0.13	0.80	1.21	0.42	0.39	0.50	0.60	0.72	0.80	0.61	0.74
Eastern	0.33	0.39	0.50	0.46	0.55	0.88	0.59	0.36	0.39	0.50	0.61	0.59	0.74	0.67
London	0 44	0.47	0.50	0.65	0.72	1.00	-0.26	0.46	0.47	0.59	0.65	0.92	0.79	-0.05
Manweb	0.33	0.59	0.69	0.83	0.54	1.53	0.88	0.37	0 59	0.69	0.83	0.86	0.71	0.88
MEB	0.37	0.49	0.81	0.65	0.63	0.59	0.30	0.40	0.49	0.81	0.65	0.78	0.53	0.31
Northern	0.48	0.60	0.69	0.80	0.88	0.64	0.85	0.52	0.60	0.69	0.80	1.01	0.78	0.78
Norweb	0.20	0.51	0.65	0.76	0.93	1.76	0.42	0.33	0.51	0.65	0.76	0.93	0.81	0.42
Seeboard	0.39	0.54	0.62	0.50	0.41	0.30	0.54	0.44	0.54	0.62	0.50	0.41	0.19	0.54
Southern	0.38	0.48	0.55	0.64	0.57	1.99	0.55	0.40	0 48	0.55	0.64	0.57	0.87	0.55
Swalec	0.37	0.51	0.60	0.73	0.97	0.65	0.61	0.41	0.62	0.60	0.73	0.97	0.48	0.85
SWEB	0.77	1.01	1.26	1.51	1.47	4.37	1.21	0.83	1.01	1.26	1.51	1.81	1.30	1.21
Yorkshire	0 43	0 48	0.54	0.51	0.82	0.75	-0.05	0.46	0.48	0.54	0.51	0.82	0.85	0.75
Average	0.41	0.55	0.66	0.68	0.77	1.31	0.51	0.45	0.56	0.68	0.74	0.87	0.72	0.64
ROCE: RECs														
East Midlands	20.30	22.18	21.94	8.36	31.05	46.37	18.32	21.09	22.18	23.70	24.56	31.05	30.04	27.24
Eastern	16.06	19 00	21.46	21.70	18.45	16.18	15.02	16.90	19.00	21.46	26.10	19.30	15.90	16.37
London	19.78	22.92	21.65	21.65	24.19	40.29	21.88	20.74	22.92	24.54	21.85	29.81	26.96	27.64
Manweb	14.68	21.14	21.19	20.96	17.72	32.77	20.57	15.70	21.14	21.19	20.96	24.66	17.76	20.57
MEB	19.18	22.33	25.11	25.33	25 64	49.63	53.71	20.26	22.33	25.11	25.33	30.06	39.23	53.92
Northern	21.58	25.60	24 41	24 07	27.92	30.81	20.09	22.76	25.60	24 4	24 07	30.83	24.50	18.97
Norweb	14.96	24.78	24 46	24 06	28.77	58.17	13.00	18.79	24 78	24.46	24.06	28 77	29.80	13.00
Seeboard	18.37	22.57	22 41	22.31	27.34	21.43	35.06	19.58	22.57	22.41	22.31	27.34	11.27	35.06
Southern	18.47	24.25	24 93	23.98	19.35	64 49	30.83	19.26	24.25	24.93	23 98	19.35	34.26	30.83
Swalec	20.75	24 62	25 49	25.73	32.09	29 47	18.29	22.20	28.31	25 49	25.73	32.09	25.67	23.05
SWEB	17.04	19.35	20.24	19.87	20.06	117.23	46.92	17.82	19.35	20.24	19.87	23.52	33.36	46.92
Yorkshire	21.69	24.21	22.07	18.71	24 54	25.20	7.00	22.51	24.21	22.07	18.71	24.54	23.06	21.04
Average	18.57	22.75	22.95	21.39	24.76	44.34	25.06	19.80	23.05	23.33	23 11	26 78	25.99	27.88

Return on sales, Earnings per share and ROCE analysis - National Power
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	309.0	330.0	365.0	420.0	477.0	555.0	608.0	606.0
Exceptional items	(231.0)	-	-	-	45.0	(30.0)	-	(22.0)
Extraordinary items	(683.0)	(124.0)	-	-	-	-	-	-
Profit attributable to shareholders	(605.0)	206.0	365.0	420.0	522.0	525.0	608.0	584.0
Called-up share capital	-	637.0	637.0	638.0	640.0	593.0	568.0	606.0
Reserves and retained profit	2,122.0	1,141.0	1,391.0	1,678.0	2,005.0	1,957.0	2,099.0	1,563.0
Equity shareholders' funds	2,122.0	1,778.0	2,028.0	2,316.0	2,645.0	2,550.0	2,667.0	2,169.0
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	1,274,684,350.0	1,274,792,582.0	1,276,335,677.0	1,279,383,136.0	1,186,175,408.00	1,137,397,454.0	1,212,089,323.0
EPS using year end no. of shares		0.16	0.29	0.33	0.41	0.44	0.53	0.48
WA no of ordinary shares	-	637,342,175.0	1,274,738,466.0	1,275,564,129.5	1,277,859,406.5	1,232,779,272.0	1,161,786,431.0	1,174,743,388.5
EPS (£)	-	0.16	0.29	0.33	0.41	0.43	0.52	0.50
EPS before excep. & extraord. using WA		0.26	0.29	0.33	0.37	0.45	0.52	0.52
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	456.0	427.0	525.0	599.0	734.0	777.0	830.0	799.0
Capital and reserves	2,122.0	1,778.0	2,028.0	2,316.0	2,645.0	2,550.0	2,667.0	2,169.0
Creditors > 1 year	20.0	381.0	584.0	603.0	1,036.0	667.0	644.0	2,452.0
Provisions for liabilities	712.0	656.0	603.0	552.0	415.0	344.0	274.0	245.0
LT Cap-employed	2,854.0	2,815.0	3,215.0	3,471.0	4,096.0	3,561.0	3,585.0	4,866.0
ROCE (%)	15.98	15.17	16.33	17.26	17.92	21.82	23.2	16.42
PBIT before excep and extaord / LTCE	48.00	19.57	16.33	17.26	16.82	22.66	23.2	16.87
Loans > 1 year	-	350.00	553.0	564.0	1,008.0	641.0	633.0	1,937.0
Cap + res + loans>1yr	2,122.00	2,128.00	2,581.00	2,880.00	3,653.00	3,191.00	3,300.00	4,106.00
PBIT / c+r+l>1yr	21.49	20.07	20.34	20.80	20.09	24.35	25.2	19.46
PBIT before excep and extraord / c+r+l>1yr	64.56	25.89	20.34	20.80	18.86	25.29	25.2	19.46
Return on Sales = PBIT / Turnover								
PBIT	456.0	427.0	525.0	599.0	734.0	777.0	830.0	799.0
Turnover	3,998.0	4,378.0	4,701.0	4,348.0	3,641.0	3,953.0	3,948.0	3,535.0
ROS	11.41	9.75	11.17	13.78	20.16	19.66	21.02	22.60
Return on sales before excep and extraord	34.27	12.59	11.17	13.78	18.92	20.41	21.02	23.22

Return on sales, Earnings per share and ROCE analysis - Powergen
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	435.8	224.1	248.0	285.0	345.0	388.0	398.0	429.0
Exceptional items	(170.1)	(25.6)	(6.0)	-	-	-	121.0	2.0
Extraordinary items	(185.8)	(54.4)	-	-	-	-	-	-
Profit attributable to shareholders	79.9	144.1	242.0	285.0	345.0	388.0	519.0	431.0
Called-up share capital	-	390.6	391.0	391.0	392.0	363.0	364.0	319.0
Reserves and retained profit	1,482.6	904.2	1,074.0	1,279.0	1,527.0	1,519.0	1,891.0	1,606.0
Equity shareholders' funds	1,482.6	1,294.8	1,465.0	1,670.0	1,919.0	1,882.0	2,255.0	1,925.0
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	781,258,150.0	781,280,945.0	782,855,345.0	784,001,883.0	725,263,902.00	728,292,982.0	637,424,188.0
EPS using year end no. of shares		0.18	0.31	0.36	0.44	0.53	0.71	0.68
WA no of ordinary shares	-	390,629,075.0	781,269,547.5	782,068,145.0	783,428,614.0	754,632,892.5	726,778,442.0	682,858,585.0
EPS (£)	-	0.18	0.31	0.36	0.44	0.51	0.71	0.63
EPS before excep. & extraord. using WA		0.29	0.32	0.36	0.44	0.51	0.55	0.63
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	220.6	240.9	326.0	452.0	485.0	545.0	693.0	580.0
Capital and reserves	1,482.6	1,294.8	1,465.0	1,670.0	1,919.0	1,882.0	2,255.0	1,925.0
Creditors > 1 year	204.2	299.7	325.0	475.0	452.0	419.0	514.0	723.0
Provisions for liabilities	226.5	273.7	359.0	299.0	291.0	272.0	122.0	112.0
LT Cap-employed	1,913.3	1,868.2	2,149.0	2,444.0	2,662.0	2,573.0	2,891.0	2,760.0
ROCE (%)	11.53	12.89	15.17	18.49	18.22	21.18	23.97	21.01
PBIT before excep and extaord / LTCE	30.13	17.18	15.45	18.49	18.22	21.18	19.79	20.94
Loans > 1 year	-	150.00	150.0	250.0	250.0	250.0	350.0	585.0
Cap + res + loans>1yr	1,482.60	1,444.80	1,615.00	1,920.00	2,169.00	2,132.00	2,605.00	2,510.00
PBIT / c+r+l>1yr	14.88	16.67	20.19	23.54	22.36	25.56	26.60	23.11
PBIT before excep and extraord / c+r+l>1yr	38.88	22.21	20.56	23.54	22.36	25.56	21.96	23.03
Return on Sales = PBIT / Turnover								
PBIT	220.6	240.9	326.0	452.0	485.0	545.0	693.0	580.0
Turnover	2,607.6	2,651.2	3,009.0	3,188.0	2,932.0	2,885.0	2,933.0	2,855.0
ROS	8.46	9.09	10.83	14.18	16.54	18.89	23.63	20.32
Return on sales before excep and extraord	22.11	12.10	11.03	14.18	16.54	18.89	19.50	20.25

Return on sales, Earnings per share and ROCE analysis - National Grid
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord		259.5	334.7	381.3	439.8	434.8	422.3	415.2
Exceptional items		-	-	-	-	-	-	-
Extraordinary items		-	-	-	-	-	-	-
Profit attributable to shareholders	-	259.5	334.7	381.3	439.8	434.8	422.3	415.2
Called-up share capital		40.0	40.0	40.0	40.1	40.1	170.5	171.6
Reserves and retained profit		894.7	1,112.4	1,364.5	1,656.7	1,932.1	931.7	1,217.3
Equity shareholders' funds	-	934.7	1,152.4	1,404.5	1,696.8	1,972.2	1,102.2	1,388.9
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	12,501.0	400,000,000.0	400,006,898.0	400,056,079.0	400,553,477.0	401,299,777.00	1,704,700,000.0	1,715,700,000.0
EPS using year end no. of shares		0.65	0.84	0.95	1.10	1.08	0.25	0.24
WA no of ordinary shares	-	200,006,250.5	400,003,449.0	400,031,488.5	400,304,778.0	400,926,627.0	1,052,999,888.5	1,710,200,000.0
EPS (£)	-	0.65	0.84	0.95	1.10	1.08	0.40	0.24
EPS before excep. & extraord. using WA		0.65	0.84	0.95	1.10	1.08	0.40	0.24
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT		464.7	558.8	592.8	630.5	678.3	681.7	661.9
Capital and reserves		934.7	1,152.4	1,404.5	1,696.8	1,972.2	1,102.2	1,388.9
Creditors > 1 year		750.0	600.0	650.0	650.0	350.0	1,095.8	804.0
Provisions for liabilities		41.7	122.0	118.6	154.2	181.3	185.9	180.7
LT Cap-employed	-	1,726.4	1,874.4	2,173.1	2,501.0	2,503.5	2,383.9	2,373.6
ROCE (%)	#DIV/0!	26.92	29.81	27.28	25.21	27.09	28.60	27.89
PBIT before excep and extaord / LTCE	#DIV/0!	26.92	29.81	27.28	25.21	27.09	28.60	27.89
Loans > 1 year		750.00	600.0	650.0	650.0	350.0	1,095.8	804.0
Cap + res + loans>1yr	-	1,684.70	1,752.40	2,054.50	2,346.80	2,322.20	2,198.00	2,192.90
PBIT / c+r+l>1yr	#DIV/0!	27.58	31.89	28.85	26.87	29.21	31.01	30.18
PBIT before excep and extraord / c+r+l>1yr	#DIV/0!	27.58	31.89	28.85	26.87	29.21	31.01	30.18
Return on Sales = PBIT / Turnover								
PBIT	-	464.7	558.8	592.8	630.5	678.3	681.7	661.9
Turnover		1,144.3	1,319.9	1,391.8	1,425.0	1,428.3	1,487.0	1,457.5
ROS	#DIV/0!	40.61	42.34	42.59	44.25	47.49	45.84	45.41
Return on sales before excep and extraord	#DIV/0!	40.61	42.34	42.59	44.25	47.49	45.84	45.41

Return on sales, Earnings per share and ROCE analysis - East Midlands
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	72.8	86.0	109.3	130.3	157.2	164.7	119.0	147.6
Exceptional items	-	-	-	(14.0)	(129.5)	-	31.4	(64.6)
Extraordinary items	(3.7)	(4.9)	-	-	-	-	87.3	-
Profit attributable to shareholders	69.1	81.1	109.3	116.3	27.7	164.7	237.7	83.0
Called-up share capital	-	109.0	109.0	109.1	109.5	109.8	112.7	112.7
Reserves and retained profit	526.7	414.6	456.7	528.4	539.8	462.7	278.7	361.7
Equity shareholders' funds	526.7	523.6	565.7	637.5	649.3	572.5	391.4	474.4
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	218,059,000.0	218,063,980.0	218,117,875.0	219,062,527.0	193,281,000.00	198,381,000.0	198,381,000.0
EPS using year end no. of shares		0.37	0.50	0.53	0.13	0.85	1.20	0.42
WA no of ordinary shares	-	79,520,676.7	218,061,490.0	218,090,927.5	218,590,201.0	206,171,763.5	195,831,000.0	198,381,000.0
EPS (£)	-	0.37	0.50	0.53	0.13	0.80	1.21	0.42
EPS before excep. & extraord. using WA		0.39	0.50	0.60	0.72	0.80	0.61	0.74
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	73.3	126.0	170.1	175.1	66.9	224.4	297.4	132.7
Capital and reserves	526.7	523.6	565.7	637.5	649.3	572.5	391.4	474.4
Creditors > 1 year	8.4	106.0	210.2	166.8	156.1	154.8	253.0	251.8
Provisions for liabilities	5.8	17.9	23.1	30.8	75.3	56.7	64.0	76.0
LT Cap-employed	540.9	647.5	799.0	835.1	880.7	784.0	708.4	802.2
ROCE (%)	13.55	19.46	21.29	20.97	7.60	28.62	41.98	16.54
PBIT before excep and extaord / LTCE	14.24	20.22	21.29	22.64	22.30	28.62	27.20	24.59
Loans > 1 year	-	97.00	201.3	160.5	150.5	150.3	250.0	250.0
Cap + res + loans>1yr	526.70	620.60	767.00	798.00	799.80	722.80	641.40	724.40
PBIT / c+r+l>1yr	13.92	20.30	22.18	21.94	8.36	31.05	46.37	18.32
PBIT before excep and extraord / c+r+l>1yr	14.62	21.09	22.18	23.70	24.56	31.05	30.04	27.24
Return on Sales = PBIT / Turnover								
PBIT	73.3	126.0	170.1	175.1	66.9	224.4	297.4	132.7
Turnover	1,263.1	1,326.7	1,543.8	1,570.0	1,444.5	1,369.0	1,194.5	1,247.7
ROS	5.80	9.50	11.02	11.15	4.63	16.39	24.90	10.64
Return on sales before excep and extraord	6.10	9.87	11.02	12.04	13.60	16.39	14.96	15.81

Return on sales, earnings per share and ROCE analysis - Eastern
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	97.6	96.3	104.3	135.2	161.6	151.1	185.8	168.9
Exceptional items	-	-	-	-	(38.3)	(10.0)	(200.8)	(20.0)
Extraordinary items	(4.4)	(7.5)	-	-	-	-	236.0	-
Profit attributable to shareholders	93.2	88.8	104.3	135.2	123.3	141.1	221.0	148.9
Called-up share capital	-	134.9	134.9	135.0	132.0	125.2	125.8	125.8
Reserves and retained profit	805.4	566.5	625.7	712.5	738.4	705.9	1,061.7	655.4
Equity shareholders' funds	805.4	701.4	760.6	847.5	870.4	831.1	1,187.5	781.2
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	269.9	269.9	270.0	264.1	250.30	251.5	251.5
EPS using year end no. of shares		0.33	0.39	0.50	0.47	0.56	0.88	0.59
WA no of ordinary shares	-	135.0	269.9	270.0	267.1	257.2	250.9	251.5
EPS (£)	-	0.33	0.39	0.50	0.46	0.55	0.88	0.59
EPS before excep. & extraord. using WA		0.36	0.39	0.50	0.61	0.59	0.74	0.67
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	101.8	144.8	176.4	207.2	188.9	217.4	280.3	221.7
Capital and reserves	805.4	701.4	760.6	847.5	870.4	831.1	1,187.5	781.2
Creditors > 1 year	-	200.0	168.0	118.0	-	487.4	681.9	695.0
Provisions for liabilities	7.7	23.7	40.3	29.0	45.5	91.6	85.6	67.1
LT Cap-employed	813.1	925.1	968.9	994.5	915.9	1,410.1	1,955.0	1,543.3
ROCE (%)	12.52	15.65	18.21	20.83	20.62	15.42	14.34	14.37
PBIT before excep and extaord / LTCE	13.06	16.46	18.21	20.83	24.81	16.13	12.54	15.66
Loans > 1 year	-	200.00	168.0	118.0	-	347.3	544.6	695.0
Cap + res + loans>1yr	805.40	901.40	928.60	965.50	870.40	1,178.40	1,732.10	1,476.20
PBIT / c+r+l>1yr	12.64	16.06	19.00	21.46	21.70	18.45	16.18	15.02
PBIT before excep and extraord / c+r+l>1yr	13.19	16.90	19.00	21.46	26.10	19.30	15.9	16.37
Return on Sales = PBIT / Turnover								
PBIT	101.8	144.8	176.4	207.2	188.9	217.4	280.3	221.7
Turnover	1,616.3	1,720.1	1,878.1	1,915.8	1,846.3	2,061.1	2,118.8	2,019.6
ROS	6.30	8.42	9.39	10.82	10.23	10.55	13.23	10.98
Return on sales before excep and extraord	6.57	8.85	9.39	10.82	12.31	11.03	11.57	11.97

Return on sales, Earnings per share and ROCE analysis - London
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	89.3	101.0	103.5	128.0	142.0	192.4	147.1	(8.3)
Exceptional items	0	-	-	(20.0)	-	(42.5)	(24.5)	-
Extraordinary items	-3.2	(5.8)	-	-	-	-	64.1	(36.5)
Profit attributable to shareholders	86.1	95.2	103.5	108.0	142.0	149.9	186.7	(44.8)
Called-up share capital	0	109.0	109.0	109.1	109.5	98.8	101.7	102.0
Reserves and retained profit	691.3	426.6	491.6	512.8	607.2	559.0	398.0	333.2
Equity shareholders' funds	691.3	535.6	600.6	621.9	716.7	657.8	499.7	435.2
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	0	218,059,000.0	218,064,384.0	218,242,315.0	219,082,592.0	197,695,699.00	174,290,836.0	174,686,836.0
EPS using year end no. of shares	n/a	0.44	0.47	0.49	0.65	0.76	1.07	(0.26)
WA no of ordinary shares	-	109,029,500.0	218,061,692.0	218,153,349.5	218,662,453.5	208,389,145.5	185,993,267.5	174,488,836.0
EPS (£)	-	0.44	0.47	0.50	0.65	0.72	1.00	(0.26)
EPS before excep. & extraord. using WA	n/a	0.46	0.47	0.59	0.65	0.92	0.79	(0.05)
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	78.5	119.8	153.7	149.8	191.6	183.0	281.0	138.5
Capital and reserves	691.3	535.6	600.6	621.9	716.7	657.8	499.7	435.2
Creditors > 1 year	1.9	71.7	72.4	73.3	189.7	114.7	211.0	205.4
Provisions for liabilities	16.0	28.2	35.6	41.8	50.1	45.7	54.2	222.7
LT Cap-employed	709.2	635.5	708.6	737.0	956.5	818.2	764.9	863.3
ROCE (%)	11.07	18.85	21.69	20.33	20.03	22.37	36.74	16.04
PBIT before excep and extaord / LTCE	11.52	19.76	21.69	23.04	20.03	27.56	31.56	20.27
Loans > 1 year	-	70.00	70.0	70.0	168.4	98.6	197.7	197.9
Cap + res + loans>1yr	691.30	605.60	670.60	691.90	885.10	756.40	697.40	633.10
PBIT / c+r+l>1yr	11.36	19.78	22.92	21.65	21.65	24.19	40.29	21.88
PBIT before excep and extraord / c+r+l>1yr	11.82	20.74	22.92	24.54	21.65	29.81	26.96	27.64
Return on Sales = PBIT / Turnover								
PBIT	78.5	119.8	153.7	149.8	191.6	183.0	281.0	138.5
Turnover	1,147.7	1,224.0	1,347.1	1,367.4	1,308.4	1,209.4	1,187.7	1,349.8
ROS	6.84	9.79	11.41	10.96	14.64	15.13	23.66	10.26
Return on sales before excep and extraord	7.12	10.26	11.41	12.42	14.64	18.65	20.32	12.96

Return on sales, Earnings per share and ROCE analysis - Manweb
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	39.0	43.6	69.8	82.3	99.3	100.9	79.3	95.8
Exceptional items	-	-	-	-	-	(38.1)	91.6	-
Extraordinary items	(4.0)	(4.5)	-	-	-	-	-	-
Profit attributable to shareholders	35.0	39.1	69.8	82.3	99.3	62.8	170.9	95.8
Called-up share capital	-	59.4	59.4	59.4	59.7	57.7	54.2	54.2
Reserves and retained profit	371.0	317.0	365.1	422.6	494.0	490.3	555.6	629.3
Equity shareholders' funds	371.0	376.4	424.5	482.0	553.7	548.0	609.8	683.5
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	118,645,000.0	118,800,000.0	118,800,000.0	119,300,000.0	115,430,613.00	108,458,370.0	108,458,370.0
EPS using year end no. of shares		0.33	0.59	0.69	0.83	0.54	1.58	0.88
WA no of ordinary shares	-	59,322,500.0	118,722,500.0	118,800,000.0	119,050,000.0	117,365,306.5	111,944,491.5	108,458,370.0
EPS (£)	-	0.33	0.59	0.69	0.83	0.54	1.53	0.88
EPS before excep. & extraord. using WA		0.37	0.59	0.69	0.83	0.86	0.71	0.88
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	43.0	64.5	101.8	114.2	128.1	97.2	200.0	140.7
Capital and reserves	371.0	376.4	424.5	482.0	553.7	548.0	609.8	683.5
Creditors > 1 year	-	65.0	57.2	57.1	57.6	0.6	1.8	0.6
Provisions for liabilities	7.0	13.9	15.3	12.7	14.8	51.4	25.3	22.2
LT Cap-employed	378.0	455.3	497.0	551.8	626.1	600.0	636.9	706.3
ROCE (%)	11.38	14.17	20.48	20.70	20.46	16.20	31.40	19.92
PBIT before excep and extaord / LTCE	12.43	15.15	20.48	20.70	20.46	22.55	17.02	19.92
Loans > 1 year	-	63.00	57.0	57.0	57.6	0.6	0.6	0.6
Cap + res + loans>1yr	371.00	439.40	481.50	539.00	611.30	548.60	610.40	684.10
PBIT / c+r+l>1yr	11.59	14.68	21.14	21.19	20.96	17.72	32.77	20.57
PBIT before excep and extraord / c+r+l>1yr	12.67	15.70	21.14	21.19	20.96	24.66	17.76	20.57
Return on Sales = PBIT / Turnover								
PBIT	43.0	64.5	101.8	114.2	128.1	97.2	200.0	140.7
Turnover	887.0	829.3	834.6	919.9	929.6	878.6	722.1	750.4
ROS	4.85	7.78	12.20	12.41	13.78	11.06	27.70	18.75
Return on sales before excep and extraord	5.30	8.32	12.20	12.41	13.78	15.40	15.01	18.75

Return on sales, Earnings per share and ROCE analysis - Midlands
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	64.4	83.3	102.7	168.7	137.2	156.2	153.6	135.9
Exceptional items	-	-	-	-	-	(30.0)	18.9	(0.8)
Extraordinary items	(3.5)	(6.6)	-	-	-	-	-	-
Profit attributable to shareholders	60.9	76.7	102.7	168.7	137.2	126.2	172.5	135.1
Called-up share capital	-	104.7	104.7	104.8	105.8	95.4	98.1	124.2
Reserves and retained profit	525.1	426.8	493.4	567.1	650.6	581.2	402.7	193.9
Equity shareholders' funds	525.1	531.5	598.1	671.9	756.4	676.6	500.8	318.1
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	209,424,972.0	209,424,972.0	209,516,484.0	211,597,692.0	190,740,740.00	392,471,550.0	496,655,789.0
EPS using year end no. of shares		0.37	0.49	0.81	0.65	0.66	0.44	0.27
WA no of ordinary shares	-	104,712,486.0	209,424,972.0	209,470,728.0	210,557,088.0	201,169,216.0	291,606,145.0	444,563,669.5
EPS (£)	-	0.37	0.49	0.81	0.65	0.63	0.59	0.30
EPS before excep. & extraord. using WA		0.40	0.49	0.81	0.65	0.78	0.53	0.31
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	116.3	116.3	150.3	168.7	191.6	173.5	270.9	200.0
Capital and reserves	525.1	531.5	598.1	671.9	756.4	676.6	500.8	318.1
Creditors > 1 year	-	81.9	85.3	12.5	45.3	69.0	89.4	147.5
Provisions for liabilities	10.3	24.8	34.4	41.4	33.9	41.6	18.5	17.9
LT Cap-employed	535.4	638.2	717.8	725.8	835.6	787.2	608.7	483.5
ROCE (%)	21.72	18.22	20.94	23.24	22.93	22.04	44.50	41.37
PBIT before excep and extaord / LTCE	22.38	19.26	20.94	23.24	22.93	25.85	41.40	41.53
Loans > 1 year	-	75.00	75.0	-	-	-	45.0	54.3
Cap + res + loans>1yr	525.10	606.50	673.10	671.90	756.40	676.60	545.80	372.40
PBIT / c+r+l>1yr	22.15	19.18	22.33	25.11	25.33	25.64	49.63	53.71
PBIT before excep and extraord / c+r+l>1yr	22.81	20.26	22.33	25.11	25.33	30.08	39.23	53.92
Return on Sales = PBIT / Turnover								
PBIT	116.3	116.3	150.3	168.7	191.6	173.5	270.9	200.0
Turnover	1,295.2	1,329.1	1,454.1	1,536.9	1,415.5	1,456.9	1,335.8	1,347.3
ROS	8.98	8.75	10.34	10.98	13.54	11.91	20.28	14.84
Return on sales before excep and extraord	9.25	9.25	10.34	10.98	13.54	13.97	18.87	14.90

Return on sales, Earnings per share and ROCE analysis - Northern
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	45.4	64.1	73.3	85.3	98.3	118.3	82.6	79.2
Exceptional items	-	-	-	-	-	(15.1)	(14.8)	6.9
Extraordinary items	(3.1)	(4.6)	-	-	-	-	-	-
Profit attributable to shareholders	42.3	59.5	73.3	85.3	98.3	103.2	67.8	86.1
Called-up share capital	-	61.5	61.5	61.6	61.9	55.8	58.3	58.5
Reserves and retained profit	383.0	253.7	304.2	363.1	432.1	400.7	217.3	298.6
Equity shareholders' funds	383.0	315.2	365.7	424.7	494.0	456.5	275.6	357.1
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	122,963,000.0	123,000,000.0	123,200,000.0	123,800,000.0	111,500,000.00	101,100,000.0	101,500,000.0
EPS using year end no. of shares		0.48	0.60	0.69	0.79	0.93	0.67	0.85
WA no of ordinary shares	-	61,481,500.0	122,981,500.0	123,100,000.0	123,500,000.0	117,650,000.0	106,300,000.0	101,300,000.0
EPS (£)	-	0.48	0.60	0.69	0.80	0.88	0.64	0.85
EPS before excep. & extraord. using WA		0.52	0.60	0.69	0.80	1.01	0.78	0.78
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	48.1	84.0	107.7	117.1	132.3	144.6	164.1	123.2
Capital and reserves	383.0	315.2	365.7	424.7	494.0	456.5	275.6	357.1
Creditors > 1 year	1.9	76.1	57.0	62.6	76.5	83.9	285.6	290.5
Provisions for liabilities	4.4	15.1	26.8	44.2	41.4	33.1	36.5	36.2
LT Cap-employed	389.3	406.4	449.5	531.5	611.9	573.5	597.7	683.8
ROCE (%)	12.36	20.67	23.96	22.03	21.62	25.21	27.46	18.02
PBIT before excep and extaord / LTCE	13.15	21.80	23.96	22.03	21.62	27.85	21.83	17.01
Loans > 1 year	-	74.00	55.0	55.0	55.6	61.5	257.1	256.1
Cap + res + loans>1yr	383.00	389.20	420.70	479.70	549.60	518.00	532.70	613.20
PBIT / c+r+l>1yr	12.56	21.58	25.60	24.41	24.07	27.92	30.81	20.09
PBIT before excep and extraord / c+r+l>1yr	13.37	22.76	25.60	24.41	24.07	30.83	24.50	18.97
Return on Sales = PBIT / Turnover								
PBIT	48.1	84.0	107.7	117.1	132.3	144.6	164.1	123.2
Turnover	819.7	776.4	813.7	882.7	1,030.5	1,080.8	902.2	954.1
ROS	5.87	10.82	13.24	13.27	12.84	13.38	18.19	12.91
Return on sales before excep and extraord	6.25	11.41	13.24	13.27	12.84	14.78	19.83	12.19

Return on sales, Earnings per share and ROCE analysis - Norweb
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	57.6	57.3	88.1	111.5	131.2	153.6	126.4	66.2
Exceptional items	-	(15.0)	-	-	-	-	149.2	-
Extraordinary items	(4.1)	(6.9)	-	-	-	-	-	-
Profit attributable to shareholders	53.5	35.4	88.1	111.5	131.2	153.6	275.6	66.2
Called-up share capital	-	86.4	86.4	86.4	86.4	77.9	78.4	78.4
Reserves and retained profit	491.7	332.7	384.6	454.5	546.6	514.3	320.9	567.4
Equity shareholders' funds	491.7	419.1	471.0	540.9	633.0	592.2	399.3	645.8
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	172,720,000.0	172,720,942.0	172,728,437.0	172,750,432.0	155,839,330.00	156,821,342.0	156,821,341.0
EPS using year end no. of shares		0.20	0.51	0.65	0.76	0.99	1.76	0.42
WA no of ordinary shares	-	86,360,000.0	172,720,471.0	172,724,689.5	172,739,434.5	164,294,881.0	156,330,336.0	156,821,341.5
EPS (£)	-	0.20	0.51	0.65	0.76	0.93	1.76	0.42
EPS before excep. & extraord. using WA		0.33	0.51	0.65	0.76	0.93	0.81	0.42
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	70.9	85.6	154.6	169.7	189.1	214.4	345.3	109.2
Capital and reserves	491.7	419.1	471.0	540.9	633.0	592.2	399.3	645.8
Creditors > 1 year	18.8	171.6	170.0	171.9	177.6	184.3	230.1	237.7
Provisions for liabilities	6.8	29.1	44.6	39.3	42.6	50.1	89.2	117.3
LT Cap-employed	517.3	619.8	685.6	752.1	853.2	826.6	718.6	1,000.8
ROCE (%)	13.71	13.81	22.55	22.56	22.16	25.94	48.05	10.91
PBIT before excep and extaord / LTCE	14.50	17.34	22.55	22.56	22.16	25.94	27.29	10.91
Loans > 1 year	-	153.00	153.0	153.0	153.0	153.0	194.3	194.5
Cap + res + loans>1yr	491.70	572.10	624.00	693.90	786.00	745.20	593.60	840.30
PBIT / c+r+l>1yr	14.42	14.96	24.78	24.46	24.06	28.77	58.17	13.00
PBIT before excep and extraord / c+r+l>1yr	15.25	18.79	24.78	24.46	24.06	28.77	29.80	13.00
Return on Sales = PBIT / Turnover								
PBIT	70.9	85.6	154.6	169.7	189.1	214.4	345.3	109.2
Turnover	1,232.1	1,240.3	1,318.0	1,413.5	1,470.6	1,510.6	1,446.8	1,391.1
ROS	5.75	6.90	11.73	12.01	12.86	14.19	23.87	7.85
Return on sales before excep and extraord	6.09	8.67	11.73	12.01	12.86	14.19	13.55	7.85

Return on sales, Earnings per share and ROCE analysis - Seeboard
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.12.95	31.12.96
Profit attributable to sh before excep and extraord	41.8	55.5	68.2	79.0	96.5	103.9	46.7	133.3
Exceptional items	-	-	-	-	-	-	27.2	-
Extraordinary items	(4.2)	(5.6)	-	-	-	-	-	-
Profit attributable to shareholders	37.6	49.9	68.2	79.0	96.5	103.9	73.9	133.3
Called-up share capital	-	63.7	63.7	63.7	128.2	122.5	122.8	125.3
Reserves and retained profit	411.5	316.4	358.7	412.5	416.7	438.2	430.8	291.1
Equity shareholders' funds	411.5	380.1	422.4	476.2	544.9	560.7	553.6	416.4
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	127,381,000.0	127,383,270.0	127,421,877.0	256,386,637.0	245,033,997.00	245,519,137.0	250,493,703.0
EPS using year end no. of shares		0.39	0.54	0.62	0.38	0.42	0.30	0.53
WA no of ordinary shares	-	63,690,500.0	127,382,135.0	127,402,573.5	191,904,257.0	250,710,317.0	245,276,567.0	248,006,420.0
EPS (£)	-	0.39	0.54	0.62	0.50	0.41	0.30	0.54
EPS before excep. & extraord. using WA		0.44	0.54	0.62	0.50	0.41	0.19	0.54
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	48.7	84.5	107.5	118.8	133.6	153.3	139.9	180.8
Capital and reserves	411.5	380.1	422.4	476.2	544.9	560.7	553.6	416.4
Creditors > 1 year	1.6	81.9	55.2	54.9	83.4	14.3	110.5	106.9
Provisions for liabilities	6.5	25.6	40.2	49.3	45.1	36.2	55.7	37.6
LT Cap-employed	419.6	487.6	517.8	580.4	673.4	611.2	719.8	560.9
ROCE (%)	11.61	17.33	20.76	20.47	19.84	25.08	19.43	32.23
PBIT before excep and extaord / LTCE	12.61	18.48	20.76	20.47	19.84	25.08	15.65	32.23
Loans > 1 year	-	80.00	54.0	54.0	54.0	-	99.2	99.3
Cap + res + loans>1yr	411.50	460.10	476.40	530.20	598.90	560.70	652.80	515.70
PBIT / c+r+l>1yr	11.83	18.37	22.57	22.41	22.31	27.34	21.43	35.06
PBIT before excep and extraord / c+r+l>1yr	12.86	19.58	22.57	22.41	22.31	27.34	11.27	35.06
Return on Sales = PBIT / Turnover								
PBIT	48.7	84.5	107.5	118.8	133.6	153.3	139.9	180.8
Turnover	982.1	1,047.5	1,157.0	1,225.8	1,218.1	1,195.6	1,002.1	1,181.7
ROS	4.96	8.07	9.29	9.69	10.97	12.82	13.96	15.30
Return on sales before excep and extraord	5.39	8.60	9.29	9.69	10.97	12.82	11.24	15.30

Return on sales, Earnings per share and ROCE analysis - Southern
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	96.3	107.8	129.0	147.2	173.4	155.5	231.2	200.9
Exceptional items	-	-	-	-	-	-	298.9	-
Extraordinary items	(3.7)	(5.9)	-	-	-	-	-	-
Profit attributable to shareholders	92.6	101.9	129.0	147.2	173.4	155.5	530.1	200.9
Called-up share capital	-	134.9	134.9	135.0	136.0	136.4	139.1	13.7
Reserves and retained profit	679.1	409.5	493.2	558.5	679.0	764.0	700.2	776.5
Equity shareholders' funds	679.1	544.4	628.1	693.5	815.0	900.4	839.3	790.2
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	269,875,000.0	269,878,140.0	270,103,026.0	272,072,795.0	272,908,346.00	258,649,832.0	478,100,000.0
EPS using year end no. of shares		0.38	0.48	0.54	0.64	0.57	2.05	0.42
WA no of ordinary shares	-	134,937,500.0	269,876,570.0	269,990,583.0	271,087,910.5	272,490,570.5	265,779,089.0	368,374,916.0
EPS (£)	-	0.38	0.48	0.55	0.64	0.57	1.99	0.55
EPS before excep. & extraord. using WA		0.40	0.48	0.55	0.64	0.57	0.87	0.55
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	95.2	134.5	188.7	210.3	231.4	203.3	638.0	289.9
Capital and reserves	679.1	544.4	628.1	693.5	815.0	900.4	839.3	790.2
Creditors > 1 year	-	184.0	150.0	151.1	152.8	160.4	150.9	158.3
Provisions for liabilities	12.0	50.8	59.2	59.3	80.9	86.8	44.9	42.9
LT Cap-employed	691.1	779.2	837.3	903.9	1,048.7	1,147.6	1,035.1	991.4
ROCE (%)	13.78	17.26	22.54	23.27	22.07	17.72	61.64	29.24
PBIT before excep and extaord / LTCE	14.31	18.02	22.54	23.27	22.07	17.72	28.59	29.24
Loans > 1 year	-	184.00	150.0	150.0	150.0	150.0	150.0	150.0
Cap + res + loans>1yr	679.10	728.40	778.10	843.50	965.00	1,050.40	989.30	940.20
PBIT / c+r+l>1yr	14.02	18.47	24.25	24.93	23.98	19.35	64.49	30.83
PBIT before excep and extraord / c+r+l>1yr	14.56	19.28	24.25	24.93	23.98	19.35	34.28	30.83
Return on Sales = PBIT / Turnover								
PBIT	95.2	134.5	188.7	210.3	231.4	203.3	638.0	289.9
Turnover	1,456.8	1,546.0	1,750.6	1,796.5	1,780.2	1,680.4	1,597.6	1,767.1
ROS	6.53	8.70	10.78	11.71	13.00	12.10	39.93	16.41
Return on sales before excep and extraord	6.79	9.08	10.78	11.71	13.00	12.10	21.23	16.41

Return on sales, Earnings per share and ROCE analysis - Swalec
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	22.1	41.6	62.6	60.9	74.9	94.8	44.6	80.7
Exceptional items	(1.4)	(4.3)	(11.2)	-	-	-	16.1	(22.7)
Extraordinary items	-	-	-	-	-	-	-	-
Profit attributable to shareholders	20.7	37.3	51.4	60.9	74.9	94.8	60.7	58.0
Called-up share capital	-	50.7	50.7	50.8	51.3	46.3	46.6	47.8
Reserves and retained profit	227.6	219.3	252.7	287.0	342.4	330.8	229.8	281.0
Equity shareholders' funds	227.6	270.0	303.4	337.8	393.7	377.1	276.4	328.8
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	101,473,000.0	101,482,397.0	101,575,928.0	102,521,159.0	92,472,168.00	93,196,667.0	95,606,306.0
EPS using year end no. of shares		0.37	0.51	0.60	0.73	1.03	0.65	0.61
WA no of ordinary shares	-	50,736,500.0	101,477,698.5	101,529,162.5	102,048,543.5	97,496,663.5	92,834,417.5	94,401,486.5
EPS (£)	-	0.37	0.51	0.60	0.73	0.97	0.65	0.61
EPS before excep. & extraord. using WA		0.41	0.62	0.60	0.73	0.97	0.48	0.85
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	21.2	61.2	74.7	86.1	101.3	121.0	125.0	87.2
Capital and reserves	227.6	270.0	303.4	337.8	393.7	377.1	276.4	328.8
Creditors > 1 year	-	26.3	17.5	4.5	10.4	15.3	163.8	160.5
Provisions for liabilities	7.7	12.7	17.4	20.3	24.7	29.6	52.4	31.2
LT Cap-employed	235.3	309.0	338.3	362.6	428.8	422.0	492.6	520.5
ROCE (%)	9.01	19.81	22.08	23.75	23.62	28.67	25.38	16.8
PBIT before excep and extaord / LTCE	9.60	21.20	25.39	23.75	23.62	28.67	22.19	21.11
Loans > 1 year	-	25.00	-	-	-	-	147.8	147.9
Cap + res + loans>1yr	227.60	295.00	303.40	337.80	393.70	377.10	424.20	476.70
PBIT / c+r+l>1yr	9.31	20.75	24.62	25.49	25.73	32.09	29.47	18.29
PBIT before excep and extraord / c+r+l>1yr	9.93	22.20	28.31	25.49	25.73	32.09	25.67	23.05
Return on Sales = PBIT / Turnover								
PBIT	21.2	61.2	74.7	86.1	101.3	121.0	125.0	87.2
Turnover	604.0	567.2	590.2	586.0	605.4	641.9	560.7	539.2
ROS	3.51	10.79	12.66	14.69	16.73	18.85	22.29	16.17
Return on sales before excep and extraord	3.74	11.55	14.55	14.69	16.73	18.85	19.42	20.38

Return on sales, Earnings per share and ROCE analysis - Sweb
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	53.9	51.2	62.3	77.7	92.9	105.9	73.0	68.8
Exceptional items	-	-	-	-	-	(20.0)	173.0	-
Extraordinary items	(1.9)	(3.6)	-	-	-	-	-	-
Profit attributable to shareholders	52.0	47.6	62.3	77.7	92.9	85.9	246.0	68.8
Called-up share capital	-	61.5	61.5	61.6	61.6	55.5	57.0	57.0
Reserves and retained profit	380.5	322.7	322.7	417.2	481.3	438.3	188.0	181.4
Equity shareholders' funds	380.5	384.2	384.2	478.8	542.9	493.8	245.0	238.4
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	61,531,500.0	61,532,785.0	61,588,191.0	61,629,021.0	55,554,385.00	56,994,763.0	56,994,763.0
EPS using year end no. of shares		0.77	1.01	1.26	1.51	1.55	4.32	1.21
WA no of ordinary shares	-	30,765,750.0	61,532,142.5	61,560,488.0	61,608,606.0	58,591,703.0	56,274,574.0	56,994,763.0
EPS (£)	-	0.77	1.01	1.26	1.51	1.47	4.37	1.21
EPS before excep. & extraord. using WA		0.83	1.01	1.26	1.51	1.81	1.30	1.21
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	62.8	79.1	97.8	113.2	123.9	116.0	287.8	112.1
Capital and reserves	380.5	384.2	425.3	478.8	542.9	493.8	245.0	238.4
Creditors > 1 year	0.9	80.6	84.9	86.7	92.3	94.9	12.1	12.1
Provisions for liabilities	4.6	8.8	12.6	16.0	39.7	37.1	42.6	32.8
LT Cap-employed	386.0	473.6	522.8	581.5	674.9	625.8	299.7	283.3
ROCE (%)	16.27	16.70	18.71	19.47	18.36	18.54	96.03	39.57
PBIT before excep and extaord / LTCE	16.76	17.46	18.71	19.47	18.36	21.73	38.30	39.57
Loans > 1 year	-	80.00	80.0	80.5	80.5	84.5	0.5	0.5
Cap + res + loans>1yr	380.50	464.20	505.30	559.30	623.40	578.30	245.50	238.90
PBIT / c+r+l>1yr	16.50	17.04	19.35	20.24	19.87	20.06	117.23	46.92
PBIT before excep and extraord / c+r+l>1yr	17.00	17.82	19.35	20.24	19.87	23.52	33.36	46.92
Return on Sales = PBIT / Turnover								
PBIT	62.8	79.1	97.8	113.2	123.9	116.0	287.8	112.1
Turnover	747.9	779.4	847.1	892.0	899.6	874.9	704.1	825.7
ROS	8.40	10.15	11.55	12.69	13.77	13.26	40.87	13.58
Return on sales before excep and extraord	8.65	10.61	11.55	12.69	13.77	15.54	16.30	13.58

Return on sales, Earnings per share and ROCE analysis - Yorkshire
Note: All figures taken from Annual reports and accounts

	31.3.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Profit attributable to sh before excep and extraord	74.4	94.6	100.2	111.3	106.9	160.9	145.9	119.8
Exceptional items	(3.0)	(5.2)	-	-	-	-	(17.4)	(127.8)
Extraordinary items		-	-	-	-	-	-	-
Profit attributable to shareholders	71.4	89.4	100.2	111.3	106.9	160.9	128.5	(8.0)
Called-up share capital	-	103.6	103.6	103.6	103.9	104.5	108.1	108.5
Reserves and retained profit	561.9	408.0	468.0	532.5	592.7	521.4	412.9	384.9
Equity shareholders' funds	561.9	511.6	571.6	636.1	696.6	625.9	521.0	493.4
Earnings per share = Profit attributable to shareholders / Weighted average number of shares								
Year end no of ordinary shares	-	207,264,000.0	207,265,236.0	207,295,726.0	207,865,290.0	183,898,175.00	158,555,100.0	159,131,326.0
EPS using year end no. of shares		0.43	0.48	0.54	0.51	0.87	0.81	(0.05)
WA no of ordinary shares	-	103,632,000.0	207,264,618.0	207,280,481.0	207,580,508.0	195,881,732.5	171,226,637.5	158,843,213.0
EPS (£)	-	0.43	0.48	0.54	0.51	0.82	0.75	(0.05)
EPS before excep. & extraord. using WA		0.46	0.48	0.54	0.51	0.82	0.85	0.75
Return on Capital Employed = PBIT / Capital + Reserves + Long-term debt								
PBIT	93.5	138.3	154.7	163.4	154.2	228.8	239.4	64.4
Capital and reserves	561.9	511.6	571.6	636.1	697.6	627.7	521.1	494.1
Creditors > 1 year	-	126.0	67.4	104.4	126.4	304.5	423.7	419.4
Provisions for liabilities	11.8	15.1	20.5	30.1	55.3	47.4	47.3	121.6
LT Cap-employed	573.7	652.7	659.5	770.6	879.3	979.6	992.1	1,035.1
ROCE (%)	16.30	21.19	23.46	21.20	17.54	23.36	24.13	6.22
PBIT before excep and extaord / LTCE	16.82	21.99	23.46	21.20	17.54	23.36	25.88	18.57
Loans > 1 year	-	126.00	67.4	104.4	126.4	304.5	428.9	419.4
Cap + res + loans>1yr	561.90	637.60	639.00	740.50	824.00	932.20	950.00	913.50
PBIT / c+r+l>1yr	16.64	21.69	24.21	22.07	18.71	24.54	25.20	7.0
PBIT before excep and extraord / c+r+l>1yr	17.17	22.51	24.21	22.07	18.71	24.54	23.08	21.04
Return on Sales = PBIT / Turnover								
PBIT	93.5	138.3	154.7	163.4	154.2	228.8	239.4	64.4
Turnover	1,258.1	1,242.5	1,342.6	1,325.0	1,307.9	1,459.3	1,332.3	1,328.9
ROS	7.43	11.13	11.52	12.33	11.79	15.68	17.97	4.85
Return on sales before excep and extraord	7.67	11.55	11.52	12.33	11.79	15.68	19.27	14.46

Appendix 5d

Current Cost Return on Capital Employed	Note: All figures taken from Annual reports and accounts							
	31.1.90	31.3.91	31.3.92	31.3.93	31.3.94	31.3.95	31.3.96	31.3.97
Retail price index	121.4	131.4	136.7	139 3	142.5	147.5	151 5	155 4
East Midlands								
Current cost PBIT after gearing adjustment		92.5	127 6	142	37.5	191.9	261 8	103 1
Less inflation adjustment		-89 9	-55 1	-26 7	-33.4	-48 7	-28 1	-29 8
CCPBIT - Inflation adj.		2.6	72 7	115 3	4.1	143 2	233.7	73 6
Capital employed		1091 2	1364 9	1402.4	1453 6	1388 5	1037.3	1144 9
CCROCE after inflation		0.2	5.3	8.2	0.3	10.3	22.5	6.4
Eastern								
Current cost PBIT after gearing adjustment		93 9	123 4	154 9	167 8	166 1	235 6	
Less inflation adjustment		-129.4	-70.7	-35 0	-41.7	-75 6	-59 6	0 0
CCPBIT - Inflation adj.		-35 5	52 7	119 9	126 1	90 5	176 0	0 0
Capital employed		1570.9	1752.3	1841	1813.3	2155.7	2197 9	
CCROCE after inflation		-2.3	3.0	6.5	7.0	4.2	8.0	#DIV/0!
London								
Current cost PBIT after gearing adjustment		71	95 6	105 9	144 4	139 3	245 4	
Less inflation adjustment		-99 1	-56 6	-27 1	-38 4	-64 4	-32 4	
CCPBIT - Inflation adj.		-28 1	39 0	78 8	106 0	84 9	213 0	
Capital employed		1203 2	1403 3	1425 2	1671.4	1549 7	1195 9	
CCROCE after inflation		-2.3	2.8	5.5	6.3	5.5	17.8	#DIV/0!
Manweb								
Current cost PBIT after gearing adjustment		39	72.5					
Less inflation adjustment		-61 6	-35 4					
CCPBIT - Inflation adj.		-22 6	37 1					
Capital employed		748	878 5					
CCROCE after inflation		-3.0	4.2					
MEB								
Current cost PBIT after gearing adjustment		73.8	104 5	135 3	158			
Less inflation adjustment		-94.7	-54 4	-26 3	-34.9	0 0	0 0	
CCPBIT - Inflation adj.		-20 9	50.1	109 0	123.1	0.0	0 0	
Capital employed		1150	1349 3	1381.2	1517.7			
CCROCE after inflation		-1.8	3.7	7.9	8.1	#DIV/0!	#DIV/0!	#DIV/0!
Northern								
Current cost PBIT after gearing adjustment		55.3	74.1	87.9	105 3	114 8		
Less inflation adjustment		-69.7	-34.4	-17.9	-24 0	-35 6	0 0	
CCPBIT - Inflation adj.		-4 4	39.7	70.0	81 3	79 2	0 0	
Capital employed		725.1	853.8	940 7	1042.7	1015 1		
CCROCE after inflation		-0.6	4.6	7.4	7.8	7.8	#DIV/0!	#DIV/0!
Norweb								
Current cost PBIT after gearing adjustment		41.7	112.7	130 7	147.4	171 5	314 6	
Less inflation adjustment		-85.1	-50 5	-24 9	-32 8	-60 6	-28 0	
CCPBIT - Inflation adj.		-43.4	62.2	105.8	114 6	120 9	286 6	
Capital employed		1032.7	1251 5	1309.5	1425 8	1442	1034 1	
CCROCE after inflation		-4.2	5.0	8.1	8 0	8.4	27.7	#DIV/0!
Seeboard								
Current cost PBIT after gearing adjustment		46 3	59.1	81 9	97.1	118 5	71 8	147.5
Less inflation adjustment		-73.1	-42 2	-21.1	-27 9	-41 0	-21 8	-21 9
CCPBIT - Inflation adj.		-26 8	16.9	60 8	69 2	77 5	50 2	125 6
Capital employed		887	1048 9	1106 9	1216 3	1169 1	795.9	850 6
CCROCE after inflation		-3.0	1.6	5.5	5.7	6.6	6.3	14.8
Southern								
Current cost PBIT after gearing adjustment		87 3	139 2	160 3	183.2	156.7	352 1	
Less inflation adjustment		-110 3	-63 2	-30 7	-41.1	-63 4	-42 8	0 0
CCPBIT - Inflation adj.		-23.0	76 0	129 6	142 1	93 3	309 3	0 0
Capital employed		1338 9	1568 1	1612 1	1791	1807 6	1577 5	
CCROCE after inflation		-1.7	4.8	8.0	7.9	8.2	19 6	#DIV/0!
Swalec								
Current cost PBIT after gearing adjustment		38.2	47 5	56 5	70 2			
Less inflation adjustment		-41 6	-25 9	-13 8	-18 3	0 0	0 0	0 0
CCPBIT - Inflation adj.		-3 4	21.6	42 7	51 9	0.0	0 0	0 0
Capital employed		504.8	642 5	724.3	797.5			
CCROCE after inflation		-0.7	3.4	5.9	6.5	#DIV/0!	#DIV/0!	#DIV/0!
SWEB								
Current cost PBIT after gearing adjustment		53.3	67.7	87	96 2	91		
Less inflation adjustment		-67.7	-38 6	-19 4	-25 7	-38 0	0 0	0 0
CCPBIT - Inflation adj.		-14 4	29 1	67.6	70 5	53 0	0 0	0 0
Capital employed		821 9	955 9	1021 8	1116 8	1061.9		
CCROCE after inflation		-1.8	3.0	6.6	6.3	4.9	#DIV/0!	#DIV/0!
Yorkshire								
Current cost PBIT after gearing adjustment		100 2	107 4	113.9	113 7	194 6		
Less inflation adjustment		-93 3	-51.7	-26 7	-34 9	-57.9	0 0	0 0
CCPBIT - Inflation adj.		6 9	55 7	87.2	78.8	136 7	0 0	0 0
Capital employed		1132.5	1282.7	1405.2	1521.4	1649 2		
CCROCE after inflation		0.6	4.3	6.2	5.2	8.3	#DIV/0!	#DIV/0!
National Grid								
CCPBIT				410.1	444.3	496 6	511.1	
Less inflation adjustment				-98.7	-122 2	-184 6	-137 9	
CCPBIT - Inflation adj.				311 4	322.1	311 8	373.2	
CCCE				5188 1	5317.7	5265 9	5084.1	
CCROCE after inflation				6.0	6.1	5.9	7.3	
National Power								
CCPBIT			309	332	455	431 0	466	
Less inflation adjustment			-252 8	-107 8	-142 4	-214 6	-149 7	
CCPBIT - Inflation adj.			56 2	224.2	312 6	216 4	319 3	
CCCE			6267	5666	6199	6116	5521	
CCROCE after inflation			0.9	4.0	5.0	3.5	5.8	
Powergen								
CCPBIT		116.2	223 4	283.7	360.2	333 8	370 6	449 5
Less inflation adjustment		-321.4	-160 3	-83.2	-108 6	-146 6	-101 8	-87 5
CCPBIT - Inflation adj.		-205.2	63.1	200.5	251 6	187.2	268 8	362 0
CCCE		3901.2	3973.4	4376 1	4729 2	4177 3	3754 2	3399 2
CCROCE after inflation		-5.3	1.6	4.6	5.3	4.5	7.2	10.6

Basic CFROI for The National Grid
Note: All figures taken from Annual reports and accounts

	1990/1	1991/2	1992/3	1993/4	1994/5	1995/6	1996/7
Profit after Tax	259.5	334.7	381.3	439.8	434.8	422.3	415.2
Add depreciation	91.6	93.5	116.3	129 6	144.6	147.4	161.7
Add interest payable	130 9	98.9	99 8	81	85 5	56.7	78 6
Add operating lease rental	0 0	0	0	0	0	0	0
Add deferred tax charge	0 0	0	0	0	0	0	0
Less. stock adjustment	0 0	0	0	0	0	0	0
Real Cash flow	**482.0**	**527.1**	**597.4**	**650.4**	**664.9**	**626.4**	**655.5**
Book value of total assets	2345.0	2580.2	3069.5	3310.1	3190.4	3194.9	3347.3
Add: accumulated depreciation	1214.8	1272.3	1388.4	1487.4	1581.6	1418.7	1500.9
Add: inflation adjustment to fa	712.7	812.3	900.3	985.9	1053.7	1081.6	1102.3
Add stock adjustment	0 0	0.0	0	0	0	0	0
Add: Capitalised operating leases	0 0	0.0	0	0	0	0	0
Add: other other off balance sheet assets	0.0	0.0	0	0	0	0	0
Less: non-debt liabilities	-509.3	-677.8	-713	-801.8	-856 7	-777.6	-916 4
Less: Goodwill	0 0	0	0	0	0	0	0
Gross operating assets	**3763.2**	**3987.0**	**4645.2**	**4981.6**	**4969.0**	**4917.6**	**5034.1**
CFROI %	**12.8**	**13.2**	**12.9**	**13.1**	**13.4**	**12.7**	**13.0**

Basic CFROI for the Generators

	1990/1			1991/2			1992/3			1993/4			1994/5			1995/6			1996/7		
	Nat. Power	Powergen	Total	Nat. Power	Powergen	Total	Nat. Power	Powergen	Total	Nat. Power	Powergen	Total	Nat. Power	Powergen	Total	Nat. Power	Powergen	Total	Nat. Power	Powergen	Total
Profit after Tax	206	144.1	350.1	365	242	607	420	285	705	522	345	867	525	388	913	608	687	1295	578	426	1004
Add depreciation	155	77.7	232.7	210	95	305	227	107	334	231	104	335	317	103	420	263	189	452	245	255	500
Add interest payable	20	14 4	34.4	61	22	83	68	49	117	87	40	127	115	31	146	65	68	133	135	66	201
Add operating lease rental	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Add deferred tax charge	-41	-2	-43	56	-18	38	-10	10	0	41	16	57	-14	15	1	14	85	99	45	20	65
Less: stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Real Cash flow	**340**	**234.2**	**574.2**	**692**	**341**	**1033**	**705**	**451**	**1156**	**881**	**505**	**1386**	**943**	**537**	**1480**	**950**	**1029**	**1979**	**1003**	**767**	**1770**
Book value of total assets	3860	2792.1	6652.1	4227	3039	7266	4573	3215	7788	4956	3559	8515	4645	3552	8197	4810	4145	8955	6236	3728	9964
Add: accumulated depreciation	1798	1037.8	2835.8	1911	1077	2968	2120	1175	3295	2329	1234	3563	2432	1351	3783	2521	1503	4024	2711	1748	4459
Add: inflation adjustment to fa	600	1587 1	2187.1	585	1410	1994.9	666	1559	2225	217	1331	1548	493	945.6	1439	-300	482.6	183	-300	482.6	183
Add stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Add: Capitalised operating leases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Add: other other off balance sheet assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less: non-debt liabilities	-1602	-1104.7	-2706.7	-1605	-1366	-2971	-1652	-1279	-2931	-1287	-1225	-2512	-1355	-1319	-2674	-1322	-1260	-2582	-1717	-1086	-2803
Less: Goodwill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Gross operating assets	**4656**	**4312**	**8968**	**5118**	**4160**	**9278**	**5707**	**4670**	**10377**	**6215**	**4899**	**11114**	**6215**	**4530**	**10745**	**5709**	**4871**	**10580**	**6930**	**4873**	**11803**
CFROI %	**7.3**	**5.4**	**6.4**	**13.5**	**8.2**	**11.1**	**12.4**	**9.7**	**11.1**	**14.2**	**10.3**	**12.9**	**15.2**	**11.9**	**13.8**	**16.6**	**21.1**	**18.7**	**14.5**	**15.7**	**15.0**

Basic CFROI for the RECS - 1990/1 and 1991/2
Note: All figures taken from Annual reports and accounts

1990/1	EME	Eastern	London	Manweb	MEB	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
Profit after Tax	81.1	88.8	95.2	39.0	76.7	59.5	35.4	49.9	101.9	37.3	47.6	89.4	801.8
Add depreciation	25.2	44.8	28.7	25.0	31.3	17.3	41.7	24.3	33.1	17.4	21.4	28.4	338.6
Add interest payable	8.5	16.6	5.6	11.0	7.9	3.6	16.1	5.6	7.7	4.3	13.4	9.5	109.8
Add operating lease rental	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add deferred tax charge	0.0	0	0.0	0.0	-12.1	0.0	-7.1	0.0	-11.5	0.0	0.0	0.0	-30.7
Less: stock adjustment	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Real Cash flow	**114.8**	**150.2**	**129.5**	**75.0**	**103.8**	**80.4**	**86.1**	**79.8**	**131.2**	**59.0**	**82.4**	**127.3**	**1219.5**
Book value of total assets	880.1	1214.6	1047.3	669.0	884.3	597.5	797.1	656.5	1052.1	413.1	645.5	911.8	9768.9
Add: accumulated depreciation	266.5	423.1	327.7	226.0	328.1	191.4	337.2	221.3	347.1	150.4	198.0	314.2	3331.0
Add: inflation adfustment to fa	204.0	246.4	269.9	128.0	215.3	144.4	123.3	205.6	263.4	59.4	159.7	180.8	2200.2
Add stock adjustment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add: Capitalised operating leases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add: other other off balance sheet assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Less: non-debt liabilities	-195.5	-224.7	-201.7	-186.0	-198.3	-118.3	-225.0	-151.4	-203.0	-90.3	-113.2	-201.7	-2109.1
Less: Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross operating assets	**1155.1**	**1659.4**	**1443.2**	**837.0**	**1229.4**	**815.0**	**1032.6**	**932.0**	**1459.6**	**532.6**	**890.0**	**1205.1**	**13191.0**
CFROI %	**9.9**	**9.1**	**9.0**	**9.0**	**8.4**	**9.9**	**8.3**	**8.6**	**9.0**	**11.1**	**9.3**	**10.6**	**9.2**

1991/2	EME	Eastern	London	Manweb	MEB	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
Profit after Tax	109.3	104.3	103.5	69.8	102.7	73.3	88.1	68.2	129.0	51.0	62.3	100.2	1061.7
Add depreciation	32.7	43.0	30.3	25.1	33.1	17.6	35.1	30.3	38.6	18.9	24.2	30.2	359.1
Add interest	37.2	36.1	15.9	10.9	12.2	10.2	19.6	12.5	26.6	3.8	15.7	21.4	222.1
Add operating lease rental	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add deferred tax charge	-0.1	0.0	0.0	0.0	-4.4	0.0	7.1	-3.3	-3.0	-2.2	0.0	0.0	-5.9
Less: stock adjustment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Real Cash flow	**179.1**	**183.4**	**149.7**	**105.8**	**143.6**	**101.1**	**149.9**	**107.7**	**191.2**	**71.5**	**102.2**	**151.8**	**1637.0**
Book value of total assets	1066.8	1267.5	933.1	720.3	954.6	569.9	876.0	692.0	1192.5	466.2	701.6	935.5	10376.0
Add: accumulated depreciation	293.2	462.7	347.2	248.6	355.5	208.7	369.2	246.5	378.9	164.9	217.8	340.1	3633.3
Add: inflation adfustment to fa	308.9	361.0	385.4	214.1	320.6	224.3	258.3	324.0	411.1	174.2	232.8	303.6	3518.3
Add stock adjustment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add: Capitalised operating leases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Add: other other off balance sheet assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Less: non-debt liabilities	-235.0	-241.8	-218.3	-226.2	-232.6	-130.2	-249.5	-189.6	-230.4	-131.7	-147.9	-209.5	-2442.7
Less: Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross operating assets	**1433.9**	**1849.4**	**1447.4**	**956.8**	**1398.1**	**872.7**	**1254.0**	**1072.9**	**1752.1**	**673.6**	**1004.3**	**1369.7**	**15084.9**
CFROI %	**12.5**	**9.9**	**10.3**	**11.1**	**10.3**	**11.6**	**12.0**	**10.0**	**10.9**	**10.6**	**10.2**	**11.1**	**10.9**

Basic CFROI for the RECs - 1992/3 and 1993/4
Note: All figures taken from Annual reports and accounts

1992/3	EME	Eastern	London	Manweb	MEB	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
Profit after Tax	116.3	135.2	108	82.3	117.1	85.3	111.5	79.2	147.5	60.9	77.7	111.3	1232.3
Add depreciation	39.4	50.2	43.1	27.3	37.3	19.7	36	30.7	41.2	22.4	26.3	32.2	405.8
Add interest	36.5	27.5	11.2	8.2	9.9	9.1	19.7	11.3	40	3.4	13	23.2	213.0
Add operating lease rental	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add deferred tax charge	-0.4	0	-2.5	0	0	-7	0	-3.2	1.6	2.2	0	0	-9.3
Less: stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Real Cash flow	**191.8**	**212.9**	**159.8**	**117.8**	**164.3**	**107.1**	**167.2**	**118**	**230.3**	**88.9**	**117**	**166.7**	**1841.8**
Book value of total assets	1147.5	1319.2	999.8	790.4	1160	663.4	987.4	777.6	1309.9	591.5	757.4	1220.9	11725.0
Add: accumulated depreciation	322.4	503.6	385.5	266.1	388.6	220.3	404.7	271.7	408.5	212	241.3	366.7	3991.4
Add: inflation adfustment to fa	292.4	371.8	347.8	220	320.7	240.5	210.9	305	360.1	178.3	221.7	298	3367.2
Add stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add: Capitalised operating leases	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add: other other off balance sheet assets	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Less: non-debt liabilities	-243.4	-266.7	-258.2	-245.4	-308.4	-164.7	-293.5	-221.1	-274.3	-224.8	-160.9	-345.1	-3006.5
Less: Goodwill	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Gross operating assets	**1518.9**	**1927.9**	**1474.9**	**1031.1**	**1560.9**	**959.5**	**1309.5**	**1133.2**	**1804.2**	**757**	**1059.5**	**1540.5**	**16077.1**
CFROI %	**12.6**	**11.0**	**10.8**	**11.4**	**10.5**	**11.2**	**12.8**	**10.4**	**12.8**	**11.7**	**11.0**	**10.8**	**11.5**

1993/4	EME	Eastern	London	Manweb	MEB	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
Profit after Tax	27.7	123.3	142	99.3	137.4	98.3	131.2	96.7	174.2	74.9	92.9	107.9	1305.8
Add depreciation	42.6	51.3	34.6	29.9	36.8	23.7	37.7	30.7	41.3	26.7	29.8	32.9	418.0
Add interest	31.7	25.6	18.3	7.2	1.5	7.3	19.2	8.4	19	0.3	10.8	18	167.3
Add operating lease rental	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add deferred tax charge	-22.5	0	2.5	0	1.1	3.6	0	1.4	0.1	0	13.3	0	-0.5
Less: stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Real Cash flow	**79.5**	**200.2**	**197.4**	**136.4**	**176.8**	**132.9**	**188.1**	**137.2**	**234.6**	**101.9**	**146.8**	**158.8**	**1890.6**
Book value of total assets	1219.4	1491.1	1221.8	912.3	1253.2	767.2	1166.6	942	1401.9	676.6	879.5	1250.8	13182.4
Add. accumulated depreciation	372.5	548.3	394.3	290.1	417.6	239.9	435.6	297.6	448.3	225.2	267.1	388.3	4324.8
Add: inflation adfustment to fa	281.6	394.6	392	220	343.7	253.1	204.2	319.8	377.7	178.6	226.6	321.7	3513.6
Add stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add: Capitalised operating leases	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add: other other off balance sheet assets	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Less: non-debt liabilities	-366.9	-414.7	-333.8	-297.7	-419.3	-176.2	-380.6	-342.8	-434.4	-278.6	-255.6	-411.1	-4111.7
Less: Goodwill	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Gross operating assets	**1506.6**	**2019.3**	**1674.3**	**1124.7**	**1595.2**	**1084**	**1425.8**	**1216.6**	**1793.5**	**801.8**	**1117.6**	**1549.7**	**16909.1**
CFROI %	**5.3**	**9.9**	**11.8**	**12.1**	**11.1**	**12.3**	**13.2**	**11.3**	**13.1**	**12.7**	**13.1**	**10.2**	**11.2**

Basic CFROI for the RECs 1994/5
Note: All figures taken from Annual reports and accounts

1994/5	EME	Eastern	London	Manweb	MEB	Northern	Norweb	Seeboard	Southern	Swalec	SWEB	Yorkshire	Total
Profit after Tax	164.7	140.6	149.9	62.8	125.5	103.2	153.7	104	156.9	94.8	85.9	161.7	1503.7
Add depreciation	47.5	55.7	38.3	33.4	37.7	26.6	39.1	32.4	49.4	25.7	33	39.5	458.3
Add interest	20.6	41.2	14.1	15.7	1.6	8	21.8	17.4	17.8	1	11.3	23.3	193.8
Add operating lease rental	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add deferred tax charge	12.5	-10	-7.9	-9.4	-1.3	6.2	0	-1.2	-10	0.8	-7.7	0	-28.0
Less: stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Real Cash flow	**245.3**	**227.5**	**194.4**	**102.5**	**163.5**	**144**	**214.6**	**152.6**	**214.1**	**122.3**	**122.5**	**224.5**	**2127.8**
Book value of total assets	1094.5	2052.6	1161.4	944.8	1200.4	796.4	1234.9	862.7	1495.5	702	868.6	1382.3	13796.1
Add: accumulated depreciation	407.7	593.1	427.7	322.9	438.9	259.5	469.6	321.3	474.3	245.8	289.2	415.4	4665.4
Add: inflation adfustment to fa	257.8	384.2	365.6	*220*	*350*	237.5	227.2	287.1	368.6	*180*	218.6	301.7	3398.3
Add stock adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add: Capitalised operating leases	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Add: other other off balance sheet assets	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Less: non-debt liabilities	-298.1	-697	-345.8	-327.3	-403.1	-193.9	-327.2	-295.2	-437.3	-236.9	-265.6	-439.1	-4266.5
Less: Goodwill	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Gross operating assets	**1461.9**	**2332.9**	**1608.9**	**1160.4**	**1586.2**	**1099.5**	**1604.5**	**1175.9**	**1901.1**	**890.9**	**1110.8**	**1660.3**	**17593.3**
CFROI %	**16.8**	**9.8**	**12.1**	**8.8**	**10.3**	**13.1**	**13.4**	**13.0**	**11.3**	**13.7**	**11.0**	**13.5**	**12.1**

Appendix 5f

Operating cash flow CFROI
Note: All figures taken from Annual reports and accounts

OP CF - Tax paid	**1991**	**1992**	**1993**	**1994**	**1995**
EME	18.3	166.1	205.2	331.3	157.8
Eastern	6.7	169.0	238.3	389.3	138.9
London	-34.1	139.7	211.9	274.5	112.1
Manweb	6.5	116.6	113.8	162.8	79.4
MEB	66.0	191.7	179.2	313.3	91.9
Northern	8.5	97.7	128.1	154.2	44.5
Norweb	108.7	138.4	175.8	229.9	122.8
Seeboard	10.9	127.4	109.2	252.1	63.4
Southern	2.7	186.6	261.5	371.2	170.6
Swalec	32.3	117.0	100.9	141.3	79.3
SWEB	55.2	115.2	122.2	234.5	91.5
Yorkshire	80.2	142.7	185.5	318.4	191.0
Total	**361.9**	**1708.1**	**2031.6**	**3172.8**	**1343.2**
Investment					
EME	1155.1	1433.9	1518.9	1506.6	1461.9
Eastern	1659.4	1849.4	1927.9	2019.3	2332.9
London	1443.2	1447.4	1474.9	1674.3	1608.9
Manweb	837.0	956.8	1031.1	1124.7	1160.4
MEB	1229.4	1398.1	1560.9	1595.2	1586.2
Northern	815.0	872.7	959.5	1084.0	1099.5
Norweb	1032.6	1254.0	1309.5	1425.8	1604.5
Seeboard	932.0	1072.9	1133.2	1216.6	1175.9
Southern	1459.6	1752.1	1804.2	1793.5	1901.1
Swalec	532.6	673.6	757.0	801.8	890.9
SWEB	890.0	1004.3	1059.5	1117.6	1110.8
Yorkshire	1205.1	1369.7	1540.5	1549.7	1660.3
Total	**13191.0**	**15084.9**	**16077.1**	**16909.1**	**17593.3**
EME	1.6	11.6	13.5	22.0	10.8
Eastern	0.4	9.1	12.4	19.3	6.0
London	-2.4	9.7	14.4	16.4	7.0
Manweb	0.8	12.2	11.0	14.5	6.8
MEB	5.4	13.7	11.5	19.6	5.8
Northern	1.0	11.2	13.4	14.2	4.0
Norweb	10.5	11.0	13.4	16.1	7.7
Seeboard	1.2	11.9	9.6	20.7	5.4
Southern	0.2	10.7	14.5	20.7	9.0
Swalec	6.1	17.4	13.3	17.6	8.9
SWEB	6.2	11.5	11.5	21.0	8.2
Yorkshire	6.7	10.4	12.0	20.5	11.5
Total	**2.7**	**11.3**	**12.6**	**18.8**	**7.6**

	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
NG cash flow - tax	455.8	573.4	594.7	633.3	732.3	429.4	904.5
NG investment	3763.2	3987	4645.2	4981.6	4981.6	4917.6	5034.1
CFROI	**12.1**	**14.4**	**12.8**	**12.7**	**14.7**	**8.7**	**19.2**
NP cash flow - tax	682	678	656	681	1145	858	908
PG cash flow - tax	438	390	430	486	923	687	396
Total	1120	1068	1086	1167	2068	1545	1304
NP investment	4656	5118	5707	6215	6215	5709	6930
PG investment	4312	4160	4670	4899	4530	4871	4873
Total	8968	9278	10377	11114	10745	10580	11803
NP CFROI	**14.6**	**13.2**	**11.5**	**11.0**	**18.4**	**15.0**	**13.1**
PG CFROI	**10.2**	**9.4**	**9.2**	**9.9**	**20.4**	**14.1**	**8.1**
Total	**12.5**	**11.5**	**10.5**	**10.5**	**19.2**	**14.6**	**11.0**

Appendix 5g

TOTAL SHAREHOLDER RETURNS — Note: All figures taken from Datastream

RECS	10/12/90	31/3/91	31/3/92	31/3/93	31/3/94	31/3/95	31/3/96	
Eastern	100	127.9	131.8	225.5	337	297.9	528.9	Sep-95
East Midlands	100	133.8	135.4	218.5	310.7	315.7	495.3	Dec-96
London	100	131.3	142.4	230.8	309.7	304.7	515.2	Feb-97
Manweb	100	152.6	155.9	249.4	364	333.3	547.1	Nov-95
Midlands	100	131.3	138.5	237.9	317.3	316.8	614.8	Jun-96
Northern	100	135.1	143.4	254.3	353.3	391.9	573.2	Jan-97
Norweb	100	136.7	149.5	245.4	337.9	315.9	650.1	Nov-95
Seeboard	100	130.4	140.8	240.4	342.4	354.9	677.5	Jan-96
Southern	100	131.7	134.9	229.2	323.7	303.9	551.2	Dec-96
Swalec	100	158.3	157.7	257.7	346.5	331.1	630	Feb-96
Sweb	100	134.6	138.9	240.3	325.5	327.4	526.7	Sep-95
Yorkhire	100	141.3	161.7	251.1	320.5	364.5	627.2	Mar-97
Eastern		27.9	3.0	71.1	49.4	-11.6	77.5	
East Midlands		33.8	1.2	61.4	42.2	1.6	56.9	
London		31.3	8.5	62.1	34.2	-1.6	69.1	
Manweb		52.6	2.2	60.0	46.0	-8.4	64.1	
Midlands		31.3	5.5	71.8	33.4	-0.2	94.1	
Northern		35.1	6.1	77.3	38.9	10.9	46.3	
Norweb		36.7	9.4	64.1	37.7	-6.5	105.8	
Seeboard		30.4	8.0	70.7	42.4	3.7	90.9	
Southern		31.7	2.4	69.9	41.2	-6.1	81.4	
Swalec		58.3	-0.4	63.4	34.5	-4.4	90.3	
Sweb		34.6	3.2	73.0	35.5	0.6	60.9	
Yorkhire		41.3	14.4	55.3	27.6	13.7	72.1	
Simple Average		**37.1**	**5.3**	**66.7**	**38.6**	**-0.7**	**75.8**	

TOTAL GAIN	3/96-12/90	3/95-12/90	3/96-3/91	3/95-3/91
Eastern	428.9	197.9	313.5	132.9
East Midlands	395.3	215.7	270.2	135.9
London	415.2	204.7	292.4	132.1
Manweb	447.1	233.3	258.5	118.4
Midlands	514.8	216.8	368.2	141.3
Northern	473.2	291.9	324.3	190.1
Norweb	550.1	215.9	375.6	131.1
Seeboard	577.5	254.9	419.6	172.2
Southern	451.2	203.9	318.5	130.8
Swalec	530.0	231.1	298.0	109.2
Sweb	426.7	227.4	291.3	143.2
Yorkhire	527.2	264.5	343.9	158.0

ANNUALISED	3/96-12/90	3/95-12/90	3/96-3/91	3/95-3/91	
Eastern	1.373	1.293	1.328	1.235	23.5% to 37.3%
East Midlands	1.356	1.311	1.299	1.239	23.9% to 35.6%
London	1.367	1.300	1.314	1.234	23.4% to 36.7%
Manweb	1.382	1.327	1.291	1.216	21.6% to 38.2%
Midlands	1.413	1.312	1.362	1.246	24.6% to 41.3%
Northern	1.395	1.379	1.335	1.305	30.5% to 39.5%
Norweb	1.428	1.311	1.366	1.233	23.3% to 42.8%
Seeboard	1.440	1.347	1.390	1.284	28.4% to 44.0%
Southern	1.384	1.299	1.332	1.232	23.2% to 38.4%
Swalec	1.420	1.325	1.318	1.203	20.3% to 42.0%
Sweb	1.372	1.322	1.314	1.249	24.9% to 37.2%
Yorkhire	1.419	1.356	1.347	1.267	26.7% to 41.9%
				1.245	

N Grid	12/8/95	31/3/96	31/3/97
Return Index	100.0	93.3	108
Change		0.933	1.158

Generators	11/3/91	31/3/91	31/3/92	31/3/93	31/3/94	31/3/95	31/3/96	31/3/97
NP	100	118	117.6	214	306.5	292.3	333.3	486.4
PG	100	116.8	123.1	214.2	352.6	314.3	376.7	440.9
Change								
NP		1.180	0.997	1.820	1.432	0.954	1.140	1.459
PG		1.168	1.054	1.740	1.646	0.891	1.199	1.170
Simple Ave		1.174	1.025	1.780	1.539	0.923	1.169	1.315

Average employee remuneration and employee numbers - The Generators and The National Grid

Note: All figures taken from Annual reports and accounts

		1991	1992	1993	1994	1995	1996	1997
Total employee remuneration	National Power	358,777,105	348,862,894	290,055,406	217,559,750	177,147,956	163,911,193	149,770,474
	Powergen	208,627,169	203,534,264	162,490,122	144,303,816	138,068,806	128,984,099	117,940,241
	Total	567,404,274	552,397,158	452,545,528	361,863,566	315,216,762	292,895,292	267,710,715
Number of employees	National Power	15,713	13,277	9,934	6,955	5,447	4,848	4,474
	Powergen	8,840	7,771	5,715	4,782	4,171	4,148	3,367
	Total	24,553	21,048	15,649	11,737	9,618	8,996	7,841
Average employee remumeration	**National Power**	**22,833**	**26,276**	**29,198**	**31,281**	**32,522**	**33,810**	**33,476**
	Powergen	**23,600**	**26,192**	**28,432**	**30,176**	**33,102**	**31,095**	**35,028**
	Total	**23,109**	**26,245**	**28,918**	**30,831**	**32,774**	**32,558**	**34,142**
Total excecutive directors remuneration	National Power	1187.5	1917.3	1797.0	2299.1	2564.3	2630.0	2757.9
	Powergen	1037.8	1395.7	1434.9	1625.5	1893.7	1948.4	1742.7
	Total	2225.3	3313.0	3231.9	3924.7	4458.0	4578.4	4500.6
Number of executive directors	National Power	8	8	7	7	7.11	6.25	5.42
	Powergen	7	7	7	7.4	7	7.1	4.9
	Total	15.0	15.0	14.0	14.4	14.1	13.4	10.3
Average executive director remuneration	**National Power**	**148.4**	**239.7**	**256.7**	**328.4**	**360.7**	**420.8**	**508.8**
	Powergen	**148.3**	**199.4**	**205.0**	**219.7**	**270.5**	**274.4**	**355.7**
	Total	**148.4**	**220.9**	**230.8**	**272.5**	**315.9**	**342.9**	**436.1**
Total employee remuneration	National Grid	182,100,000	216,800,000	219,200,000	222,400,000	197,800,000	171,900,000.0	175,700,000.0
	Less:severance	-	(32,300,000)	(39,000,000)	(51,200,000)	(26,500,000)	(14,400,000)	(18,200,000)
		-	-	-	-	(1,200,000)	(1,668,000.0)	(1,395,000.0)
		182,100,000	184,500,000	180,200,000	171,200,000	170,100,000	155,832,000	156,105,000
Number of employees		6,550	6,217	5,666	5,127	4,871	4,565.0	4,414.0
Average employee remuneration		**27,802**	**29,677**	**31,804**	**33,392**	**34,921**	**34,136**	**35,366**
		1990/1	1991/2	1992/3	1993/4	1994/5	1995/6	1996/7
Total excecutive directors remuneration	National Grid	0	0	0	0	1171	1592	1300
Number of executive directors						5	5.75	5.83
Average executive director remuneration		**0**	**0**	**0**	**0**	**234.2**	**276.9**	**223.0**

Average employee remuneration and employee numbers - RECs

Note: All figures taken from Annual reports and accounts

		1991	1992	1993	1994	1995	1996	1997
Total employee remuneration	East Midlands	133,199,400	161,643,800	174,017,900	167,859,600	142,413,400	121,702,000	115,379,600
	Eastern	173,314,000	183,405,000	163,191,000	144,780,000	145,571,000	140,522,000	125,058,000
	London	141,201,294	149,617,112	135,961,900	132,327,832	128,322,102	106,044,524	109,580,000
	Manweb	94,387,000	91,466,000	92,959,000	97,814,000	96,114,000	83,700,000	69,900,000
	MEB	143,400,000	169,000,000	153,200,000	136,671,000	131,575,000	80,218,000	104,049,000
	Northern	96,489,000	103,568,000	105,725,000	102,014,000	100,033,000	87,670,000	84,946,000
	Norweb	136,970,000	143,750,000	150,720,000	167,080,000	160,850,000	182,000,200	112,650,000
	Seeboard	118,776,000	126,754,000	126,034,000	106,916,000	104,160,000	98,896,000	89,377,000
	Southern	169,838,000	165,138,000	160,933,000	154,313,000	148,026,000	142,200,000	146,625,000
	Swalec	74,791,000	88,777,090	72,619,000	78,995,000	84,763,813	87,562,800	34,975,800
	SWEB	108,691,000	119,966,000	115,259,000	124,574,000	119,397,000	84,006,000	62,383,000
	Yorkshire	124,964,000	136,000,000	134,750,781	127,021,861	113,729,600	102,388,700	96,742,500
	Total	**1,516,020,694**	**1,639,085,002**	**1,585,370,581**	**1,540,366,293**	**1,474,954,915**	**1,316,910,224**	**1,151,665,900**
Number of employees	East Midlands	7,382	8,243	8,684	7,590	6,151	5,051.0	4,604.0
	Eastern	10,001	9,877	8,415	7,003	6,403	6,113	4,635.00
	London	6,691	6,581	6,258	5,532	4,908	4,404.0	4,435.0
	Manweb	5,483	4,623	4,533	4,604	4,582	3,308	2,975.00
	MEB	7,729	7,643	7,370	6,207	5,815	5,114	4,864.00
	Northern	5,528	5,364	4,826	4,714	4,456	3,882	3,601.00
	Norweb	8,203	7,917	7,977	8,255	8,247	8,195	4,103.00
	Seeboard	6,340	6,240	6,039	5,339	4,680	4,278.0	4,146.0
	Southern	8,362	7,843	7,329	7,447	6,764	6,316	6,694.00
	Swalec	3,623	3,632	3,166	3,350	3,218	2,979	1,391.00
	SWEB	5,676	5,553	5,204	5,029	4,656	3,254	2,756.00
	Yorkshire	7,126	7,105	6,850	5,764	4,924	4,294	3,976.00
	Total	**82,144**	**80,621**	**76,651**	**70,834**	**64,804**	**57,188**	**48,180**
Average employee remuneration	East Midlands	18,044	19,610	20,039	22,116	23,153	24,095	25,061
	Eastern	17,330	18,569	19,393	20,674	22,735	22,987	26,981
	London	21,103	22,735	21,726	23,920	26,145	24,079	24,708
	Manweb	17,214	19,785	20,507	21,245	20,976	25,302	23,496
	MEB	18,553	22,112	20,787	22,019	22,627	15,686	21,392
	Northern	17,455	19,308	21,907	21,641	22,449	22,584	23,590
	Norweb	16,698	18,157	18,894	20,240	19,504	22,209	27,456
	Seeboard	18,734	20,313	20,870	20,025	22,256	23,117	21,557
	Southern	20,311	21,055	21,958	20,721	21,884	22,514	21,904
	Swalec	20,643	24,443	22,937	23,581	26,341	29,393	25,144
	SWEB	19,149	21,604	22,148	24,771	25,644	25,816	22,635
	Yorkshire	17,536	19,141	19,672	22,037	23,097	23,845	24,332
	Total	**18,456**	**20,331**	**20,683**	**21,746**	**22,760**	**23,028**	**23,903**

Average Executive Directors remuneration - RECs

Note: All figures taken from Annual reports and accounts

		1990/1	1991/2	1992/3	1993/4	1994/5	1995/6	1996/7
RECs Total Executive Director Remuneration	East Midlands	554.1	942.9	1042.7	1023.2	1057.8	1085.4	1794.1
	Eastern	542	1018	1217	1538	1433	1494	1842
	London	663.6	919.3	839.2	987.5	1002		
	Manweb	639	858	921	829	840		
	MEB	700	900	900	949	845		
	Northern	463	587	728	933	1114		
	Norweb	490	780	800	850	1280		
	Seeboard	676	856	868	872	1022		
	Southern	801	896	997	846	799		
	Swalec	620	807	810	888	887.7		
	SWEB	836	1070	866	772	693		
	Yorkshire	672	900	886.7	865.6	902		
	Total	**7656.7**	**10534.2**	**10875.64**	**11353.3**	**11875.5**		
Number of Executive Directors	East Midlands	6	6	8	7	5	4	
	Eastern	6	7	9	8	7	7	5
	London	5	5	4.25	5.25	5		
	Manweb	6	6	5	6	5.6		
	MEB	6	6	6	6	5		
	Northern	4	6	5	5	5		
	Norweb	7	6.2	7	6	6		
	Seeboard	7	7	6	6	6		
	Southern	5.75	5.1	5	4.2	4		
	Swalec	5	5	5	5	5		
	SWEB	8	8	5	5	4		
	Yorkshire	4	6	6	5	4		
	Total	**69.75**	**73.3**	**71.25**	**68.45**	**61.6**		
Average Executive Director Remuneration	East Midlands	92.35	157.15	130.34	146.17	211.56		
	Eastern	90.33	145.43	135.22	192.25	204.71		
	London	132.72	183.86	197.46	188.10	200.40		
	Manweb	106.50	143.00	184.20	138.17	150.00		
	MEB	116.67	150.00	150.00	158.17	169.00		
	Northern	115.75	97.83	145.60	186.60	222.80		
	Norweb	70.00	125.81	114.29	141.67	213.33		
	Seeboard	96.57	122.29	144.67	145.33	170.33		
	Southern	139.30	175.69	199.40	201.43	199.75		
	Swalec	124.00	161.40	162.00	177.60	177.54		
	SWEB	104.50	133.75	173.20	154.40	173.25		
	Yorkshire	168.00	150.00	147.79	173.12	225.50		
	Total	**109.77**	**143.71**	**152.64**	**165.86**	**192.78**		

Appendix 5i

Current Ratio
Note: All figures taken from Annual reports and accounts

	31/3/91	31/3/92	31/3/93	31/3/94	31/3/95	31/3/96	31/3/97
Current Assets							
East Midlands	303.9	403.9	411.3	425.0	270.7	271.3	204.9
Eastern	395.9	424.0	422.7	548.3	869	873	682.4
London	453.4	307.8	291.1	453.2	337.8	455.3	337.1
Manweb	177	192.1	209.1	257.1	234.2	294.7	340.8
MEB	319	348.5	480.6	520.5	377.7	457.2	450.5
Northern	245.1	183.3	213.9	274.6	269.5	306.2	273.6
Norweb	270.7	319.3	381.7	504.2	463.6	693.1	592.4
Seeboard	228.7	230.6	273.5	390.4	280.1	437.1	186.4
Southern	442.9	524.1	529.2	508.9	551.8	538.7	380.3
Swalec	140	145	142.8	163.1	129.3	185.6	171.6
SWEB	201	211.5	213.2	301.0	253.6	204	196.8
Yorkshire	372.1	352.9	531.9	462.2	490.3	545.2	462.6
National Grid	418.9	384.9	636.2	645.6	308.4	385.8	989.6
National Power	1171	1252	1291	1,645.0	1308	1229	1501
Powergen	1092	1043	1109	971.0	760	832	718
Current Liabilities							
East Midlands	232.6	267.8	312.4	338.7	310.5	346.8	236.9
Eastern	289.5	298.6	324.7	575.2	642.5	409.3	652.1
London	411.8	224.5	262.8	265.3	343.2	484.6	344.1
Manweb	127	125.8	132.2	171.8	224	214.2	229.7
MEB	246.1	236.6	433.8	417	412.3	667.9	913.4
Northern	193.2	120.4	131.9	155.3	222.9	221.7	120.2
Norweb	177.3	190.4	235.3	313.4	408.3	742.4	595
Seeboard	168.9	174.2	196.9	268.3	251.1	273.8	234.3
Southern	273.2	355.2	405.2	351.6	344.9	487.3	451.8
Swalec	104.1	127.9	143.9	156.8	184.8	195.2	152.3
SWEB	171.9	178.8	175.8	204.5	242.7	441.7	492
Yorkshire	259.1	276	450.3	371.5	402.7	429.4	336.7
National Grid	618.6	705.8	896.4	809.1	686.9	811	1057.3
National Power	1045	1012	1102	860	1084	1225	1370
Powergen	923.9	890	771	897	979	1254	954
Current Ratio							
East Midlands	1.3	1.5	1.3	1.3	0.9	0.8	0.9
Eastern	1.4	1.4	1.3	1.0	1.4	2.1	1.0
London	1.1	1.4	1.1	1.7	1.0	0.9	1.0
Manweb	1.4	1.5	1.6	1.5	1.0	1.4	1.5
MEB	1.3	1.5	1.1	1.2	0.9	0.7	0.5
Northern	1.3	1.5	1.6	1.8	1.2	1.4	2.3
Norweb	1.5	1.7	1.6	1.6	1.1	0.9	1.0
Seeboard	1.4	1.3	1.4	1.5	1.1	1.6	0.8
Southern	1.6	1.5	1.3	1.4	1.6	1.1	0.8
Swalec	1.3	1.1	1.0	1.0	0.7	1.0	1.1
SWEB	1.2	1.2	1.2	1.5	1.0	0.5	0.4
Yorkshire	1.4	1.3	1.2	1.2	1.2	1.3	1.4
National Grid	0.7	0.5	0.7	0.8	0.4	0.5	0.9
National Power	1.1	1.2	1.2	1.9	1.2	1.0	1.1
Powergen	1.2	1.2	1.4	1.1	0.8	0.7	0.8

Appendix 5j

Creditor Days
Note: All figures taken from Annual reports and accounts

	31/3/91	31/3/92	31/3/93	31/3/94	31/3/95	31/3/96	31/3/97
Trade Creditors							
East Midlands	74.2	87.1	96.5	130.9	113.4	101.7	100.4
Eastern	112.2	101.9	112.7	134.9	216.2	169.8	166.8
London	71.1	70.9	77.2	104.6	104.6	106.1	111.6
Manweb	40.7	58.2	62.3	66.4	65.6	55	51.3
MEB	63.8	49.3	89.5	100.4	102.8	124.8	116.1
Northern	47.5	46.2	52.6	77.1	69.8	89.4	84.3
Norweb	46.7	76.9	93.8	100.1	104.7	128.1	140.1
Seeboard	64.6	63.7	75.3	85.8	106.1	125.8	146.5
Southern	68.1	82.3	110.1	124	153.5	148.7	160.1
Swalec	29.1	29.4	38.4	42	44.2	39.6	34.5
SWEB	51.7	59.7	56.2	62.4	62.7	60.6	69.4
Yorkshire	54.6	62.8	65.8	63.4	71.3	91.7	79.7
National Grid	160.1	210.3	224.8	261.9	295.1	314.1	312.3
National Power	219	243	347	182	179	210	141
Powergen	225.3	262	367	262	273	288	261
Purchases (as per value added calaculations)							
East Midlands	1074.5	1207.5	1225.6	1136.5	986.7	762.7	982.8
Eastern	1385.9	1493.4	1508.6	1479.6	1666.2	1666.7	1651.1
London	956.8	1030.7	1055.8	964.5	887.1	833.7	1077.8
Manweb	649	615.3	684.4	672.8	645.7	392.6	519
MEB	1064.9	1122.6	1200	1071.3	1137.2	965.2	1023.1
Northern	598	599.5	657.4	791.3	832	639	733
Norweb	1000.6	1002.5	1078.9	1104.7	1122.9	951.6	1148.3
Seeboard	842.5	910.1	968.2	966.6	935.3	745.2	899.7
Southern	1236	1381.5	1408.2	1374.9	1302	788.2	1296.2
Swalec	429.1	420.2	418.8	412.3	423.8	287.5	406.8
SWEB	572.6	603.5	658.3	641.6	626.8	336.4	638.2
Yorkshire	977.8	1041.3	1017.4	1022.7	1098.5	980.3	1120.8
National Grid	422.9	467.6	488.5	469.7	469.2	525.6	258.3
National Power	3569	3627	3246	2461	2679	2691	2245
Powergen	2177	2471	2465	2197	2036	1920	1894
Creditor Days							
East Midlands	25.2	26.3	28.7	42.0	41.9	48.7	37.3
Eastern	29.5	24.9	27.3	33.3	47.4	37.2	36.9
London	27.1	25.1	26.7	39.6	43.0	46.5	37.8
Manweb	22.9	34.5	33.2	36.0	37.1	51.1	36.1
MEB	21.9	16.0	27.2	34.2	33.0	47.2	41.4
Northern	29.0	28.1	29.2	35.6	30.6	51.1	42.0
Norweb	17.0	28.0	31.7	33.1	34.0	49.1	44.5
Seeboard	28.0	25.5	28.4	32.4	41.4	61.6	59.4
Southern	20.1	21.7	28.5	32.9	43.0	68.9	45.1
Swalec	24.8	25.5	33.5	37.2	38.1	50.3	31.0
SWEB	33.0	36.1	31.2	35.5	36.5	65.8	39.7
Yorkshire	20.4	22.0	23.6	22.6	23.7	34.1	25.8
National Grid	138.2	164.2	168.0	203.5	229.6	218.1	441.3
National Power	22.4	24.5	39.0	27.0	24.4	28.5	22.9
Powergen	37.8	38.7	54.3	43.5	48.9	54.8	50.3

Appendix 6

Websites visited

Group Name	Internet Address
Edison Mission Energy	www.edisonx.com
AES	www.aesc.com
BNFL / Magnox	www.bnfl.com
Barking Power	www.thamespower.com
Teesside Power Ltd	www.enron.com
National Grid	www.nationalgrid.com
Midlands Electricity	www.meb.co.uk/GPU-Power/
Norweb	www.unitedutilities.com
Swalec	www.hyder.co.uk
SWEB	www.westernpower.co.uk
Aquila Energy Supplies	www.aquilaenergy.com/uk/
Atlantic Electric and Gas	www.atlanticeg.com
BizzEnergy	www.bizzenergy.com
British and Scottish Gas	www.gas.co.uk
Economy Power Ltd	www.economy-power.co.uk
Ecotricity	www.ecotricity.co.uk
Electricity Direct	www.electricity-direct.com
Enron Direct	www.enron.com
Maverick Energy	www.lloydlewis.co.uk
Pentex Oil & Gas	www.sabirenergy.com
Shell Power	www.shellgasdirect.co.uk
UK Electric Power	www.ukelectric.com
Utility Link	www.basicpower.co.uk
Innogy	www.innogy.com
Nuclear Electric	www.britsh-energy.com
Powergen	www.powergenplc.com
Eastern Group	www.eastern.co.uk
London Electricity	www.london-electricity.com
Northern Electric	www.northern-electric.com
Seeboard	www.seeboard.com
Yorkshire Electricity	www.yorkshire-Electricity.co.uk/
Scottish Power	www.scottishpower.plc.uk
Scottish and Southern Energy	www.scottish-southern.co.uk/

Appendix 7

GRI List of Performance Measures (GRI, 2000)

Environmental Performance

Energy (joules)

Generally Applicable

6.1 Total energy use

6.2 Amount of electricity purchased, by primary fuel source, where known. Amount self-generated if applicable (describe source).

Organisation-Specific

6.3 Initiatives to move towards renewable energy sources and energy efficiency.

6.4 Total fuel use. Vehicle and non-vehicle fuel, by type.

6.5 Other energy use (e.g., district heat).

Materials (tonnes or kilograms)

Generally Applicable

6.6 Total materials use (other than fuel and water).

Organisation-Specific

6.7 Use of recycled materials (with pre- versus post-consumer use distinctions).

6.8 Use of packaging materials.

6.9 Use of hazardous chemicals/materials (define basis for identification).

6.10 Objectives, programmes, and targets for materials replacement (e.g., substituting hazardous chemicals with less hazardous alternatives).

6.11 Naturally occurring (wild) animal and plant species used in production processes. Harvesting practices for these species.

Water (litres or cubic metres)

Generally Applicable

6.12 Total water use.

Organisation-Specific

6.13 Water sources significantly affected by the organisation's use of water. (Note: Discharges to water sources are dealt with in "Emissions, Effluents, and Waste" below).,

Emissions, Effluents, and Waste (tonnes or Kilograms)

Generally Applicable

6.14 Greenhouse gas emissions (per Kyoto protocol definition) in tonnes of CO2 equivalent (global warming potential).

6.15 Ozone-depleting substance emissions (per Montreal protocol definition) in tonnes of CFC-11 equivalent (ozone depleting potential).

6.16 Total waste (for disposal). Provide definition, destination, and estimation method.

Organisation-Specific

Waste Returned to Process or Market

6.17 Quantity of waste returned to process or market (e.g., through recycling, reuse, or remanufacture) by type as defined by applicable national, sub-national, or local laws or regulations.

6.18 On- and off-site management type (e.g., recycling, reuse, remanufacturing).

Waste to Land

6.19 Quantity of waste to land by material type as defined by applicable national, sub-national, or local laws or regulations.

6.20 On- and off-site management type (e.g., incineration, landfilling).

Emissions to Air

6.21 Emissions to air, by type (e.g., NH3, HCl, HF, NO2, SO2 and sulphuric acid mists, VOCs, and NOx, metals, and persistent organic chemicals) and nature (point or non-point).

Appendix 7

Effluents to Water

6.22 Discharges to water, by type (e.g., oils/greases, TSS, COD, BOD, metals and persistent organic chemicals) and nature (point or non-point).

6.23 Profile of water bodies into which discharges flow (e.g., ground water, river, lake, wetland, ocean).

Transport

Organisation-Specific

6.24 Objectives, programmes, and targets for organisation-related transport (e.g., business travel, staff commutes, product distribution, fleet operation). Include quantitative estimates of kilometres travelled, by transport type (e.g., air, train, automobile) where possible.

Suppliers

Generally Applicable

6.25 Performance of suppliers relative to environmental components of programmes and procedures described in item 5.9 above.

Organisation-Specific

6.26 Number and type of incidences of non-compliance with prevailing national or international standards.

6.27 Supplier issues identified through stakeholder consultation (e.g., forest stewardship, genetically modified organisms, petroleum sourced in disputed areas). Programmes and initiatives to address these issues.

Products and Services

Generally Applicable

6.28 Major environmental issues and impacts associated with the use of principal products and services, including disposal, where applicable. Include qualitative and quantitative estimates of such impacts, where applicable.

Organisation-Specific

6.29 Programmes or procedures to prevent or minimise the potentially adverse impacts of products and services, including product stewardship, take back, and life-cycle management.

6.30 Advertising and labelling practices in relation to economic, environmental, and social aspects of organisational operations.

6.31 Percentage of product weight/volume reclaimed after use.

Land-Use/Biodiversity

Organisation-Specific

6.32 Amount of land owned, leased, managed, or otherwise affected by the organisation. Type of ecosystem habitat affected and its status (e.g., degraded, pristine). Amount of impermeable surface as a percentage of land owned.

6.33 Habitat changes due to operations. Amount of habitat protected or restores.

6.34 Objectives, programmes, and targets for protecting and restoring native ecosystems and species.

6.35 Impacts on protected areas (e.g., national parks, biological reserves, world heritage sites).

Compliance

Organisation-Specific

6.36 Magnitude and nature of penalties for non-compliance with all applicable international declarations, conventions, and treaties, and national, sub-national, regional, and local regulations associated with environmental issues (e.g., air quality, water quality). Explain based on countries of operation.

Appendix 7

Economic Performance

Profit

6.37 Net profit/earnings/income
6.38 Earnings before interest and tax (EBIT) (net sales minus expenses, except interest expense and income tax).
6.39 Gross margin (net sales minus cost of goods and services sold).
6.40 Return on average capital employed (ROACE).
6.41 Dividends.
6.42 Geographic distribution of items 6.37 to 6.41.

Intangible Assets

6.43 Ratio of market capitalisation to "book" value (note those components of book value that comprise intangible assets).

Investments

6.44 Human capital (e.g., employee training, community education).
6.45 Research and development.
6.46 Other capital investments.
6.47 Debt/equity ratio.

Wages and Benefits

6.48 Total wage expense, by country.
6.49 Total benefits expense by country.

Labour productivity

6.50 Labour productivity levels and changes, by job category.

Taxes

6.51 Taxes paid to all taxing authorities.

Community Development

6.52 Jobs, by type and country, absolute and net change.
6.53 Philanthropy/charitable donations.

Suppliers

6.54 Performance of suppliers relative to economic components of programmes and procedures described in item 5.9.
6.55 Number and type of incidences of non-compliance with prevailing national or international standards.
6.56 Nature and location of outsourced operations.
6.57 Value of goods and services that are outsourced.
6.58 Performance of organisation in honouring contracts with suppliers, including meeting payment schedules.

Products and Services

6.59 Major economic issues and impacts associated with the use of principal products and services, including disposal, where applicable. Include qualitative and quantitative estimates of such impacts, where applicable.

Appendix 7

Social Performance

Workplace

Quality of Management

6.60 Employee retention rates.
6.61 Ratio of jobs offered to jobs accepted.
6.62 Evidence of employee orientation to organisational vision.
6.63 Evidence of employee engagement in shaping management decision making.
6.64 Ranking of the organisation as an employer in internal and external surveys.
6.65 Job satisfaction levels.

Health and Safety

6.66 Reportable cases (including subcontracted workers).
6.67 Standard injury, lost day, and absentee rates (including subcontracted workers).
6.68 Investment per worker in illness and injury prevention.

Wages and Benefits

6.69 Ratio of lowest wage to national legal minimum.
6.70 Ratio of lowest wage to local cost of living.
6.71 Health and pension benefits provided to employees.

Non-discrimination

6.72 Percentage of women in senior executive and senior and middle management ranks.
6.73 Discrimination-related litigation – frequency and type.
6.74 Mentoring programmes for minorities.

Training/Education

6.75 Ratio of training budget to annual operating costs.
6.76 Programmes to foster worker participation in decision making.
6.77 Changes in average years of education of workforce. Incorporate achievement associated with training programmes.

Child Labour

6.78 Verified incidences of non-compliance with child labour laws.
6.79 Third-party recognition/awards for child labour practices.

Forced Labour

6.80 Number of recorded grievances by employees.
6.81 Incidences identified through organisation's auditing of suppliers.

Freedom of Association

6.82 Staff forums and grievance procedures in place – percentage of facilities and countries of origin.
6.83 Number and types of legal actions concerning anti-union practices.
6.84 Organisational responses to organising at non-union facilities or subsidiaries.

Human Rights

General

6.85 Demonstrated application of human rights screens in investment.
6.86 Evidence of systematic monitoring of organisational practices.
6.87 Number and types of alleged violations, and organisational position and response.

Indigenous Rights

6.88 Evidence of indigenous representation in decision making in geographic areas containing indigenous peoples.
6.89 Number and cause of protests.

Appendix 7

Security

6.90 Examples of incorporating security and human rights into country risk assessment and facility planning.

6.91 Remuneration/rehabilitation of victims of security force action.

Suppliers

6.92 Performance of suppliers relative to social components of programmes and procedures described in item 5.9.

6.93 Number and type of incidences of non-compliance with prevailing national or international standards.

6.94 Frequency of monitoring of contractors regarding labour conditions (e.g., child labour).

Products and Services

6.95 Major social issues and impacts associated with the use of principal products and services. Include qualitative and quantitative estimates of such impacts, where applicable.

6.96 Customer satisfaction levels.

Appendix 8

Source: AccountAbility 1000

Figure 3: The AA1000 principles

Figure 4: The AA1000 Process Model