

THE ROLE OF THE STATE IN  
THE CONTEXT OF GOOD GOVERNANCE  
AND ELECTRICITY MANAGEMENT:  
COMPARATIVE ANTECEDENTS AND  
CURRENT TRENDS

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*And the end of all our exploring  
Will be to arrive where we started  
And know the place for the first time.*<sup>1</sup>

1. INTRODUCTION

The role of the state<sup>2</sup> in managing, promoting, or participating in economic development has come under intense scrutiny in the last decade. In what have been described as “swings of the pendu-

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<sup>1</sup> T.S. ELIOT, *Little Gidding*, in THE COMPLETE POEMS AND PLAYS 1909-1950, at 138, 145 (1980), cited in Amy L. Chua, *The Privatization-Nationalization Cycle: The Link Between Markets and Ethnicity in Developing Countries*, 95 COLUM. L. REV. 223, 223 (1995).

<sup>2</sup> This work does not make a distinction between the state as a juridical and theoretical construct and the practice of government as evidenced by the control over the national purse, forces of national security, bureaucracy, international relations, etc. See JOSEPH A. CAMILLERI, 10-12 THE STATE AND NUCLEAR POWER (1984); see also RALPH MILIBAND, THE STATE IN CAPITALIST SOCIETY (1969) (examining the various roles of the state in advanced capitalist societies).

lum,<sup>3</sup> the state has been blamed for economic and, to some extent, political failures in many developing countries.<sup>4</sup> In developed countries, perception of the ubiquitous presence of the state is cited for “relatively” slow economic growth.<sup>5</sup> The necessity for a rollback of the state has, therefore, become substantially overwhelming.<sup>6</sup> Indeed, the current economic reforms have been described as “unprecedented,”<sup>7</sup> “revolution[ary],”<sup>8</sup> and “momentous.”<sup>9</sup> This Article challenges that proposition.<sup>10</sup> It presents material from the global power industry that would urge a re-examination of that perspective. In outline, the Article gives a historical overview and surveys current trends in electricity regulation. The key issues here are: (i) whether the current reforms of the power industry are revolutionary or unprecedented, as some writers have suggested; (ii) the extent to which government participation has changed with the cycle of reforms; and (iii) the consequences of the chronological, or cyclical, reforms on the ideals or goals of government for the industry. The Article also indicates the dichotomous results of government involvement in the power industry in various countries and suggests that the

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<sup>3</sup> Thomas W. Waelde, *International Investment under the 1994 Energy Charter Treaty*, 29 J. WORLD TRADE 5, 5 (1995).

<sup>4</sup> This idea is encapsulated in works such as JONATHON H. FRIMPONG-ANSAH, *THE VAMPIRE STATE IN AFRICA* (1992) and DANIEL THÜRER ET AL., *DER WEGFALL EFFEKTIVER STAATSGEWALT: THE FAILED STATE* (1996). See also TONY KILLICK, *DEVELOPMENT ECONOMICS IN ACTION* (1978) (discussing state participation in economic development).

<sup>5</sup> Anne Segall credits relatively low inflation rates and the “narrowing” of the gap between the growth rate of the United Kingdom, as compared to France, Germany, and the United States, to the Thatcherite reduction of state involvement in economic activities. *The Lady for Turning Britain: The Thatcher Legacy*, DAILY TELEGRAPH (LONDON), May 8, 1999, at 33.

<sup>6</sup> See FRIMPONG-ANSAH, *supra* note 4; MATHEW HORSMAN & ANDREW MARSHALL, *AFTER THE NATION STATE* (1994); KENICHI OHMAE, *THE END OF THE NATION STATE* (1995); THÜRER, *supra* note 4.

<sup>7</sup> Rebecca C. Hanson, *The Legal Framework for Privatization in Hungary*, 23 LAW & POLY INT'L BUS. 441, 441 (1992).

<sup>8</sup> Jose Pina & William Glade, *Privatization in Chile*, in *PRIVATIZATION OF PUBLIC ENTERPRISES IN LATIN AMERICA* 19 (William Glade ed., 1991).

<sup>9</sup> John Surrey, *Introduction to THE BRITISH ELECTRICITY EXPERIMENT: PRIVATIZATION: THE RECORD, THE ISSUES, THE LESSONS* 3, 5 (John Surrey ed., 1996).

<sup>10</sup> Although the current privatization movement might indeed be powerful in terms of its seemingly all-encompassing nature, both geographically and chronologically, to describe it in such terms might be a bit too broad.

critical variable for the success or failure of government participation is the presence or substantial absence of the tenets of good governance.<sup>11</sup>

## 2. CONTINUED STATE PARTICIPATION

An important preoccupation of this work is the identification of the role of the state in the varying geo-political and chronological contexts, and how that role has contributed to the efficient, equitable, and stable operation of the industry. The question is, Has the role of the state in the electricity industry varied with the swings of the economic and political pendulums, and if so, with what consequences?<sup>12</sup>

Notwithstanding a swing of the pendulum and the emergence of models of "private" ownership and operation of energy utilities,<sup>13</sup> this work seeks to show that the participation of the state is

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<sup>11</sup> The benchmarks of good governance in the context of this work include: effective bureaucracy, democratic competition for public office, rule of law, judicious exercise of discretion, and the prevalence of freedom of speech, press, and association. Most of the works on good governance refer to concepts like transparency, accountability, and public sector reform with frequently minimal analyses of their underlying ethos. As examples, see INTERNATIONAL MONETARY FUND, *GOOD GOVERNANCE: THE I.M.F.'S ROLE* (1997). Works that contain a deeper analysis of the issues include *GOOD GOVERNMENT AND LAW: LEGAL AND INSTITUTIONAL REFORM IN DEVELOPING COUNTRIES* (Julio Faundez ed., 1997) and *MAKING DEVELOPMENT WORK* (Ann Seidman et al. eds., 1999).

<sup>12</sup> For an impressive discussion of the swings in the pendulum, see Chua, *supra* note 1, at 256-62.

<sup>13</sup> See generally NAT'L ECON. RESEARCH ASSOC., ASIA DEV. BANK, *GOVERNANCE AND REGULATORY REGIMES FOR PRIVATE INFRASTRUCTURE DEVELOPMENT: FINAL REPORT* (1997) [hereinafter ADB] (surveying the status of various regulatory regimes for private sector infrastructure development in some of the Bank's developing member countries); EUGENE D. CROSS, *ELECTRIC UTILITY REGULATION IN THE EUROPEAN UNION* (1996) (describing and analyzing regulatory regimes from a national perspective through historical and recent developments); ROBERT L. FROST, *ALTERNATING CURRENTS: NATIONALIZED POWER IN FRANCE 1946-1970* (1991) (discussing the nationalization of electricity in France and how the private suppliers have influenced the technological and political environment of the state run power entity since the 1950s); INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION (Richard J. Gilbert & Edward P. Kahn eds., 1996) (comparing energy regulation among different countries, with research demonstrating the possibility for competition in large segments of the electric industry); INTERNATIONAL OIL AND GAS INVESTMENT: MOVING EASTWARD? (Thomas W. Walde & George Ndi eds., 1994) (discussing the main issues underlying recent trends in international oil and gas investment policies and analyzing their long-term implication for global industry); INTERNATIONAL PETROLEUM CONTRACTS: CURRENT

crucial for the attainment of the ultimate goals of the industry. It is argued that the role and objectives of state participation have largely remained constant in the face of the chronological, geographical, and technological metamorphoses of the industry.<sup>14</sup> From its inception in the last quarter of the nineteenth century, the industry has moved from being geothermal, oil-based, and privately owned and operated to, soon after World War II, a regime consisting of monopolistic nationalized utilities.<sup>15</sup> At the turn of the millenium, there has been a growing shift towards gas and, to a lesser extent, nuclear-based power, coupled with a global move towards privatized ownership and management of the industry.<sup>16</sup> Notwithstanding the changes in ownership and operation paradigms and the attraction of newer technologies, the state has remained a central player in the industry. There are two broad sets of reasons explaining this position. First, the industry commands enormous market influence not only because the service is a very essential one, but also because electricity cannot be stored and, as a consequence, the consumer depends significantly on the supplier.<sup>17</sup> Second, the industry depends overwhelmingly on public assets such as rivers, land accessibility, and mineral or petroleum resources; therefore, it has far-reaching impact on the

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TRENDS AND NEW DIRECTIONS (Zhiguo Gao ed., 1994) (examining modern petroleum contracts that have emerged over the years between government and the private sector).

<sup>14</sup> For a brief discussion of some of these changes, see Kenneth L. Lay, *Change and Innovation: The Evolving Energy Industry*, 10 ENERGY & ENV'T 415, 420 (1999).

<sup>15</sup> See CROSS, *supra* note 13, at 1-2. A similar, but much earlier, discussion of these trends, with particular reference to Sweden, is presented by MÅNS LÖNNROTH ET AL., ENERGY IN TRANSITION: A REPORT ON ENERGY POLICY AND FUTURE OPTIONS 21-42 (1980).

<sup>16</sup> See LÖNNROTH, *supra* note 15, at 21-42; see also Lay, *supra* note 14, at 415 (discussing how the shift to an information and communications economy is impacting the oil and gas industry).

<sup>17</sup> See Richard J. Gilbert et al., *Introduction: International Comparisons of Electricity Regulation*, in INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 1, 2-3. The nature of the power service makes it a significant political tool. In the Canadian province of Quebec, it has been shown that electricity tariffs have a direct relationship to election cycles. See Jean-Thomas Bernard et al., *Electricity Prices and Elections in Quebec*, CAN. J. ECON. 505, 506 (1997). It has been suggested that, for political reasons, increases in electricity prices should be gradual or incremental. See RALPH TURVEY & DENNIS ANDERSON, ELECTRICITY ECONOMICS: ESSAYS AND CASE STUDIES 20 (1977).

environment.<sup>18</sup> These reasons together make state participation or oversight inevitable.

The role of the state is particularly conspicuous in the areas of regulation, financial support, environmental protection, pursuit of the ideals of equity, and the international imperatives of the energy industry. The thrust of regulation is, in some cases, to facilitate the harmonization of varying technological systems used by different players in the industry.<sup>19</sup> In other cases, it is to maintain national strategic interests and direction.<sup>20</sup> The attainment of the ideals of equity is also valorized by means of regulation. This takes the form of price regulation by direct control or by the setting of a threshold price or price range.<sup>21</sup> Through its ownership

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<sup>18</sup> See INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 17, at 1. Joseph Chamberlain is quoted as justifying state control and restriction of competition in the power industry on the grounds that it interferes with private rights and public space. LESLIE HANNAH, *ELECTRICITY BEFORE NATIONALISATION: A STUDY OF THE DEVELOPMENT OF THE ELECTRICITY SUPPLY INDUSTRY IN BRITAIN TO 1948*, at 23 (1979). Although his emphasis is on the law of energy, Adrian Bradbrook indicates a number of areas where the state, as repository of law, meets the business of energy. See Adrian Bradbrook, *Energy Law as an Academic Discipline*, 14 J. ENERGY NAT. RESOURCES & ENV'T. L. 193, 194-205 (1996). These areas include routing and construction of transmission lines and pipelines, corporate forms, financing, and dispute resolution. *Id.* Bradbrook argues that the law intervenes to reconcile the interests of the industry, the state, and the individual consumer. *Id.* at 200-01. Eyal Benvenisti considered private rights mechanisms and reliance on the market for the allocation and use of water resources, but he retreated from that position on the grounds of significant externality problems that inevitably require state regulation, in addition to the problem of conflicting riparian interests and claims. Eyal Benvenisti, *Collective Action in the Utilization of Shared Freshwater: The Challenges of International Water Resources Law*, 90 AM. J. INT'L L. 384, 395-98 (1996).

<sup>19</sup> See, e.g., Jean-Jacques Laffont, *The French Electricity Industry*, in INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 406, 408-09.

<sup>20</sup> The French regard *Électricité de France* ("EDF") as a beacon of socialist or nationalist reconstruction. See FROST, *supra* note 13, at 1-2. In England, after privatization, the government retained golden shares that enabled it to prevent a takeover of the relevant utilities by American companies. See Mike Parker, *Competition: The Continuing Issues*, in THE BRITISH ELECTRICITY EXPERIMENT, *supra* note 9, at 215, 231.

<sup>21</sup> For an exhaustive, if less current, analysis of various methods of assessing power tariffs, see TURVEY & ANDERSON, *supra* note 17 *passim*. The U.S. government uses a profit-based rate of return method while the English system is based on a price formula. See John Surrey, *Unresolved Issues of Economic Regulation*, in THE BRITISH ELECTRICITY EXPERIMENT, *supra* note 9, at 233, 245.

of the utilities, the government often seeks to make power available to all parts of the country, including remote or economically depressed areas.<sup>22</sup> Where private participation is permissible, it is also encouraged to operate in order to reach disadvantaged communities.<sup>23</sup> Where the government owns the utility, financial support for it is hardly contested.<sup>24</sup> The receipts, expenditures, and investments ultimately can be traced to the state treasury. Although somewhat attenuated by privatization, state financial support for private utilities often takes the form of very generous terms of sale of the utilities, operation of the utility, or support for the entity that is required to take the power generated by the privatized utilities.<sup>25</sup> Finally, the generation of power and opera-

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<sup>22</sup> This is evident in most regimes around the world. See ADB, *supra* note 13, at 5; TURVEY & ANDERSON, *supra* note 17, at 4.

<sup>23</sup> See ADB, *supra* note 13, at 5. Distribution of electricity to reach rural and poor communities is justified, except that it must meet accounting costs. See TURVEY & ANDERSON, *supra* note 17, at 20.

<sup>24</sup> When Pierre Simon was appointed the first director of EDF, he was reported to have said to the Director of the National Treasury: "I am the head of the new power company, I guess you're my banker." FROST, *supra* note 13, at 84. Sometimes managers of state corporations are accused of having a "bottomless pit" of taxpayers' money to fall on. R.J.P. Ross, *Government as Entrepreneur: With Special Reference to the U.K.*, in PETROLEUM RESOURCES AND DEVELOPMENT 202 (Kameel I.F. Khan ed., 1987). Other forms of state financial support may be by way of loan guarantees. It must be pointed out that sometimes the state-owned utilities are weaned off state financial support, as was EDF, which stopped relying on government support as of 1982. CROSS, *supra* note 13, at 47. Instead, it became a net contributor to the French national income. See Eur. Parl., Written Questions with Answer, Written Question No. 1412/93, Answer given by Mr. Van Miert on behalf of the Commission, 1993 O.J. (C 327) 31. The Volta River Authority in Ghana also has ceased to accept government subsidies although it is largely exempted from paying tax on its income. See Francis N. Botchway, *The State, Governance and the Energy Industry in Ghana*, 33 LAW & POL. IN AFR. ASIA & LATIN AM. 176, 191-95 (2000).

<sup>25</sup> See Robert Pritchard & Douglas Webb, *Privatization and Private Provision of Infrastructure*, in ECONOMIC DEVELOPMENT, FOREIGN INVESTMENT AND THE LAW 67, 84-88 (Robert Pritchard ed., 1996). In England and Wales, shares in the privatized utilities were under-priced to make them very attractive during elections; this was criticized as electoral bribery. See Steve Thomas, *The Privatization of the Electricity Supply Industry*, in THE BRITISH ELECTRICITY EXPERIMENT, *supra* note 9, at 40, 41. The government controlled price for the first three years of privatization; they also guaranteed and yielded huge profits for the privatized utilities and their shareholders. See Surrey, *Unresolved Issues of Economic Regulation*, *supra* note 21, at 246. The need for a state-owned intermediary to help assure the profitability of the investment, as well as serve other "national" purposes, originated from, and is more prominent in, the oil industry. See Kameel I.F. Khan, *National Oil Companies:*

tion of power facilities implicates severe environmental consequences. Notwithstanding the advent of market instruments of environmental protection, direct state control of the environmental impact of the energy industry remains unassailable.<sup>26</sup>

### 3. THEORETICAL PERSPECTIVE

If state participation in the energy industry is inevitable, the question is, How can this be made beneficial, or what principles or mechanisms have to be in place for a successful state involvement in the industry? The importance of this question is underlined by the varying results of direct state ownership or participation in the industry. For example, whereas state ownership and management of the utilities in the United Kingdom have been described as leading to satisfactory standards, the ownership and management of the utilities by the state in Kenya have been disastrous.<sup>27</sup> Intriguingly, the two state-owned power utilities in Ghana have yielded polarized results.<sup>28</sup> To what extent, then, is government participation healthy, and, crucially, what is the variable that accounts for the differing consequences of state involvement in the energy industry? This Article proposes that good governance is at the heart of the explanation for this dichotomy.

In all of these, and as already noted, the participation of the state in the energy industry must be to attain three main objectives. These are efficiency, equity, and stability. Generally, Law and Economics theorists classify efficiency under four broad categories: production efficiency, Pareto optimality, Pareto superior-

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*Form, Structures, Accountability and Control, in* PETROLEUM RESOURCES & DEVELOPMENT, *supra* note 24, at 185, 185-90. For more on "take or pay" conditions, see Henry Davey, "Take or Pay" and "Send or Pay": A Legal Review and Long-Term Prognosis, 11 OIL & GAS L. TAX REV. 419 *passim* (1997).

<sup>26</sup> For a discussion of the market instruments of environmental control, see ORG. FOR ECON. CO-OPERATION & DEV. ("OECD"), ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL PROTECTION (1989). A fusion of the market and "state" models of environmental protection is illustrated by the Environment Act, S.N.S., ch. 1 (1995) (Nova Scotia, Can.).

<sup>27</sup> See Abeeku Brew-Hammond, Technological Accumulation and Electric Power Generation in Sub-Saharan Africa: The Case of the Volta River Authority, Ghana (1997) (unpublished Ph.D. dissertation, University of Sussex) (on file with author).

<sup>28</sup> See Botchway, *The State, Governance and the Energy Industry in Ghana*, *supra* note 24 *passim*.

ity and Kaldor-Hicks efficiency.<sup>29</sup> Production efficiency and, to a large extent, the other efficiency concepts are substantively measured by price. A service or product is produced efficiently if it can be made available to the greatest number of people at the greatest price.<sup>30</sup> It is believed that if the price is right, the product would endear itself to many people. This implies a comparative or competitive context. This is because, to determine the greatest price, there must be similar products and producers to compare. If government intervention in the economy takes the form of creating or protecting a monopoly producer, it would be difficult to determine that the service or the product is made available at the greatest price. In the absence of any such competition or comparison, Law and Economics assumes that the production is inefficient; therefore, such governmental intervention is harmful to consumers and, ultimately, to the economy.<sup>31</sup>

Admittedly, price may be the most scientific means of evaluating the desirability and, therefore, the efficiency of a production process or decision. However, price as a means of assessing efficiency is inadequate in important respects.<sup>32</sup> For example, in the

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<sup>29</sup> Jules Coleman, *Efficiency, Utility, and Wealth Maximization*, in FOUNDATIONS OF THE ECONOMIC APPROACH TO LAW 11-12 (Avery Wiener Katz ed., 1998). These concepts will not be dealt with in detail but a brief explanation follows. "Pareto optimality" refers to a situation where further resource reallocation would enhance the welfare of one person only at the expense of another. *Id.* at 14. That is, reallocation would upset the equilibrium distribution. *Id.* "Pareto superiority" is the case where no one is disadvantaged by a redistribution that improves at least one person's welfare. *Id.* at 12-13. "Kaldor-Hicks efficiency" is the concept that the people who benefit from a redistribution can compensate those who were disadvantaged by a net gain in welfare. *Id.* at 12.

<sup>30</sup> See R.H. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 *passim* (1960) (discussing how markets, firms, and governments can and should handle the problem of harmful effects). The "greatest number at the greatest price" idea owes its origin to the axiom "greatest happiness of the greatest number," popularized by Jeremy Bentham. JEREMY BENTHAM, A FRAGMENT ON GOVERNMENT 1 (1823), reprinted in THE COLLECTED WORKS OF JEREMY BENTHAM: A COMMENT ON THE COMMENTARIES AND A FRAGMENT ON GOVERNMENT 393 (J.H. Burns & H.L.A. Hart eds., 1977).

<sup>31</sup> See Gerald B. Wetlauffer, *System of Belief in Modern American Law: A View from Century's End*, 49 AM. U. L. REV. 1, 41 (1999) (stating that "because . . . markets are self correcting, private economic power is not nearly so serious a problem as is government interference in the market").

<sup>32</sup> See Thomas Schelling, *Economic Reasoning and the Ethics of Policy*, in FOUNDATIONS OF THE ECONOMIC APPROACH TO LAW, *supra* note 29, at 18. Pricing is affected by limited or no information, technical feasibility, imperfect institutions, need for simplicity and clarity, equity, and general political and



generation of electricity from hydro sources, it may not be technically possible to have competition.<sup>33</sup> In that case, comparison of tariffs may be non-existent. On the other hand, it can be argued that if it were cheaper to obtain power from alternative sources, then a decision to construct a hydro-electric plant is economically unwise.<sup>34</sup> More importantly, governments may not create or protect monopolies, but it is necessary to set rules for the players for the purposes of fair competition, predictability, and transparency. To set such rules is not an example of inefficiency.<sup>35</sup>

Beyond the greatest number, greatest price criteria, it is suggested that making service available to the greatest number at a great price may be another means of assessing efficiency. This is because the drive to maximize profits may result in a concentration of production at a place that would yield immediate maximum returns on investment.<sup>36</sup> This would not necessarily result in the greatest number being served. Government intervention, directly or indirectly, may, therefore, be necessary to expand coverage to a greater number, but that would not be at the greatest price and could be at the cost of short term profits or taxes forgone.<sup>37</sup> To the extent that returns on investment remain positive or attractive, the service could be provided to the *greatest number*

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economic circumstances of the country. See *id.* Moreover, price based on cost accounting does not take account of equity needs, such as poverty. See TURVEY & ANDERSON, *supra* note 17, at 6, 9. Sometimes economists are said to emphasize price to the exclusion of value. See ROBERT DORFMAN, *THE PRICE SYSTEM* 1 (1964).

<sup>33</sup> It appears that the transmission of electricity has been accepted as the only natural monopoly. See J.M. Mirjam Koster, *Organizing for Competition: An Economic Analysis of Electricity Policy in the Netherlands*, 26 ENERGY POLY 661, 667 (1998).

<sup>34</sup> Comparison based on sources of power and mathematical price calculations may be simplistic. See TURVEY & ANDERSON, *supra* note 17, at 5.

<sup>35</sup> This may be accepted as resulting from market failure or market limitation. See Edmar Luiz Fagundes de Almeida, *Energy Efficiency and the Limits of Market Forces: The Example of the Electric Motor Market in France*, 26 ENERGY POLY 643 (1998). Ronald Coase notes the government's unique ability to get some administrative regulation done at lower cost that leads ultimately to improvement in efficiency. See Coase, *supra* note 30, at 17-18.

<sup>36</sup> This is what is referred to as "cherry-picking." Parker, *supra* note 20, at 227.

<sup>37</sup> This is one area where efficiency and equity may conflict. See A. MITCHELL POLINSKEY, *AN INTRODUCTION TO LAW AND ECONOMICS* 121 (2d ed. 1989); TURVEY & ANDERSON, *supra* note 17, at 4.

at a great price.<sup>38</sup> This would not be in strict accord with the Paretian mode of assessing efficiency.<sup>39</sup> The reason is that there is reduced gain to the investor, but there might be net gain to the community or society as a whole by way of long-term stimulation of the economy.<sup>40</sup> This long-term stimulation is also obtained at the expense of short-term higher taxes to the government. If the projected stimulation manifests, it may assuage possible criticism of Pareto inferiority. Law and Economics style efficiency may not, therefore, hold absolute answers to the pursuit of efficiency in government-business cooperation in development.

Considering its methodology of quantitative analysis of legal phenomena,<sup>41</sup> Law and Economics also cannot provide certain outcomes of governmental process.<sup>42</sup> To that extent, and in the light of the general governance framework of this work, a third test of efficiency may be suggested. This is simply described as *process*. One of the criticisms levelled against Law and Economics measurement of efficiency—in particular, Pareto optimality and its claim to freedom of choice, personal autonomy,<sup>43</sup> and parity of bargaining power—is that it does not take into account differences in access to information and competence to utilize the available information in decision-making.<sup>44</sup> In the absence of

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<sup>38</sup> Although this idea is analogous to the Benthamite axiom, the concept, as used here, is more specific to utilities than the generalized Bentham formulation.

<sup>39</sup> See Coleman, *supra* note 29, at 13-14.

<sup>40</sup> See TURVEY & ANDERSON, *supra* note 17, at 4.

<sup>41</sup> See generally Avery Wiener Katz, *Methodology of the Economic Approach*, in FOUNDATIONS OF THE ECONOMIC APPROACH TO LAW, *supra* note 29, at 3-5 (focusing on economic methodology). It has been suggested that the methodology would not remain stagnant. See Richard A. Posner & Francesco Parisi, *Law and Economics: An Introduction*, in 1 LAW AND ECONOMICS ix, xii (Richard A. Posner & Francesco Parisi eds., 1997).

<sup>42</sup> The "efficiency-equity" debate is one illustration. For a relatively simplified presentation of the equitable or ethical ends of government policy, see Schelling, *supra* note 32, at 18-23.

<sup>43</sup> See POLINSKY, *supra* note 37, at 10; see also Duncan Kennedy, *Distributive and Paternalist Motives in Contract and Tort Law*, in FOUNDATIONS OF THE ECONOMIC APPROACH TO LAW, *supra* note 29, at 319, 321 (stating that policies or decisions grounded in Law and Economics efficiency mode are speculative).

<sup>44</sup> See Coleman, *supra* note 29, at 16. Lack of information regarding technological options on Combined Cycle Gas Turbine, various details of hydro-power, thermal power, etc., may affect unsophisticated private power entre-

clear and complete information, individual bargainers cannot be said to have struck their optimum bargain.<sup>45</sup> This information critique, it is submitted, is one section of the whole gamut of organizational, political, and economic arrangements.<sup>46</sup> That arrangement stretches from government to business and the individual consumer.<sup>47</sup> Government departments staffed by civil servants of merit are likely to make quicker and more technically proficient decisions in ways that should enhance net gain in complex sectors such as energy.<sup>48</sup> That decision-making process can be facilitated by the contribution of the broad populace.

Governmental arrangements and policy should also assist the flow of information to the population.<sup>49</sup> Therefore, for the opti-

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preneurs in a less industrialized country. So also, technologies that may help conserve energy, and therefore save costs for the consumer, may not be easily available to the consumer. For information regarding lack of, or insufficient information on, technologies, see Fagundes de Almeida, *supra* note 35, at 650. For a discussion of the information asymmetry between resource-rich developing countries and transnational resource corporations and how to address it, see David N. Smith, *Information Sharing and Bargaining: Institutional Problems and Implications*, in *INTERNATIONAL RESOURCE FLOWS* 85 *passim* (Gerald Garvey & Lou Ann Garvey eds., 1977).

<sup>45</sup> See Coleman, *supra* note 29, at 14 (implying that knowledge, rationality, and freedom of the market are critical conditions for optimum bargaining). Estimates, or the failure of projections due to the lack thereof, or inadequate knowledge, is what is referred to as bounded rationality. See generally Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q. J. OF ECON. 99, 99 (1955) (discussing the inaccuracy of assuming that the rational "economic man" has a broad knowledge base).

<sup>46</sup> See Coleman, *supra* note 29, at 14.

<sup>47</sup> Sometimes the bargainers may be wrong in perceiving their real interest. This is what Duncan Kennedy calls "false consciousness." Kennedy, *supra* note 43, at 322. One way of dealing with the information deficit in Japan is through the Deliberation Councils, where government and business officials meet to discuss business and developmental strategies. See JAMES E. SAWYER, *WHY REAGONOMICS AND KEYNESIAN ECONOMICS FAILED* 128 (1987).

<sup>48</sup> This view may be criticized as paternalistic but most probably is an enlightened one. See Kennedy, *supra* note 43, at 319-20. The hypothesis that technocratic civil servants may make quicker and better assessments is clearly contestable. See Thomas, *Privatization of the Electricity Supply*, *supra* note 25, at 56 (querying the failure of civil servants to warn the British government at the time of the impracticality of privatizing nuclear power). It must be pointed out that, on this occasion, private financial and technical analysts were also found wanting in their advice. See *id.*

<sup>49</sup> Diffusion of information is one of the most potent means of correcting market failure. See Coleman, *supra* note 29, at 16 (suggesting that transactions based on inadequate information are not completely free); Fagundes de Almeida, *supra* note 35, at 650-51.

mum flow of information, there is the need for basic freedoms such as speech, press, association, and conscience;<sup>50</sup> in the context of modern trends, it is crucial that formal education of the people be a priority.<sup>51</sup>

More importantly, the rules for economic processes must be clear, predictable, and generally known.<sup>52</sup> It should be known, for example, that the government prefers tender for energy projects to license or negotiated access.<sup>53</sup> Further, the contributions and the procedures for the tender must be made available. All of these must be located in an environment of durable, authoritative, competent, and credible institutional arrangements. Law-making bodies and procedure must be clearly defined. The same can be said for adjudicatory institutions and law enforcement agencies. Governmental and quasi-governmental institutions responsible for specific subjects, such as competition, environment, communications, and fiscal and monetary policy, must also have clearly defined goals and processes for managing the relevant subject.

Upon establishing clear definitions and proper procedures and assuming the institutions are manned by well-qualified, motivated, and independent civil servants, the interaction between government and business for economic development will be effi-

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<sup>50</sup> See generally Benvenisti, *supra* note 18, at 405-09, 412-13 (expressing the basic importance of human rights and other freedoms in dispute resolution so that every side gets proper information).

<sup>51</sup> See TURVEY & ANDERSON, *supra* note 17, at 14 (lamenting the lack of information about consumer response to tariff adjustments and citing with approval the work of the consumer-oriented power forum in Britain, the Electricity Councils, in the collection of information about tariff experiments); Fagundes de Almeida, *supra* note 35, at 651 (suggesting some means for dealing with the information deficit, such as software tools and training programs).

<sup>52</sup> In addition, provisions must be made for appropriate business secrets.

<sup>53</sup> European Community Directives on Electricity and Gas provide negotiated access and license as two of the means for new entrants or competitors to get access to existing energy resources and infrastructure. See Council Directive 96/92/EC of 19 December 1996 Concerning Common Rules for the Internal Market in Electricity, arts. 4-5, 1996 O.J. (L 27) 23. For an analysis of the two Directives, see Francis N. Botchway, *Contemporary Energy Regime in Europe*, EUR. L. REV. (forthcoming Dec. 2000). For a discussion of various legal forms of getting access to petroleum resources, see Zhiguo Gao, *International Offshore Petroleum Contracts: Towards the Compatibility of Energy Need and Sustainable Development* (1993) (unpublished J.S.D. dissertation, Dalhousie University) (on file with author). See also Ernest E. Smith, *International Petroleum Development Agreements*, 8 NAT. RESOURCES & ENV'T 37, 38 (1993) (mentioning the three basic methods to obtain a petroleum development agreement nationally).

cient. Efficiency in this context can be measured, for example, by the amount of time spent in processing inquiries, requests, and applications by businesses and other relevant interests. For instance, the French oil company, Elf Aquitaine, withdrew from Russia because it could not endure the long wait for approvals.<sup>54</sup> In the 1980s, it took 298 days to process applications for small businesses in Peru; in 1990, it took six to nine months in Hungary.<sup>55</sup> One way of promoting process efficiency may be what Epstein described as “simple rules for a complex world.”<sup>56</sup> That is the formulation and application of simple generic rules that mostly produce appropriate and expected results, instead of finely-tuned but complicated rules or ad hoc bureaucratic discretion aiming unrealistically at optimum results in all cases.<sup>57</sup> The simple rules method may help ease the strains on a weak or rudimentary bureaucracy while promoting faster development. Throughout this Article, therefore, three criteria will be employed to measure levels of relevant energy utility performance. These are profitability, greatest number at greatest price,<sup>58</sup> and “process.”<sup>59</sup>

#### 4. COMPARATIVE ANTECEDENTS

##### 4.1. *First Wave of Regulatory Activity*

In 1831, Faraday discovered a connection between magnetism and electricity.<sup>60</sup> Active and comprehensive exploitation of this

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<sup>54</sup> Michael Barron, *Managing Political Risk: New Issues Facing the Oil and Gas Sector*, 3 OIL & GAS L. TAX. REV. 77, 77 (1998).

<sup>55</sup> Michael J. Trebilcock, *What Makes Some Countries Poor?: The Role of Institutional Capital in Economic Development*, in LAW AND ECONOMICS OF DEVELOPMENT 39 (Edgardo Buscaglia et al. eds., 1997); Jacques Girod & Jacques Percebois, *Reforms in Sub-Saharan Africa's Industries*, 26 ENERGY POL. 27 (1998) (commenting on delays in implementing agreed power reforms in Africa).

<sup>56</sup> RICHARD A. EPSTEIN, *SIMPLE RULES FOR A COMPLEX WORLD* *passim* (1995).

<sup>57</sup> *Id.*

<sup>58</sup> See Coase, *supra* note 30 *passim*.

<sup>59</sup> These measurements of efficiency are not only a departure from the classical Law and Economics criteria, but also in contrast to technical criteria based on load factors, reserve margins, availability factors, etc. See INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 17, at 10-12.

<sup>60</sup> See Aubrey Jones, *Foreword* to THE BRITISH ELECTRICITY EXPERIMENT,

discovery began in the second half of the nineteenth century.<sup>61</sup> Since then, plans for a regulatory regime have occupied the minds of legislators and other stakeholders. The first wave of regulatory activity has generally been state-led, mainly by local government, with provision made for private participation.<sup>62</sup>

#### 4.1.1. *England*

In England, the Electric Lighting Act of 1882 provided for local authorities to lay electric cables for street lighting purposes or to give their consent for private companies to do it.<sup>63</sup> In order to restrain possible monopoly profits and to make power accessible to the community, the Act prescribed maximum rates for tariffs.<sup>64</sup> It also provided for nationalization of private power enterprises after twenty-one years.<sup>65</sup> This prescription failed to produce grand nationalization at the turn of the century because power technology progressed, pushing unit cost of production low and engendering phenomenal competition.<sup>66</sup> By the end of World War I, there were 600 undertakings in the industry.<sup>67</sup> Although the less efficient outfits were subdued, the number of the active players was still high. The difficulty was that the numerous utilities had varying voltages, thereby making interconnections nearly impossible. Partly for this reason, the government intervened in 1926, establishing ownership of a "system of cables and power stations" that bought power from selected stations.<sup>68</sup>

With the refusal of the existing utilities to relinquish and join in a unitary consolidation project, the government established the national grid with the Central Electricity Generating Board

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*supra* note 9, at xv.

<sup>61</sup> *See id.*

<sup>62</sup> *See id.* For example, in India, the Electricity Act of 1910 provided for the issue of licenses to private power suppliers. *See* ADB, *supra* note 13, at 11. For a compilation of statutes on electricity up to 1997, see 15 HALSBURY'S STATUTES OF ENGLAND AND WALES 1583 (Butterworths 1997) (containing texts of Electricity Acts of 1947, 1957, and 1989; Energy Acts of 1976, 1983, and 1989, as well as other electricity-related legislation and commentary).

<sup>63</sup> Jones, *supra* note 60, at xv.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> *Id.* at xv-xvi.

("CEGB") as the owner of the grid.<sup>69</sup> The Board also had the mandate to plan new stations.<sup>70</sup> The state intervention was effective in dealing with the coordination and transmission of power between the regions.<sup>71</sup> This relative ease in inter-regional power flow enhanced accessibility to remote areas.<sup>72</sup> The easy power flow did not, however, deal with the problem of diversity of power supply within regions. Voluntary effort in this direction also failed.<sup>73</sup> This diversity and instability was the foundation for the nationalization of the utilities in 1948.<sup>74</sup>

The CEGB was the primary agency responsible for power generation and transmission.<sup>75</sup> In addition, twelve locally monopolistic Area Boards existed to purchase bulk power from the CEGB for distribution to their customers.<sup>76</sup> To a certain extent, the Area Boards represented a decentralized electricity distribution system that was reinforced by the creation of the Electricity Council.<sup>77</sup> This was basically a policy discussion forum that included representatives from the CEGB and the Area Boards.<sup>78</sup> It was an avenue for the venting of concerns from consumers and other interest holders. The forum reflected not only the need for freedom of expression, but also participatory democracy, which enhanced mutual understanding of industry operations by consumers and gave voice to customers' concerns about service.

#### 4.1.2. Ghana

In Ghana, the first legislation on electricity was the Electricity Supply Ordinance of 1920.<sup>79</sup> As in the case of England, the Ghanaian legislation provided for private participation in the genera-

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<sup>69</sup> *Id.* at xv.

<sup>70</sup> *Id.* at xvi.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

<sup>75</sup> See Parker, *supra* note 20, at 215-22.

<sup>76</sup> See *id.*

<sup>77</sup> JOHN BOWDERY, QUALITY OF SERVICE IN REGULATED INDUSTRIES 48 (1994).

<sup>78</sup> *Id.*

<sup>79</sup> Electricity Supply Ordinance, 1 THE LAWS OF THE GOLD COAST COLONY c. 48 (1928); Electricity Supply (Control) Ordinance, 1 THE LAWS OF THE GOLD COAST COLONY c. 49 (1929).

tion and distribution of power.<sup>80</sup> It also empowered the Governor to appoint inspectors to supervise the construction, maintenance, and working of all power plants in the country.<sup>81</sup> In practice, however, the Electricity Department provided power services under the auspices of the Minister for Public Works.<sup>82</sup> This practice may be attributable to the small population of the country at the time, as well as the fact that there was very little industrial activity.<sup>83</sup> Therefore, the necessary demand stimulus that would otherwise engender private investor interest was absent. In addition, there was a dearth of technical and entrepreneurial expertise at that time.<sup>84</sup> Further, it was unlikely for a local entrepreneur to marshal the necessary capital outlay needed to make the project profitable.<sup>85</sup> Thus, unlike England where competition and technical diversity triggered state regulation and nationalization, capital and technocratic mobilization frailties and limitations in the market for power invariably ushered in the state as power provider. Additionally, both countries, but in Ghana only the state, had human bureaucratic capacity to supervise or regulate the industry at that rudimentary level.

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<sup>80</sup> Electricity Supply Ordinance, 1 THE LAWS OF THE GOLD COAST COLONY c. 48, §§ 4-8 (1928). See also the preamble to the two Ordinances; the Electricity Supply Ordinance, for example, was "to make provision for the supply by private enterprise of electricity for lighting and other purposes." Electricity Supply Ordinance, 1 THE LAWS OF THE GOLD COAST COLONY c. 48 (1928); Electricity Supply (Control) Ordinance, 1 THE LAWS OF THE GOLD COAST COLONY c. 49 (1929).

<sup>81</sup> Electricity Supply Ordinance, 1 THE LAWS OF THE GOLD COAST COLONY c. 48 §§ 16-18 (1928).

<sup>82</sup> Brew-Hammond, *supra* note 27, at 141.

<sup>83</sup> The population of Ghana in 1960 was around six million. M.M. HUQ, THE ECONOMY OF GHANA 40 (1989). In 1998, it was estimated at eighteen million. THE COMMERCIAL SERV., U.S. DEP'T OF COMMERCE, GHANA AT A GLANCE, at [http://www.usembassy.org.gh/cs\\_ghgla.htm](http://www.usembassy.org.gh/cs_ghgla.htm) (last visited Nov. 1, 2000). For general features of the Ghanaian economy, see LIBRARY OF CONGRESS, GHANA: A COUNTRY STUDY, at <http://lcweb2.loc.gov/frd/cs/ghtoc.html> (last visited Nov. 3, 2000); GHANAWEB, ECONOMY AND FINANCE, at [http://www.ghanaweb.com/GhanaHomePage/ghana/gh\\_econ.html](http://www.ghanaweb.com/GhanaHomePage/ghana/gh_econ.html) (last visited Nov. 5, 2000).

<sup>84</sup> An argument on similar lines was made in relation to Kenya. See P.M. Nyoike & B.A. Okech, *Energy Management in Manufacturing Industry: The Case of Kenya*, in ENERGY MANAGEMENT IN AFRICA 87 (M.R. Bhagavan & S. Karefazi eds., 1992).

<sup>85</sup> See HUQ, *supra* note 83, at 50.



### 4.1.3. Mexico

The nature of regulatory practice in Mexico before 1960 resembled, to some extent, the practice in England. Prior to World War I, the electricity, oil, railway, and other industries were in private hands, mainly those of foreign investors.<sup>86</sup> Although the Cardenas government of the 1930s pursued a nationalization path (nationalizing the oil industry among others), electricity generation remained in the hands of foreign entrepreneurs.<sup>87</sup> It is not easy to fathom the reason for the continued private ownership of the electricity industry during the massive waves of state ownership. One possible explanation is that the nationalization policy faltered badly as general national economic production and the standard of living declined; therefore, the popularity of the policy and the government suffered.<sup>88</sup> This may account for the radical reversal to privatization by the Manuel Camacho government throughout the 1940s and until 1958.<sup>89</sup>

### 4.1.4. Russia

In Russia, the power industry also started as a private business dominated by foreign, mainly German, interests.<sup>90</sup> World War I provided the platform for a gradual nationalization of the industry, starting with the expropriation of the utilities owned by businesses from enemy countries, and finally ending with the Leninist nationalization and industrialisation drive.<sup>91</sup>

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<sup>86</sup> Chua, *supra* note 1, at 229.

<sup>87</sup> The Federal Electricity Commission ("FEC") was in charge of distribution; industries that consumed substantial amounts of power, such as steel and hard rock mining, had their own generation systems and could sell excess capacity to the FEC. See WILLIAM E. COLE, *STEEL AND ECONOMIC GROWTH IN MEXICO* 120-22 (1967).

<sup>88</sup> See Chua, *supra* note 1, at 232.

<sup>89</sup> See *id.* For an outline of successive Mexican governments' attitudes toward foreign investment see Sandra F. Maviglia, *Mexico's Guidelines for Foreign Investment: The Selective Promotion of Necessary Industries*, 80 AM. J. INT'L L. 281 (1986).

<sup>90</sup> Municipalities also had significant utility interests. See generally Jonathan Coppersmith, *THE ELECTRIFICATION OF RUSSIA, 1880-1926*, at 255-56 (1992) (describing the Soviet government's desire to establish small rural utility stations in order to gain the support of rural Russia).

<sup>91</sup> *Id.* at 104-06, 127.

#### 4.1.5. *South Africa*

In South Africa, private power companies emerged in response to the surging demands for power by the mining industry.<sup>92</sup> Victoria Falls Power Company overshadowed the rest by its size and market power.<sup>93</sup> In 1948, the state nationalized the utilities and amalgamated them under the ESCOM.<sup>94</sup>

#### 4.1.6. *South Korea*

The South African experience was similar to that of South Korea. In South Korea, the power business was started in 1889 and primarily owned and managed by private business.<sup>95</sup> Almost a century later, in 1982, the different companies merged and became nationalized as Korea Electric and Power Company ("KEPCO"), which eventually took over as the sole power utility in Korea.<sup>96</sup>

#### 4.1.7. *Kenya*

As in the case of South Korea, private interests initiated the electricity industry in Kenya as far back as 1906.<sup>97</sup> It was not until 1955 that the then-colonial government became directly involved as a shareholder.<sup>98</sup> In 1964, the government acquired a fifty percent share in the Tana River Development project.<sup>99</sup> About ten years later, it bought up all the equity shares and established the Kenyan Power and Lighting Company Ltd. ("KPLC") as the sole state-owned utility in the country.<sup>100</sup>

#### 4.1.7. *Conclusions*

From these examples, a cycle of private enterprise followed by state ownership emerges. Similar practices of private interest al-

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<sup>92</sup> Brew-Hammond, *supra* note 27, at 399.

<sup>93</sup> *Id.* (discussing the takeover of Victoria Falls by the Electricity Supply Commission ("Escom"), one of the world's largest electric power utilities).

<sup>94</sup> *Id.*

<sup>95</sup> *Id.* at 403.

<sup>96</sup> *Id.*

<sup>97</sup> *Id.* at 267.

<sup>98</sup> *Id.*

<sup>99</sup> *Id.* at 267-68.

<sup>100</sup> *Id.* at 268.

lowance in the electricity industry can be found in other countries at the same time.<sup>101</sup> It is, therefore, inaccurate to say that “since its beginnings over 100 years ago, the [Electricity Supply Industry] in all countries has been . . . linked by common state ownership, governed by an obligation to supply all consumers in their franchise area.”<sup>102</sup>

#### 4.2. *Second Wave of Regulatory Activity*

The second phase of the historical evolution of electricity regulation, mainly in the post-World War II period, was represented by widespread state ownership and management of power utilities.<sup>103</sup> Some of the reasons for this trend included the dearth of capital after the war,<sup>104</sup> the need for rapid post-war reconstruction, the need for integrated and centralized power systems to promote economies of scale and efficiency,<sup>105</sup> the outburst of left-leaning ideology,<sup>106</sup> and the advent of nuclear power.<sup>107</sup> State-

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<sup>101</sup> See Lennart Hjalmarsson, *From Club Regulation to Market Competition*, in INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 126, 127 (suggesting that the same privatization-nationalization cycle operated in Sweden and other Scandinavian countries); Jürgen Müller & Konrad Stahl, *Regulation of the Market for Electricity in the Federal Republic of Germany*, in INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 277, 279-82 (describing the same cycle in Germany); Leonard Waverman & Adonis Yatchew, *The Regulation of Power in Canada*, in INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 366, 374-75 (describing a similar cycle in Canada).

<sup>102</sup> Surrey, *Introduction*, *supra* note 9, at 4.

<sup>103</sup> See Barry Metzger, *Foreward* to ADB, *supra* note 13 *passim* (discussing the opening of infrastructure sectors in the Asian and Pacific Region to private and foreign investment). Countries like Bangladesh, however, represent an exception to the three cycles of privatization, nationalization, and privatization. From its independence in 1971, three state-owned, vertically integrated utilities, operated under the auspices of the Ministry of Energy and were responsible for generation, transmission, and distribution. *Id.* at 4. Under the 1996 Private Sector Power Generation Policy of Bangladesh, private participation in the energy industry is welcome. *Id.* at 5.

<sup>104</sup> Laffont, *supra* note 19, at 412 (citing lack of capital as the primary reason for French nationalization).

<sup>105</sup> *Id.*

<sup>106</sup> New Zealand may be considered an exception to the general position that the electricity business was initially the domain of private business, but the state involvement was predicated on socialist or left-leaning ideology. See J.G. Culy et al., *The Evolution of New Zealand's Electricity Supply Structure*, in INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 312, 315.

<sup>107</sup> See Waverman & Yatchew, *supra* note 101, at 402-03.

owned corporations were constituted by legislation and given mandate to generate, transmit, and distribute power. In other words, vertically integrated monopolies were the norm from the post-war era to the closing days of the Cold War. Available records indicate that inquiry into the performance of the state-owned utilities would be inconclusive. In the United Kingdom, the absence of private firms actively researching and developing new power technologies provided an impetus for the CEGB to design and construct its own plants.<sup>108</sup> This ability enhanced technological accumulation and capacity. This independence was reinforced by the conscious policy to rely on British-mined coal for generating power, which had macroeconomic implications for the country. The nationalization of the industry in Britain occurred during the period of post-World War II reconstruction and remedied the problem of power access to remote regions.<sup>109</sup> The nationalized industry was successful in expanding capacity and access and maintaining a high standard in power supply. Its productivity and efficiency was considered creditable, if not outstanding, in global terms.<sup>110</sup>

In Kenya, the state-owned KPLC was said to have started off well, largely satisfying customer needs and operating with a healthy financial balance.<sup>111</sup> At the time of independence in 1963, KPLC's total capacity for electricity was 79MW.<sup>112</sup> Twenty-five years later it was 705MW.<sup>113</sup> Power outages were unknown and there was strict adherence to maintenance rules and procedures.<sup>114</sup> Rural Electrification Programs were pursued, with the power utility contributing two percent of its gross sales revenue to such programs.<sup>115</sup> In the 1980s, however, decline and inefficiency set in. Bureaucratic procedures introduced in the 1980s for the acquisition of spare parts and related essential equipment generated

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<sup>108</sup> Steve Thomas, *Strategic Government and Corporate Issues*, in THE BRITISH ELECTRICITY EXPERIMENT, *supra* note 9, at 255, 275.

<sup>109</sup> See Jones, *supra* note 60, at xvi.

<sup>110</sup> See John Chesshire, *UK Electricity Supply Under Public Ownership*, in THE BRITISH ELECTRICITY EXPERIMENT, *supra* note 9, at 37-38.

<sup>111</sup> Brew-Hammond, *supra* note 27, at 275.

<sup>112</sup> Nyoike & Okech, *supra* note 84, at 95.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 96.

<sup>115</sup> *Id.*

long delays, sometimes up to three years.<sup>116</sup> In addition, maintenance schedules are constantly modified to suit political and bureaucratic whims.<sup>117</sup> A 30MW gas turbine plant has been out of service for two years.<sup>118</sup> The Turkwell Gorge power project was riddled with corruption of international proportions.<sup>119</sup> In spite of imports from neighboring Uganda,<sup>120</sup> the KPLC has not been able to meet the growing demand for power, and power outages have become an accepted phenomenon with severe consequences for the industry.<sup>121</sup>

It is not difficult to locate the reasons for this unsatisfactory state of the power industry in Kenya. They include: political interference exacerbated by the absence of ideals of good governance (particularly suppression of political opposition), abuse of discretion, and lack of independent and technocratic regulatory institutions. The causes are manifested in the arbitrary determination of tariffs to suit political exigencies-determinations which are not based on economic and technical principles.<sup>122</sup> With the

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<sup>116</sup> Brew-Hammond, *supra* note 27, at 275.

<sup>117</sup> *Id.* A case in point is the story of equipment imported for repairs on the Kiambere hydroelectric station that was wasted because the plant could not be shut down for political reasons while the imported equipment exceeded its shelf life of six months. *Id.* at 276-76. This happened twice. *Id.*

<sup>118</sup> *Id.* at 270.

<sup>119</sup> *Id.* at 273-74 n.6.

<sup>120</sup> The imports from Uganda are under a fifty-year agreement, due to expire in 2010. Nyoike & Okech, *supra* note 84, at 95-96. Under the agreement, Uganda is to supply 30MW of power regularly and an extra 15MW in case of extra load requirements. *Id.* Due to bad governance and instability in Uganda in the 1970s and 1980s, supply from Uganda has been less than the contractual requirement, sometimes as low as 10MW. *Id.*

<sup>121</sup> *Kenyan Firms Fear Losses as Power Rationing Begins*, XINHUA NEWS AGENCY, July 20, 1998, available at LEXIS, News Library, Xinhua File. In 1998, Ghana lost more than \$280 million in national income due to power rationing. *Electricity Returns to Industries in Ghana*, XINHUA NEWS AGENCY, Aug. 5, 1998, available at LEXIS, News Library, Xinhua File. Nigeria, an oil producing country, also faced an energy crisis attributable to bad governance. See Paul Ejime, *Calm Returns to Lagos, Along with Transport Problems*, AFR. NEWS, July 13, 1998, at 1.

<sup>122</sup> See generally Nyoike & Okech, *supra* note 84 *passim* (discussing Kenya's economic trends while focusing on the energy industry). Economic problems and drought have also been cited as responsible for the malaise in the energy industries in respective African countries. See *id.* at 114-17; Brew-Hammond, *supra* note 27, at 275. While this is so, it is also true that the economic problems have been brought about or facilitated, if not exacerbated by, bad governance. This was particularly so in the 1970s and 1980s, when there were many little-educated military and quasi-military juntas headed by power obsessed

exception of South Africa, the story of the KPLC may not be atypical of power utilities in Africa.<sup>123</sup> With this unflattering picture in Africa and with a swing in ideological and economic thinking in the West, it is no surprise that the thrust of the power discourse has shifted back to privatization. Notwithstanding the seemingly universal movement towards privatization, the nature of the process, it is submitted, is not monolithic. Apart from that, the state is conspicuous in its varying roles in all the models of reform.

## 5. CURRENT TRENDS

Various countries have adopted models of reform reflecting the circumstances of the particular country. These variations relate especially to sources of the electricity, strength of the civil and bureaucratic machinery, the country's attractiveness to investors, the political orientation of the dominant political forces in the country, and regional economic and political dynamics.<sup>124</sup> A scan of the reforms in countries across the globe reveals four significant models around which countries cluster in their respective restructuring efforts.<sup>125</sup> These are: (1) continued state-owned

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autocrats, such as Sergeant Idi Amin (Uganda), Sergeant Samuel Doe (Liberia), General Mobutu (Former Zaire), Captain Rawlings (Ghana), Colonel Mengistu (Ethiopia), General Eyadema (Togo), and Mr. Arap Moi (Kenya).

<sup>123</sup> A number of reasons have been advanced for the poor performance of power utilities in Africa. These include lack of spare parts, diversity in equipment, political interference, and absence of managerial independence. See Girod & Percebois, *supra* note 55, at 23-24. Not too dissimilar trends existed elsewhere. In India, for example, the publicly owned power industry was also fraught with unsatisfactory technical performance, frequent outages, and severe liquidity problems, caused in part by political pressures from state governments for very low tariffs for certain groups of consumers. See ADB, *supra* note 13, at 12. This was the immediate springboard for the lead taken by the state of Orissa to radically reform its regulatory system allowing for private participation and the establishment of an independent regulatory body. See *id.* at 12. Similarly, the Philippines experienced a paralyzing power crisis in the early 1990s manifested in frequent interruptions of supply. This led to the enactment of legislation under a certificate of emergency to de-monopolize and unbundle the hitherto vertically integrated state-owned utility—the National Power Corporation. See *id.* at 110.

<sup>124</sup> See INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION, *supra* note 13, at 2-6.

<sup>125</sup> For an indication of these trends, see ADB, *supra* note 13, at 4; EAST ASIA ELECTRICITY REFORM—FINAL REPORT (Kate Lingley ed., 1996). See generally CROSS, *supra* note 13 *passim* (describing reform structures in the European Community); INTERNATIONAL COMPARISONS OF ELECTRICITY

monopoly; (2) state-owned monopoly with private participation and competition; (3) private-owned monopoly; and (4) private ownership with competition. The rest of the Article presents these models with a country serving as an example in each case. The searchlight remains focused on the role of the state.

### 5.1. State-Owned Monopoly (France)

The power regime in France is often considered one of the most outstanding examples of a state-owned power monopoly. It has been described as “the world’s largest electricity company—which has grown fat in its protected home market.”<sup>126</sup> France is currently under some pressure, mainly from the European Community, to reform its power system, at the least, by unbundling the accounts and possibly the operations of the various segments of the power industry.<sup>127</sup> Even if the country yields to that pressure and privatizes, partially or otherwise, it is this paper’s contention that it would not be novel or unprecedented. The electricity industry in France, as was the case in many countries, did not start life as a vertically integrated state monopoly.<sup>128</sup> It started as a geographically fragmented, privately owned and managed industry.<sup>129</sup> In the 1890s, private entrepreneurs flocked into hydro-based power generation, targeting primarily the paper and metallurgy industries.<sup>130</sup> In order to shorten the period for investment recovery, the private power producers focused on industrial consumers with little attention paid to domestic and commercial consumers.<sup>131</sup> This disparity lessened somewhat after World War I when domestic and commercial demand soared, precipitating expansion in investments in the 1920s.<sup>132</sup> The desire to reap early and high returns on the investment again conditioned the choice of premium consumers. This time preference was given not only to industrial consumers but also to domestic

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REGULATION, *supra* note 13 *passim* (discussing reforms formulated in terms of three ownership structures).

<sup>126</sup> Simon Holberton & David Buchan, *Energy for a Fight*, FIN. TIMES (LONDON), Mar. 18, 1997, at 19.

<sup>127</sup> See The Electricity Directive 96/92, art. 13-22 1996 O.J. (L 27) 20, 25.

<sup>128</sup> See Laffont, *supra* note 19, at 406-08.

<sup>129</sup> See *id.*; CROSS, *supra* note 13, at 27-28.

<sup>130</sup> FROST, *supra* note 13, at 10.

<sup>131</sup> *Id.*

<sup>132</sup> *Id.*

consumers in densely populated areas, such as Paris, Lyons, and Marseilles.<sup>133</sup> Sparsely populated areas were largely ignored.<sup>134</sup> This obviously attracted government interest.

Another factor that attracted government interest and intervention was the diversity in equipment, transmission, and voltages of the power supplied by the various regionally-based private utilities.<sup>135</sup> The managers showed little interest in grid building to connect production sites with consumption points.<sup>136</sup> The limited interconnections resulted in high operations costs and limited choice for consumers.<sup>137</sup> Paradoxically, the managers called for administrative or corporate integration and consolidation of the industry, but they faced structural, economic, and political obstacles.<sup>138</sup> The foregoing notwithstanding, and apart from the formation of holding trusts to oversee and manage clusters of utilities,<sup>139</sup> there were considerable, if less formal, connections between the utility managers, banks, and equipment suppliers.<sup>140</sup> The monopolistic characteristics of the industry, therefore, extended to many relevant support agencies, coalescing them, in the eyes of the public, into a bourgeois club of exploiters.<sup>141</sup> Another source of dissatisfaction, and one that largely served as the immediate platform for government intervention in an otherwise private power industry, was the maintenance of high tariffs and corresponding high profits.<sup>142</sup> This caused substantial resentment, especially when the high rates were kept through the depression in the 1930s.<sup>143</sup>

In response to the neglect of mainly rural and domestic consumers, the abuses of the trust regime, the monopolistic character of the private power industry, and the discontent generated by high tariffs and their political implications, the French government intervened in a number of ways. In 1906, the government

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<sup>133</sup> *Id.* at 11.

<sup>134</sup> *Id.*

<sup>135</sup> *Id.* at 12.

<sup>136</sup> *Id.* at 10.

<sup>137</sup> *Id.*

<sup>138</sup> *Id.* at 13.

<sup>139</sup> *Id.* at 16.

<sup>140</sup> *Id.*

<sup>141</sup> *Id.* at 16-20.

<sup>142</sup> *Id.* at 14-20.

<sup>143</sup> *Id.*



established a regime of concessions to be administered by local communities, especially in areas where land was required for power purposes or where residents were to be served by an interested utility.<sup>144</sup> This provided the affected communities with resource rent and discounted power rates.<sup>145</sup> In the 1920s, Parliament enacted legislation that encouraged local and municipal councils to enter the electricity industry.<sup>146</sup> The year 1935 saw the first direct central government intervention in tariff determination when, as a result of political considerations, the government ordered a reduction in tariffs.<sup>147</sup> The government also created the *Conseil Supérieur de l'Électricité* to arbitrate conflicts, including rate disputes, between local communities and utilities.<sup>148</sup> Therefore, government involvement in the power industry was used as a means of conferring significant regulatory influence on local and municipal councils.<sup>149</sup> That also created a local political patronage system in addition to a patchwork of power systems and regulations in France. Thus, the dire need for a substantial power base for the purposes of rebuilding and modernizing post-war France, the dearth of capital resources for investment in the industry, and the political landscape and fervor in France at the time culminated in the passage of legislation in April 1946 to nationalize the electricity industry and to create a vertically integrated monopoly, EDF.<sup>150</sup>

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<sup>144</sup> *Id.* at 12.

<sup>145</sup> *Id.* This became part of patronage in the local communities. *Id.*

<sup>146</sup> *Id.* at 13. Apart from utilities owned by local or municipal councils, agricultural, and other co-operatives, organized under utilities owned by local governments, such as *Sociétés d'Intérêt Collectif Agricole d'Électricité* and *Régies*, emerged in many areas, but had an insufficient financial base. *Id.*

<sup>147</sup> *Id.* at 15.

<sup>148</sup> *Id.* The composition of the *Conseil* weighed in favor of the utilities, so the utility managers could block reforms by the Minister for Public Works, who had supervisory responsibility for the power industry.

<sup>149</sup> The government also had its own utility development programs. For example, in 1921, the state established the *Compagnie Nationale du Rhône* to help the Rhone Valley with irrigation and electric power production. It also provided half of the capitalization for a holding company, *Groupement d'Électricité*, but these initiatives were frustrated by the outbreak of the Second World War. *Id.* at 15.

<sup>150</sup> Nationalization can be attributed to the need to lay a strong power base for industrial take-off after the demolition of the country by the Germans and their allies. See FROST, *supra* note 13, at 37. State involvement was seen as the only way out of the severe liquidity difficulties that constrained investment and expansion. *Id.* at 37. Nationalization was also part of the effort to end the

Governmental supervision of EDF is shared by three Ministries.<sup>151</sup> The Ministry of Finance oversees the levels of tariff, capital investments, and the general economic implications of EDF's activities.<sup>152</sup> The Ministry of Industry, Post and Telecommunications and Foreign Trade is responsible for general efficiency and deals with general energy policy.<sup>153</sup> The Ministry of the Environment is in charge of the environmental aspects of EDF's activities, especially relating to emissions.<sup>154</sup> Considerable administrative discretion is vested in the relevant regulatory departments. For example, judicial authorities are generally bereft of jurisdiction or reluctant to question the legality or liability of the regulatory authorities.<sup>155</sup> Although EDF is owned by the government and considered as part of the state, it is, in reality, autonomous in many significant respects.<sup>156</sup> Article 4 of the legislation that nationalized the utility provided for financial, technical, and commercial independence of EDF.<sup>157</sup> It pays tax, as does any other commercial venture, and is in control of its technical development, as well as commercial venturing.<sup>158</sup>

To date, EDF largely remains the sole power utility in France. There is, therefore, little basis for comparative assessments of the efficiency of the EDF or the French system. It does appear to be doing well on a number of fronts. From its inception, EDF has sought and strenuously guards against governmental or political interference in ways that could compromise efficiency. It has maintained what has been described as a "technocracy," placing

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sharp class divisions that hampered both political and economic development, especially since the private utility managers were seen as manipulating the course of pre-war French politics to their advantage. *Id.* at 1-2. It can also be said nationalization was very much the vogue soon after the war. Power was nationalized in the United Kingdom at about the same time. Jones, *supra* note 60, at xvi.

<sup>151</sup> See CROSS, *supra* note 13, at 32-34.

<sup>152</sup> See *id.*

<sup>153</sup> See *id.*

<sup>154</sup> See *id.*

<sup>155</sup> See *id.* at 33. Any form of judicial intervention is by the administrative courts under the auspices of the *Conseil d'Etat*. *Id.*

<sup>156</sup> The governmental attitude is based on a philosophy that extols the virtues of limited controls on the public sector. See *id.* at 34.

<sup>157</sup> Law No. 46-628 of Apr. 8, 1946, J.O., Apr. 18, 1946, p. 9. See also CROSS, *supra* note 13, at 31.

<sup>158</sup> See Holberton & Buchanan, *supra* note 126, at 18.

emphasis on the technical merits of the enterprise.<sup>159</sup> For that, it touts its profitability as one of the results of the technocratic orientation of the business. Its gross profit for 1997 amounted to FRF seven billion.<sup>160</sup> Equity capital increased threefold to FRF 82.4 billion.<sup>161</sup> The quality of supply was further enhanced. Average annual outage time for low voltage customers dropped from one hour and twenty-one minutes in 1996 to one hour and four minutes in 1997.<sup>162</sup> EDF marked 1998 as the year of customer commitment, providing enhanced customer service at local and community levels, price reductions, and “made-to-measure” solutions to meet the requirements of major customers.<sup>163</sup> It must be pointed out that the picture of EDF is not always as rosy. Its current Chairman, Edmond Alphandery, a former Finance Minister, described the relationship between EDF and the French government prior to 1996 as neither clear nor very healthy.<sup>164</sup> For example, EDF is forced by the government to subsidize hydroelectric power, support French overseas territories and help the country’s declining coal industry.<sup>165</sup> In the environmental field, EDF presents interesting issues. In the first place, due to its overwhelming reliance on nuclear energy and the high risk that that poses, it has to be held to the highest safety standards. Since only 5.5% of the power produced by EDF comes from fossil fuels, neither carbon dioxide nor sulphur dioxide is produced in great amounts and the contribution to atmospheric pollution and the greenhouse effect is minimal.<sup>166</sup>

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<sup>159</sup> FROST, *supra* note 13, at 20-24 (noting that a technocracy encouraged technological development, capital investment, and economic growth); Holberton & Buchanan, *supra* note 126, at 29 (stating that EDF has created a large organization of experts with technological and managerial backgrounds in order to develop its business dealings internationally).

<sup>160</sup> It paid a tax of FRF 3 billion to the government. ÉLECTRICITÉ DE FRANCE, EDF ANNOUNCED FINANCIAL RESULTS (Mar. 4, 1998), at <http://www.edf.fr/html/en/actualites/index.html>.

<sup>161</sup> *See id.*

<sup>162</sup> This is a twenty percent reduction from the previous fiscal year. *See id.*

<sup>163</sup> ÉLECTRICITÉ DE FRANCE, ARCHIVES: PRESS RELEASES, at <http://www.edf.fr/html/en/actualites/index.html> (last visited Nov. 2, 2000) (compiling various press releases from 1998 that describe EDF’s efforts to improve customer service).

<sup>164</sup> Holberton & Buchan, *supra* note 126, at 18.

<sup>165</sup> *See id.*

<sup>166</sup> *See* EDF, EDF AND THE ENVIRONMENT: AN EXEMPLARY ATTITUDE: FOSSIL-FIRED POWER: EFFICIENCY AND POLLUTION CONTROL, at <http://>

There are plans to “unbundle” the accounts of EDF in line with the EC Electricity Directive of 1996.<sup>167</sup> It is likely, however, to remain state-owned.<sup>168</sup> It would, in accordance with the EC Directive, face competition from utilities from member countries of the EC.<sup>169</sup> When that happens, under Article 47 of the proposed reform bill, the power regime in France may take the shape of a state-owned utility operating in the midst of competition from private utility interests, mainly non-French. To some extent, the Malaysian system can be said to offer a precursor to what is likely to be the new regime in France. It is that to which we turn next.

### 5.2. *State Ownership with Competition (Malaysia)*

This may be represented by the regime in Malaysia. In the electricity sector, the state-owned National Electricity Board (“NEB”) was, until 1990, the primary utility responsible for generation, transmission, and distribution.<sup>170</sup> Under the Electricity Supply (Successor Company) Act of 1990, the NEB was converted into a corporate body called *Tenaga Nasional Berhad* (“TNB”).<sup>171</sup> The Ministry of Finance holds thirty percent equity shares in it and an investment wing of that same Ministry holds the remainder of the shares.<sup>172</sup> In addition, the Minister of Finance holds a golden share “so that government influence will remain dominant even if other shares are sold to private par-

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[www.edf.fr/html/en/presentation/index.html](http://www.edf.fr/html/en/presentation/index.html) (last visited Nov. 21, 2000).

<sup>167</sup> The Electricity Directive 96/92, art. 13-15 1996 O.J (L 27) 20, 25. At the time of writing, a proposal was before the French Parliament to restructure the power business in France. Telephone Interview with Catherine Louis, Ministère de l’Economie des Finances et de l’Industrie (Sept. 28, 1999).

<sup>168</sup> Although the French government has accepted the principle of unbundling of accounts under the EC Electricity Directive, it would not accept unbundling of management. See CROSS, *supra* note 13, at 31. Cagniard, *supra* note 127, at 217, argues that, because member states have wide latitude in implementing the Electricity Directive, the proposed French bill for power reform fulfills the minimum requirements.

<sup>169</sup> See Cagniard, *supra* note 127.

<sup>170</sup> See Electricity Act § 3 (Act 116) (rev. ed. 1973) (Malay.). The NEB had powers to raise capital from the stock market. *Id.* § 17. See also Steven C. Anderson, *The Climate for Private Investment in Malaysia’s Power Sector*, in EAST ASIAN ELECTRICITY REFORM, *supra* note 125, at 115, 125.

<sup>171</sup> Electricity Supply (Successor Company) Act 1990 (Act no. 448) (Malay.); Anderson, *supra* note 170, at 118.

<sup>172</sup> Anderson, *supra* note 170, at 120 n.110.

ties.”<sup>173</sup> It can be concluded that, contrary to what has been described as a privatized utility,<sup>174</sup> TNB is effectively a state-owned utility.

Through its shares, the government determines the investment and expansion policies of the utility.<sup>175</sup> The Ministry of Finance monitors the investment activity of TNB.<sup>176</sup> General supervision of the industry, however, is the responsibility of the Ministry of Energy.<sup>177</sup> The Director General of Electricity Supply is below the Ministry of Energy, is appointed by the Minister and has responsibility for, *inter alia*, the issue of licenses, the approval of power tariffs, and the determination of performance standards.<sup>178</sup> Under the Electricity Supply Act of 1990, Independent Power Producers (“IPPs”) are encouraged to operate in the country, but their entry is regulated in terms of where they can locate, as well as possible ownership structures.<sup>179</sup> The proposal to form an IPP is submitted and appraised simultaneously by TNB, or the relevant provincial utility, and the Economic Planning Unit of the Prime Minister’s Department.<sup>180</sup> If approved, the sponsors of the IPP then have to negotiate a power sale agreement with TNB before finally receiving a license to operate, usually for twenty-one years.<sup>181</sup> This organizational structure has built-in checks and balances. Although the three-stage application process

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<sup>173</sup> *Id.*

<sup>174</sup> *Id.*

<sup>175</sup> See Anderson, *supra* note 170, at 117-27. The Minister of Finance may give directions for the issue of securities and shares. Electricity Supply (Successor Company) Act 1990 § 4 (Act no. 448) (Malay.).

<sup>176</sup> See Electricity Supply (Successor Company) Act 1990 § 4 (Act no. 448) (Malay.).

<sup>177</sup> See *id.*

<sup>178</sup> See Electricity Supply Act 1990 § 4 (Act no. 448) (Malay.). The Minister again has wide discretion in the appointment of members of the regulatory board as well as the board of the utility. Electricity Supply (Successor Company) Act 1990 §§ 7-8 (Act no. 447) (Malay.). In the performance of its duties, the regulatory board is to ensure an optimum supply of electricity at reasonable prices, to provide that all reasonable demands for electricity are satisfied, and to promote and encourage generation of energy to facilitate Malaysia’s economic development. *Id.* § 4.

<sup>179</sup> See Anderson, *supra* note 170, at 123. The equity shares that non-Malaysians can hold in any IPP can not exceed twenty-five percent without permission. See *id.* at 123 n.113.

<sup>180</sup> *Id.* at 123.

<sup>181</sup> *Id.*

might take time, the simultaneous appraisal by the Ministry and TNB or the provincial utility helps shorten the waiting period. The involvement of the state-owned TNB, however, in a way compromises the competitiveness of the entire regime. The limited competition posed by the IPPs is weakened by the obligation to sell the power they generate to TNB. In addition, TNB holds up to a twenty percent equity interest in each of the IPPs.<sup>182</sup> This equity interest, irrespective of its size, strengthens the position of TNB in the industry. This position is made stronger by the fact that it is the sole buyer of the power generated by the IPPs.<sup>183</sup>

Apart from TNB, which operates on the main Malaysian peninsula, there are two provincially owned utilities in the two island provinces of Sabah and Sarawak. They are the Sabah Electricity Board ("SEB") and the Sarawak Electricity Supply Company ("SESCO"), respectively.<sup>184</sup> They perform all the power supply functions, from generation to distribution, in the two provinces.<sup>185</sup> In addition, a number of IPPs have located their operations in the provinces.<sup>186</sup> This is a deliberate policy by the central government to encourage and direct IPP activity to the outlying provinces and more remote areas of the country.<sup>187</sup> This might be its way of promoting equity in power accessibility.

Using the determinants outlined for efficiency, the judgment on the Malaysian restructured electricity industry is quite contested. The pricing of power by TNB is based on an eight percent rate of return on the total assets.<sup>188</sup> This is considered inefficient because the IPPs return twice that on their assets.<sup>189</sup> That notwithstanding, TNB no longer relies on the government for loan guarantees; as of 1996, its long term debt, liabilities, and prospects were rated "A1" by the international credit agency, Moody's International, and "A+" by Creditweek.<sup>190</sup> This means that based on profitability alone, TNB and the Malaysian electricity industry are efficient. This is reinforced by the remarkable achieve-

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<sup>182</sup> *Id.* at 118-19.

<sup>183</sup> *Id.*

<sup>184</sup> *Id.* at 120.

<sup>185</sup> *Id.*

<sup>186</sup> *Id.* at 118.

<sup>187</sup> *Id.*

<sup>188</sup> *Id.* at 119.

<sup>189</sup> *Id.*

<sup>190</sup> *Id.* at 120.

ments in the distribution of power and accessibility. Since the 1970s, TNB and the industry as a whole have been able to keep up with demand that has been growing at the rate of thirteen percent per annum.<sup>191</sup>

Accessibility is further enhanced by the government's control over the determination of tariffs. TNB's tariffs to retail consumers are calculated by means of a price cap mechanism that has adjustments for fuel price escalation, inflation in other cost factors, variability in demand, and improvements in productivity.<sup>192</sup> It is, therefore, based on a "cost plus" formula.<sup>193</sup> Whatever rates are proposed by the utilities, the Director General of Electricity Supply has to approve them, often with adjustments.<sup>194</sup> Through the Department of Energy and the Director General of Electricity Supply, the government brings considerable political pressure to keep the tariff rates low.<sup>195</sup> Apart from that, TNB, as the dominant utility in the industry, has taken the lead with the introduction of strict standards of performance.<sup>196</sup> These include time taken to connect or reconnect supplies, response times for service complaints, minimum notice periods for planned outages, and methods of collecting outstanding bills.<sup>197</sup>

The environmental implications of the power industry in Malaysia involve a combination of imperatives owing to the varied nature of the generating sources. One of the lessons learned from the global oil crisis in the 1970s was the danger of relying on a single source of power.<sup>198</sup> The Malaysian government actively pursued a four-fuel policy focused on utilizing diversified sources to reduce dependence on oil for electricity generation.<sup>199</sup> Due to the costs of transportation and the severe environmental costs of using coal, the emphasis is on gas and hydropower.<sup>200</sup> The use of gas in place of coal and oil has reduced carbon dioxide emissions

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<sup>191</sup> GOV'T OF MALAY., SEVENTH MALAYSIAN PLAN 1996-2000, 386 (1996).

<sup>192</sup> Anderson, *supra* note 170, at 116.

<sup>193</sup> *Id.* at 124.

<sup>194</sup> *Id.*

<sup>195</sup> *Id.* at 120.

<sup>196</sup> *Id.* at 119.

<sup>197</sup> *Id.* at 119.

<sup>198</sup> See SARAWAK FORESTRY DEP'T, MALAYSIA'S ENERGY POLICY, at <http://www.forest.gov.my/epolicy.html> (last visited Oct. 31, 2000).

<sup>199</sup> *Id.*

<sup>200</sup> *Id.*

substantially. The government is also encouraging the exploitation of the country's vast water resources for power purposes.<sup>201</sup> Currently, a 2400MW Bakun hydro-electric dam is under construction in the Sarawak province.<sup>202</sup> When completed, it alone is expected to contribute fifteen percent of the country's power needs.<sup>203</sup> The construction of hydro-electric dams inevitably entails significant environmental consequences. The construction of the Temengor dam in the Perak Province, for example, resulted in the relocation of 127 families, and the construction of the Batang Ai project entailed the resettlement of 3200 people from 450 longhouses.<sup>204</sup> Some of the dams, as in the case of the Berisa dam in the Perak Province, were built not only to generate power, but also to regulate water flows.

The law on the environment is embodied in the Environmental Quality Act of 1974.<sup>205</sup> It is the primary legislation regulating the environmental impact of power activity, particularly generation. It specifies procedures for equipment operations and maintenance, the operation of power plants including conditions for discharges, and restrictions on atmospheric, soil, and water pollution.<sup>206</sup> It also sets out environmental impact assessment and reporting procedures on the environmental impact of large hydro-electric facilities, combined cycle power stations, nuclear power stations, and fossil-fired power stations of more than 10MW capacity.<sup>207</sup> Additionally, the Department of Environment, which is responsible for overseeing and enforcing the environmental rules, issues periodic details in the form of Environmental Quality Regulations which spell out standards of performance required of the power plants.<sup>208</sup> Although provisions for market mechanisms of managing the environmental impact of power generation exist, the overwhelming thrust of the

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<sup>201</sup> *Id.*

<sup>202</sup> *Id.*

<sup>203</sup> *Id.* This would add to the existing ten percent hydropower in the country. *Id.*

<sup>204</sup> *Id.*

<sup>205</sup> Environmental Quality Act, 1974, (Act No. 127) (Malay.).

<sup>206</sup> *Id.*; Environmental Quality (Prescribed) Activities Sched. 12-13 (EIA Order 1987) (Malay.); Anderson, *supra* note 170, at 117-18 n.107.

<sup>207</sup> Anderson, *supra* note 170, at 117-18.

<sup>208</sup> *Id.* at 118.



legal regime is for central state regulation and oversight of the environment.

The environmental regime is substantially the same in the post energy reforms as before. Furthermore, apart from the introduction of IPPs that were not expected to command more than thirty percent of the power market before the new millennium,<sup>209</sup> the energy regime in Malaysia today is not radically different from the system that operated prior to the reforms in 1990. The state is still heavily involved in the power industry in Malaysia. It owns the primary power utility that supplies more than seventy percent of the total power demand in the country and regulates the tariffs that can be charged by the utilities.<sup>210</sup> Furthermore, although private utilities are allowed, foreign ownership is restricted to twenty five percent and the state-owned TNB maintains up to twenty percent equity interests in all private utilities.<sup>211</sup> Although the IPPs are said to be performing profitably, their profitability is also attributed to a number of other factors including, most importantly, their prescription to sell the power they generate to TNB on a "take or pay" basis.<sup>212</sup> Although this assures the IPPs a predictable return on investments, their strength in the Malaysian power market does not equal that of TNB. From a distance, it is not easy to distill all the outlined tenets and practices of good governance or otherwise. Nevertheless, what is clear is that the regulatory process does not appear to inhibit efficiency in terms of profit, nor does it frustrate equitable access to power. Additionally, the stability of the system does not appear to be in peril. If arm's length competition fosters efficiency, then that is lacking in the Malaysian regime. The promotion of such competition is the hallmark of the systems in England and Wales. In other countries, what might appear to be liberalization is simply a transfer of the previously state-owned and managed industry to private monopoly interests, often with less certain consequences. The system in the Ivory Coast is a representation of this hypothesis.

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<sup>209</sup> *Id.* at 119-21.

<sup>210</sup> *Id.*

<sup>211</sup> *Id.*

<sup>212</sup> *Id.* at 118, 123. The contractual arrangement guarantees the IPPs a fifteen percent after-tax rate of return on assets. *Id.*

### 5.3. Privatized Monopoly (Ivory Coast)

Under this model, the state has divested itself of the ownership of the utility, but the privatization process was such that there is one dominant company that controls power from production to distribution. This is what happened in the Ivory Coast. As with many African countries, a dictator ruled the Ivory Coast for approximately thirty years, since its independence in 1960. Despite being a dictatorship, there was relative political stability and economic progress and was, therefore, described as an "oasis of economic prosperity."<sup>213</sup> The economic "boom" also coincided with expansion and effective performance of the power utility. As in the case of many countries, the Ivorian power industry started off with provisions for private participation but was largely owned and operated by the state Public Works Department.<sup>214</sup> In 1952, a corporate utility called *Énergie Électrique de la Cote d'Ivoire* ("EECI") was established to take over the power activities of the Public Works Department.<sup>215</sup> Eighty-seven percent of the shares in EECI were owned by the colonial government and the remainder by the French Aid Agency and the French power utility, EDF.<sup>216</sup> EECI was in charge of every aspect of the industry from generation to distribution.<sup>217</sup> It invested generously in order to increase plant capacity and customer base.<sup>218</sup> Serious efforts were also made at rural electrification.<sup>219</sup> Approximately sixty percent of the population had access to electric power.<sup>220</sup> Records reveal supply to have been very reliable with few, if any, power outages.<sup>221</sup> However,

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<sup>213</sup> COTE D'IVOIRE, A COUNTRY STUDY XV-4, 43-164 (Robert Handloff ed., 1991).

<sup>214</sup> Brew-Hammond, *supra* note 27, at 292.

<sup>215</sup> *Id.*

<sup>216</sup> *Id.*

<sup>217</sup> *Id.*

<sup>218</sup> *Id.*

<sup>219</sup> "Electricity for all by the year 2000" was its slogan. *Id.* The EECI was described as the best EPU in Sub-Saharan Africa outside of the Republic of South Africa. *Id.*

<sup>220</sup> *Id.* at 292 n.6.

<sup>221</sup> Siddhartha Mitter, *Reluctant Sweethearts: Recent Foreign Investment in African Infrastructure and Consequences for Growth and Distribution* (Paper presented at the American Political Science Association Conference, San Francisco, CA, 1996). Girod & Percebois, *supra* note 55, at 23, indicated that performance of utilities in Africa from their inception to the early 1980s was

in return for this efficient service, tariff rates were very high.<sup>222</sup> Moreover, the generous investments and the aggressive rural electrification programs of the 1970s took a toll on the performance of the utility in the 1980s.<sup>223</sup> Internal corporate culture (such as the emphasis on staff welfare, corruption, and in-fighting), uncollected bills, drought, adverse macroeconomic conditions, and politicization of the management, conspired to serve the ends of inefficiency.<sup>224</sup> Investments such as the construction of the Koussou hydro-electric plant were politically motivated, and in disregard of engineering and economic analyses.<sup>225</sup> Power outages became an acceptable phenomena, plants deteriorated, and income plummeted.<sup>226</sup> The end of the thirty-year dictatorship of Houphouet Boigny in 1990 saw the appointment of an IMF technocrat as Prime Minister who introduced widespread economic reforms.<sup>227</sup> One of the first reform acts of the new Prime Minister was the sale of the state-owned EECI.<sup>228</sup> With alacrity and without consultation, EECI was transferred to a foreign consortium by what might appear to be a management contract.<sup>229</sup>

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creditable. For example, installed capacity multiplied by an average of 2.7. *Id.*

<sup>222</sup> Mitter, *supra* note 221, at 9.

<sup>223</sup> *Id.*; see also Brew-Hammond, *supra* note 27, at 292-93 (stating that with a declining economy, a drought, and aggressive spending, there was a decrease in demand for electricity and a loss of revenue). Other causes included uncollected bills, foreign exchange debt, management errors, and bad corporate culture resulting in absenteeism. Mitter, *supra* note 221, at 9.

<sup>224</sup> The long-time Chief Executive Officer of the EECI had personal ties with the then-President that extended to very favorable or lax oversight of the utility. Brew-Hammond, *supra* note 27, at 309. The CEO and the EECI got away with losses, inefficiency, and were insulated from reform. *Id.* This was particularly worrisome as tariffs had to be approved by the Minister upon notification of the President. *Id.*

<sup>225</sup> Koussou is the hometown of the former dictator Boigny, and it is believed that was the critical factor in choosing the site for the dam. *Id.* at 299. The Koussou and Taabo dams built on the same river system have never filled up since construction. *Id.* They both have capacity factors of about ten percent. *Id.*

<sup>226</sup> See generally Girod & Percebois, *supra* note 55, at 23 (describing conditions and causes that led to the power industry's "poor performance in technical, economic and financial matters").

<sup>227</sup> Mitter, *supra* note 221, at 9.

<sup>228</sup> *Id.*

<sup>229</sup> Girod & Percebois, *supra* note 55, at 21; Mitter, *supra* note 221, at 9. The power reforms in the Ivory Coast were prepared in complete secrecy and implemented in less than six months. Girod & Percebois, *supra* note 55, at 28 n.15.

A consortium of two French companies, Bouygues, with sixty-five percent ownership in the consortium, and EDF, with thirty-five percent, formed a new utility, the *Compagnie Ivoirienne d'Électricité* ("CIE").<sup>230</sup> The French consortium took a controlling share fifty-one percent of the new entity.<sup>231</sup> Twenty percent of the remainder of the shares went to the government and the rest was reserved for flotation on the Abidjan Stock Market.<sup>232</sup> CIE obtained a concession contract of fifteen-year duration to generate, transmit, and distribute power in the Ivory Coast.<sup>233</sup> It also assumed control over the staff, real estate, and resources of EECL.<sup>234</sup> The government retained ownership of the infrastructure but granted a twenty-year exclusive use to CIE.<sup>235</sup> The management of the public-owned infrastructure, responsibility for new infrastructure, and oversight of the concession contract were allocated to the remnant of EECL.<sup>236</sup> All power activity— generation, transmission, distribution, billing, export, and import— became the monopoly of CIE.<sup>237</sup>

Some "competition" is offered by *Compagnie Ivoire de Production d'électricité* ("CIPREL"), a new IPP formed to generate power from gas using the CCGT scheme.<sup>238</sup> CIPREL was formed in the wake of drought-induced load-shedding by CIE and curtailment of exports by the Ghanaian utility.<sup>239</sup> For all practical purposes, however, CIPREL was part of CIE. It is owned by the two French owners of CIE (Bouygues and EDF) in exactly the same proportions as they hold in the consortium that holds the con-

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<sup>230</sup> Brew-Hammond, *supra* note 27, at 293.

<sup>231</sup> Mitter, *supra* note 221, at 9; Brew-Hammond, *supra* note 27, at 293.

<sup>232</sup> Mitter, *supra* note 221, at 9.

<sup>233</sup> Brew-Hammond, *supra* note 27, at 293-94.

<sup>234</sup> See Mitter, *supra* note 221, at 9.

<sup>235</sup> Mitter, *supra* note 221, at 9.

<sup>236</sup> *Id.* at 9-10.

<sup>237</sup> *Id.* at 10.

<sup>238</sup> *Compagnie des Énergies Nouvelles de la Côte d'Ivoire* was first formed as an IPP in 1991 by the same interests and was replaced by CIPREL in 1995. Brew-Hammond, *supra* note 27, at 294-95; see also Girod & Percebois, *supra* note 55, at 25 (attributing to CIPREL the first stages of an IPP plant in the Ivory Coast). Unfortunately, the two learned authors accepted CIPREL at face value as an IPP without a comment on its relationship with CIE and the owners of CIE.

<sup>239</sup> Mitter, *supra* note 221, at 12.

trolling shares in CIE.<sup>240</sup> Moreover, CIPREL has contracted the CIE staff to operate the new power station on its behalf.<sup>241</sup> The vertical integration and the monopolization of the electricity industry in the Ivory Coast were, therefore, complete.

The question then is, How has the private-owned monopoly fared in terms of efficiency? By 1994, it had become clear that the quality of power supply had improved substantially with less power outages and reduced voltage fluctuations. For example, average power outages had reduced from fifty hours to nineteen hours within four years of privatization.<sup>242</sup> A more dynamic corporate culture was instilled into the utility and improved customer services in connections, repairs, and billing.<sup>243</sup> At the same time, it also rigorously enforced power supply cuts to delinquent customers and insisted on up-front payments for power purchases by government agencies.<sup>244</sup> In terms of profitability and quality of service, the privatized utility has been efficient. On the other hand, unlike the British privatization and competition, power price to consumers in real terms increased.<sup>245</sup> The rural electrification program has been abandoned and very few power connections have been effected since 1990.<sup>246</sup> Research and development was stopped, and all development activity contracted to French consultants connected to the major shareholders in CIE.<sup>247</sup> CIE disputed its responsibility for new infrastructure investments and squabbled with EECI over maintenance of equipment with consequent delays and efficiency losses.<sup>248</sup> This improper definition of roles owes largely to the nature of the privatization process. The whole process was not only hastened but also shrouded in secrecy.<sup>249</sup> The program was not put up for tender as should be ex-

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<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

<sup>242</sup> *Id.*

<sup>243</sup> Mitter, *supra* note 221, at 10.

<sup>244</sup> *Id.*

<sup>245</sup> *Id.*

<sup>246</sup> *Id.*

<sup>247</sup> Brew-Hammond, *supra* note 27, at 304.

<sup>248</sup> Mitter, *supra* note 221, at 10.

<sup>249</sup> *Id.* See also Brew-Hammond, *supra* note 27, at 293 (describing a friction between EECI and CIE attributable to EECI's dual role as representative of Ivorian government and supervisor of CIE).

pected in accordance with the tenets of good governance.<sup>250</sup> The appointment of key experts, especially in the area of finance, was also not done in a transparent fashion.<sup>251</sup> The financial reporting systems for CIE are solely determined by the monopoly.<sup>252</sup> The state pays CIE when power sales fall below a certain volume, thereby removing incentive for increased sales.<sup>253</sup> The profitability or efficiency gains of the privatized utility, therefore, depend not only on its monopoly power but also on government subsidies. Crucially, the regulatory system is weak and improperly organized.<sup>254</sup> The Ministry of Energy, which is at the pinnacle of the regulatory scheme, is poorly staffed, mainly by generally trained civil servants.<sup>255</sup>

The division of responsibility between the Ministry and what was left of EECI was very unclear, leaving a large area of "no man's land."<sup>256</sup> Five years after privatization, the important post of *Commissaire du Gouvernement*, a regulator provided for in the original contract, was not filled.<sup>257</sup> To pre-empt the uncertainty or unsatisfactory outcome of a privatized monopoly system, the British government, unlike the Ivorian regime, opted not only for a transfer of the vertically integrated state monopoly to private owners, but also for a competitive regime.

#### 5.4. Private Ownership and Competition (England and Wales)

The regime that exists in England and Wales can be said to be an example of private ownership in the context of competition. As already noted, prior to 1989, the electricity industry was state-owned and operated on a monopoly basis. The grand privatization revolution of the Thatcher government did not exclude the electricity sector. In fact, for former Prime Minister Margaret Thatcher, privatization "was one of the central means of reversing the corrosive and corrupting effects of socialism."<sup>258</sup> One of the

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<sup>250</sup> The award of the CCGT project to CIPREL was also not by tender. See Mitter, *supra* note 221, at 12.

<sup>251</sup> *Id.*

<sup>252</sup> Mitter, *supra* note 221, at 10.

<sup>253</sup> *Id.* at 11.

<sup>254</sup> *See id.*

<sup>255</sup> *Id.*

<sup>256</sup> *Id.*

<sup>257</sup> *Id.*

<sup>258</sup> MARGARET THATCHER, *THE DOWNING STREET YEARS 676* (1993).

central factors behind the privatization of the electricity industry was the desire to undermine the power of the mine workers unions.<sup>259</sup> They were blamed for the fall of two previous governments and wielded enormous power through their control of coal production, the primary source of electric power in the late 1980s.<sup>260</sup> It was believed that privatized utilities would seek less expensive sources for power generation.<sup>261</sup> The high cost of British coal at the time would render the use of coal not competitive and, consequently, break the base of the union's power, which rested on the monopoly status of the British coal.<sup>262</sup> The privatization agenda was, therefore, as much driven by ideological or governance perspectives, as by the economic philosophy at the time.<sup>263</sup> As part of the general policy direction of the Thatcher government, the industry then dominated by the CEBG was overhauled. The legal regime for the industry was first encompassed by the Electricity Act of 1989 as amended by the Competition and Service (Utilities) Act of 1992.<sup>264</sup> However, responding to the need for overarching legislation on energy utilities, the Utilities Act was passed on July 28, 2000.<sup>265</sup> The new regime has two goals. First, to provide a fresh regulatory framework for generation, transmission, and distribution of power in England and Wales. Second, to transfer ownership of the industry from the state to private entities initially nominated by the Secretary of State for Energy.<sup>266</sup>

The most important development in the new dispensation is the creation of a corporate body, the Office of Gas and Electricity

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<sup>259</sup> See *id.*; Thomas, *The Privatization of the Electricity Supply Industry*, *supra* note 25, at 52. A number of the politicians who championed the privatization program stated their political agenda in their respective autobiographies. See, e.g., NIGEL LAWSON, *THE VIEW FROM NO. 11* (1992) (expressing the Tory view of privatization).

<sup>260</sup> See Thomas, *The Privatization of the Electricity Supply Industry*, *supra* note 25, at 52.

<sup>261</sup> See Stephen Dow, *Post-Privatisation Regulation of UK Energy Industries*, 3 *INTERNET J. OF CENTER FOR ENERGY, PETROLEUM & MIN. L. & POL'Y* 14 (1998), at <http://www.dundee.ac.uk/cepmlp/journal/html/article3-14.htm>.

<sup>262</sup> *Id.*

<sup>263</sup> *Id.*

<sup>264</sup> Electricity Act, 1989, c. 29 (Eng.); Competition and Service (Utilities) Act, 1992, c. 43 (Eng.).

<sup>265</sup> Utilities Act, 2000, c. 27 (Eng.).

<sup>266</sup> The utilities were first transformed from statutory bodies to crown corporations listed on the stock market.

Markets ("OFGEM").<sup>267</sup> It should have at least three members, with the Chair appointed by the Secretary of State and able to be removed on grounds of incapacity or misconduct.<sup>268</sup> The Authority is given the freedom to recruit supporting staff and to establish systems appropriate for the attainment of the goals of the law.<sup>269</sup> Under the Utilities Act, the Secretary and the Authority are empowered to protect the interests of consumers as far as generation, supply, and distribution of power is concerned. At the same time, they are obliged to promote effective competition between entities engaged in the energy business.<sup>270</sup> Although the Secretary and the regulatory Authority have considerable discretion in the choice of methods for executing the objectives set out in the law, they are under an obligation to take into account the following factors: the need to satisfy all reasonable demand for power in Britain, the financial capability of the utility interests, the interests of disabled or chronically sick persons, individuals of pensionable age, people with low incomes, and the needs of rural dwellers.<sup>271</sup> This is a classic point where the efficiency and equity ends of government energy policy join. While competition is believed to serve the ends of efficiency, in cases where competition does not respond to the need for access or equity, the government retains the leverage to direct policy in that direction.

Since 1989, the electricity industry in England and Wales has been dominated by a duopoly: National Power and Powergen.<sup>272</sup> They inherited, in a seventy to thirty ratio, the generation assets and activities of the former CEGB.<sup>273</sup> The transmission business was initially granted to National Grid Company, which was owned by the twelve Area Boards.<sup>274</sup> The Area Boards themselves

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<sup>267</sup> See Utilities Act, 2000, c. 27, § 1 (Eng.). The Authority takes over the functions of the erstwhile Office of Electricity Regulation ("OFFER"), established under section 1 of the Electricity Act, 1989. Electricity Act, 1989, c. 29, § 1 (Eng.). Unlike the OFFER, however, and notwithstanding its corporate status, the Authority is deemed to act on behalf of the Crown. Utilities Act, 2000, c. 27, § 1(2) (Eng.).

<sup>268</sup> See Utilities Act, 2000, c. 27, Sched. 1, §§ 1-4 (Eng.).

<sup>269</sup> *Id.* Sched. 1, § 5.

<sup>270</sup> See *id.* § 9(1).

<sup>271</sup> See *id.* § 13(3). The list is neither exhaustive nor exclusive of other descriptions of consumers.

<sup>272</sup> See Dow, *supra* note 164, at 4.

<sup>273</sup> *Id.*

<sup>274</sup> *Id.*



were transformed into Regional Companies, but theoretically deprived of their previous distributive monopoly.<sup>275</sup> Under a graduated scheme that was completed in April 1998, any customer could place an order for power from any distributor or directly from a generator.<sup>276</sup>

It has been argued that reform of the U.K. power industry has created fundamental changes in the character of the industry.<sup>277</sup> This is because electricity was hitherto regarded as a public service to be universally available.<sup>278</sup> It is submitted that, although this description of the power industry in the United Kingdom might be fair, it is neither sufficiently comprehensive nor conclusive. In the first place, as noted, it is not undisputed that the energy industry as exists today is fundamentally different from what it was in the period before nationalization and the current reforms. More importantly, some of the crucial goals of the nationalized system remain the goals of the privatized regime as well. Goals such as universality of access, consumer protection, environmental protection, and government's strategic influence are conspicuous in the new regime. These goals entail a continuing significant role for the state.

Universal or equitable distribution and access to power are provided for in various forms under the new system. The special interests of rural consumers, pensioners, and the disabled are to be taken into account in the pricing and regulatory policies of the Authority and in the commercial policies of the utilities.<sup>279</sup> Furthermore, the government, through the Secretary of State for Energy and the Authority, is to ensure that consumer interests, in the form of regularity of supply and general safety, are protected.<sup>280</sup> Consumer views are to be represented at the National Consumers' Consultative Committee, established under the Utilities Act to replace the Electricity Consultative Councils of the na-

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<sup>275</sup> See Electricity Act, 1989, c. 29, pt. 2 (Eng.).

<sup>276</sup> BOWDERY, *supra* note 77, at 50.

<sup>277</sup> See Mike Parker, *General Conclusions and Lessons, in THE BRITISH ELECTRICITY EXPERIMENT*, *supra* note 9, at 295.

<sup>278</sup> See *id.*

<sup>279</sup> Utilities Act, 2000, c. 27, § 13(3) (Eng.). It would be politically risky not to protect the very vulnerable members of society, hence the regulatory system aims to discourage "cherry-picking" of more economically attractive customers. See Mike Parker, *Competition: the Continuing Issues, in THE BRITISH ELECTRICITY EXPERIMENT*, *supra* note 9, at 227.

<sup>280</sup> See Utilities Act, 2000, c. 27, § 13 (Eng.).

tionalized system.<sup>281</sup> Detailed standards have been set for the utilities *vis-à-vis* consumers and are enforceable by fines.<sup>282</sup> Consumers are regularly informed of their rights and the standards expected of the utilities. In the main, therefore, the freedom to express concerns about the power industry appears enhanced or, at least, maintained.

Apart from equitable and consumer protection, the government generally maintains significant leverage over the power industry. In the first place, nuclear energy is excluded from the privatization drive and to date remains state-owned and operated.<sup>283</sup> Secondly, the government retained golden share status in the two largest privatized generators and the regional distribution companies. This safeguarded the structure adopted at the inception of privatization for five years.<sup>284</sup> Although it has, since 1995, relinquished the golden shares in the regional distribution companies, the government still maintains the golden share position in the two generators.<sup>285</sup> One reason for this control by indirect means is the old strategic desire to keep the industry safe from foreign control. Beyond that, the industry requires continuing governmental regulation. Power generation and supply are generally taken to be intrinsically competitive, but transmission and distribution are regarded as natural monopolies that need heavy doses of regulation to avoid becoming exploitative. To this end, a tariff mechanism that would assure sufficient profits for the utilities and, at the same time, make power accessible and affordable to

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<sup>281</sup> See Electricity Act, 1989, c. 29, § 53 (Eng.).

<sup>282</sup> Utilities Act, 2000, c. 27, §§ 18-24, 59-61 (Eng.). An interesting feature is the effort by the government to link the remuneration of Directors of the utility companies to standards of service provided. See *id.* § 61.

<sup>283</sup> Nuclear power constitutes approximately twenty-seven percent of the total power supply in England and Wales as of 1994. *A Call for New British Nuclear Power*, UNITED PRESS INT'L, June 15, 1999, available at LEXIS, News Library, Upi File. Initial plans for privatizing nuclear power were rescinded on safety, environmental, and economic grounds. See Thomas, *Strategic Government and Corporate Issues*, *supra* note 108, at 276-78. It is protected by an obligation on suppliers to buy a certain percentage of power from "non-fossil fuel" sources and, until Aug. 2000, supported by a government imposed fossil fuel levy. Electricity Act, 1989, c. 29, §§ 32-33 (Eng.). The fossil fuel levy was repealed by the Utilities Act, 2000, c. 27, § 65 (Eng.).

<sup>284</sup> See Surrey, *Unresolved Issues of Economic Regulation*, *supra* note 21, at 250.

<sup>285</sup> Thomas, *Strategic Government and Corporate Issues*, *supra* note 108, at 287. The government indicated that it would use its golden share power to restrain takeovers if such takeovers would undermine competition. See *id.*

consumers has been worked out and reviewed periodically. The formula is  $RPI-X$ , where  $RPI$  is the retail price index and  $X$  is the efficiency factor that is supposed to be the incentive to the utilities to improve and reap the benefits of efficiency.<sup>286</sup>

Finally, the government retains significant control over the environmental implications of utility services. Under the Utilities Act, the Secretary of State and the Industry Regulator are enjoined to protect the public from dangers arising from or associated with power generation, transmission, and distribution.<sup>287</sup> Furthermore, they are to take account of the effects of power activities on the physical environment in carrying out the functions mandated by the Utilities Act.<sup>288</sup> Beyond the provisions in the Electricity Statute, a raft of general legislation relating to the environment applies to the electricity industry, most of it administered by the Department of Environment.<sup>289</sup> Regional and international agreements and directives impose other such regulations.<sup>290</sup>

The period of privatization primarily coincided with significant reductions in emissions from sources connected with electricity. The reduction in sulphur dioxide emissions is the most conspicuous.<sup>291</sup> Carbon dioxide emissions have also been significantly reduced.<sup>292</sup> This is mainly due to a change from coal-based power generation to Combined Gas Cycle Turbine ("CGCT") sys-

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<sup>286</sup> See Thomas, *The Privatisation of Electricity Supply Industry*, *supra* note 25, at 48. For more on this pricing formula, see Blanche Sas, *The RPI-X Formula: Economic Regulation of the Electricity Industry* (on file with the International Bar Association Section on Energy and Resource Law). John Surrey analyzes the comparative merits of this method of pricing and the American system based on rate of return or profitability and concludes that ultimately they achieve the same results by being sensitive to voters' concerns. See Surrey, *Unresolved Issues of Economic Regulation*, *supra* note 21, at 245.

<sup>287</sup> See Electricity Act, 1989, c. 29, § 3(3) (Eng.). As well as promoting environmentally sound power production and distribution, the government is also encouraging the generation of electricity from renewable sources. See Utilities Act, 2000, c. 27, §§ 62, 64 (Eng.).

<sup>288</sup> *Id.*

<sup>289</sup> See ROBERT DUXBURY & S.G.C. MORTON, *BLACKSTONE'S STATUTES ON ENVIRONMENTAL LAW* (2000); STUART BELL, *BALL AND BELL ON ENVIRONMENTAL LAW: THE LAW AND POLICY RELATING TO THE PROTECTION OF THE ENVIRONMENT* (2000).

<sup>290</sup> See DUXBURY, *supra* note 289; BELL, *supra* note 289.

<sup>291</sup> See Gordon MacKerron & Jim Watson, *The Winners and Losers So Far, in THE BRITISH ELECTRICITY EXPERIMENT*, *supra* note 9, at 205-06.

<sup>292</sup> *Id.*

tems.<sup>293</sup> With the comparative profitability and efficiency of CGCT systems, the growth of nuclear power is likely to be fossilized. This is also because government and non-governmental organizations consider private ownership and operation of nuclear generating systems undesirable.<sup>294</sup> Also, the possible investment returns from such systems are insufficiently attractive to private investors.<sup>295</sup> As a result of continuing stringent international and national environmental controls and the growing stature of CGCT systems, the environmental impact of power generation in the United Kingdom is likely to be minimal.

In all of these, the question to ask is, Has the privatization or restructuring of the electricity industry in England and Wales improved the efficiency of the industry? It may be too early to draw emphatic conclusions in light of the fact that the program started only ten years ago and has been implemented in phases. The final phase of complete freedom to all consumers in the choice of their respective suppliers started with the passage of the Utilities Act on July 28, 2000.<sup>296</sup> Nevertheless, it is possible and important to discern certain trends. The first four years of restructuring yielded phenomenal profits to the companies as indicated by the table below.

PROFITABILITY OF ELECTRICITY COMPANIES  
IN ENGLAND AND WALES (£M)<sup>297</sup>

|                    | 1990/91 | 1992/93 | 1994/95 |
|--------------------|---------|---------|---------|
| National Power     | 479     | 580     | 705     |
| Power Gen          | 272     | 425     | 545     |
| REC's Supply       | 100     | 173     | 240     |
| National Grid Co.  | 386     | 533     | 611     |
| REC's Distribution | 914     | 1501    | 1753    |
| Nuclear Electric   | 326     | 664     | 1218    |

<sup>293</sup> This is what is described as the "dash for gas." See *id.* at 205-07.

<sup>294</sup> See Gordon MacKerron, *Nuclear Power Under Review*, in THE BRITISH ELECTRICITY EXPERIMENT, *supra* note 9, at 138 *passim*.

<sup>295</sup> See *id.*

<sup>296</sup> Utilities Act, 2000, c. 27 (Eng.). I am grateful to Professor McEl-downey for drawing my attention to this development. Fortunately, the Utilities Act has retained the general tenor and orientation of the 1989 Electricity Act.

<sup>297</sup> MacKerron & Watson, *supra* note 291, at 199.

The figures above seem to show that privatization was beneficial in terms of increasing profits. However, profit increases were not necessarily prompted by privatization.<sup>298</sup> The previously state-owned utilities were profitable on their own. For example, in the last year of full state ownership in 1987/88, the electricity industry made a net contribution of £1.47 billion to the treasury. This trend continued up until the dawn of privatization.<sup>299</sup> In addition, the huge profits made by the privatized electricity companies were founded or facilitated by governmental support.<sup>300</sup> The government support came in the form of high tariffs or price controls based on the need to make the privatized industry attractive to shareholders.<sup>301</sup> Also, falling coal and gas prices facilitated high-profits.<sup>302</sup> Privatization *simpliciter*, therefore, did not guarantee profitability. Government policy was crucial.

In terms of accessibility and standards of service, the evidence is also inconclusive. This is because standards of performance by the previously state-owned electricity utility were already very high. The concern at the inception of privatization was how, at the very least, to maintain that high level. One area in which privatization made a definite difference is the disconnection of services to defaulting customers. At the instance of the erstwhile OFFER, and its successor OFGEM, the privatized power companies are to find ingenious ways of recovering outstanding debts, other than by disconnecting customers.<sup>303</sup> Another segment of

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<sup>298</sup> The privatized utilities did embark on drastic cost-cutting measures by almost doing away with research and development and by reducing labor from 47,000 in 1989 to 27,000 in 1994. David Newberry, *The Restructuring of UK Energy Industries: What Have We Learned?*, in *THE UK ENERGY EXPERIENCE: A MODEL OR A WARNING?* 9 (Gordon Mackerron & Peter Pearson eds., 1996).

<sup>299</sup> This was made up of tax, interest repayment, and profit. See MacKerron and Watson, *supra* note 291, at 206. In 1991, the privatized companies paid a total of £693 million in taxes. This increased to £1014 million in 1995. *Id.* at 207.

<sup>300</sup> *Id.* at 207.

<sup>301</sup> *Id.* at 212.

<sup>302</sup> See *id.*

<sup>303</sup> OFGEM, as the office for the regulation of the gas and electricity industries, protects the interests of consumers as part of its mission. OFFICE OF GAS AND ELEC. MKTS., SAFETY AND SUPPLY INTERRUPTIONS FACT SHEET, at <http://www.ofgem.gov.uk/customers/safety.pdf> (last visited Nov. 30, 2000). Electricity and gas suppliers must assist clients who have difficulty paying their bills. *Id.* While OFFER was still the controlling agency, only 674 customers, out of twenty-four million, were disconnected in the years 1995 and 1996. U.K. ELEC. INDUSTRY, KEY FACTS, at [http://www.electricity.org.uk/uk\\_inds](http://www.electricity.org.uk/uk_inds)

the industry that has suffered under privatization is research and development. In a bid to enhance profits by reducing costs, the privatized companies have drastically cut down on research and development activities.<sup>304</sup> This notwithstanding, the British energy sector does not deviate from the criteria established for efficiency in this work.

## 6. REGIONAL DIMENSIONS

An important trend in the electricity business is its growing international connections.<sup>305</sup> The industry has hitherto been considered a national security concern that had to be under an overarching national policy umbrella.<sup>306</sup> The electricity industry has also been constrained by national borders with regard to where power is generated and to whom it is supplied. To the extent that any significant international relations existed, they related mainly to the financing and the equipment or technology-supply aspects of the industry. An increasing emphasis on the international dimensions of the business is one of the new characteristics of the electricity industry. There are two important aspects to this. The first is the marketing of the power generated in one country to other countries and the second is the impact of regional or international regulatory initiatives on domestic systems.

The French utility, EDF, is the leading exporter of electricity in Europe.<sup>307</sup> Its export balance of power exchanges with foreign countries in 1997 was 65.3 billion kWh.<sup>308</sup> This represents FRF 15.3 billion, a contribution of 8.7% to France's foreign trade balance.<sup>309</sup> Furthermore, the company has invested more than FRF 4.2 billion in Europe, Latin America, and Asia.<sup>310</sup> These invest-

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/keyfacts.html (last visited Nov. 30, 2000).

<sup>304</sup> See MacKerron & Watson, *supra* note 291, at 210-11.

<sup>305</sup> For examples of these trends, see Edward Rugoyi, *The Interconnection of the Southern African Power Pool*, 12 OIL & GAS L. TAX. REV. 434 (1998); see also SWEDISH TRADE COUNCIL, *ELECTRICITY EXCHANGES IN SCANDINAVIA* (1996) (describing existing electricity exchanges among Sweden, Norway, and Finland).

<sup>306</sup> See JEAN KIRK LAUX & MAUREEN APPEL MOLOT, *STATE CAPITALISM: PUBLIC ENTERPRISES IN CANADA* 20 (1988).

<sup>307</sup> EDF ANNOUNCED FINANCIAL RESULTS, *supra* note 160.

<sup>308</sup> *Id.*

<sup>309</sup> *Id.*

<sup>310</sup> *Id.* EDF has a presence in India, China, Indonesia, Singapore, Hong Kong, Europe, Africa, and the Americas. *Id.*

ments have made it possible for EDF, together with its partners and subsidiaries, to participate in the operation of distribution companies with more than 8.5 million customers world-wide.<sup>311</sup> The company also has interests in generating activities outside of France totalling approximately 11,500 MW.<sup>312</sup> EDF has a binary transmission network with the United Kingdom and, due to excess capacity, it serves as the first point of call whenever shortages occur or are anticipated in the United Kingdom.<sup>313</sup> The United Kingdom itself does not export power on any significant scale.<sup>314</sup> The United Kingdom's role in the international power market has historically been limited to participation in generation and, to a lesser extent, the transmission and distribution of electricity in individual countries.<sup>315</sup>

As in the case of EDF, the Ivorian power utility has also engaged the international power market.<sup>316</sup> It also has a binary transmission network with Ghana and, since 1994, it has been exporting power to Ghana; prior to that point, it had been importing power from Ghana.<sup>317</sup> To the extent that CIE contributes to the profitability and the international network of EDF, although not directly investing in generation and related activities internationally, it has a stake in EDF's investments world-wide. In the West African region, four countries—Nigeria, Togo, Benin, and Ghana—have concluded an agreement to construct a gas pipeline that would transport gas from Nigeria to the other three countries for the purpose of power generation.<sup>318</sup> This may lay the

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<sup>311</sup> *Id.*

<sup>312</sup> *Id.*

<sup>313</sup> BOWDERY, *supra* note 77, at 47.

<sup>314</sup> In 1998, for example, the United Kingdom imported 12.6 TWh power and exported 0.2 TWh. France, on the other hand, imported 4.0 TWh and exported 62.0 TWh. INT'L ENERGY AGENCY, *ELECTRICITY INFORMATION 1998*, 23 (1999).

<sup>315</sup> *Id.*

<sup>316</sup> See Frankie Asare-Donkah, *The Dilemma of CRA*, ECG, DAILY GRAPHIC (Ghana), Jan. 10, 1998 (on file with author).

<sup>317</sup> *See id.*

<sup>318</sup> *See* Heads of Agreement for the Supply and Transmission of Natural Gas, Sept. 5, 1995, Benin-Ghana-Togo-Nig.

foundation for a comprehensive regional grid network. Similar trends are observable in Latin America,<sup>319</sup> and elsewhere.<sup>320</sup>

The European Community ("EC") regime is the most advanced regional regulatory system for power.<sup>321</sup> The EC regime is encapsulated in the Electricity Directive of December 1996 ("the Directive").<sup>322</sup> The Directive requires member states of the European Community to open up their domestic markets to competition and to allow access to their markets and infrastructure to member countries' utilities.<sup>323</sup> In addition, they are required to disintegrate the management, or specifically, the accounts of the various segments of their respective power industries.<sup>324</sup> Individual countries are also required, if by implication, to establish transparent and effective regulatory mechanisms that assure the implementation of the principles and goals of the Directive.<sup>325</sup> Another important aspect of the EC power regime is the place it accords to protection of the environmental aspects of the industry. The Directive calls for effective regulation and management of the environmental consequences of power activities.<sup>326</sup> However, it ties the protection of the environment to the resources available to the relevant utility. This is in line with the general thinking in the Energy Charter Treaty,<sup>327</sup> but may derogate from the tenets of the "polluter pays" principle. Beyond environmental protection, the injunctions imposed by the Electricity Directive,

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<sup>319</sup> Argentina and Paraguay have participated in a bi-national hydroelectric project, Salto Grande. MULTILATERAL DEV. BANK ENERGY PROJECT, ENERGY AND THE MULTILATERAL DEVELOPMENT BANKS IN LATIN AMERICA CONTRADICTIONS BETWEEN FACTS AND DISCOURSE (1997), at <http://fp.chasque.net:8081/energy/english/Lareport/ch9.htm>. Paraguay and Brazil have also pooled resources for the Itaipú hydroelectric project over the Parana river, the largest hydroelectric dam ever. JOEL SAMPAIO & LUIZ A.N. SILVA, ITAIPÚ DAM, at <http://ce.eng.usf.edu/pharos/wonders/Modern/itaipu.html> (last modified Jan. 16, 2000).

<sup>320</sup> See, e.g., SWEDISH TRADE COUNCIL, *supra* note 305 (describing collaborative trends among Sweden, Norway, and Finland).

<sup>321</sup> See generally Botchway, *supra* note 53 (discussing the current energy regime in Europe).

<sup>322</sup> Council Directive 96/92 of 19 December 1996 Concerning Common Rules for the Internal Market in Electricity, arts. 4-5, 1996 O.J. (L 27) 20.

<sup>323</sup> See *id.* art. 19.

<sup>324</sup> This is what is described as "unbundling of accounts." *Id.* arts. 13-15.

<sup>325</sup> See *id.* art. 13.

<sup>326</sup> See *id.* art. 5.

<sup>327</sup> Energy Charter Treaty, Dec. 17, 1994, 34 I.L.M. 360 (1995).



together with the competition rules and other policies of the EC, should have a profound impact on the power regimes of member countries. This is especially true of countries like France, which have integrated monopoly systems.<sup>328</sup>

## 7. CONCLUSION

The foregoing discussion confirms the hypothesis stated at the outset of this Article. Power utilities did not generally start life as state-owned enterprises. In some countries, private power business was thriving before nationalization of the industry. A number of different reasons for nationalization have been discussed. In the main, state ownership was critical for the liberation of the liquidity stranglehold in which the utilities in some countries were locked. Second, in many countries, it was politically or ideologically conditioned. National security was thought to be better protected by state control of the vital power industry. At the same time, the Second World War unleashed the left-leaning philosophies and policies that spurred the nationalization drive.<sup>329</sup> Another important conclusion to be drawn from this work is that the state has been pivotal in the power industry. State intervention took the form of regulation when the industry was in private hands. The primary objective of such regulation was to make private power practice more equitable. The concern of governments has been the need to enhance both physical and price accessibility to power. In other cases, it facilitated the profitability of

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<sup>328</sup> There are a myriad of works on EC Competition law and policy. One of the most recent is MARC VAN DER WOUDE & CHRISTOPHER JONES, *EC COMPETITION LAW HANDBOOK: 1999/2000 EDITION* (1999). A helpful review of works on the subject is provided by Jo Shaw, *Review of Books on Competition Law and Policy*, 5 EUR. L.J. 103 (1999). The study of the implications of EC competition law on the energy industry is quite embryonic, but there is an emerging academic constituency on it. See, e.g., Patrick Blanchard, *French Electricity Sector: ECJ Decision on Monopolies for the Import and Export of Electricity*, 17 J. ENERGY & NAT. RESOURCES L. 265 (1999); James Dinnage, *Joint Activities Among Gas Producers: The Competition Man Commeth*, J. ENERGY & NAT. RESOURCES L. 249 (1998); Leigh Hancher, *Delimitation of Energy Jurisdiction: The EU and its Member States: From Organisational to Regulatory Conflicts*, 16 J. ENERGY & NAT. RESOURCES L. 42 (1998). For the purposes of this work, Blanchard's Article is the most interesting as it indicates the substantial role the state could play in the energy sector under the banner of public service. See Blanchard, *supra*, at 328.

<sup>329</sup> See FROST, *supra* note 13, at 39-62.

the utilities. These imperatives also drove the nationalization of the industry.

The same imperatives that drove prior industry nationalization are driving power industry reforms today. All four models identified in this Article have as their goals the efficient operation of the industry and equity both in price and accessibility of power.

In all, the state's participation appears inevitable in the areas of general regulation, financial support, equity, and environmental protection. State intervention varies depending upon the model employed in the relevant country and the general circumstances of the country concerned. State monopoly and state monopoly-with-competition, in general, receive more financial support and less regulatory network than private ownership with competition. Private monopoly, where it occurs in a country with weak governance structures, as in the Ivory Coast, may yield good returns for the utility, but such returns rarely trickle down to address equity issues.

In the case of environmental protection, none of the models show significantly unique qualities. As indicated, there is hardly any environmental regime designed specifically for the electricity industry in any of the countries studied. Environmental improvements have come about because of changes in technology and costs, rather than as a result of the adoption of any particular model. Specifically, the lower costs of establishing and operating gas-fired plants have resulted in shifts away from coal-based power and substantial reductions in sulphur dioxide and carbon dioxide emissions.<sup>330</sup> With respect to hydro-electricity, OECD has reached its respective optimum, as suitable and environmentally acceptable sites are increasingly difficult to locate.<sup>331</sup> At the same time, the huge cost outlays and environmental risks involved in investing in nuclear power mean that nuclear power

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<sup>330</sup> In 1992, sixty million tons of coal were used for power generation. This figure fell to about thirty million two years later. See Newberry, *supra* note 298, at 19.

<sup>331</sup> Hydroelectric production in the OECD fell by 2.6% from the 1997 level. See INTERNATIONAL ENERGY AGENCY, *supra* note 314, at 14. It appears that hydropower would continue to hold attraction to developing countries because of the relative abundance of water resources and less complicated technological and safety requirements. Gas-based power can also be expected to grow in developing countries for the same reasons that it may expand in rich countries.

would continue to remain state-owned or heavily state-controlled. That in itself points to an important revelation in this work: where power is derived from nuclear sources, the conspicuous presence of the state is inevitable.<sup>332</sup> As the cases of France and the United Kingdom show, state involvement expands with the size of the nuclear power industry.<sup>333</sup>

One issue that cannot be overemphasized is the need for a functioning and efficient regulatory system. All four models of reform reveal the crucial role that state regulation plays in the attainment of the economic and social goals of the industry and the tragic consequences that a weak or politicized regulatory system can have for the industry and country. Until August 2000, the British regime allocated a central role to an independent and largely personalized regulator.<sup>334</sup> The Malaysian system works through a network of coordinated government departments and TNB. The French system involves a close relationship between the regulatory agencies and the utility. The Ivorian and the Kenyan regimes reveal a very weak, almost non-existent, and highly politicized regulatory practice.

As this work has shown, irrespective of the model of reform adopted, the state will continue to play a significant role in the power industry for reasons of efficiency, equity, and the very unique nature of the industry. Taken together, the current British and French regimes largely conform to the tests for efficiency proposed in this Article. These include profitability, equity or access, and a regular, but hastened, process. If the two opposing models—state-owned monopoly and competitive private ownership—satisfy the criteria for efficiency, there is little reason to be passionate about either model beyond polemics. It has to be said, however, that the two systems are located in well-established democratic and bureaucratic contexts. As the British model indi-

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<sup>332</sup> In 1997, Nuclear power constituted eighty-two percent of total power generated in France. See EDF ANNOUNCED FINANCIAL RESULTS, *supra* note 160. In England and Wales, nuclear power was withdrawn from the privatization program and remains publicly owned. See Newberry, *supra* note 298, at 8. In Scotland, the utilities were privatized as a vertically integrated duopoly but the nuclear power remains in public ownership. See *id.*

<sup>333</sup> See *id.* at 8-9. For a historical discussion of the political, environmental and technological issues, see CAMILLERI, *supra* note 2 *passim*.

<sup>334</sup> Thomas, *The Privatization of the Electricity Supply Industry*, *supra* note 25, at 49. Under the Utilities Act, a three-member regulatory authority is established to regulate the industry. See Utilities Act, 2000, c. 27 (Eng.).

cates, there seems to be significant flexibility and space for regulatory and production choice in systems that are liberalized. These two reasons may account for the varying fortunes of the two intermediary models— the privatized monopoly in Ivory Coast and the quasi-competition in Malaysia. Although the Malaysian system responds positively to the three tests for efficiency, it has not attained optimum levels. In the end, the conclusion that social and government goals of efficiency and equity in power supply can be met only in an environment of effective democratic governance and bureaucratic efficiency is inescapable.