



## OpenAIR@RGU

### The Open Access Institutional Repository at Robert Gordon University

<http://openair.rgu.ac.uk>

This is an author produced version of a paper published in

North-east renewable energy sector survey 2011

This version may not include final proof corrections and does not include published layout or pagination.

#### Citation Details

##### Citation for the version of the work held in 'OpenAIR@RGU':

ATOROUGH, P., 2013. North-east renewable energy sector survey 2011. Available from *OpenAIR@RGU*. [online]. Available from: <http://openair.rgu.ac.uk>

##### Citation for the publisher's version:

ATOROUGH, P., 2013. North-east renewable energy sector survey 2011. Aberdeen: Aberdeen & Grampian Chamber of Commerce.

#### Copyright

Items in 'OpenAIR@RGU', Robert Gordon University Open Access Institutional Repository, are protected by copyright and intellectual property law. If you believe that any material held in 'OpenAIR@RGU' infringes copyright, please contact [openair-help@rgu.ac.uk](mailto:openair-help@rgu.ac.uk) with details. The item will be removed from the repository while the claim is investigated.



# North-east Renewable Energy Sector Survey 2011

*North-east* **Energy**  
**Renewable**  
Sustainability



*Robert Collier  
Chief Executive, AGCC*

## Foreword

Member's needs are at the heart of the work of the Aberdeen & Grampian Chamber of Commerce and, as a result, we have formed a range of sector-interest groups from within our membership of more than 1,200 organisations allowing us to target each sector's specific needs with increasingly tailored services and benefits.

As part of these improved services, the Chamber plans to publish a series of surveys to provide sector specific research on businesses in North-east Scotland. The second survey in the series is for the energy network, with a particular focus on renewable energy.

The aim of this survey is to discover how businesses view renewable energy in the region, as well as the potential role that this region can play in delivering the targets and objectives of both the UK and Scottish governments toward renewable energy. The report assesses current profitability and performance on key indicators, concerns about future growth factors such as funding, skills and policy, and an overall estimation of optimism for the industry's current and future growth.

Our conclusion is that this region is well placed to drive growth of the renewable energy sector in the UK. The level of optimism and confidence within the sector can be described as better than good and certainly presents a strong case for the region's aspirations to play a significant role in growing renewable energy both within the UK and in the European Economic Area. However, to maintain current impetus and achieve the potential growth, the region must work collectively toward this goal.

The message is clear. Renewable energy is an important business and developmental opportunity. Building upon its oil and gas heritage, Aberdeen City and Shire is well placed to deliver this opportunity in the form of jobs, sustainable growth, and business profitability. This will not only benefit the region, but will also impact on the prospects of renewable energy for Scotland, the UK and indeed the rest of Europe.



Your Chamber.  
Your Network.  
Your Opportunities.



North-east Renewable Energy Sector Survey

# Contents

---

Executive Summary..... 4

Introduction..... 6

Sector Profile..... 7

Operational Profile..... 8

Current Performance..... 9

Expected Performance.....10

Impacting Factors: Policy and Process..... 11

Impacting Factors: Skills and Employment.....15

Local Business Environment.....16

What do the findings mean?.....18

How the data was collected.....19

Further Reading.....19



# North-east Renewable Energy Sector Survey

## EXECUTIVE SUMMARY

The renewable energy survey is the second of a series of sector surveys by the Aberdeen & Grampian Chamber of Commerce (AGCC) and The Robert Gordon University, to provide sector specific research on business in North-east Scotland.

The objectives of this research are to assess the state of the renewable energy sector within the region, to provide an overview of its profile, to compare current performance against previous performance, to identify factors and issues affecting its growth and viability, to estimate the impact of policy and regulation, and to establish the industry's overall confidence and optimism for future prospects.

428 energy companies were contacted using databases maintained by AGCC and Aberdeen Renewable Energy Group (AREG). Out of the 125 responses that were received, only 76 responses were fully utilised in providing the final analysis because these stated that they were currently active in renewable energy. As such, this survey should be read mainly as a survey of active renewable energy participants. 49% of businesses that responded to this survey are actively involved with renewable energy and 25% plan to become involved in the future.

The key findings are as follows:

- The North-east is characterised with energy companies which are active in renewable energy as part of a mixed portfolio.
- Fewer than 20% of businesses have projects that have reached production, clearly indicating that the sector is still in its growth phase within the North-east.
- Although 80% of businesses had witnessed increase in costs, as many as 60% witnessed increase in investments, while 61% of profit-making businesses state that profits had grown from the previous year.
- 80% expect to increase research and development activity, while 75% expect to increase overall investment.
- 90% anticipate that they would employ more staff in the following year, with as many as 80% showing that this would result from increased capacity utilisation and initiation of new projects.
- The local business environment was highly rated as conducive for renewable energy business and as a potential hub for renewable energy in Europe.
- 60% stated that development of transport links should be given priority.
- There is doubt that government's renewable energy targets for Scotland would be met.



Overall, the North-east's renewable energy industry foresees a bright future both for itself and for the role of the region in delivering renewable energy aspirations to Scotland, the UK and Europe. There are however many issues to be resolved before this potential can be fully realised.

*“The North-east region has been rated highly as a potential energy capital for Europe, with a caveat that infrastructure, transport and skills require urgent development.”*

# North-east Renewable Energy Sector Survey

## Introduction

Although the North-east of Scotland is well known for its oil and gas resources, from offshore reserves to the wealth of local expertise in the sector, less is known about its strengths in renewable energy (RE). However, recent media and industry reports have highlighted just how important renewable energy is becoming to the region, as well as the potential role that this region can play in delivering the ambitious targets and objectives of both the UK and Scottish governments toward a greener

profile of issues facing renewable energy growth and performance in the North-east, Aberdeen & Grampian Chamber of Commerce, in partnership with The Robert Gordon University, and with support from Aberdeen City and Shire Economic Future (ACSEF), undertook a “how’s business” and “issues” survey of companies operating in this sector. This survey is complementary to the existing bi-annual oil and gas survey undertaken by the Chamber and is designed to build upon the service provided to the business community in the region. Issues covered in this first survey include current profitability and performance on key indicators, concerns about future growth factors such as funding, skills and policy, and an overall assessment of optimism by industry leaders.

*This report suggests that high oil prices and interest in new energy sources by oil and gas giants have combined to build momentum for renewable energy in the region*

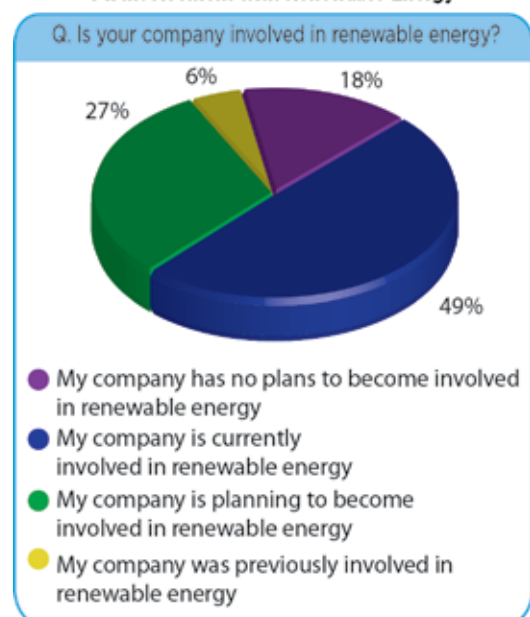
and renewable energy portfolio. The most recent of these reports has been by the accountants and business advisers, PKF, who reported that while there has been lack of optimism about renewable growth in Scotland overall, the case in Aberdeen and the surrounding region could not be more different. This report suggests that high oil prices and interest in new energy sources by oil and gas companies have combined to build momentum for renewable energy in the region. .

While that report highlighted some very important issues relating to renewable energy, for example the availability of skills, there are several other factors which have impacted upon - or may impact on - the industry, that have not been fully taken into account. For instance, from the point of view of the renewable energy industry itself, it is not clear how evolving government policy and competition for skills with the oil and gas sector might affect future developments in the region.

To provide a more comprehensive overview and

The report provides a summary of findings from the survey, and includes findings from qualitative research in the form of interviews and discussions. It contains a sector profile of renewable energy businesses in North-east Scotland, including operational profile, current performance, expected performance, impacting factors, local business environment, growth trends and business confidence and optimism.

**F1. Involvement with Renewable Energy**



## Sector Profile

There are about 428 companies and organisations in the region involved in energy production, generation, distribution, and support activities. As many as 350 businesses have some involvement with renewable energy, according to databases maintained by the AGCC and AREG. From the 125 businesses that responded, 49% are actively involved in renewable energy supply-side projects, while more than 25% plan to become involved (F1). Of those intending to enter the sector, the majority plan to explore wind energy (35%) or marine/ocean energy (28%) (F2).

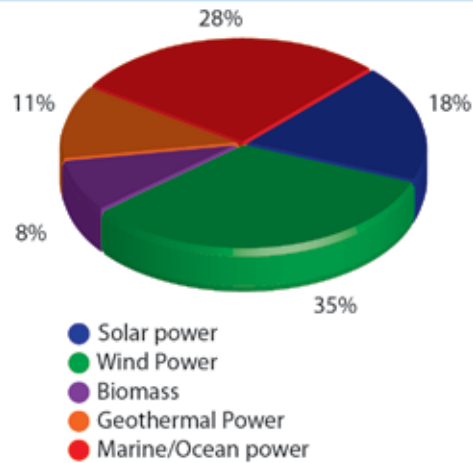
However, 20% of respondents stated that they had either withdrawn after initial involvement or had no plans to explore renewable opportunities. An aggregate of these respondent categories shows that the most common reasons for not exploring - or withdrawing from - renewable energy were lack of transferrable capabilities and skills, cost, risk tolerance and overall strategic decision (F3). Of those that had withdrawn from the sector, almost 50% said that they had been involved with solar power, showing that this subsector had seen the most divestment from within North-east Scotland (F4).

The remainder of this analysis includes only respondents who said that they were currently operating within the renewable energy sector.



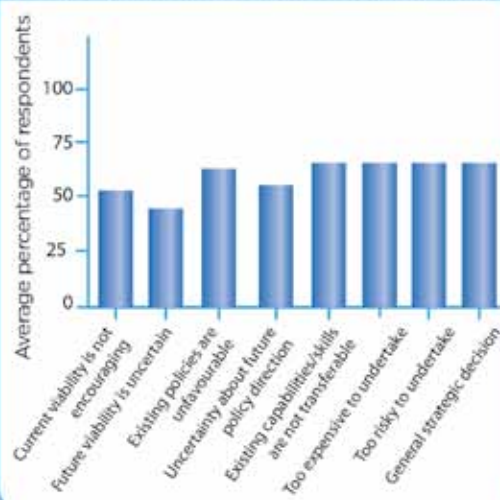
### F2. Future Renewable Energy plan

Q. Which area(s) of renewable energy are you planning to explore?



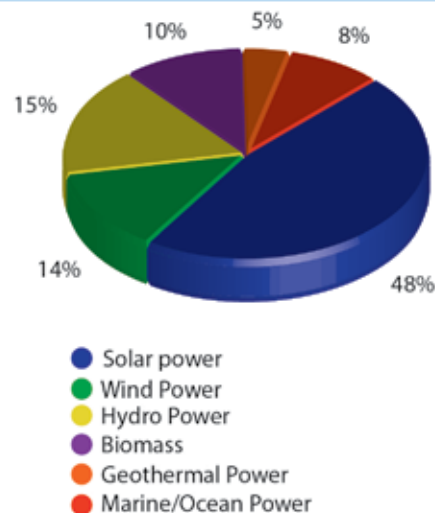
### F3. Reasons for not exploring Renewable Energy

Q. Why are you not interested in exploring renewable energy?



### F4. Previous Renewable Energy area involved in

Q. Which area(s) of renewable energy were you involved in?





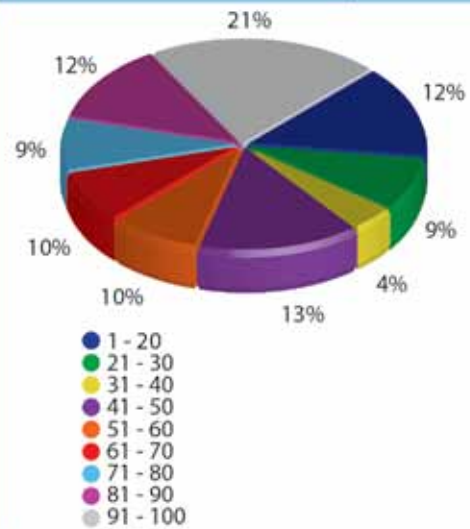
## Operational Profile

An analysis of current activity shows that while most companies operating within the renewable energy sector are also involved in other business activities, renewable energy forms a significant percentage of their business activity. Hence the region is characterised by the presence of energy companies with renewable energy as an important or growing part of their portfolio. More than 75% of respondents stated that renewable energy constituted over 40% of their business portfolio. However, there were fewer than 25% of respondents whose business is made up of 90% - 100% renewable energy activity (F5). The majority of respondents indicated that their activities involve macrogeneration (35%) or microgeneration (27%) while about 20% and 18% said they are involved in transmission and distribution, respectively (F6). Current activity appears to be approximately even across the main subsectors (wind and solar – 19%; geothermal, marine and biomass – 17%) while hydro energy (11%) appears less popular among operators (F7).



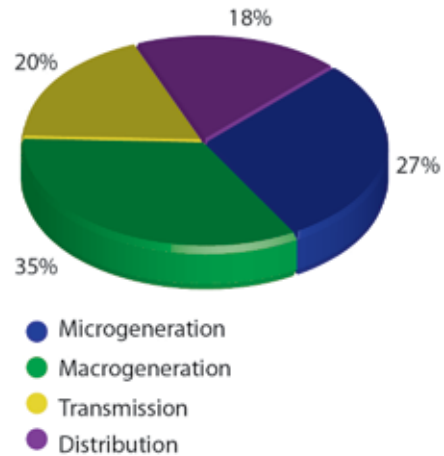
### F5. Renewable Energy percent of total activity

Q. What percentage of your overall business is related to renewable energy?



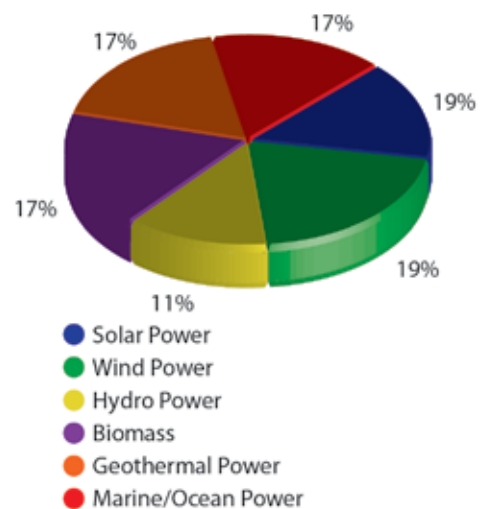
### F6. Primary Renewable Energy activity

Q. In which of the following categories would you classify your primary renewable energy activity?



### F7. Renewable Energy subsector

Q. Which type of renewable energy are you involved with?

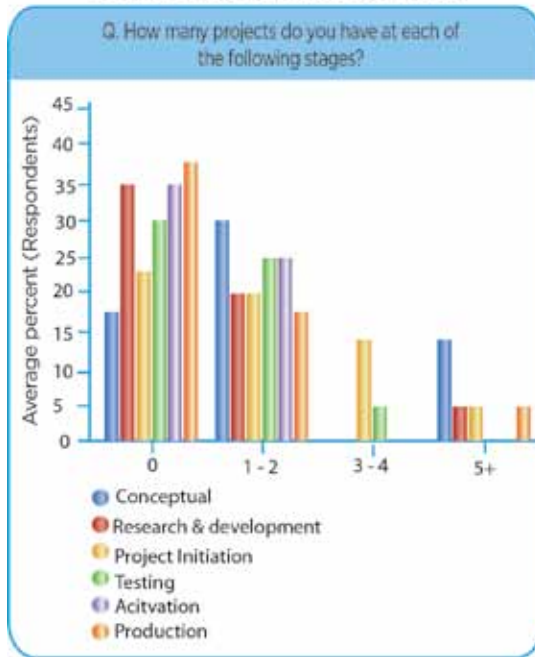


## Current Performance

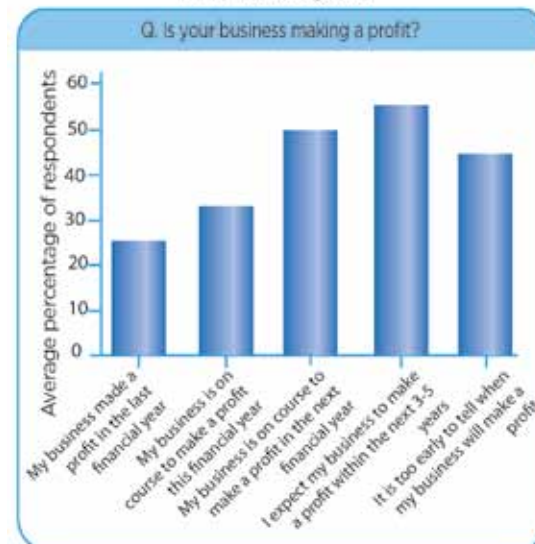
About 30% of companies have one or two renewable energy projects in conception or start-up, while as many as 10% have up to five projects at conception. 20% of companies have also reached research and development and project initiation stages on one to two projects, while as many as 25% of companies report that they are either testing or in the process of activating one to two projects. However, fewer than 20% say they have any project that has reached production, a clear indication that the renewable energy sector is still very much in its growth phase within the North-east (F8). It is therefore not surprising that when asked about profit making status, nearly 45% of respondents stated that it was too early to tell when their business would make a profit (F9). However 25% stated that their business had made a profit in the last year, 33% that their business was on course to make a profit in their current financial year, 50% that they expected to make a profit following year, and 55% that they expected profits with three to five years.

Against this background of profit expectation, or lack of it, respondents were asked to compare their current performance against the previous year (F10). Overwhelmingly, respondents said that compared to 12 months ago, it had become more expensive to run their business. Nearly 80% said costs had increased. However, in the same period, it was good news for most businesses as they witnessed a rise in investments (60%) and sales (58%), while year-on-year profits also appeared to have increased for 61% of businesses that were already profit-making. Furthermore, businesses' ability to obtain funding appeared to have remained unchanged, indicating that the sector was stable in terms of attracting funding for its operations. However, respondents reported a rise in staff turnover for the same period, potentially as a result of increased activity in the sector creating competition for skills. Perhaps in response to these mixed results, the majority of companies said their confidence in achieving short term objectives had diminished compared to the same period in the previous year.

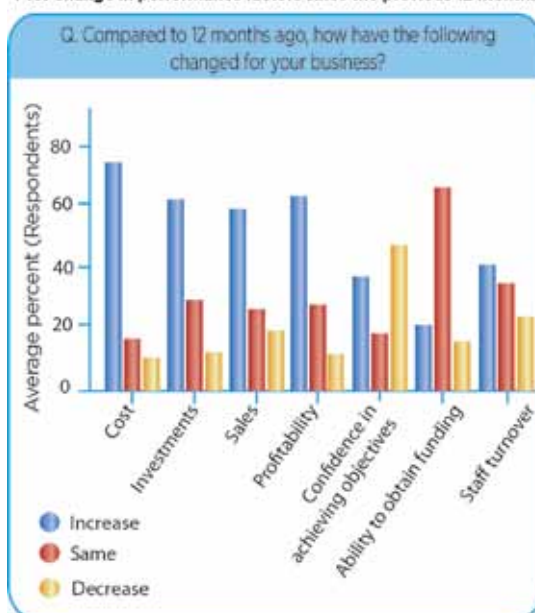
**F8. Number of projects per stage**



**F9. Profit making status**



**F10. Change in performance factors since the previous 12 months**

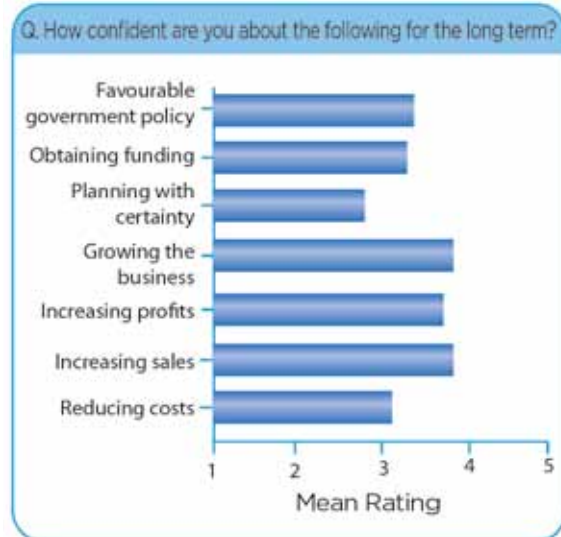


## Expected Performance

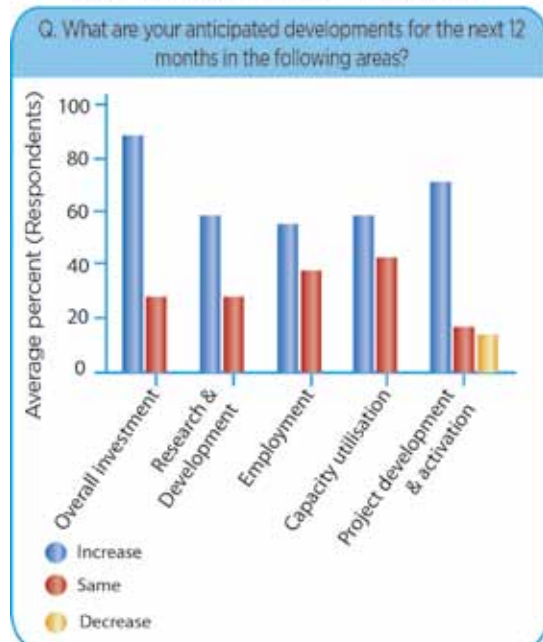
To gauge the level of confidence for long term prospects, respondents were asked to rate their expectations in a breakdown of specific aspects of their business based on current performance. In general, they appeared to have the most confidence in their ability to grow their business and to increase sales, but were less confident about planning with certainty and ability to reduce costs. They also rated the prospects for increasing profits as above average, indicating that while the current economic climate may have dampened confidence, there were clear expectations of better times ahead for renewable energy investments (F11). Asked about anticipated developments in their business activity and operation, respondents said they expected to increase overall investment (75%) and research and development (80%). Also significantly, up to 90% of respondents anticipated that they would employ more staff in the following year, while as many as 80% expected to increase their capacity utilisation and initiate new projects (F12).

In order to achieve these expectations, companies have a variety of strategies and priority options (F13). Majority of respondents rated consolidation of current activities the highest overall priority, followed by expansion into new markets. However, businesses appear to be confident that current investment and funding availability would be adequate for projected activity in the near term, as a result of which they rated funding as their least priority. The most popular strategic option for keeping the business viable however appears to be expansion into new markets, as, although many businesses had exported some service or product in one form or another, less than 25% of respondents stated that their exports accounted for up to 50% of their turnover. Hence almost all respondents rated market expansion as a priority development for the following year (F14).

**F11. Long term confidence**



**F12. Anticipated developments next 12 months**



**F13. Business priorities**

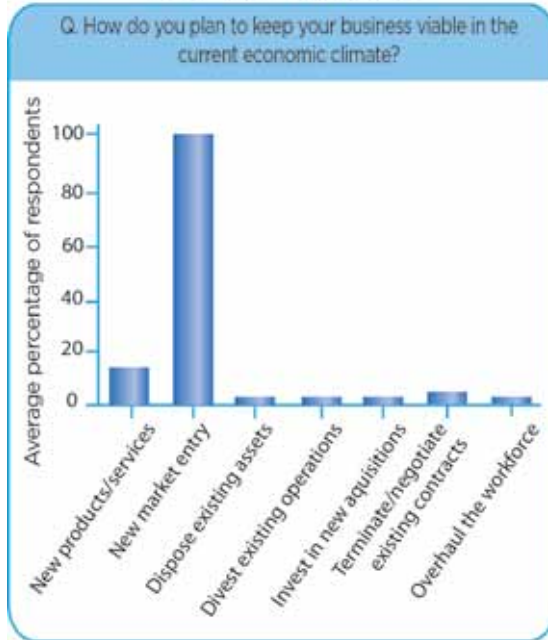


**“ KEY FACT: The most popular strategic option for future viability appears to be expansion into new markets. ”**

### Impacting Factors: Policy and Process

Performance, past, present and future is based within a framework of policies and processes. For this reason businesses were asked to provide their assessment of key issues relating to policy and procedure within the renewable energy industry. The UK government’s implementation of the EU criteria for renewable energy approvals was assessed. Respondents strongly concluded that the regulatory regime had thus far been very effective in implementing the environmental impact assessment and that it had done so transparently (F15). However, respondents were divided in their rating for proportionality, while the majority of responses showed that both measures for clarity and coordination were rated as low. The implication of this is that regulatory authorities responsible for implementing the EU criteria for renewables must be able to communicate their fair application of these criteria more elaborately and clearly, as this also feeds into the earlier highlighted issue of uncertainty about policy direction. Subsequently, respondents were asked if, in their current form, requirements and obligations for renewable energy were suitable in ensuring a viable future for the industry (F16). Over 60% of respondents said Renewable Obligations (RO) rates were set realistically to ensure future viability, while more than 40% said Feed-in-Tariff (FIT) and Carbon Emission Reduction Targets (CERT) were set at realistic levels for future viability. However up to 30% of respondents expressed doubts about the suitability of FIT and CERT, and as many as 60% of respondents were uncertain about the suitability of Community Energy Savings Programme (CESP) in relation to their impact on the future of the industry.

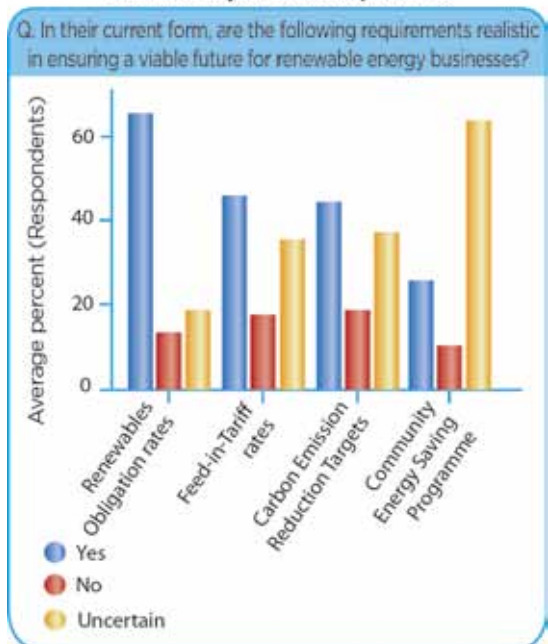
**F14. Strategy for staying viable**



**F15. Licensing & consenting regime**



**F16. Mandatory renewable requirements**

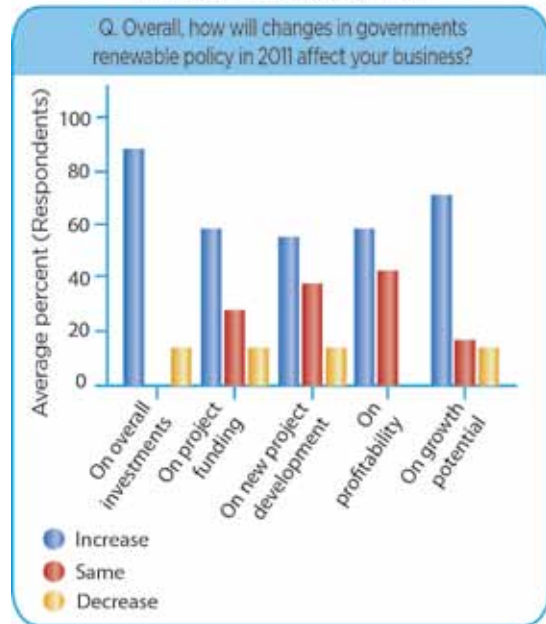


Following changes to government policy as announced in the early part of 2011, respondents were asked how these changes would impact on their business. Overall, the industry appears to have taken those changes and policy decisions very positively. Over 80% of respondents believe that these changes will increase investment within the sector (F17), about 70% that they have enhanced the industry's growth potential and about 60% that they will make funding easier and increase potential profitability.

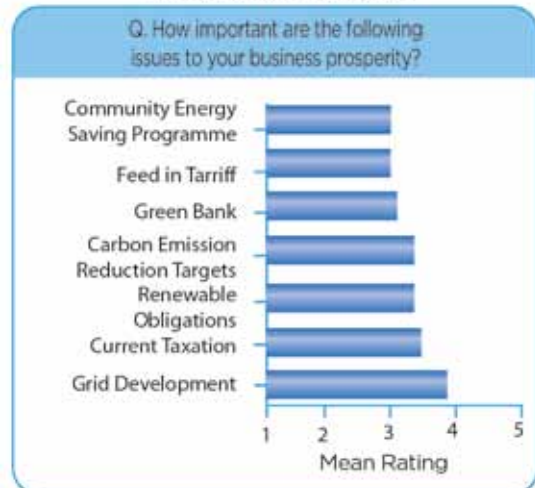
A breakdown of the policy issues (F18) shows that the industry is most concerned about transmission grid development closely followed by taxation, RO and CERT; however of less concern is the CESP. This shows that priority for the industry lies with development of grid to carry future distribution loads as production comes on-stream.

Against this background of existing and new policy framework, businesses were asked to give their own estimation of the likelihood that government targets for renewables in Scotland would be achieved, and expressed some doubts. Over 60% expected that 15% of total energy generation by 2020 would be attributable to renewables (F19), while nearly 40% expected that there would be a 10% reduction in the use of fossil fuels by the same time. However, only about 20% agreed that the equivalent of all household electricity would be generated from renewables, and another 30% that 15% of household heating would be supplied from renewable energy.

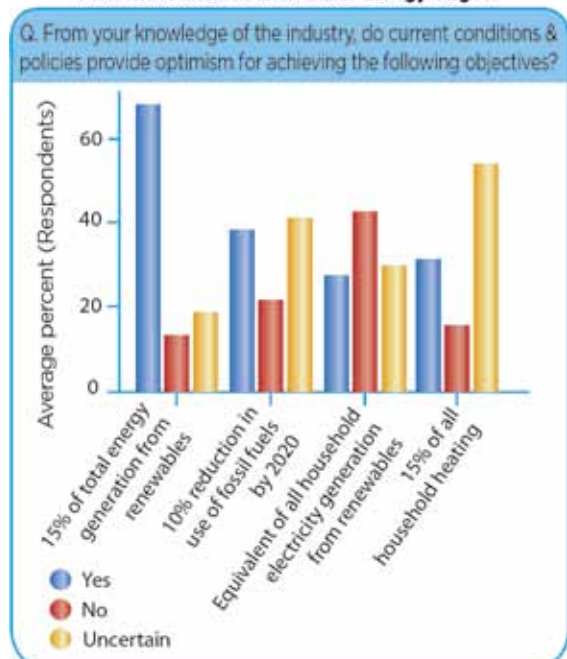
**F17. Effect of 2011 policy changes**



**F18. Importance of policy areas**



**F19. Achievement of Renewable Energy targets**

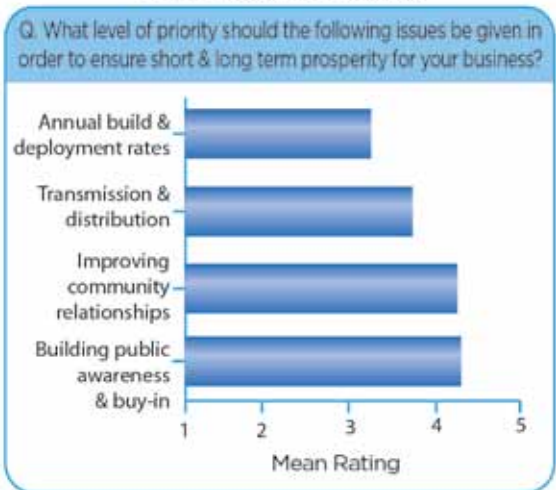


**KEY FACT:** Respondents are most concerned about transmission grid development, followed by policies on taxation, RO and CERT.

In contrast, more than 40% thought that the targets for equivalent of all household electricity would not be met, while an average of 30% were unsure about any of these targets being met. In order to achieve these targets however, the industry recommends a number of measures, the first of which is the building of public awareness and buy-in (F20). This in turn is followed by the need to improve community relations, indicating that the industry was keen to develop its image and public attractiveness even as it strives to further develop its infrastructure and technology. The importance of public awareness and buy-in cannot be underestimated. A recent newspaper report suggested that a typical household would have to pay as much as £200 more per annum to fund renewable energy supply, and given the rise in the cost of living, the case for paying more to utilise renewable energy will be hard to sell.

Finally, an assessment of current processes in the sector was made. Overall, processes were rated as acceptable, with employee relations rated as the best within the industry (F21). Contracting, health and safety and planning processes were also rated very well. However the results show that project approval processes can be improved.

**F20. Priorities for meeting targets**



**F21. Sector processes**

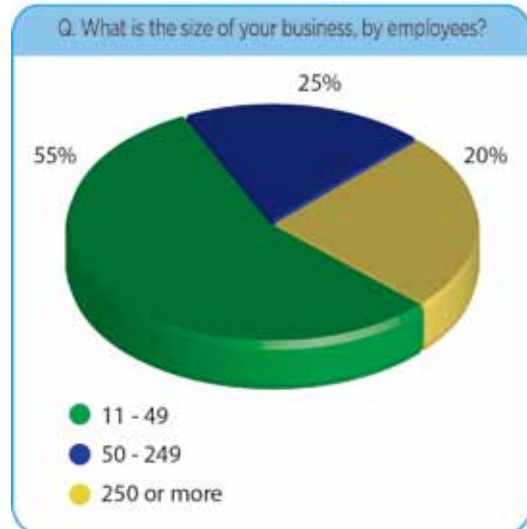


## Impacting Factors: Skills and Employment

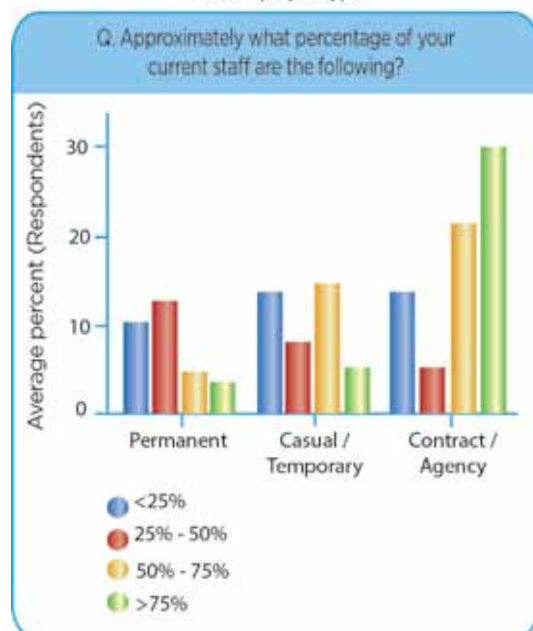
An important factor that impinges on an industry's current and future viability is the employment and skills base. Given the anticipated growth in investment within the renewable energy industry in North-east Scotland, it was important to assess from the industry's point of view the current and future availability - as well as requirements - for skills. The majority of companies in this sector (over 50%) employ between 1 and 49 staff while about 25% and 20% employ between 50 - 249 and over 250 employees, respectively (F22). Most respondents employ over 75% of their staff on a contractual basis while just over 10% of companies employ about 50% of their staff on a permanent basis (F23).

More than 50% of responding companies have increased staff numbers within the last year, and about 20% have seen no change in staff numbers. But nearly 30% have reduced staff within the same period (F24). However, over 40% of companies say they currently have unfilled vacancies or anticipate vacancies in the next year. Of these, 20% say their vacancies are senior managerial, 40% that they are junior managerial and over 40% that they are administrative. Asked about the perceived trends in attracting employees into these roles, 82% of respondents said that overall, it was becoming more difficult to attract experienced people in all roles, with 63% stating that it was especially difficult to attract candidates into technical specialty roles (F25).

F22. Employee size



F23. Employee type



F24. Change in staff

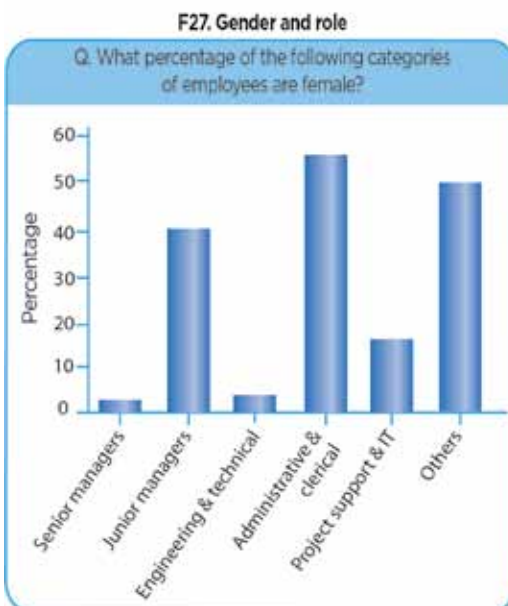
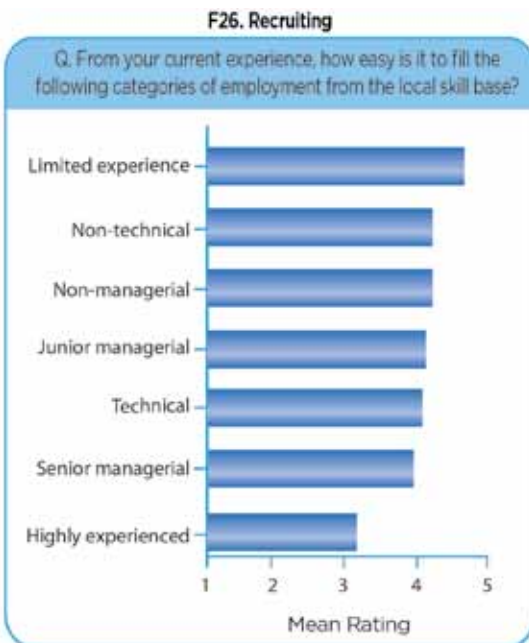
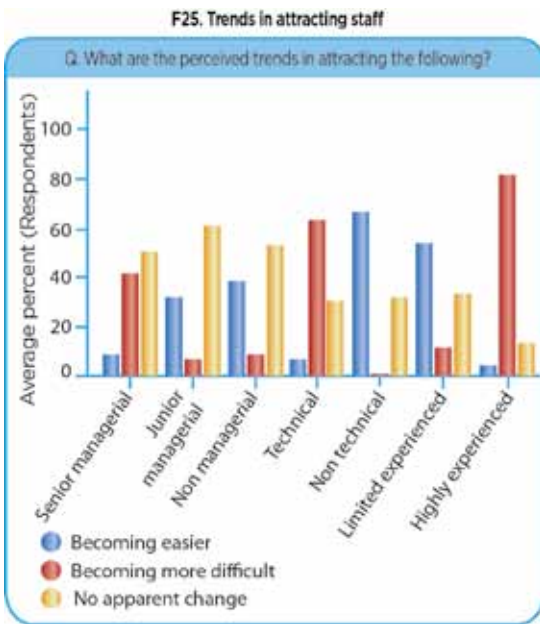


**KEY FACT:** Over 40% of respondents say they currently have unfilled vacancies or anticipate vacancies in the next year.

On the contrary, respondents indicated that it was becoming easier to hire non-technical skills, especially of limited experience. Similarly, finding the right skills within the local environment was reported by companies as most difficult, with roles requiring high levels of experience becoming more difficult to fill from the pool of local labour—meaning that they are frequently filled from outside the local area. (F26).

Finally, the employee profile of respondent companies reveals that less than 5% of employees in senior management roles are female, rising to 40% for junior managers and to over 50% of administrative roles (F27). Equally, fewer than 5% of female employees account for engineering and technical roles. This may represent an imbalance in employee profiles which the industry may have to deal with in the near future as, similar to other economic sectors, business leaders within renewable energy should expect to be increasingly challenged on their social responsibility and equity credentials. In addition, as the demand for talented and skilled employees increases in this sector, renewable energy businesses cannot afford to overlook a significant section of the available talent pool.

**KEY FACT:** A profile of respondent companies' employees reveals that less than 5% of senior management employees are female.





## Local Business Environment

Aberdeen City and Shire is positioning itself for a leading role in the growth and development of renewable energy in the United Kingdom, building upon years of expertise gained from the oil and gas industry. Organisations and initiatives such as Aberdeen Renewable Energy Group (AREG) and the planned European Offshore Wind Deployment Centre (EOWDC) have already highlighted the importance of the region's role in renewable energy, especially in wind and marine developments, with some research reports highlighting the potential of Aberdeen as a renewable energy hub for Europe. It is against this background that the survey sought to capture the views of the sector on the local business environment, the region's readiness to be a leading centre for renewable energy and the areas of priority to deliver this leadership.

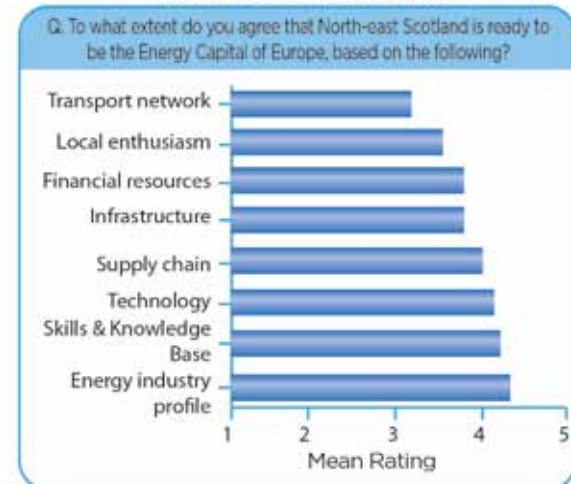
In answer to the question: "How would you rate the North-east as a place for doing your business?" respondents were generally very positive. Specifically, while the general business environment was given the best rating (F28), other areas that were highly rated included supply chain availability, community relations, networking and business generation opportunities. On the question of the North-east's readiness to lead on energy in Europe, respondents were again overwhelmingly in agreement that the region had the capacity and ability to do so. Existing energy industry profile, knowledge base, technology and the supply chain were rated as the region's key attributes in this regard (F29).

Given the above, it is not surprising then that 40% of respondents have their main infrastructure and workforce based within North-east Scotland, over 30% attribute their overall costs to the region, and nearly 40% say that planned new developments will be based within the region (F30). While these statistics represent good news for the North-east, they also show that there is a significant amount of renewable energy and related business going elsewhere. This is not surprising, given that energy is a global-oriented industry. However it was important to understand from respondents how the local region can be further developed to encourage more investment and primary base location.

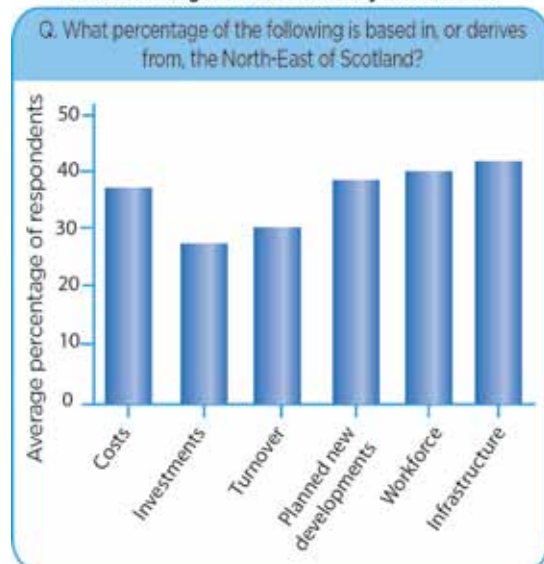
**F28. Doing business in North-east**



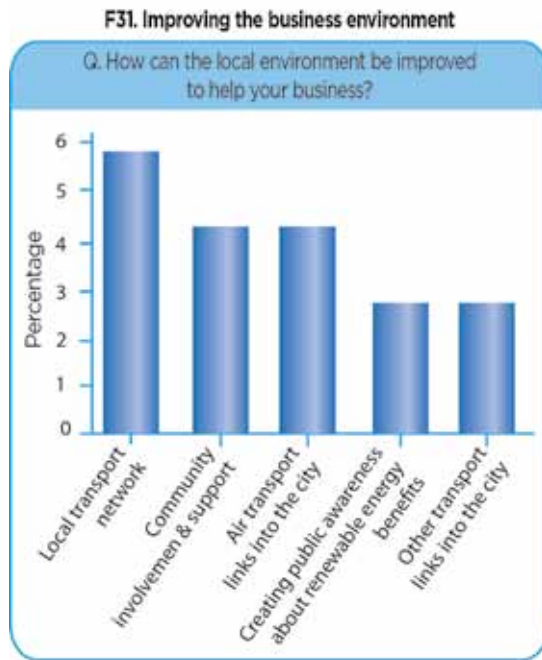
**F29. Readiness for energy leadership**



**F30. Percentage of business activity in North-east**



It is clear from responses (F31) that the transport network is the single most important issue that companies would like addressed. In interviews with executives, this was constantly cited as a potential threat to future growth and any leadership aspirations of the region in global renewable energy. Nearly 60% of responding firms stated that the development of local transport networks should be a priority. 40% said air transport links and 30% said that other transport links into the region also required attention. Community relations were also discussed and rated as a priority. While existing relations have been rated highly, businesses expressed their keenness to continue a positive engagement with the public by stating that priorities should be given to increasing public awareness of the role of renewable energy in the region as well as the maintenance of community involvement and support.



**“ KEY FACT: Transport network is the single most important issue that respondents would like addressed. ”**

## What do the findings mean?

This report has identified and brought to the fore the scale, profile and state of the renewable energy industry in North-east Scotland, as well as providing an assessment of the issues, concerns and priorities of businesses operating within the sector. In general, this report's findings are consistent with the most recent research conducted by PKF (accountants and business advisers) which suggested that Scotland's North-east is well-placed to generate momentum for the growth of the renewable energy sector in the UK. While concerns of slow economic recovery have created anxiety and great uncertainty elsewhere, businesses in the City and Shire are less concerned and have instead focused on expanding their activity and increasing investment. The level of optimism and confidence within the sector can be described as better than good and certainly presents a strong case for the region's aspirations to become a hub for the UK and the European economic area in the growth of renewable energy. A significant number of companies expect to increase activity, investment and profitability within the next one to three years. In addition, these companies have indicated that they will require skills and knowledge that can be filled locally, thereby creating local employment opportunities. This is positive news. However, to sustain current momentum and achieve the potential growth, the region must work collectively toward this goal. Renewable energy businesses have rated this region as a great place to do business and this must remain so. Future investment in overall infrastructure is important, but a number of priority areas have been identified, notably, the need to continuously work toward improving the local transport network, sustained effort at creating new links into the city via air and land, and the need to continuously engage local communities.

It is also evident from present and anticipated developments that as the renewable energy sector continues to expand and grow, the industry may soon experience skills shortages in key areas of the workforce. Relevant skilled and experienced personnel will also be in demand from the oil and gas sector. This is anticipated to create a shortage of staff in the renewable energy sector at a time when the industry needs its full resource base to grow. For this reason, concerned stakeholders must not only ask questions about how skills and knowledge for renewables can be nurtured and developed in the region, but they must also promote the recruitment and development of this

future talent. Furthermore, the local sector must also extend its aspirations for leadership to advocating for consistency and certainty of government policy for the overall national renewable energy industry. Situations that give rise to uncertainty and lack of clarity in policy direction can affect any expected growth, as witnessed in the withdrawal of some solar energy operators following recent policy changes.

Finally, it is important to draw attention to the limitations of this study. Given that only 29% of businesses contacted responded to this research, and only 61% of responses were fully utilised, the findings herein may be limited in generalisation and should therefore be interpreted with a level of caution. Nevertheless, the message is clear. Renewable energy is the future; and building upon its oil and gas heritage, those who responded feel that Aberdeen City and Shire is well placed to deliver this future, for the local population, for Scotland, the UK and indeed the rest of Europe.

*Over forty years' experience in oil and gas operations has established Aberdeen as one of the most influential, innovative and proactive energy cities in the world.*

*Many leading international energy companies are based in the city, which is recognised as the Energy Capital of Europe. Aberdeen is home to a unique concentration of around 900 energy related businesses, agencies, government bodies and research institutes. This innovative, experienced and resilient energy supply chain leads the way around the world.*

*These strengths have enabled Aberdeen to play an important role in accelerating the growth of the UK renewables market, into which many technical oil and gas, research and project management skills are directly transferable.*

*The city is now equally committed to driving forward the UK's renewables industry as it is oil and gas, offering significant opportunities for collaborative working through established and emerging partnerships.*

*In short, Aberdeen is equipped to spearhead the UK's drive to secure international business in the new energy future with:*

- *Worldwide energy alliances and strategic connections*
- *Influence in energy development*
- *World-class research, innovation and commercialisation in energy technologies*
- *International project management, development and commissioning capabilities*

Aberdeen Renewable Energy Group (AREG, 2011):

## How the data was collected

Quantitative data was collected by a combination of an Internet based questionnaire and a printed questionnaire, while qualitative interviews were administered face-to-face or over the telephone by the researcher. There was no attempt to analyse any systemic differences on the basis of the different collection methods, as this was not estimated to have any significant impact on the nature of the results. The data was collected from the following: 428 businesses were initially invited to complete an online or paper questionnaire, with reminders at the end of the second and third weeks, leading to 89 online responses. A follow-up resulted in 27 paper questionnaires being completed by some company representatives at the All-Energy Conference (2011) and by postal return; 9 interviews were conducted.

The online questionnaire was powered by Limesurvey, an online survey engine provider, while the data was summarised and analysed using SPSS Statistics, as licenced to the Robert Gordon University.

## Further Reading

Aberdeen Renewable Energy Group (AREG)  
[www.aberdeenrenewables.com](http://www.aberdeenrenewables.com)  
Link accessed 10/07/2011

BBC News (2011). UK solar panel subsidies slashed.  
Available online at:  
[www.bbc.co.uk/news/business-12790613?pr](http://www.bbc.co.uk/news/business-12790613?pr).  
Link accessed 18/03/2011

Globalspec Events (2011). UK Microgeneration: A Matter of Priorities. Available online at:  
<http://tinyurl.com/423a7gb>  
Link accessed 26/04/2011

Miller, Belinda (2010). UK Renewable Energy Excellence: Assessment of the International Trade Potential of UK Renewable Energy Technologies and Services. UK Trade and Investment, November, 2010

News@All-Energy (2011). Green Investment Bank: 'no compromise.' Media Generation Events Ltd, 13 March, 2011

PKF (2011). Deal Drivers UK: A study of UK M&A activity by PKF in association with Mergermarket. PKF Accountants and Business Advisers. May 2011

Strategy+Business (2011). Renewable Energy at a Crossroads. Available online at:  
<http://tinyurl.com/3p3o22q>  
Link accessed 15/06/2011

The Press and Journal (2011). Renewables investment growing in the north-east. 11 June, 2011

*Research & Project Manager:*  
Peter Atorough MSc, PGCert. Research methods, Prince2  
[p.t.atorough@rgu.ac.uk](mailto:p.t.atorough@rgu.ac.uk)  
[peter.atorough@agcc.co.uk](mailto:peter.atorough@agcc.co.uk)

*Project Lead:*  
Seona Shand  
[seona.shand@agcc.co.uk](mailto:seona.shand@agcc.co.uk)

*Production:*  
Aberdeen & Grampian Chamber of Commerce

Energy Network Sector Survey Report Supported by :



**Technology Strategy Board**  
Driving Innovation

*North-east* **Oil & Gas**  
**Renewable**  
Sustainability



**Aberdeen & Grampian  
Chamber of Commerce**  
The Ultimate Business Network

Greehole Place, Bridge of Don  
Aberdeen , AB23 8EU

01224 343900  
info@agcc.co.uk