2008 Renewable Energy Survey

INTRODUCTION

The **Low Carbon Innovation Network** (LCIN), created in November 2006, now has a membership of over eight thousand executives, committed to sharing best practice and innovation in the drive to tackle climate change.

Members include executives involved in reducing carbon emissions for their organisations, together with representatives from companies developing renewable energy and other environmental technologies.

Renewable energy has an important part to play in two of the UK's key energy policy challenges, namely in the move to a low carbon economy and to secure energy supply. With recent oil price increases and the vulnerability of fuel availability, the urgency for the UK to increase the supply of renewable energy has never been greater.

The UK Government has signed-up to a binding target that 20% of the EU's energy should come from renewable sources by 2020 and the European Commission has proposed that 15% of all UK energy (electricity, heat and transport) should come from renewables by 2020.

With innovative engineering & design, expertise in research & development and the benefit from Europe's largest wind, wave and tidal resources, the UK has strong credentials to become a natural centre for world-class renewable energy solutions, thereby opening-up major new markets and employment opportunities.

However, whilst there are a range of policies in place to deliver increased renewable deployment, the scale of action now required to generate 15% of the UK's energy from renewables is very ambitious, requiring a ten-fold increase in the level of renewable energy generation and use in the UK over the next 12 years.

Achieving this transformation in renewable energy will require a conducive regulatory environment, together with world-class innovation and forward-thinking investment.

The challenge of climate change and the move towards a low-carbon economy presents substantial business opportunities for companies in the UK renewable energy sector. Yet many of the opportunities are being hindered by a regulatory environment that constrains market growth and deters much needed new entrants to the market.

The **LCIN Renewable Energy Survey** seeks to identify the challenges being faced by companies in the sector and outline potential ways in which the Government might develop the regulatory environment to catalyse appropriate market development and encourage innovation and investment in the sector.

Based on contributions from over 380 respondents, we hope that this Report succeeds in providing some valuable insight, both for companies in the sector and for those involved in the preparatory work for developing the UK Renewable Energy Strategy, due to be published in the spring of 2009.

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EXECUTIVE SUMMARY

Regulatory framework

49% or respondees rated the **regulatory environment** as currently being the single biggest influence on their business. A clear, long-term, legislative and regulatory framework is needed to encourage investment.

83% of respondees thought that it was important to strengthen and extend the **Renewables Obligation**, as has been done in other European countries.

The introduction and a clear long-term strategy on **feed-in tariffs** was another area where there was strong support, in order to provide an incentive for the early adoption of micro-generation technologies.

Incentives to counter the high capital costs of **renewable heating and community heating** were also called for by the majority of respondees. It was suggested that a parallel mechanism to the RO should be established for heat generation/use.

Better **integration and joined-up thinking** of policies will be needed if the regulatory framework is to succeed in underpinning a transformation in renewable energy. For example: fiscal policy such as (RO and feed-in tariffs) needs to be integrated with physical (grid) policy; the OFGEM remit should encourage and support renewable energy projects and take a strategic and long-term view on ensuring a clean and secure energy supply; and decisions made by local planning committees should be more consistent with national policies.

There is growing importance of having **recognised standards** verifying the performance of renewable and energy-saving technologies.

Domestic renewable energy generation relies on new technology which is expensive to buy and install, so **grant-aid** is essential to stimulate demand in the market. However, current schemes are complex and the requirement for business to be filtered through a limited number of specified organisations hinders competition. Also the impacts of grants might be being negated by contractors hiking prices by the amount of funding that is available.

Just over 90% of respondents called for reforms to be made to **planning regulations**. A commonly held view being that the energy supply is a key strategic interest for the UK and as such reform and streamlining of the planning system is needed so that local authorities help deliver against national/regional renewable energy targets. Suggestions included:

I. Alignment of local planning to national policy objectives below the 50MW threshold.

II. Planning process would be eased if there was greater public awareness of renewable development and importance of renewable energy to tackle climate change.

III. Look to introduce planning requirements or building regulations that require, or significantly favour, applications that include renewable energy generation.

IV. Need to reduce and simplify regulations, reduce bureaucracy/time-delays and minimise uncertainty and rule changes.

Taxation

Introducing a **carbon tax** on all forms of energy, in line with the Stern report recommendations, would make renewable energy more competitive and so stimulate demand and encourage investors, whilst also incentivising energy conservation.

Other suggestions were to **'zero rate' the VAT** on non-fossil fuels and all components of a renewable installation; provide **tax credits** for renewable energy producers; and allow **tax breaks** for investors in renewable energy companies.

National Grid

Deficiencies and bottle necks on the T&D system significantly delay the progress of connecting new renewable capacities. Current **grid access** arrangements are preventing realisation of the UK's renewable potential. Maximum utilisation is needed in the short term, whilst planning infrastructure to enable widespread de-centralised energy generation.

Investment

38% of respondees specified that **raising new finance** was a key success factor for their business.

A number of comments referenced a perceived **funding gap** between early stage research and product development and the importance of investment in order to scale-up research ideas to develop value-creating UK technology businesses. This could be helped by using the procurement power of the Public sector, which is well placed for leading by example with implementation of new renewable technologies within their communities. This would increase investor confidence, help bridge the funding gap, whilst at the same time increasing public awareness and adoption of new technologies.

Supply Chain Collaboration

73% of respondees considered that supply chain collaboration is a key success factor for their business. There were many comments about the wide range of collaborations renewable energy companies need, for example with: academic and research institutes; consultants and product manufacturers; developers; distributors; early-adopters; investors; local authorities; regional development agencies; utility companies; and other potential supply chain partners.

There was significant frustration voiced about the limitations of the UK supply chain. For example, the constrained supply of wind turbines and reliance on imports is leading to long delays and insufficient competition to drive down prices or indeed even secure a supply contract.

There were many comments about the urgent need for development of the UK supply chain for turbines and other components/materials for the renewable energy sector. However, there seems to be a real lack of knowledge about the sector and the very real market opportunities available for UK businesses and a general lack of confidence in demand due to uncertainty about the regulatory environment, planning delays etc.

Manufacturing and engineering companies need to be encouraged and supported by RDAs to diversify into the renewables sector and collaboration, partnerships and knowledge transfer will be important to maximise the speed in which innovative companies can enter the market.

Skills Base

There is a serious skills shortage in the renewable energy sector, evidenced by the fact that 53% of respondents said that they had experienced recruitment difficulties.

Industry needs to be open to transferable skills and experience from other sectors. There is a need to increase apprenticeships and vocational training schemes and forge better links and more collaboration between business and universities.

Action is also required throughout the education system to address the long term skills requirements and there is an urgent need to demonstrate that there are exciting career opportunities in renewable energy.

Economic Outlook

Despite the undoubted challenges being faced, most respondees remained confident about their business prospects, with 64% looking to recruit additional staff over the next 12 months and 40% expecting their renewable energy interests to outperform other parts of their business/the wider economy.

This underlying strength, coupled with anticipated improvements in the regulatory environment to encourage innovation, investment and new market entrants, point to excellent prospects for the UK economy.

PROFILE OF SURVEY RESPONDEES

The survey, conducted during August and September 2008, had 380 respondents from the renewable energy [RE] sector representing a wide cross-section of professionals involved in technology development, consultancy, energy generation, distribution and the supply chain.

Involvement in Renewable Energy [RE] Sector	Response Percent	Response Count
Renewable Energy Generation	29.4%	100
Electricity supply/distribution	5.9%	20
Supplier to Renewable Energy Companies	17.4%	59
Research & Development	11.5%	39
Financing	3.2%	11
Consultancy	**32.6%**	111
	Other	40

Annual RE Revenues	Respondees		No. of RE Staff	Respondees	
Nil	13.68%	52	<10	**42.37%**	**161**
<£100K	9.74%	37	10 - 50	**31.05%**	118
£100K - 500K	13.42%	51	50 - 100	**9.21%**	35
£500K - £1 million	13.95%	53	100 - 250	**7.37%**	28
£1 million - £5 million	**14.74%**	**56**	250 - 1000	**6.84%**	26
£5 million - £50 million	10.26%	39	1000+	**3.16%**	12
£50 million +	7.37%	28			
Unknown/Confidential	16.84%	64			

- Just under half of respondents had a primary technology focus on wind power, with the overall breakdown being: Wind 49.3%, Biomass 15.8%, Wave 10.3%, Solar 5.0%, GeoThermal 4.2%, Hydro 2.9% and Fuel Cells 2.4%.
- A total of 199 respondents had an involvement at some stage of the development of new renewable energy technologies: *R&D* 14.7%, *Prototype* 8.8%, *Pilot Stage* 15.3%, *Generating Initial Revenues* 4.4%; and *Fully Launched Products* 19.1%.

CHALLENGES

Greatest Challenge Being Faced	Response Percent	Response Count
Regulation	**22.1%**	**79**
Funding	21.6%	77
Winning customers	20.7%	74
Operations/supply chain	13.2%	47
Recruitment/skills shortages	16.5%	59
Research & development	5.9%	21

POTENTIAL REGULATORY CHANGES

Strengthening the Renewables Obligation	Response Percent	Response Count
Not at all important	1.6%	6
Unimportant	1.6%	6
Neutral	13.5%	50
Important	**49.7%**	184
Very Important	33.5%	124

Introducing feed-in tariffs	Response Percent	Response Count
Not at all important	3.5%	13
Unimportant	2.7%	10
Neutral	24.2%	89
Important	**42.9%**	158
Very Important	26.6%	98

Changes to UK planning regulations	Response Percent	Response Count
Not at all important	0.3%	1
Unimportant	0.8%	3
Neutral	8.7%	32
Important	34.4%	127
Very Important	**55.8%**	206

Government incentives for renewable heating		Response Percent	Response Count
Not at all important		0.5%	2
Unimportant		2.7%	10
Neutral		22.2%	82
Important		**40.5%**	150
Very Important		34.1%	126

Financial support for community heating assets		Response Percent	Response Count
Not at all important		1.4%	5
Unimportant		3.8%	14
Neutral		27.0%	100
Important		**40.8%**	151
Very Important		27.0%	100

FUNDING

Is raising new finance a key success factor?	Response Percent	Response Count
Yes	38.4%	123
No	**45.6%**	146
Don't Know	15.9%	51

Primary source of funding	Response Percent	Response Count
Internal company investment	17.3%	31
Government grants	21.2%	38
Bank loans	14.0%	25
Investment by founders	10.0%	18
University research funding	4.5%	8
External investment	**33.0%**	59

EMPLOYMENT

Respondees were asked how they expected staff numbers to change over the coming year:

Industry employment prospects	Response Percent	Response Count
Sharply decline	0.3%	1
Decline	0.3%	1
Remain broadly constant	27.4%	91
Increase	**54.5%**	181
Sharply increase	11.4%	38
Don't Know	6.0%	20

Respondees were asked whether they had difficulties in recruiting staff with necessary skills:

Experienced difficulties in recruiting?	Response Percent	Response Count
Yes	**53.2%**	167
No	31.8%	100
Don't Know	15.0%	47