

GREEN SHOOTS IN THE WORKFORCE: GREEN JOBS RESEARCH BRIEF

This is the first of two SLIM research briefs in which we look in more detail at what is meant by ‘green jobs and green skills’. This brief covers ‘green jobs’, specifically how the shift in emphasis towards low carbon investment and sustainability is affecting existing and future work.

What sort of jobs might be needed in a greener Britain? A UK ‘green jobs’ search engine¹ takes an inclusive view and identifies the following occupational categories: chemicals conservation, corporate strategy, recycling, acoustics, air quality, bio buildings, carbon trading, climate change, contaminated land, ecology, energy management, engineering environmental, environmental management, geotechnical, noise planning and regeneration.

Greener economies, energy and employment

In their recent Economic Survey², the Organisation for Economic Development (OECD) considered that – in order to achieve required reductions in carbon emissions – the European Union would need to combat market failure in both energy efficiency and renewable energy developments within their own borders. Within the last 12 months Europe has itself reported on the green economy and skills policies across Member States³, where as many as 21m jobs are linked to the environment: either in the environment sector or requiring environment-related skills. Specific skills for the green economy include: knowledge of sustainable materials, ‘carbon footprinting’ skills and environmental impact assessment skills.

Green jobs cover all skills levels and their nature is changing rapidly:

- ◆ additional jobs will be created in several areas, such as in the manufacturing of pollution control devices added to existing production equipment;
- ◆ substitution of employment will take place, shifting from fossil fuels to renewable energy sources, or from land filling and waste incineration to recycling;

¹ <http://www.businessgreenjobs.com/>

² OECD. Economic survey of the European Union 2009: Energy policy and the transition to a low carbon economy – Chapter 4. OECD, Sept 2009.

³ European Commission. Environment and labour force skills: overview of the links between the skills profile of the labour force and environmental factors. Final report by ECORYS to the EC, Dec 2008.

- ◆ many existing jobs (eg plumbers, electricians, metalworkers and construction workers) may be altered due to the 'greening' of day-to-day skill sets, work methods and profiles.

The European Foundation for Working Conditions commissioned research⁴ to determine the extent of 'green recovery' progress across Europe. The report surveyed country-level initiatives underway and reported a mixed picture. Challenges were found with comparisons of: predictions of numbers of jobs likely to be created by the green economy; classifications of new occupations, including data collection and analysis; and recognition of formal qualifications across borders in a range of green technology areas, as countries may differ in their approach to the types of qualifications needed to perform some technical jobs.

The forthcoming Copenhagen summit on climate change in December 2009 also calls on Member States to commit to concrete environmental action in the short to medium term. In their 2009 Road to Copenhagen⁵, the UK's Department for Energy and Climate Change (DECC) noted that new low carbon technologies and green industries are 'already worth an estimated £3 trillion worldwide... employing 880,000 in the UK'. DECC reports that in the year up to spring 2009, for the first time 'green' energy overtook fossil fuels in attracting global investment in power generation. To help to boost recovery from the present economic downturn, the April 2009 UK Budget targeted £1.4bn extra spending to generate new low carbon and energy investment in the UK.

However, in its autumn 2009 annual report which monitors progress against reducing carbon budgets, the UK Committee on Climate Change reviewed its original December 2008 targets⁶ as part of provision under the Climate Change Act. It found that - to counter effects of the economic recession - to achieve the necessary 'step change' will require fresh actions in two areas:

- ◆ In power generation, where current markets and instruments are not 'best designed' to deliver long-term decarbonisation, requiring additional policies and a fundamental review
- ◆ In home energy efficiency improvements, where Government leadership and a more integrated 'whole house' approach is appropriate.

Greening practice: industries and jobs

The Confederation for British Industry (CBI) weighed into the green jobs debate⁷ by identifying particular industry areas where low carbon innovation could have the most

⁴ European Foundation for the Improvement of Living and Working Conditions. Greening the European economy. Eurofound, 2009.

⁵ The Road to Copenhagen: the UK Government's case for an ambitious international agreement on climate change. DECC, June 2009.

⁶ Meeting carbon budgets – the need for a step change. Progress report to Parliament by the Committee on Climate Change, October 2009.

⁷ Pulling ahead: innovating for low carbon leadership. CBI, July 2009.

impact. It noted that Government support for investment, 'intelligent public procurement, building the appropriate infrastructure and skills base will all be essential', taking into account existing industrial strengths: in aerospace, automotive, electronics, ICT, offshore industry structures and operations⁸, and construction and design. But it also cautioned that, in times of recession, Government must 'develop the conditions that allow business to invest', including encouraging and leveraging private finance; supporting the research, development and deployment (R&DD) lifecycle; promoting intelligent public procurement; creating infrastructure to support regional clusters; and developing the low carbon skills base to support innovation. The CBI recommended that the European Union Framework 7 Programme offered useful opportunities to boost innovation based RD&D, but that opportunities for small businesses to access this and related funding streams should be enhanced.

A report commissioned by the Energy & Utility Skills Sector Skills Council (SSC)⁹ identified National Qualifications Framework level descriptors for renewable energy jobs in wind, wave and tidal technologies; hydrogen and fuel cells; and biomass. It recommended that further detailed mapping be carried out of the National Occupational Sectors studied, which should also be benchmarked to international standards. It also recognised the links between green jobs and skills by calling for a full skills gap analysis to identify priorities for future policy and training developments.

The Strategic Forum for Construction and BIS¹⁰ also revisited the Strategy for Sustainable Construction originally issued in spring 2008. It had identified a range of ways to embed sustainable principles into construction practices; including design, procurement, innovation, materials, waste, biodiversity, improved workforce training, health and safety, and business kitemarks such as BREEAM¹¹. The report reviewed progress made in view of strengthened targets on mitigating climate change, energy efficiency regulations and the incoming Carbon Reduction Commitment¹², and assessed interim responses by the ConstructionSkills, ProSkills and Summit Skills Sector SSCs. Findings highlighted the role of Regional Development Agencies in helping to drive forward innovative practice, including integration of resource efficiency and waste reduction into business support diagnostic tools for small businesses, and adoption of environmental assessment standards in all direct build and supported project development.

In September 2009 BIS announced the opening of the Low Carbon Future Leaders job placement scheme for 1500 new university graduates, giving them the opportunity to gain

⁸ including offshore wind, marine power and carbon capture and storage technologies.

⁹ Occupational and functional map for the renewable energy sector for Energy & Utility Skills. Report by Adams Associates for EU Skills, March 2007.

¹⁰ Strategy for Sustainable Construction. Progress report by BIS/Strategic Forum for Construction, September 2009.

¹¹ The Building Research Establishment Environmental Assessment Method for measuring the environmental performance of buildings.

¹² The Carbon Reduction Commitment (CRC), beginning in 2010, will apply mandatory emissions trading to cut carbon emissions from large commercial and public sector organisations (eg supermarkets, hotel chains, Government departments, local authorities).

paid work experience in industry sectors providing 'jobs for the future'¹³. Under the scheme graduates work with businesses to help raise awareness of technological developments and new job opportunities whilst gaining work experience in emerging industries. HEFCE will be supporting the initiative through liaison between universities and regional partners. Initially, regional work will focus on marine energy in the South West and low carbon vehicles in the North East.

Regional developments in the South West

Prior to the recession in 2008, DTZ produced a report for RegenSW¹⁴ confirming the potential economic contribution to the region of the renewable energy and energy efficiency sectors. The report identified over 300 regional businesses active at that time across both areas and surveyed about half of them, of which: 64% focused on renewable energy, 20% on energy efficiency, and 16% on both. Their combined economic impact was found to support directly in excess of 7,200 jobs with a GVA of over £500m.

Since that time, the Wave Hub and PRiMARE initiatives have become flagship projects for the South West's Low Carbon Economic Area designation in marine energy. The Wave Hub will provide the world's first large scale demonstrator facility for wave energy by constructing an electrical 'socket' on the seabed off the north Cornish coast, generating 20MW of 'green' energy. A total Wave Hub investment of £42m has been received from the UK Government, ERDF Convergence and SWRDA. The South West's marine energy industry is also supported by the £15m Peninsula Research Institute for Marine Renewable Energy (PRiMARE), set up two years ago by the Universities of Exeter and Plymouth with support from SWRDA and the EU. It offers academic expertise at the cutting edge of the industry and a technology transfer team that supports businesses for high quality job creation.

Other European investment under Convergence targets skills for climate change in the Skills for Climate Change project¹⁵, led by Cornwall Council. It reflects a core objective of the Cornish Economic Development Strategy - development of a low carbon economy - as a major priority for both the Convergence ESF Framework and ERDF Operational Programme. It addresses a perceived 'significant lack of understanding of what a "low carbon economy" means in reality, how it can be achieved and in particular how organisations and individual members of the workforce can contribute'. Running until March 2012, it aims to develop skills, capacity and understanding within the workforce of carbon's role in climate change.

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¹³ Low carbon opportunities for graduates. BIS press release, 10 September 2009.

¹⁴ The economic contribution of the renewable energy and energy efficiency sectors in the South West of England. Final report by DTZ to RegenSW, April 2008.

¹⁵ In partnership with: the Eden Project, Cornwall College and the University of Exeter.