



Skills for a Low Carbon and Resource Efficient Economy A Review of Evidence

A report commissioned by **defra**
Department for Environment
Food and Rural Affairs

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Skills for a low carbon resource efficient economy – summary

Aims and purpose of the research

The intention of this research work was to undertake a wide ranging high level review of the current and relevant evidence relating to the skills implications of the transition to a low carbon and resource efficient economy (LCREE). This is the first attempt to bring together the current research and stakeholder views on skills for a low carbon and resource efficient economy. The specific objectives were:

- To develop an overview of the generic and specific skills requirements for a low carbon and resource efficient economy (LCREE).
- To develop an overview of a wide range of stakeholders understanding and awareness, as well as the demand for, generic and specific skills requirements for a LCREE.
- To identify gaps in evidence and recommend priority areas for future research which will move the LCREE agenda forward.

This project is intended to be a review of current evidence and understanding; through a document review and targeted stakeholder interviews. Detailed forecasting and wider stakeholder engagement were beyond the scope of the project. In total 95 organisations were contacted to seek written evidence and 140 documents were reviewed for evidence of LCREE skills requirements. 35 organisations also agreed to be interviewed (including 12 SSC's). Organisations contacted included; Sector Skills Councils, public sector organisations, professional bodies and key skills providers - the full list of organisations contacted and interviewed is available in Appendix 3 of the report.

Findings and conclusions

- Overall, the **evidence base on LCREE skills is weak**, available research is focused on high level and general comments, without any in-depth insights into specific skill requirements. Research is being conducted into many aspects of LCREE, but not LCREE as a whole. Evidence is more likely to be focussed around issues such as sustainable development, low carbon and general environmental issues. There was little research looking at resource efficiency related issues.
- A range of both generic (cross-sector) and sector specific skills were identified as priorities for a successful transition to a LCREE. **A high-level LCREE 'skills checklist' has been produced as a first attempt to articulate these skills sets.** A lot of the identified skills are not new skills (such as Science, Technology, Engineering and Mathematics skills). They are skills that already exist whose availability needs to be increased or which need to be applied in new situations or adapted with further training to a LCREE context. There is a need to identify these transferable skills and mechanisms for their transfer.

Demand for LCREE Skills

- There was evidence of a **latent demand for LCREE skills** – demand is not currently being articulated by many employers and as a result **the current "demand led" skills delivery framework is ill equipped to anticipate and respond.** LCREE

skills need to be considered by, and integrated into, the whole of the skills delivery system.

- Organisations do not have the right levels of understanding of the skills requirements and implications of a LCREE and consequently of the importance and potential benefits of integration of LCREE skills into their businesses. Only when these links and a clear business case are made will businesses demand LCREE training. **This leaves us in a 'Catch 22' situation – understanding and awareness are the key to stimulating demand for skills but in a demand led skills delivery system, an expression of demand is required from the organisations for the skills delivery sector (especially SSC's) to respond to.**

National capacity and capability to meet skills needs

- **It is considered unlikely that current levels of skills training capacity will be sufficient to meet demands** in the event of increased conversion of latent potential demand to actual demand, though further evidence based work and forecasting are recommended to quantify this. A high proportion of the 2020 workforce are already in work and many stakeholders felt that the current skills delivery infrastructure is not well suited to reaching and upskilling those already in the workforce.
- The skills delivery system and funding has been focussed on lower level skills. This does not maximise support of the LCREE agenda as LCREE skills have been cited as mainly being level 3 and above.
- Skills brokerage (and subsequent delivery) is reliant on well informed business advisors. Not all business advisors are sufficiently knowledgeable about LCREE to identify issues and broker relevant support/training. **Business advisors should receive specific LCREE training.**
- Some stakeholders considered that **low levels of awareness and leadership are leading to a short-termist approach from policy and decision makers within government, the public sector, the skills provision sector and businesses.** Organisations find it difficult to plan ahead because they do not know what the future policy drivers will be.

Integration of skills

- LCREE has traditionally been seen as a skill set separate to the core work of the company and the written evidence reviewed does not demonstrate a high level of integration of LCREE skills needs into current organisational priorities or general management practices. **Integration of LCREE skills into all training taken by companies is the key to mainstreaming LCREE understanding, knowledge, skills and thinking.**
- **Integration of some LCREE skills into qualifications and National Occupational Standards** has started to take place in a limited capacity, but there is still a long way to go.

Key recommendations for further evidence-based work.

- **Latent demand** – further development of the evidence supporting it and quantification of potential demand. Investigation and assessment of a range of methods for stimulating LCREE demand would also be sensible to inform any future campaigns to raise demand.
- **Identification of sector specific LCREE skills requirements** – in more depth than existing research, including assessment as to how these will be delivered. Also, many LCREE skills exist and are transferable to new sectors and into currently available skill sets. Identification of these skills and investigation of mechanisms for transferral or upskilling
- **Employer and employee perception.** *There is a case for further research on employer opinions and understanding of the opportunities in a LCREE and the associated skills implications. Similarly, further research **on the value of employee engagement** and how it can best be harnessed and utilised to advance LCREE within organisations would be of value.*
- **Case studies, performance and benchmarking** – examples of good performance and best practice, as well as the benefits this has brought, need to be collated and disseminated to promote uptake of LCREE skills and behaviour amongst organisations.
- **Further investigation of the relationship between behaviour change and LCREE skills** - there is a gap in the knowledge of what the key factors are in influencing organisations to change, what makes them embed LCREE and how influencing factors vary with company size and sector.
- **Waste and resource efficiency research** - not a lot is available, especially with relevance to skills requirements.
- **Optimum training delivery methods** – to identify training delivery methods fit for a range of up-skilling purposes.
- **Future technologies for LCREE** - to gain a greater understanding of where the key skill demands will be.
- **Development of leadership framework for LCREE** – there are a range of leadership and management skills and behaviours which it will be crucial to embed in all organisations in order to achieve and function within a LCREE. Development of a model for how these should be developed within organisations to ensure LCREE and longer term LCREE considerations become a fundamental part of management and leadership going forwards.
- **Design skills** – definition of sector specific requirements and increasing consideration of LCREE in design.

Other key recommendations based on stakeholder views and evidence review.

- LCREE considerations should be integrated across the whole of the skills delivery system with further consideration of how SSCs, the new CES and existing NSAs can collaborate - to ensure that where there is latent demand it is proactively anticipated and mechanisms are put in place to deliver the appropriate skills.
- Creating change in the current policies where SSC's respond only to demand lead skills needs. LCREE skills should be incorporated into majority, if not all, the Sector Skill Agreements facilitating creation of sector based National Occupational Standards which will accelerate the development and delivery of sectoral skills in LCREE.
- Consideration should be given to suitable methods of empowering SSC's to influence the agenda with regards to LCREE (in line with government priorities) and/or to methodologies for an awareness raising campaign to raise awareness at employer level.
- Pilot study investigating optimum methods of generic skills delivery – difficulties have been reported for employers trying to access training which is delivered in ways that are convenient for their business requirements. This practical pilot would trial and analyse a number of methods of skills delivery to produce guidance on the best and most effective practices for skills deliverers.
- The public sector employs large workforces and has significant purchasing power. There are a range of public sector opportunities which could be utilised to further this message and drive the demand for LCREE (such as re-writes of procurement codes).