

Meeting the low carbon skills challenge



An LSIS consultation response

Introduction

1. The Learning and Skills Improvement Service (LSIS) is the sector-owned body supporting the development of excellent and sustainable FE provision across the learning and skills sector. Its aim is to accelerate the drive for excellence and, working in partnership with all parts of the sector, to build the sector's own capacity to design, commission and deliver improvement and strategic change.
2. LSIS welcomes the opportunity to respond to this consultation on the low carbon skills challenge¹. Our response focuses on the areas of the proposals where LSIS feels well placed to comment and contribute – low carbon skills development generally and the role of the learning and skills sector. These cover questions one to six in the consultation paper.
3. Our response is in three main parts:
 - A summary response to the consultation proposals;
 - Responses to relevant consultation questions;
 - A brief account of the LSIS sustainable development and carbon reduction strategy.
4. We hope that this response will be useful in taking the proposals forward and we look forward to contributing to their further development and implementation.

Summary response

5. LSIS supports the direction and nature of the thinking and proposals within the consultation paper and the drive for a low carbon economy supported by the skills needed to make it a reality. In addition to the proposals in the paper we recommend that:
 - the approach take account of the potential role that the learning and skills sector has to play in developing low carbon skills. We strongly encourage further exploration of the practice, learning and impact that the learning and skills sector can share in these areas. For example, there are extensive activities underway within the learning and skills sector to support take-up and achievement and to develop teaching and learning practice in STEM subjects. We can provide further information and evidence of impact of our STEM programme and findings of research commissioned into post-16 progression within STEM subjects in further education.

¹ The consultation paper was issued jointly in March 2010 by the Departments for Business, Innovation and Skills and of Energy and Climate Change for responses by 23rd June 2010. It is available here <http://www.bis.gov.uk/assets/biscore/corporate/docs/l/10-849-low-carbon-skills-consultation.pdf>

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- the proposals be set more clearly within a broader context of 'skills for a sustainable economy'. This broader context includes other environmental impacts that the new economy should seek to address such as pollution and energy use; and further development of a sustainable, responsible and accountable society.
- the strategy take greater account of the need to develop generic as well as specialist skills to support the transition to a low carbon economy. The current proposals rightly place a focus on equipping the energy, transport and manufacturing sectors with the technical skills to make use of and embed low carbon technology and reduce emissions but the challenge is much broader than this. All decision makers in business will be required to think and behave differently to address the challenges of a new economy. For example businesses will need to develop skills to move into the emerging markets that will be created.

Responses to relevant consultation questions

1. What more can employers, schools and government do to promote the take up of STEM subjects by young people, and encourage them to consider careers in low carbon sectors?

6. LSIS agrees that STEM subjects have an important role in moving to a sustainable, low carbon economy; and our programmes are helping to develop teaching and learning in STEM. We believe this question underplays the key role of the learning and skills sector in encouraging the take-up of STEM subjects and promoting careers in low carbon sectors. The learning and skills sector also serves as a pivotal bridge to higher education, not least for young people who do not follow conventional academic school routes.
7. LSIS supports the sector to promote STEM study and careers through the LSIS Regional STEM Centres. These Centres have the flexibility to respond to regional and local needs, thus taking a steering and supporting role. We emphasise the need for young people to understand the positive contribution that STEM subjects make to both the economy and to the environment, and the career opportunities that are available through taking STEM subjects in further education. We also recognise the valuable role that STEMNET plays in inspiring and supporting young people in STEM subjects, and would like to see its role further encouraged and developed.
8. Information, advice and guidance (IAG) services for both young people and adult learners need to be take account of future skills needs – for employees, employers and those wanting retraining. While IAG services do not and should not promote any particular career or learning paths, IAG practitioners should be well-informed about STEM and other relevant curriculum areas (such as construction, power and manufacturing) and able to signpost courses and qualifications in those areas as appropriate.

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2. What more can universities, working with businesses, do to help stimulate demand for the high level STEM skills required in the low carbon economy?

9. Learning and skills sector providers have a potentially significant role in driving up employer demand for low carbon skills. LSIS has led extensive work through the STEM and World Class Skills programmes to build links between providers and employers and promote Knowledge and Technology transfer. The LSIS STEM programme also extends to private sector work-based learning providers.
10. There is potential for HE institutions and FE providers to work more closely together to stimulate demand for low carbon skills by offering opportunities to share their research and innovation/development to update staff and encourage student progression. Further education colleges combine proven ability to work directly with employers and to deliver HE courses – therefore bridging the gap between high-level study and locally-responsive provision to support business development and economic growth.
11. We welcome the efforts currently being made by BIS to facilitate links between FE and HE STEM provision. HE institutions need to make provision for level 4 and 5 qualifications, for example through foundation degree development. There is also scope for developing provision at levels 4 and 5 within the learning and skills sector.

3. How can more colleges and universities be encouraged to respond to the need for specialist skills in emerging low carbon sectors?

12. There is a case for government to support investment by learning providers in specific applications of STEM provision aimed directly at low carbon skills. Certainly it could be achieved through directing funding towards developing and growing provision in relevant subject areas, and on the development of the FE curriculum and qualifications. Additionally, targeted communication can be used to inform providers how they might choose to exercise their freedoms to innovate in this area. Options include the development and expansion of new curriculum areas (to address new skills needs), but primarily through adaptation of existing curricula, for example to incorporate training in new engineering technologies.
13. More flexible funding mechanisms would allow faster development of courses and qualifications to meet new and emerging needs. For some providers, the investment in the development of low carbon skills has substantial costs with no clear current source for investment capital. The time and complexities of securing funding can limit the responsiveness of providers to the demands of the low carbon sector. As these are new and emerging technologies and skills, funding needs to allow for a degree of unpredictability in terms of growth and development within the relevant industries. Learning providers need to be encouraged to step into these areas to experiment and innovate, without taking unreasonable financial risk.

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14. Embedding low carbon themes and topics within the delivery of a standard curriculum would very effectively and systematically raise awareness of the low carbon agenda. This would need a thorough and detailed review of where low carbon themes can be incorporated, with the scope to look at spreading and adapting current examples.
15. Emerging evidence from current LSIS research suggests that there are differences in how new and emerging technologies are prioritised in different regions. For example the Regional Development Agency for the North East, One North East, has effectively secured capital investment in skills provision for the low carbon industry. This investment has supported, for instance, the creation of the UK's first wind turbine training tower in Blyth, Northumberland in partnership with Northumberland College and Mainstream Renewable Power Ltd.

4) Is our overall analysis of the skills challenges, as outlined in this document, correct?

16. We broadly agree with the analysis presented in the consultation. In addition we recommend that the strategy takes greater account of the role of generic as well as specialist skills. Moving to a low carbon economy will require decision-makers in business to think very differently and much more creatively about what they do, about the breadth of impacts of their business (and the supply chains involved), about their markets, and about their future business plans. Some may shift their focus very significantly and need to invest significant sums in both business development and staff training.
17. Leaders and managers will need to be equipped to effectively plan for this transition, communicate vision, thinking and decisions to their staff, and to support staff who are directly involved in the transition through acquiring and using new low carbon skills. There is a still broader need to support the workforce as a whole, organisations in supply chains and the general public, to understand the need to move to low carbon; it cannot simply be a matter of equipping technicians with the new skills they need.
18. There is also a need for more specificity regarding the skills and competencies required. The learning and skills sector will need more accurate forecasting of skills needs and appropriate qualifications will need to be quickly developed to inform provider investment in delivery. The transition will also need a renewed commitment and investment from employers towards staff development and up-skilling, driven and supported by government and relevant agencies including sector skills councils, and facilitated primarily by the learning and skills sector. The retraining of workers in high carbon industries into low carbon industries is an enormous challenge and will require devoted time from the National Skills Academies and other agencies to tackle this effectively.

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19. LSIS supports the view in the consultation document that “in some areas a major cross-sector effort will be needed to develop new or updated qualifications and the capacity to deliver them. The skills system will need to focus strongly on being able to meet this potential demand, particularly as much of the higher level skills delivery will need to take place at work.”

In order to meet this challenge, teachers, tutors and trainers in further education will need to be supported and developed both pedagogically (ie as teachers and trainers) and in terms of their knowledge and skills within their curriculum area. Much expertise exists within the sector and we can support the exchange of this through peer coaching methodology and funded development work.

5) What are the best ways to replicate the examples of good practice provided throughout this document quickly and effectively?

20. The LSIS approach is to provide opportunities for sharing success and impacts, providing advice and support and engaging stakeholders to develop shared intelligence. We are also in a position to be able to share learning, for example from our Innovation Pathfinder projects. LSIS will help, through its emerging sustainable development strategy, to promote the further development and evaluation of existing practice within learning providers and its dissemination and wider application. We will also make examples of effective approaches to embedding sustainable development (in operations, curriculum, learning delivery etc) more readily, widely and easily available within the FE sector. We recommend an approach that inspires innovation as well as enabling effective approaches to be replicated and shared widely.
21. Sector skills councils will be well-placed to support the development of low carbon skills strategies within specific industries and business sectors, supported by the sharing of examples that already exist. There is also a role for the National Skills Academies. For example, the NSA Nuclear’s Skills Passport offers a potentially transferable model for enabling organisations to review and plan training and development. NSA Power plans to introduce greater consistency within its area of work including renewable energy and more can be done to accelerate and promulgate these developments to provide learners and the workforce with a clear framework of qualifications that have less risk attached to them as they are clearly accepted and needed by industry. In addition the creation of the NSA centres of excellence will provide a clear focus for investment.

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6) Is stimulating innovation in skills development and delivery the best way forward?

22. Yes. LSIS has a key role in supporting, inspiring and enabling innovation across the learning and skills sector, for example through targeting funds to research, develop, embed and disseminate successful practice. Stimulating innovation is only the starting point. LSIS encourages providers to reflect, share and adapt in order to make an impact. Exemplars and trail blazers – with clearly specified objectives – support this.
23. Innovation has to be stimulated continuously because low carbon industries and technologies move so quickly. For example, the skills that a wind turbine technician needs now (such as mechanical repair) may be very different to what is needed for the new generation of machines where components will have very different replacement methods. The ability of learning providers to keep on top of developments within a changing industry will be vital in meeting the challenges of this new sector. Both supply and demand for skills needs to be stimulated and there is a role to raise awareness amongst employers about the opportunities that newly-skilled staff presents.

Other relevant questions

24. Outside the six questions explored above, LSIS's other specific observation is in response to question 22. The experience of an LSIS Innovation Pathfinder working with composites (led by City of Bristol College) was that there was both a lack of awareness on the part of SMEs about the potential applications and developments in this area, but also that there was a significant lack of expertise in the provider staff. They are now working with the New Engineering Foundation to run Master classes to up-skill both SME and provider staff.

The LSIS sustainable development strategy

25. LSIS is implementing a wide-ranging practical strategy – Leading and Learning for a Sustainable Future - to support the sector in responding to the sustainable development challenge. There is already a steadily increasing awareness of and focus on the challenges of climate change and sustainability across the learning and skills sector. Reforms to the Ofsted inspection framework from September 2009 include a greater focus on sustainable approaches to teaching and learning. There is also a growing interest and engagement with the agenda among learning providers, manifested by a keenness to be more sustainable and to instill and inspire sustainable approaches to life and work among learners. Within this context, we can see the intrinsic relationship between sustainable development and sector development and improvement.

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26. We welcome the attention being given to the low carbon agenda, as reflected in this consultation, and the positioning of the low carbon challenge at the heart of plans for economic recovery. LSIS has actively supported the development of policy in this area, for example as a member of the Skills for a Low Carbon Economy Stakeholder Reference Group.
27. We have a strategic commitment to the sustainable development agenda and to supporting the learning and skills sector in responding creatively and collectively to the challenges and opportunities that the agenda presents (see section 3 above).
28. Key themes of our future work with the sector include leadership and capacity building; equipping the sector with effective tools and resources to help bring about change; and – perhaps most importantly – sharing practice and collaboration. All of these themes, and the activities under each of them, will support the objectives of the thinking set out in the consultation paper:
 - **Leadership and capacity building:** a truly effective response to the challenge of the low carbon transition must include equipping the learning and skills workforce to deliver the skills that the new economy will need. This will mean include equipping teachers and trainers to embed and transfer the relevant skills through the curriculum. LSIS will also look to support providers (and their leaders and managers) in developing and implementing whole-organisation approaches to sustainability. This thinking has informed our response to question 4 in the consultation paper above.
 - **Equipping the sector:** Knowledge, ideas, inspiration and information are key to turning commitment and leadership of the sustainability agenda into action. LSIS will therefore look to develop both a core framework for sustainable development in the learning and skills sector, to develop, grow, enhance and embed the resources, information and tools that can support and inspire the sector's response, and to support learning providers in understanding and accessing those resources. This will bring collective strength to the sector's response.
 - **Recognition and working together:** The step-change in thinking on low carbon and sustainability that the consultation – and our future – requires will need closer collaboration, sharing and learning across all sectors and not least within the learning and skills sector. We therefore support the importance and value that the consultation paper attaches to sharing effective practice (and we discuss this in our response to question 5 below). LSIS will continue to facilitate effective collaboration, communication and sharing between strategic bodies in the sector, and will develop, with the sector, processes to help providers to measure and review progress and development and share learning and successes. We believe the learning and skills sector deserves greater recognition for its achievements in sustainable development.

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Contact details

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