

Skills for a Sustainable, Low Carbon and Resource Efficient Economy

Report of a Second Round Table
Meeting, 30 June 2009

June 2009

Of interest to those in the FE system with an
interest in skills for sustainability

Further information

For further information, please contact the appropriate LSC partnership team at the local LSC. Contact details for each office can be found on the LSC's website: lsc.gov.uk.

Learning and Skills Council National Office

Cheylesmore House
Quinton Road
Coventry CV1 2WT
T 0845 019 4170
F 024 7682 3675
lsc.gov.uk

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Executive summary

On 30th June 2009 the Learning and Skills Council hosted a second round table event for stakeholders from across the skills system to consider skills issues in relation to the transition to a low carbon and resource efficient economy (LCREE).

The outcomes of the first round table on 11th February 2009 helped to inform the drafting of the skills chapter of the Low Carbon Industrial Strategy. With the Strategy due to be published in July 2009, the second round table provided a further opportunity for Government to gain feedback on its proposals. Participants in the second event included leading edge employers who had been involved in an employers' skills summit.

Speakers from the Sustainable Development Commission, the Department of Business, Innovation and Skills, the Department for Environment, Food and Rural Affairs and the Department for Energy and Climate Change outlined aspects of current thinking and posed questions for the group to consider.

This report includes a detailed account of the discussion but these were the key messages the group had for Government.

- **Sector Skills Councils (SSC) have an important role to play.** Government should take the opportunity offered by re-licensing to support SSCs who are already making progress and direct those that are not.
- **There must be joined-up thinking across Government and a coherent approach to incentives including investment.** Carbon reduction should be a high profile part of all Government initiatives and announcements. Incentives must be attractive and relevant drivers of change in the skills system as well as raising demand from employers and individuals.
- **Public sector procurement could be a significant driver.** More effort and direction must be given to making sure that low carbon and sustainability criteria are not marginalised and that they stimulate change and demand for skills.
- **We need a culture change across the whole economy.** We need to stop thinking just about specialist skills for 'green jobs' and look as well at the generic skills and ways of working and living that are required to move the whole of society to a low-carbon basis.
- **The employer-led approach will not on its own deliver the change we need.** Employers have a significant role to play but Government must act as a catalyst to drive change and raise demand.
- **'Resource efficiency' is more likely to engage employers than 'skills for a low carbon economy' or 'sustainability' but it has risks.** We need to encourage new and radical ways of doing things; not just doing 'less of the bad'.
- **Supply chains are real opportunities to make change happen.** Learning and ideas can be shared, and working collaboratively embeds change right through the chain rather than just moving the carbon around. There are some good examples already of work in supply chains – these must be shared.

Introduction

The Sustainable Development Commission, the former Department for Innovation, Universities and Skills (now the Department for Business, Innovation and Skills) and the Learning and Skills Council established a stakeholder reference group in spring 2009 to inform government thinking on the delivery of a strategic skills solution for a sustainable low carbon and resource efficient economy (LCREE).

The stakeholder reference group includes representatives from the demand side, where the need for LCREE skills is starting to be articulated in some areas but not in a way that is widespread or consistent across all sectors, and the supply side where there are some good examples of providers working with individuals, employers and communities to deliver the skills required although this is not widespread throughout the system.

The first round table event was held on 11th February 2009 with a report published afterwards. The main outcome was a set of key success factors for the development of skills for a sustainable, low carbon and resource efficient economy.

- The need for a significant **culture change** that reaches into all parts of society and reflects a positive and proactive approach to meeting the challenges of a low carbon future.
- The importance of **learner engagement** whether institutionally driven through learner voice strategies in providers, or led in the workplace by trades unions through union learning representatives.
- The role of the wider **public sector** in providing **leadership** and demonstrating the importance of this agenda through its operating practices and procurement strategies.
- The proportionate and appropriate use of **regulation and legislation** to drive change without constraining the ability of the system to respond.
- The importance of the **role of government** and its agencies to provide strategic leadership and stimulate the articulation of latent demand.
- The identification and dissemination of **next practice** as well as best practice, looking for hotspots of innovation and ensuring that lessons learned can be quickly taken up by others.

- The role of **professional bodies**, including those for teachers and trainers, in ensuring that necessary skills are updated through continuing professional development.

In June 2009, a second round table event took place to:

- provide a further opportunity to inform the Low Carbon Industrial Strategy, due to be published in July 2009
- reconsider the outcomes of the first round table and provide advice on prioritising these and other potential measures
- share the outcomes of the second Low Carbon Skills Summit held with leading edge employers at Windsor Castle on 18-19 May

Some of the employers who attended the Skills Summit also attended the second round table. A list of attendees at the second round table is attached at Annex 2.

Key Points from Presentation

Chair's welcome, Tess Gill of the Sustainable Development Commission

- This is the second meeting of this round table group to consider issues around skills for sustainability or skills for a LCREE.
- The group has an important role as a sounding board to inform and challenge the formulation and delivery of Government policy in this area.
- We are a larger group than in February because some of the employers involved in the employers' group are attending.
- To support the group's role as a sounding board, a few short presentations had been arranged to provide everyone with an update on current Government thinking and timescales.

Jonathan Mackey – Department for Business, Innovation and Skills

- Government is close to publishing its Low Carbon Industrial Strategy. This means the round table today is a further opportunity to inform the content.
- The Low Carbon Industrial Strategy will be Government's high level statement of intent.

- The Government's high level strategy remains as follows.
 - **use the power of Government** to accelerate delivery of a strategic low carbon skills solution without weakening employer leadership of the skills system
 - **draw on expertise of cutting edge employers** to set the agenda and the pace of reform, accelerate supply side responsiveness and stimulate demand
 - **work with Sector Skills Councils** to mainstream low carbon skills solutions in each sector and across all sectors of the economy
- The recommendations made at the first round table in February and at the skills summits in May have been valuable. Government recognises in particular the importance of all the 'pieces of the jigsaw' falling into place in support of this agenda.

Four key slides from the presentation are included below.

11th February round table
highlights and priorities

- apprenticeships and graduate work placements to have both generic and specific low carbon content
- public procurement to stimulate business investment and employer demand for low carbon skills
- public investments in (for example) NSA to have low carbon skills requirement
- lessons learned from FE Innovation pathfinders to be shared more widely

Department for
**Innovation,
Universities &
Skills**

11th February round table
highlights and priorities

- value-driven companies to engage SME supply chains in low carbon goods and services
- SSCs to include sustainable development skills in all NOS and qualifications development
- champions and international benchmarks to raise aspiration and build momentum
- reality checks to ensure that all pieces of the jigsaw are in place before making commitments

Department for
**Innovation,
Universities &
Skills**

7th May skills summit
top 4 ways to develop low carbon capability

- sector specific process improvement skills to drive efficiency through existing processes and activities
- integration of low carbon into general management skills, including audit, finance, investment etc
- STEM skills at all levels – particularly in engineering – to develop practical knowledge in low carbon technologies
- procurement and supply chain management skills to drive low carbon through the business process

Department for
**Innovation,
 Universities &
 Skills**

18/19th May skills summit
Windsor consultation – raising employer demand

- low carbon language 'off-putting' – businesses relate better to the language of resource efficiency
- the workforce to 'own' the resource management agenda and build on efficiency gains
- leading edge employers to share their knowledge (including training) with supply chains
- SSCs to champion leading edge employers and create supply chain demonstrators

Department for
**Innovation,
 Universities &
 Skills**

Tess Gill, Sustainable Development Commission

- We have sustainability strategies and mechanisms in place now, with more on the way but progress is too slow. This is not a surprise because it is a challenging agenda but it is disappointing. We are not on track to meet the targets already in place (e.g. on renewables), and although some social objectives have seen progress, with others the picture is worse.
- We need high ambitions and we have to start **delivering**. Some of the agreed quick wins, such as embedding sustainable development in National Occupational Standards have been identified for a while and not happened.
- On the skills needed, the consensus is that we are not just talking about technical skills, but wider capacities and understanding of the issues. This is a fundamental challenge to how we live as set out in the principles of sustainable development, adopted by Government in *Securing the Future* (2005). It is a skills and capacity issue for all workplaces and communities, not just environmental industries etc.
- Government acknowledges that the skills system is not sufficiently aligned with the LCREE agenda. The demand for the skills needed to move forward on this agenda is not coming through from employers, particularly from the Small and Medium Enterprises (SME) sector sufficiently. It needs action rather than discussion. If the great British refurb on retrofitting housing is to take place there is an urgent task of upskilling the existing workforce. Much can be done without spending more money – it is as much about integrated thinking and utilising the money already in the system. The issue should be prominent in all Government thinking and communication – there are too many examples of the skills needed for this agenda not being to the forefront of Government announcements but added in almost as an afterthought, as in the **Building Britain's Future** announcements for instance.

- We need action in three areas:
 - Stronger policy based signals about future demand for skills, made more credible by government's own investment programme
 - Steps to help business overcome barriers such as knowledge or finance, to understanding and acting on these signals
 - Steps to ensure the skills system understands the demands and acts accordingly
- If the UK Commission for Employment and Skills (UKCES) does not have the capacity to lead on this agenda, Government will need to do so instead, with engagement and co-ordination across all sectors.

Martin Nesbit, Department for Energy and Climate Change

- The Climate Change Act creates a framework with legally binding targets, including carbon budgets. Details on delivering carbon budgets will be published within a couple of months of them being set.
- The Committee for Climate Change (CCC) will ensure that Government is challenged on its progress with these and that decisions on policy development are evidence based. The CCC is recommending a focus on energy and travel and no reliance on offsetting.
- Just doing a little in all sectors will not be enough. Big changes are needed to meet the targets – and these may need to be ever bigger in some sectors to compensate for those where the capacity to change is more limited.
- We can and must reduce emissions in areas that fall outside the EU Emissions Trading Scheme. We also need to radically decarbonise our energy supply.

- Rolling out of good practice is useful but we must remember that it is good practice from within the current economy and we really need a radical shift in the economic context too. In areas such as the refurbishment of existing buildings, the skills issues are huge.
- Given the scale of change required, will an employer demand-led approach be enough?

Lindsay Harris, Department for Environment, Food and Rural Affairs (Defra)

- The issue is applying up to date environmental thinking to all the skills that are currently needed in the economy e.g. leadership and management, accountancy etc.
- There are three broad areas for Government response.
 - Addressing the lack of responsiveness in the skills system. What measures can we take?
 - Spreading knowledge through supply chains within sectors. If the skills system is sector based, we need to use that.
 - There is a clear challenge from employers to Government to make resource efficiency an issue for all businesses. There is a real role for Government here.
- In a focus on resource efficiency we must look at the whole life cycle of emissions. In the UK our emissions might be reducing but they may be occurring elsewhere e.g. in the overseas parts of supply chains. This needs to be recognised more widely as a risk by business.

Table Discussions

- The group split into tables to discuss the priority actions needed to embed skills for a LCREE. Some specific questions were asked by presenters although discussion was not necessarily structured around them.
- The key recommendations from each table were fed back in a plenary session and are summarised below. A more detailed note of the table discussions is at Annex 1.

Table One

- Legislative underpinning of the action needed is good but it does not guarantee that anything will happen.
- We are not convinced there is an understanding of what green jobs are or what 'greening the workplace' means. Policies around this exist but not much evidence of delivery so mechanisms are needed to make it happen. One practical solution might be to provide paid time for activity by Trade Unions' Environmental representatives.
- Where is the ministerial intervention to support the development of green jobs e.g. with the recent closure of Vestas, the supplier of wind power solutions?
- A purely employer led approach will not drive the development of the qualifications and courses we need now and in 5 or 10 years time etc. There is a key action here for SSCs to intervene and drive this forward quickly.
- There is a lack of government incentives for FE providers delivering skills for sustainability/LCREE. There is some scope to deliver full cost provision but no real opportunities to draw down Government funding. This needs to be addressed as a priority.
- The economic downturn could be a good driver for greater resource efficiency and should be seen as an opportunity to take some initial small steps – but it will not be enough on its own.
- It is critical that we all start doing things differently to use less carbon. From a business model angle this means looking at raw material costs, waste disposal, carbon footprint, water usage etc. There needs to be a complete understanding of the impact on business and the costs.
- Most of the workforce do not undertake formal training but instead learn on the job or by reading manuals etc. So a focus on putting a range of qualifications in place will not be right for everyone. People also need an incentive to invest time to upskill.
- We need a mix of regulation, incentives and training, all of which must be financially aligned. Changes to building regulations for instance around condensing boilers drove up-skilling by plumbers. Without it they would have lost their share of the market.
- A low carbon and resource efficient approach needs to be embedded into all policies and delivery of public services e.g. health, education, welfare etc. Government must use all its opportunities to drive this.

Table Three

- In terms of short-term action, there are not enough economic drivers to encourage the level of investment needed.
- In the long-term an employer-led approach will not deliver the change we need. Something bigger is needed like a national strategy that embraces everyone, all ages etc.
- Planning for skills development around carbon reduction and sustainable development needs long-term thinking and long-term commitment.
- A range of specific technical skills will definitely need to be developed but we must not forget that generic skills will also be critical e.g. new systems thinking and new ways of deploying existing skills.
- The current approach is not radical or exciting enough. There are examples of this type of approach overseas so we should look at and learn from those.

Table Two

- Although there are exceptions, larger companies seem to be more engaged with this agenda than SMEs. SMEs will need particular support to acquire the capacity to respond to this agenda. We should start to get SMEs to engage with the agenda through supply chains.
- There must be much better planning and coherence in financial incentives. If these are confused or conflicting they can turn into a powerful reason to disregard this agenda.

- The public sector is an employer and procurer on a huge scale. It must be visibly and ambitiously at the forefront of this agenda.

Table Four

- Resource management/efficiency is likely to make the biggest difference because it is an issue for all (business and individuals). If it is not currently on agendas it should be and the case to make it so is very convincing.
- We could prioritise the sectors that have the biggest impacts for resource efficiency drives but if we do, we should be careful not to do it in a way that makes others likely to disengage. Although it is change in the big impact areas that will really deliver the targets, this does not mean that small steps and changes are not important.
- Benchmarking and process mapping are essential tools in resource efficiency. You need to process map to fully understand all the impacts and then intervene. Benchmarking gives you a measure of your progress against others which has a range of benefits – evidence that you have not done enough, the motivation to do more etc.
- The current skills system is not geared up to support the level and scale of behaviour change needed, to the timescales needed. It needs to change and change quickly.
- Government must use all its opportunities to intervene and put carbon reduction at the top of the agenda. These opportunities include routine procurement of goods and services, regulation, franchising of services such as rail and licensing such as the current re-licensing of Sector Skills Councils. In doing this it will not be enough to just include carbon reduction – the drive provided must be specific and ambitious and given a high priority and weighting. It must not, for instance, be a marginal issue in procurement decisions.
- Government intervention and support for carbon reduction must be well thought through and consistent. If incentives are to be made available for instance, Government must ensure that they are not 'given with one hand and taken away with the other.' Policies across Government Departments must also line up strongly and coherently behind carbon reduction; if they do not they give 'mixed messages' on its importance which can be damaging.

Table Five

- Small steps are important because they can add up to a significant impact, especially in the early change period.
- Sector Skills Councils (led by Cogent) are developing standards for the training required to implement energy and waste reductions in business – Business Improvement Techniques for Sustainability. This could be funded by government through Train to Gain.
- There was no clear consensus in the group about whether an employer-led approach would deliver the change we need. Stimulating demand, particularly through Government and public sector procurement is essential, however and will help significantly to generate demand and employer leadership.
- Knowledge transfer is patchy and can create a barrier for employers and providers who are working across regions. This is another context in which there needs to be more joined up thinking and planning.
- There is no substitute for seeing practical examples of what can be achieved. Key influencers (Ministers, CEOs of large companies) should be invited to go and see a resource efficient business in action to get their buy-in and support.

Speakers' Responses

The speakers were invited to respond to the feedback from the table discussions. They generally welcomed and supported the views expressed.

Lindsay Harris, Department for Environment, Food and Rural Affairs

- There has been reinforcement of previous messages such as the importance of behaviour change and the value of small scale actions alongside bigger ones.
- Big transformational change (which we need) is not just about regulation etc; you have to make people understand and take them with you. We need to use the research into what makes this a reality – that suggests that small steps do make a difference for instance.

Martin Nesbit, Department for Energy and Climate Change

- Someone asked the question 'what is a green job?' Framing discussion around green jobs or the green economy risks focusing on only part of the issue. It's an issue of resource efficiency across the board – green jobs really only exist where there is a new green technology to develop or sell.
- There is a perceived lack of a long-term framework. The issue may instead be that there are too many frameworks and no single one provides a clear pathway. We do therefore need to translate what is still really theory into what it means for individuals.
- If we are serious about the need to reshape the entire education system around resource efficiency then we need to engage with other parts of government more effectively on this agenda.
- The current approach appears to some not to be ambitious enough. This is probably because it is a developing collaboration between government and industry and is a new way of working. Resource efficiency is not ingrained across our way of thinking.
- Consistency in incentives is important as is prioritising the big impact sectors. When we talk about big impact sectors we mean not just direct impact in terms of emissions but also impact in terms of the capacity to effect changes in others.

- Every little does count – maybe not individually but as part of incremental change which leads to systemic change.

Tess Gill – Sustainable Development Commission

- It appears that the group is generally not persuaded that employer demand will be enough. It can help, it can lead in places but it will not be enough.
- Public procurement is immensely powerful and could be a major driver if it was consistently used.
- Agree with the point made about green jobs – it's more about resource efficiency skills for all.
- Agree with the points made around workforce involvement – union environmental reps with facility time could play a key role.

Jonathan Mackey – Department for Innovation, Universities and Skills

- An employer led approach will not be enough on its own but we are not saying that this means it is the wrong approach. In situations like this Government has to lend its weight to employer efforts – in the autumn there will be a skills strategy which will set this out more clearly.
- We need some short-term quick wins as well as the radical eye-catching measures that might take longer to implement.
- It is difficult to change the funding system for skills delivery. We need for instance to be aware of how a change can have adverse impacts in some areas, but we do need to look at where rules can be relaxed and what we can do to promote full cost provision etc.
- We should do more to give positive support to pathfinders who are up-skilling the work-force and seeing the benefits. This might be an effective short-term measure.
- We should use partnership with business, including those with overseas involvement, to address particular resource 'hot spots' and challenges.

- Rapid change is needed through the skills system and the role of SSCs is vital. There is much more that SSCs can do and Government must continue to incentivise it e.g. through SSC re-licensing.
- Knowledge transfer is at the heart of this agenda – knowledge is currently locked in too few places.

Chair's Close

The Chair thanked everyone for their contributions and said the LSC would produce a report of the event and Jonathan Mackey would take this forward in Government discussions.

Annex 1

Table Discussions

This is a more detailed record of the discussions on tables.

What do employers want?

- One employer stated that the skills they need are the ones that they have always needed. Same technology but focusing on low carbon/green agenda. "Existing skills, new knowledge".
- One employer asked why there are no standards for carbon accounting. The DEFRA representative said that something is about to be published but guidance is not embedded.
- One employer asked for a KITEMARK type accreditation for Low Carbon, so that they could benchmark themselves against other employers and industries.
- There is good practice that is employer led – in the farming industry for instance. Not all industries are this proactive however. Some will need or want to be 'led'.
- There is a key skills shortage around renewables. Industry and individuals are starting to want to do more but the expertise is not there is help them make investment decisions etc. The people with current expertise also need to be people that individuals and industry trust. They also need to understand that the pay-back periods for investments are often too long and be able to help you work through solutions to this.
- Some businesses are finding that they have to buy in the skills they need from abroad. This at least shows that demand is there but we should be training young people in the UK to meet it. An example was given of Spacetherm aerogel insulation. This is imported (from the US) as are the panels used in the assembly process. Only assembly happens here so although it may say 'Manufactured in the UK' it is not really. The money to fund the business and the research and development of the product is going out of the UK and the demand for the skills is not present here either.
- Employers are interested in the moral dimension of the low carbon agenda (the workforce can act as internal drivers in this area). There is greater commercial interest in green issues – Siemens customers ask Siemens for information on their low carbon policies, the effects of their products on the environment etc.
- Trade unions are concerned that the low carbon jobs are not out there. The example of Vesta Blades¹ on the Isle of Wight was cited. They are the UK's biggest producer of wind turbines but the factory is closing on 21st July. The union is concerned at lack of government intervention and think there is a gap between the reality of the jobs market and proposals to create new apprenticeships in Wind Energy.
- One group was not sure of the reality of supply and demand issues – for instance, are employers demanding wind turbines in the UK?
- One group was concerned that all the Low Carbon jobs are going to China and the USA. There is also concern that the Far East provides unfair competition – business there can flout Health and Safety issues that the UK must abide by.
- The more Government tells industry what its agenda is, the less it is demand led but is this necessarily a problem if it delivers what we need?
- The employer-led approach is necessary but not sufficient in this case. Here Government must act as a catalyst.
- Stimulating demand is more important than supply-side measures.
- Training should follow market changes, not be employer led. Once changes are made for market reasons, employers will respond and add further change.

Will an employer led approach be enough?

- One employer (Siemens) has signed up to this agenda. They are developing greener/more recyclable products - a commercial decision by them (whilst recognising that there is competition for resources and for people) that responds to what is happening in the world.

The role of sector skills councils

- There is a balance between influencing and leading employers which SSCs will have to get right to be able to push this agenda.

¹ www.fairhome.co.uk/2009/04/30/wind-turbine-maker-axes-1900-jobs-despite-increased-profit/

- It is useful to delineate the supply and demand sides in the skills system - with the regulation and funding organisations in between. These structures in between should be the priority. Organisations like SSCs have powerful levers for change between them. If they could all be deployed with energy and consistency they could bring the demand and supply sides through behind this agenda. Currently everything is far too fragmented.
- Sector Skills Councils have to embed sustainability as part of their re-licensing requirements – this is starting to have an impact.
- Other trade bodies (e.g. British Wind Trade Association) are developing apprenticeship frameworks.
- One Sector Skills Council (Cogent) has started offering training on resource efficiency. If a way could be found to roll that out more widely, perhaps supported by Train to Gain funding, it could make a difference. Cogent is also talking to senior managers in companies about improving competitiveness. Resource efficiency and sustainable development need to be embedded in this and no doubt there are other similar existing opportunities to help stimulate demand. We need to identify and take these.
- Government should provide more incentives around renewables – with well thought through and consistent application.
- Central government awareness of what is happening in region is patchy and there is poor knowledge transfer across the UK.
- In terms of the short-term changes needed, some on the table felt the Government's suggested measures were a good mix but others were less sure. Maybe there is a need for more research, consultation and engagement.

Are we being ambitious enough?

- Little steps can add up to big improvements. You do then have to make significant changes to progress, but many business are not even taking the little steps.
 - We disagree with the notion that 'every little bit' does not help. Although it may not deliver the level of carbon reduction needed it is important to the overall culture shift we need.
 - The carbon targets are not ambitious enough.
 - We need national strategies and capital investment but every little step does also count.
 - Benchmarking is a good way to encourage ambition. If you can measure your progress against others it can be an excellent incentive to do more – because you have seen greater savings made by others or you want to be 'the best' etc. In the dairy industry some sites are in business using half as much water as others. They are exemplars of resource management and if there was open reporting and benchmarking other sites would surely want to match that performance.
- ### Is Government leading from the front?
- Are Government Departments doing enough themselves? Only two (DEFRA and HMRC) are buying strategic carbon audits for instance. Government is not really leading from the front.
 - Incentives are not being applied consistently enough.
 - Government needs to stop claiming the value of carbon as a way of preventing double-counting. It would enable more return on investment and be an incentive for investment not a barrier to it.
 - All Government opportunities to put resource efficiency and decarbonisation at the top of the agenda must be taken. Currently they are not and where they are; the drive is often marginal or seen as less of a priority compared to others. Many, many opportunities to do this are available –nationalisation of banks, regulation of industries, rail franchising etc.
 - Government must do more through its procurement. Sustainability is often part of bids for funding and tender exercises but it is not scored highly enough in assessments and decisions. It is acting merely as a compliance issue at the moment, not a driver for change. Some might argue that if inclusion seems to be an afterthought it is worse that not being there at all.
 - If Government uses policy and procurement instruments successfully, they need to have measures to show that they are being used, how and what impact they are having. Then Government will be seen to be leading from the front.
- ### Carrot or stick?
- The carbon debate is here to stay – the question now is whether the driver is legislation or encouragement. The group felt that the time for encouragement has now passed.
 - The reason for doing things must be provided in order to motivate people – that reason is usually a legislative one.
 - Employers investing do not think about the low carbon issues – especially if low carbon is a "nice to have" – legislation would drive their thinking better.
 - Employers can set their own internal legislative agendas to drive a low carbon agenda.
 - Supporting champions and sharing good practice etc are good but if there are interventions that can really make a difference e.g. on resource efficiency we should focus on those and make them our main drivers.

- “Carrot and stick” approach offering incentives towards achieving low carbon targets may help.
- TU representative stated that there is a big difference between the theory and the practice. The policies are in place, but the strategies are not being delivered. For example, the government could legislate (along the same lines as Union Learning Reps) to enable Environmental Reps in the workplace.

The importance of supply chains

- Organisations and businesses need help in understanding their supply chains and all the impacts contained within them. To really be low carbon you have to manage it all the way through the supply chain; not just move it from one part to another or one country to another etc. So process mapping is essential. Where this is already being done well, we need a way to share the learning.
- Within the supply chain there may be experience or expertise that the whole of the chain can benefit from. Collaborative working and learning by supply chains should be encouraged.
- There is definitely a sharing issue. Some SMEs and supply chains are well-informed and already making a difference.

The role of citizens

- Consumers and workforce can be drivers of the low carbon agenda. Colleges had evidence that their students are drivers and standard bearers for the low carbon agenda.
- Ethics can be a driver – individuals started recycling a long time before councils had targets and encouraged the practice.
- We must get people involved in their own homes. This touches on the ‘doing a bit’ actions rather than the big impact changes but it is still an important part of addressing the macro challenge. Also if you only address some areas there is a risk you simply move the carbon to other parts of the economy or the world etc. Everyone needs to start making decisions differently.
- There is a public knowledge gap about sustainability/LCREE which bodies like Energy Saving Trust are trying to fill but not enough is happening in this area and it can be a confused picture to work through for advice.
- It is critically important to engage people generally i.e. citizens in this agenda. Without it you will not achieve the level and scale of everyday behaviour change that is needed.

What is limiting progress?

- The National Qualifications Framework (NQF) could be used to drive the low carbon agenda. Very little currently on NQF for this area. SSCs are slow to develop courses that will receive funding. SSCs should develop qualifications that reflect the here and now and skills requirements for 5 years time. Colleges currently delivering courses at full cost for areas not on NQF (e.g. Health and Safety)
- Initiative-it is – low carbon agenda should be linked across government departments. Group complained of fragmentation, with departments all having their own low carbon related initiatives.
- We need a framework that shows timescales and how we will get from A to B. Will the Low Carbon Industrial Strategy map that out? We need a mixture of incentives and sanctions in that documentary, CRC is too slow.
- There is too much emphasis on decarbonisation through changes requiring capital investment. It is as much about how we do things i.e. our skills.
- Procurement is a key driver but having frameworks and policies is not enough. They exist already but are often not seriously applied and used. Without this level of use there will be no change through procurement.
- There is a real issue around the lack of development of Science, Technology, Engineering and Mathematics (STEM) skills. These need to be more widely developed as a foundation for the skills development and behaviour change needed. They are an essential grounding but the existing skills system is not developing them and that has been the case for a while.
- We need to balance better a whole picture approach with the need to prioritise especially with restricted Government funding.
- Many UK businesses are competing globally. Encouraging their growth is not always consistent with carbon reduction.
- Even if stimulation measures are in place they will not guarantee that we meet the targets. We need to understand where resource efficiency/carbon reduction is happening and why. Which Chief Executives have really bought into it and which haven’t, even if resources such as free training are there, and why?
- Consumers are not interested enough in changing behaviour. There must therefore be support from government e.g. commercial incentives to switch boilers.

- Government support for skills development other than maths and literacy is needed. Government is presently good at 'fixing poor schooling' but not at supporting an already educated workforce.
- Moving to a low carbon economy implies big change for the energy sector, construction and households. For this to happen we must have long term planning for skills development.
- It is unclear where the priorities for skills should be. For three years there has been a focus on the skills needed in construction but it is ever-changing. What will be needed for zero carbon homes and where off-site components come from? There is a lack of data and capability in the market place around zero carbon homes.
- This is a leadership issue. Leaders of organisations must start thinking in a different way.
- There is a significant amount of useful data around but it is not being used to make the arguments, enable benchmarking etc even where its collection has been funded by Government.

Annex 2

Attendees at the Skills for a Sustainable, Low Carbon and Resource Efficient Economy Round Table – 30 June 2009

Miles Watkins	Aggregate Industries
Chris Twin	Arup
Richard Foxwell	Asset Skills
Esin Esat	Bedford College
Fruzsina Kemenes	British Wind Energy Association
Susan Morgan	BT
Steve Richards	Ceres Power
John Holton	Cogent SSC
Professor Steve Evans	Cranfield University
Martin Nesbit	Department for Energy and Climate Change
Sue Whitehead	Department for Environment, Food and Rural Affairs
Lindsay Harris	Department for Environment, Food and Rural Affairs
Jonathan Mackey	Department for Business, Innovation and Skills
Paul Froggatt	Department for Business, Innovation and Skills
Lesley Harry	Derbyshire Adult Education Service and LEA FEA
Paul Beers	Environmental Industries
Jemma Prydderch	Enviros Consulting
Nigel Payne	E-Skills UK
Chris Francis	IBM
Martin Baxter	Institute of Environmental Management and Assessment

Conrad Benefield	Learning and Skills Improvement Service
Debbie Watson	Learning and Skills Council
Mike Field	Association of Colleges
Joanne Carr	National Energy Action
Simon Beer	National Institute of Adult and Continuing Education
Julie Walker	Robert Wiseman and Sons
Ian Bowman	Siemens
Ross Maloney	Skills for Logistics
Tess Gill	Sustainable Development Commission
Charles Seaford	Sustainable Development Commission
Jim Boyd	The Go-Ahead Group
Philip Pearson	Trades Union Congress
Iain Murray	Trades Union Congress
Simon Perryman	UK Commission for Employment and Skills
Caroline Molloy	Unite
Graham Peterson	University and College Union
Mary Heslop	Warwickshire College

In attendance:	
Mary Kelly	Learning and Skills Council
Elizabeth McCann	Learning and Skills Council

Learning and Skills Council
National Office

Cheylesmore House
Quinton Road
Coventry CV1 2WT
T 0845 019 4170
F 024 7682 3675
lsc.gov.uk

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