



services limited



Meeting the Low Carbon Skills Challenge Consultation

1.0 Introduction

National Union of Students (NUS) & the Environmental Association for Colleges & Universities (EAUC) welcomes the opportunity to respond to this important consultation on how our sector and the government can together ensure we are adequately meeting the needs of the emerging low carbon economy.

Students studying today and those yet to embark on their studies are going to be considerably affected by climate change and our response to the shifting environment. Our colleges and Universities have been and will continue to play a vital role in developing pioneering research, technological developments, and educating staff and students in the skills they will require for a transition to a low carbon economy.

Today's staff & students and tomorrow's learners and employees need to be at the forefront of the decisions we make as a result of this consultation, and that is why the national union of students has started to engage with other sector bodies, including the EAUC on what are appropriate opportunities to widen and better incorporate education for sustainable development.

Our ability to transform the skills of our existing and emerging workforce will have a tremendous impact on our adaptation to the damaging effects of climate change, and our ongoing ability to make a transition to a low carbon economy.

As the voice of seven million learners, and with EAUC comprising of 290 FE and HE institutional members we hope to highlight through this response the importance of utilising the further and higher education sectors to skill and re-skill our workforce, both in industries that will provide technological solutions to a low carbon transition, but also more widely to educate the population on the need to shift behaviours and adapt to the changes within our environment.

We believe the emerging strategy needs to reflect the broad spectrum of students who will need to acquire understanding, values, knowledge and low carbon skills in preparation for a low carbon economy. We understand the need to focus heavily on STEM (Science, Technology, Engineering and Mechanics), but would request that wider implications are also encompassed in this strategy, ensuring we create a broad approach which reflects the range of subjects and industries that will ultimately be affected by climate change. We must after all remember the importance of shifting thinking and behaviours as well as developing technological solutions to the changing environment.

There are many challenges inherit within this task. It is very difficult to determine at this stage what particular skills will help learners survive in the future unknown conditions of the world. NUS and EAUC recognises the significance and scale of the challenge ahead, as well as the urgency for action.

The changes that stem from this consultation could transform our education sector, changing the way knowledge is transferred and acquired. We could potentially use this agenda to develop a more active learning environment to assist people in developing literacy in sustainable development. This may see students not just acquiring theories and facts, but acquiring more hands on experience to help them ascertain skills to make the transition from a high carbon, high consumption society to a low carbon economy and more sustainable livelihood.

We believe the delivery of these emerging skills and competencies should take place across all qualifications, and all students should have some interaction with this agenda, given its emerging importance and influence over future employability. NUS and the EAUC value the variety of academic routes available, and believe it is important that this agenda is not seen to simply take place in one type of qualification route, or within certain subject areas.

We believe this agenda should incorporate both academic and practical learning to create graduates who are able to combine both theoretical knowledge with skills acquired through a more active learning process. Of course the extent and proportion of exposure to this agenda will vary greatly, depending on level of qualification, relevance to subject area, and the likelihood of this knowledge being required in the profession most common to the subject. However it is our vision to see all students regardless of institution, mode of study, or subject able to get a level of interaction with this agenda, whether within the curriculum, or delivered as part of the extra curriculum.

The Low Carbon Skills Challenge Consultation is timely with many institutions and sector bodies playing greater emphasis on this agenda. We believe there are great opportunities to expand on existing good practice, but also hope this consultation will help identify some of the barriers to progressing Education for Sustainable Development (SD)¹ namely;

- Employers across the board are not currently demanding low carbon skills, meaning institutions are not feeling pressured to respond to this agenda within the curriculum.
- The skills system is unprepared to support the development of existing skills, and there could therefore be considerable resistance to seeking widespread implementation.
- There exists a need for a national holistic approach with leadership and delivery joined up between sectors.

We have chosen to provide a short overview of our position of the papers findings, and then outline our response to those questions we felt most able to answer. We look forward to reading the submissions from across the sector and beyond, and providing further assistance in the implementation of the emerging strategy.

2.0 Barriers to further progress

Our understanding of the need to prepare students for a future low carbon economy has been gained through a combination of original research plus ongoing engagement with key stakeholders

¹ House, 2009, Skills for a Sustainable, Low Carbon and Resource Efficient Economy, Report of a third round table meeting, Learning and Skills Council, http://readingroom.lsc.gov.uk/lsc/National/Skills_for_Sustainable_Economy.pdf

in ESD. We are witnessing an increasing attention in this agenda both at a programme level, an institutional level and nationally. There are a number of institutions both in FE and HE who have already shown considerable ingenuity and vision in the way in which they have implemented opportunities for their students to develop these skills both within the curriculum and in extra curricular pursuits. Whilst we cannot cite them all we have been particularly impressed with the following examples

London School of Economics and Political Science has launched the LSE 100 programme which is a compulsory course for incoming undergraduates in 2010–11 running alongside all students' degrees. It introduces students to the fundamental elements of thinking as a social scientist. LSE100 draws on a range of subjects studied at LSE – be it economics, law, philosophy or geography – blending lectures, group classes and written coursework in order to explore real problems and 'big' questions which have world-wide economic, environmental and social implications

:

- How should we manage climate change? • Can we make poverty history?
- What caused the financial crisis? • Is population growth a good thing?

The curriculum promotes an interdisciplinary-approach to understanding sustainability-related problems. It enables students to find and assess evidence, interpret and explain competing theories and present arguments persuasively when, for example, finding and presenting economic solutions to climate change.

In the FE sector Bedford College is taking a pioneering role in addressing learners future skills needs. The College is fully committed to developing a workforce with a clear knowledge and understanding of sustainable development and the ability to contribute to creating a low carbon economy.

Sustainability, as a key college priority, is embedded into all training programmes, preparing learners for work in a Low Carbon Resource Efficient Economy. There is a particular focus on areas with the highest potential impact on reducing UK's carbon emissions; Construction, Motor Vehicle and Building Services. A number of community sustainability initiatives provide real-life work experiences for students, enhancing their learning while supporting local developments.

Despite this increasing emphasis from within the sector we do not believe the current progress matches the urgency with which we need to move in order to ensure we are adequately supporting students and graduates for the job market and scenarios they are expected to experience in forthcoming years.

We are also concerned by the considerable variation within the sector. There are not many institutions like LSE, Bristol or Bedford College who have taken steps in preparing all their students in skill acquisition in this arena, and there are some who are reluctant to approach this topic.

Implementing education for sustainable development requires greater flexibility, with more interdisciplinary provision. This can prohibit progress and presents challenges in implementation, but it is vital we accept the importance of providing graduates with the greatest exposure to a variety of disciplines to tackle problems which need a variety of knowledge, skills and attitudes.

2.1 Student Opinions

Whilst many students recognise the emerging need for these skills, there is still considerable work to be done to promote the importance of these issues to a wider student audience. However student

demand should not be a prerequisite to change. We should not and cannot wait for students to demand a shift in the curriculum. We as providers have a duty to teach what we believe will be of emerging importance, based on future economic, ecological and social predictions.

Students are not one homogenous group. Just like ordinary citizens their propensity to live sustainably varies considerably. Therefore we can use student audiences to equally understand why people are unsustainable, expose them to the values of sustainable living, and utilise them to undertake future planning, and future thinking. We can shift the values, behaviours and mindsets of the future workforce, the future leaders, the future consumers whilst at University or College.

Original qualitative research, conducted nationally in April/May 2010 with c. 80 first year students indicates that the majority of these students are not yet making the connection between curriculum and low carbon skills for employment. The majority, excluding those STEM courses, are not reporting the inclusion of sustainability considerations within their courses in Higher Education (HE) or of inclusion during their time within HE. Furthermore, with the exclusion of those in the STEM courses, a disconnect exists between student expectation of a university and employer responsibility to strive towards SD, and a personal responsibility to incorporate SD into daily activities.

A minority of students felt that appearing concerned about low carbon skills (outside of STEM) courses could actively deter potential employers who may hold other priorities.

The majority felt that it would make no difference with only a very limited minority understanding the wider implications of skills for a future low carbon economy. Many foresaw inclusion of building skills for a low carbon economy as a separate issue, rather than integral to daily teachings, and were unwilling to consider it as a necessity, feeling that their courses already demand a high workload.

NUS are aware that there are case studies in further education (FE) and HE where skills for a low carbon economy have been included into curricula across the board. Post hoc (April 2010) focus groups with first year HE students have highlighted the broad inclusion of SD within some courses, and the national inconsistencies in delivery. A national standard in preparation for a low carbon economy would ensure all new graduates are aware of the wider need for these skills and equipped to tackle them in the workplace.

2.2 Note - Examples of SD in courses cited by students, April 2010

- Biology – human impacts and future
- Economics – valuing and incentives
- History – Chinese history
- Sociology– globalisation, uncertainty, ethics and values
- Classical and biblical – how it has changed how we read texts
- STEM courses – low carbon build techniques, energy efficient chemical reactions etc

3.0 Existing knowledge

There are a wide range of isolated case studies of embedding low carbon skills into the curriculum in FE and HE known to NUS², however there are no national standards to draw the lessons learned from these case studies into a coherent strategy into the future.

² 2009, EAUC, Embedding sustainability in the curriculum, http://www.eauc.org.uk/sorted/files/embedding_sustainability_in_the_curriculum_guide.pdf

A 2009 external audit of Welsh curricula³ indicated that inclusion of skills for SD in HE curricula was variable and components typically tended towards weak relation / mention within courses, meaning that inclusion may not have focussed specifically on carbon and is unlikely to have been a key focus.

However, key conclusions from a 2007 report into employable graduates for responsible employers⁴, indicated that HE students and graduates are increasingly aware of a growing “green economy” and that an expectation exists for universities to take on social and environmental responsibility. Recommendations from this report included advice that SD on campus was linked with teaching and learning in order to catalyse the connection between the supply of graduates into sustainable employment.

3.1 Additional opportunities

In our introduction we highlighted our desire to see all students exposed to some interaction with this agenda regardless of subject or location of study. One way we believe this would be possible would be to utilise the campus environment as a learning space, introducing students to many of the concepts of sustainability by utilising their knowledge, skills and enthusiasm to help address issues in the University environment in which they live and learn.

Some institutions are doing this already, through either practicals within courses, subcontracting work out to students, hiring students within estates or environmental departments or supporting student volunteer groups to emerge. However despite progress, the practice could become more widespread if it was encouraged as a way of developing students' skills.

One example of an existing effective scheme utilising students as employees is the Greener Living Assistant's who have been appointed in part to help deliver Degrees Cooler, a behavioural change environmental initiative run by NUS funded by DEFRA, to 20 Universities in England, which seeks to change the behaviour of 90,000 students and staff (<http://www.nus.org.uk/en/Campaigns/Greener-Zone/Degrees-Cooler-Behavioural-Change-in-Action/>). The Greener Living Assistants are managed by Student Force for Sustainability who have demonstrated that there is both a demand and need for student/graduate experience on campus. In the case of the Greener Living Assistants there were up to 100 applicants for every position. These types of programs, if replicated, could be of benefit to the individual, the cohort, the institution and the local community.

One of the emerging ways in which students are gaining skill development on campus has been assisting Universities and Colleges to grow more of their own food locally. Some students unions

³ 2009, SQW consulting, Education for Sustainable Development and Global Citizenship (ESDGC): Analysis of Good Practice in Welsh Higher Education Institutes, A report to the Higher Education Funding Council of Wales (HEFCW), http://www.hefcw.ac.uk/documents/about_he_in_wales/wag_priorities_and_policies/SQW%20ESDGC%20Final%20Report.pdf

⁴ Egan, 2008, Employable Graduates for Responsible Employers, Report to the Higher Education Academy, <http://www.heacademy.ac.uk/assets/York/documents/ourwork/sustainability/EmployableGraduates2008.pdf>

have developed these programs independently, teaching students vital skills outside of their curriculum. NUS has recently developed a similar pilot program, Fresher Freshers (<http://www.nus.org.uk/fresherfreshers>) linking up students unions and local Homebase stores to help more students learn and acquire these vital skills.

Whilst we have cited some existing programs these schemes could become more widespread, helping students not simply learn gardening skills for individual use, but learn about the procurement practices of large scale institutions, and the challenges of an organisation becoming self sufficient in onsite food production.

In addition to those examples cited above there is a need to recognise the importance of existing informal structures to current students learning process. Many students are developing an interest and knowledge with sustainability through their students' unions student groups or through volunteering opportunities in the union, and in the community. Groups like People & Planet, and local environmental or conservation groups have provided students with training, knowledge and skills, as well as more structured programs like the NUS Carbon Ambassadors initiative (<http://www.nus.org.uk/en/student-life/Ethical-Living/Carbon-Ambassadors/>), which provides benefits to the individual and the community by training students to go out into the community and undertake carbon audits in businesses, charities and community organisations. These types of structures could prove invaluable in continuing to develop practical experience which complements the necessary theoretical and detailed work that should be taking place within the formal curriculum.

4.0 Summary

The DBIS and DECC consultation on “meeting the low carbon skills challenge” marks a positive shift in thinking however there is need to further expand this thinking into a broader spectrum of courses, outside of the STEM fields and to use the opportunity to include the breadth of students in further and higher education.

Key benefits of this are two fold:

- A responsible approach to equipping young people for the future economy
- Meeting the increasing demand from students for low carbon skills and responsible employers.

5.0 Answers to consultation questions

Below we have responded to those consultation questions we feel relate to our areas of knowledge and expertise

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

We would like to see universities and colleges orientating their research, teaching and campus to become a leading light viewed as such by Government and society, using their unique position to take a greater lead on this agenda pioneering new models of low carbon production, low carbon buildings and low carbon behaviours, the combination of which can act as a greater example for how wider society will undertake the transition to a low carbon economy.

We support the call within the consultation document for more emphasis in getting more young people and adults interested in low carbon careers, skills and qualifications. We believe considerable progress could be made by providing more suitable advice to students at various junctures in their academic pathways. More emphasis should be placed on the variety of careers

that are available within the low carbon sectors, the growth predicted in these industries, and the diversity of qualifications that are valuable to those companies and organisations. This information should be more apparent when school children are undertaking work experience, when they choose to consult league tables or university prospectuses prior to application, and when students attend careers fairs prior to graduation. University departments need to train staff within career departments to have a better understanding of the scope of this emerging market, and the range of options it presents a variety of students.

We would like to see the current CRC and HEFCE carbon reduction planning/targets being used by institutions as a source of inspiration to the academic staff and be made available to students as a good learning resource

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

Whilst the emphasis on skills challenges largely correlate with what we have seen articulated elsewhere we do believe that consideration of a broader range of skills and competences needs to be reflected better in the case studies, and within the resulting programs and policy decisions.

We believe some consideration should be given to how this agenda and wide understanding of the need to make a transition to a low carbon economy fits into programs within the citizenship portfolio, which are delivered as part of the curriculum. The low carbon skills challenge is broader than just developing some technical competencies, it is about embedding values, equipping learners to think systematically and to connect and view the linked economic, social and ecological impacts that they can make in their lifestyles and work, encouraging more people to develop and respond in ways which make a positive impact on their communities through responsible and active democratic citizenship.

We anticipate a greater need for business and sector bodies to co-operate to ensure that programs reflect the changing job market, and a need for business to support the sector financially in providing re-skilling and training to existing employees.

We would also like to seek clarification about how changes to the Future Jobs Fund will affect the ongoing ability to deliver against previous government targets on 'green jobs' and the delivery of skills in these area for recent graduates.

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

The FE sector is currently leading the way on many aspects of this agenda. They often have a greater connection to community and can therefore respond to local government and local employer needs more quickly. They therefore play a crucial role in replicating activity quickly and effectively, and should be given resources and recognition to do so.

Equally HE should not be forgotten, and institutional leaders will need support in making the case internally in regards to shaping the academic content to respond to an economic or social emerging need. This is where the support of employers and the business community is vital. Employers need to articulate with greater clarity and force, the emerging needs that the HE sector need to embed within the curriculum now, to provide the graduates those sectors will soon demand.