

Chapter 8

Licensing and certification to increase skills provision and utilisation amongst low-carbon small and medium-sized enterprises in the United Kingdom

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This chapter focuses on the use of licensing and certification as a means of increasing appropriate levels of skills provision amongst a range of low-carbon occupations in the United Kingdom. Previous work addressed the range of market and governance failures in the provision of low-carbon skills and the measures adopted to address these failures. This chapter examines the potential to increase the use of licensing and certification to address these market and governance failures, and the resulting challenges that may arise.

Introduction

Increasingly, the UK government is using licensing to ensure standards are maintained and encourage training amongst emerging low-carbon occupations. Licensing is the process by which a certification, based on specific qualifications, is required in order to practice a specific occupation or to undertake specific functions. The proposed licensing is explicitly aimed at addressing consumer confidence in new energy efficiency schemes, such as the Green Deal, and this has been tested with potential consumers (DECC, 2011d). It has also been argued that licensing improves standards and encourages training and, as such, should be encouraged in the United Kingdom, as part of developing a more highly skilled workforce (Cox et al., 2009). A report for the UK Department for Education and Skills argued that licensing was best applied when there was evidence of market failures, at apprentice or intermediate skill level, where the skills required can be easily tested, and where there are potential safety issues (Frontier Economics, 2003).

However, in the United States there is little evidence that licensing improves either the safety amongst construction workers or their competence levels (Kleiner and Park, 2010). The main impact of licensing in the United States appears to be increasing the wages of those who are licensed construction workers (Perloff, 1980). This potentially calls into question the current low-carbon skills strategy in the United Kingdom. Therefore, this chapter examines the impact of past and proposed occupational licensing in the low-carbon area in the United Kingdom and seeks to establish whether or not this approach will be successful at improving low-carbon skills and encouraging the adoption of low-carbon technologies within the small- and medium-sized enterprises (SME) dominated UK construction sector.

Licensing

Licensing can be based on statutory powers whereby it is illegal to operate within certain occupations without certification, or mandatory, or on sector-based agreements, to employ only those who can demonstrate competence through certification. There are also some hybrid arrangements wherein the certification is a statutory requirement for obtaining subsidies or other privileges, but non-certified activity is not banned.

Traditionally, licensing has applied to safety-critical occupations in which unqualified operators can cause death or other damage, such as doctors and gas appliance installers. However, partly under pressure from professional and industry bodies, as well as political and consumer pressures, the role of licensing has become more widespread. In the United States it has been estimated that 29% of occupations require a license of some form (Kleiner and Krueger, 2010). A more conservative estimate for the United Kingdom is that 13.5% of occupations require a license to practice.

Importantly, in both countries, licensing is rising as a labour market structure at the same time as unionisation is falling, and there is evidence of increased earnings amongst the licensed workers compared with the unlicensed ones (Bryson and Kleiner, 2010). Although, there is no established link between licensing and the decline in unionisation, licensing does encourage self-employment as a way to maximise the return on the training costs and this would lead to a decline in unionisation. Despite this apparent importance as a labour market structure, licensing and occupational regulation has been under-researched (Stephenson and Wendt, 2009). In part, this could be because much of

the debate surrounding licensing has been dominated by libertarian economists (e.g. Potts, 2009).

Despite the lack of clear evidence for benefits in terms of increased training, or increased safety, licensing does appear to have some benefits which particularly apply to SMEs engaged in the low-carbon transition. The main benefit is that statutorily based licensing schemes generally increase consumer confidence (Sadler, 2008). This aspect will be particularly beneficial within the building retrofit market in the United Kingdom, which is currently dominated by SMEs, many of which have earned a reputation as “Cowboy Builders” (Holt and Edwards, 2005). Equally, the rest of the UK construction sector is dominated by a few main contractors, and a mass of sub- and sub-sub-contractors, which have been associated with low levels of training, safety and productivity (Forde and Mackenzie, 2004; Arulampalam and Booth, 1998).

In order to explore these issues, this chapter:

- outlines the historic use of licensing amongst technician level occupations in the United Kingdom
- outlines the existing and proposed licensed, low-carbon occupations with a focus on SME employers, including formal and informal licensing systems
- examines the, admittedly limited, evidence covering the effectiveness of licensing within the United Kingdom
- discusses the possible implications for low-carbon skills and SMEs in the United Kingdom.

History of construction sector licensing in the United Kingdom

Doctors, lawyers and other professions in the United Kingdom have had various forms of registration for many years and are now generally overseen by professional bodies, many of which are chartered. Chartered status means that in order to practice the profession, individuals need to be a member of the chartered professional body. Often the occupational title is also protected and one needs to be a certified member of the professional body in order to use the occupational title.

The UK construction sector is dominated by SMEs, with 93% of the 200 000 UK building firms employing 13 or fewer staff. This means that many of the issues surrounding SMEs and training apply particularly to the construction sector. The breakdown of the apprentice system in the 1980s and 1990s further aggravated the decline in training within the UK sector (Toner, 2008). Recent initiatives have seen a return of construction apprentices, although with problems caused by a culture of low levels of training (Abdel-Wahab, 2011).

Technician level occupations have less of a tradition of licensing, compared to the professions. The first important technical level occupation to be covered by licensing was gas installation. In 1970, the Confederation for the Registration of Gas Installers was set up as a voluntary register. In 1998, membership of the Council for Registered Gas Installers (CORGI) became mandatory, by law, for anyone working on gas installations (DWP Secretary of State, 1998). In 2009, the legally required body, and associated required qualifications, became “Gas Safe”. This scheme currently has about 137 000 registered and licensed gas installers in the United Kingdom (EU-Skills, 2010).

The Gas Safe scheme and its predecessor have been associated with the declining number of gas accidents and deaths (Cross Government Group, 2011).

From 2005, Part P of the UK Building Regulations has meant that only someone appropriately qualified can design, undertake and certify electrical works (DCLG, 2008b). This means that either an external certifier, or an appropriately competent person within the company, is needed to sign off electrical work which, in turn, needs to be undertaken by an appropriately qualified person.

These gas and electrical statutorily based licensing schemes both have a clear basis on the potential health and safety impacts upon others. They have also succeeded in increasing training in these areas and relative earnings. Elsewhere in the construction sector, non-statutory licensing schemes operate around a wide range of safety and skills cards (Pye Tait Consulting, 2011), which are often used as a condition upon sub-contractors (UKCG, 2009). Similarly, there are a range of voluntary schemes which allow the competent person to self-certify the installation of windows (FENSA), of solid fuel boilers (HETAS), and of oil fuelled boilers (OFTEC) (Shahriyer et al., 2009). These schemes have operated with varying success and offer models for extending licensing to cover low-carbon occupations.

UK low-carbon licensed occupations

The United Kingdom's low-carbon energy strategy has a range of elements which aim to increase low-carbon electricity generation and improve energy efficiency. Low-carbon generation is encouraged through the Renewables Obligation for large-scale generation (DECC, 2011e) and the Feed in Tariff for small renewable generation (NAO, 2011), with new measures including the Contract for Difference Feed in Tariff for large-scale low-carbon generation in the government's Energy Bill. Energy efficiency is encouraged through a range of schemes including the Green Deal for household energy efficiency improvements, for which the first deals were offered from 28 January 2013 (DECC, 2012), and the Energy Company Obligation (ECO) supporting households in older properties and those on low incomes.

The authors have previously identified four generic barriers and four low-carbon specific barriers to an appropriate level of provision of skills for the low-carbon transition (Jagger et al., 2013). These included the lack of skills training and qualifications that could result from employers' and workers' uncertainty over the scale and rate of the low-carbon transition. Licensing seeks to address these problems, which arise particularly due to the structure of the UK construction sector.

There are two current, and two new, low-carbon occupations that are subject to licensing or certification schemes that function as licensing schemes.

The two current licensed low-carbon occupations are:

- energy auditors
- microgeneration certification scheme installers.

The two new occupations are:

- green deal advisors
- green deal installers.

These will be examined in turn.

All of these schemes ultimately derive from schemes run by the United Kingdom Accreditation Service (UKAS), which sets standards and then accredits a range of accreditation bodies, which in turn accredit individuals and companies.

Energy auditors

The longest established low-carbon licensed, or certified, occupation is for energy auditors who produce Energy Performance Certificates (EPCs) for domestic properties. EPCs were introduced in 2008 as a result of a European Directive of 2002, as part of the home information packs (HIPs) which were intended to increase the information available to homebuyers and encourage higher energy performance within the domestic building sector.

EPCs were kept as part of house sales, while HIPs were withdrawn, and EPCs extended to the private rental sector as well (DCLG, 2008a). However, the government has recently announced changes to the EPCs that will be in effect from 2012 was introduced. In addition to providing an energy efficiency rating for the property, improvements to the software used will provide recommendations for energy efficiency measures, including the estimated costs and subsequent savings using the Green Deal (Behavioural Insights Team, 2011). It is also expected that the bulk of advisors operating under the Green Deal will be recruited from energy auditors, who, with some additional training, will be able to provide advice on measures that could be financed using the Green Deal (DECC, 2011a).

The Green Deal will enable households to finance energy efficiency measures meeting the “Golden Rule”, which is where the savings on their energy bills resulting from the efficiency measures are greater than the costs of those measures, which are recovered via a charge on their energy bills (DECC, 2011c). The related Energy Company Obligation (ECO) can be used to finance measures that do not meet this rule, such as solid wall insulation.

The UK EPC process has been criticised on a number of grounds, mainly due to perceived inaccuracies of the process. The Royal Institute for Chartered Surveyors notes that the EPCs measure the notional energy efficiency of a building but that by ignoring user behaviour, they do not measure actual efficiency (RICS, 2008). English Heritage argues that the process often underestimates the energy efficiency of historic and traditional buildings and, hence can make inappropriate suggestions for improvement (English Heritage, 2008). In part, these criticisms reflect the underlying process used to generate the energy efficiency rating for the property, as this is based on a reduced and necessarily simplified model. The software used is based on the Reduced Data Standard Assessment Procedure (RdSAP) intended for existing properties, which is a simplified version of the Standard Assessment Procedure (SAP) used for new properties (BRE, 2011b).

Further criticisms focus on the apparent lack of impact of the EPCs. A study based on a survey of people who had purchased a property in the first year of EPC use found a high awareness of EPCs but a relatively low incidence of take up of the recommended energy efficiency measures (Watts et al., 2011). This is consistent with wider experience with EPCs in Germany (Amecke, 2011). The wider European experience suggests variable success with implementing the underlying Directive and a relatively small impact on consumer behaviour, where investment in energy efficiency measures remains sub-optimal (BPIE, 2010). Recent work in the United Kingdom has attempted to address this lack of behavioural change in the uptake of cost-effective efficiency measures

(Behavioural Insights Team, 2011). This study recommended a simplified format of the certificates and more explicit messages about potential cost savings resulting from energy efficiency measures. From April 2012, a new version of the EPC certificate, based on the work of the Behavioural Insights Team, was introduced with explicit linkage to Green Deal measures (DCLG, 2011).

Partly as a consequence of the new versions of the certificate, but also in response to concerns about the underlying knowledge and understanding of energy auditors, the DCLG has identified a range of additional skills that are required. These are:

- “Need to review recommendations and ensure they are appropriate.
- Better overall knowledge of principles of building structure, elements and fabric.
- Greater familiarity with software used to produce EPCs.
- Ensuring evidence is collected and retained.
- Better understanding of the interaction between building fabric and services.
- Greater emphasis on interaction with the consumer.
- Better understanding of the operating requirements.” (DCLG, 2011: 2)

The terms of the energy auditors certification means that the DCLG is able to oblige energy auditors to undertake an additional eight hours of training to cover the above points, in addition to their regular ten hours of annual continuing professional development. This training will be assessed following the training, using a one-hour, 40-question online multiple choice test. Undertaking the additional training, and passing the test, will be a requirement to maintain the accreditation.

Microgeneration Certification Scheme

The Microgeneration Certification Scheme (MCS) operates at the company and product level but one of the registration requirements is that installers have to be qualified and adequately trained (DECC, 2008). The actual licensing is of both products and installers. In order to obtain government subsidies for microgeneration, both the product installed and the installer need to be certified by the MCS scheme. Amongst a wide range of requirements, there is a requirement in terms of the skills of the staff employed to install the microgeneration products:

All staff employed in installation activities must have received adequate training in each of the areas/operations in which they are involved. The [c]ompany must have a training record for each employee which details methods of training and approved areas of operation. These should identify the training authority and be signed by the employee as well as the training authority.” (DCLG, 2011: 18).

Although this is not a direct licensing of the employees, the terms of the corporate licensing ensure that the staff has appropriate levels of qualifications and skills.

Green Deal assessors

The UKAS is also developing the criteria for certification bodies that will allow them to certify Green Deal assessors. The Green Deal assessor qualification and certification will be based on the qualifications and certification required for energy auditors who produce energy performance certificates for domestic dwellings. Asset Skills, which is

the Sector Skills Council (SSC) covering facilities management, housing, property, planning, cleaning and parking, is leading the work to develop the skills requirements for Green Deal assessors and advisors.

The underlying qualifications for the Green Deal assessors will be based on two existing qualifications: the City and Guilds 6281 Level 3 Award in Energy Awareness and the Renewable Energy in the Home and the Awarding Body for the Built Environment (ABBE) Level 3 Certificate in Energy Advice (Home) qualification (ABBE, 2011). The full details of the licensing still have to be worked out (DECC, 2011a), but the probable pattern will be similar to the energy auditors process, with a requirement for an underlying qualification, professional practice and continuing professional development (CPD).

Green Deal installers

In parallel with the Green Deal assessors certification process, a similar process is underway covering Green Deal installers. The Green Deal installers' qualifications and certification process is based on the qualifications and processes involved in becoming a certified installer under the Microgeneration Certification Scheme or the Microgeneration Installation Standard (DECC, 2008).

However, whilst this system is clearly appropriate for any microgeneration products and for products such as loft insulation which can easily be quality assured and inspected, there may be a problem with cavity wall insulation where quality is much more dependent on processes adopted during installation. The Green Deal installers' skills requirements are being established by Construction Skills SSC and will be based on a draft outline of the technical requirements prepared by the Building Research Establishment (BRE) as Publically Accessible Specification (PAS) 2030 (BRE, 2011a).

The draft specification outlines the training and skills requirements for staff to be employed in Green Deal installations, as follows:

“The installer shall establish and operate procedures to:

- a) Determine the skills and competence levels required by operatives to undertake the required installation tasks.
- b) Recruit and retain a sufficient number of operatives possessing the required skills at the required level of competence, or capable of acquiring those attributes with appropriate training.
- c) Provide or arrange access to any training required.
- d) Assign operatives to installation projects commensurate with the levels of skill and competence required and maintain a record of the operatives assigned to and working on each project.
- e) Ensure that operatives undertaking installation tasks are informed of and understand the importance of their installation activities and how they contribute to the achievement of the efficiencies specified.
- f) Assess the effectiveness of procedures operated under a, b, c, d and e.
- g) Maintain records of current capability, training and competence for each operative.” (BRE, 2011a: 6)

This reflects the requirements of the Microgeneration Certification Scheme and implies a range of appropriate underlying qualifications and skills required for the staff employed. However, the specific qualifications and skills for the various types of installations have yet to be agreed (DECC, 2011b).

It seems, from informal discussions with those involved in the process, that there are particular problems with cavity wall installers, as there are no established qualifications and quality processes in this area. Loft insulation installations, for which it is easier to check the quality of the installation, are less problematic. As mentioned, microgeneration installations are already covered by the MCS system and standards can be derived from this experience. Some members of the Federation of Master Builders see Green Deal installer certification and licensing as the beginning of a process leading to the more general licensing and up-skilling of the construction sector. This may be an added incentive to acquire the Green Deal installers accreditation.

The UK licensing track record

Although, licensing is relatively common in the United Kingdom, there is not a great deal of evidence as to its effectiveness. Partially due to problems in establishing what would have happened in the absence of the licensing, most of the evidence is around health and safety issues and customer confidence. Additionally, what evidence is available is largely outside of the construction sector, but does often apply to SMEs or the self-employed. A recent study on financial advisors (Sadler, 2008) showed that licensing controlled entry into the occupations and improved public confidence. The regulation and licensing of bouncers or door security has greatly improved their public image and reduced criminality (Lister et al., 2001).

A recent study (Forth et al., 2011) has emphasised the importance of rigour in the underlying qualifications both in terms of ensuring additional training and ensuring respect for the qualification by customers and the holders themselves who are more likely to help monitor the qualification if they have invested time and money obtaining it. Another study, this time focusing on the nursing home sector, found that the introduction of regulations covering the number of people with various levels of qualification needed within nursing homes resulted in an increase in the volume of training and qualifications within the sector (Gospel and Lewis, 2011).

Case study: Employment, skills and the growth of the low-carbon sector

At a national level in the United Kingdom, there is certainly awareness and discussion on the employment-generating potential of the transition to a low-carbon economy. In 2009, key government ministries (including the now Department for Business, Innovation and Skills – BIS, and the Department for Energy and Climate Change – DECC) published a report on the low-carbon and environmental goods and services sector and the employment-generating potential associated with it (Innovas, 2009). It suggested that the United Kingdom has a GBP 106 billion share of a global market worth over GBP 3 trillion, which sustained 880 000 jobs in the United Kingdom. The sector was seen to be growing at 4-5% a year, and it was forecast that this growth would create a further 400 000 jobs by 2017. Whilst the report briefly recognised that skills constraints could impact on these forecasts, no other mention is made of skills provision in the analysis.

However, the skills issues associated with the growth of the low-carbon sector come into sharper focus at the local level. As one example of this, in 2010-11, the DECC funded a series of low-carbon framework pilot schemes, one of which involved the development of a methodology for conducting a “mini-Stern” review on the economics of low-carbon cities (see Gouldson et al., 2012). This methodology was piloted in the Leeds City Region, an area with a population of 3 million, an economy worth GBP 52 billion (5% of the United Kingdom’s gross domestic product) and an annual energy bill of GDP 5.4 billion.

The mini-Stern review assessed the costs and benefits and the energy and carbon-saving potential of hundreds of energy efficiency and small-scale renewable options, and the scope for their deployment in the domestic, commercial, industrial and transport sectors in the city-region. It found that at commercial rates of interest, and using real energy prices, GBP 4.9 billion could be profitably invested with a payback period of 4 years to cut the city-region’s energy bill by GBP 1.2 billion a year and reduce its carbon emissions by 36%. It also found that this level of investment would create 4 500 jobs in the low-carbon goods and services sector within the city-region, and that this would lead to a further GBP 200 million in extra economic activity every year.

The employment-generating potential of this level of investment was forecast based on a review of the low-carbon goods and services sector within the city-region (Quantum Strategy and Technology, BE Group and University of Hull, 2011). When assessing the scope for this sector to absorb very significant levels of investment, to grow and to create jobs, the mini-Stern review assumed that levels of employment per unit of turnover would continue at their current level. However, it is recognised that the growth of the sector depends on a number of factors, several of which relate to skills (Quantum Strategy and Technology, BE Group and University of Hull, 2011).

The first of these factors is the generic skills gaps in science, technology, engineering and maths (STEM), as well as in project management, electrical engineering and low/zero carbon construction. The second is the lack of engagement between further education (FE) colleges and industry, which results in businesses feeling that the courses do not meet their needs. The third factor is that many skills issues/needs are specific to individual sectors e.g. maintenance technicians able to work at height in a marine environment for offshore wind or energy assessors for whole house surveys in the low-carbon buildings retrofit sector. These factors suggest that there is a need for local government, FE colleges, universities, employers and local business networks to work together to develop local skills strategies and plans for high-growth sectors, which is increasingly becoming recognised.

One key issue related to licensing concerns the take-up of the Green Deal finance in the domestic sector within the Leeds City Region. Here it is widely acknowledged that private sector service providers will struggle to convince householders to take up Green Deal finance because of concerns about the quality of their work. Public-private schemes are emerging whereby local governments providing Green Deal services also license private installers. Local government therefore will both market the scheme locally and assure the quality of work carried out by licensed private sector providers. These initiatives are driven by the local government’s desire to see as much Green Deal finance as possible flow into their area as it will create jobs, cut energy bills, reduce fuel poverty and contribute to carbon-reduction targets.

Policy implications

The above analysis shows that there are two main ways in which licensing is used to ensure minimum levels of competence amongst the low-carbon workforce. The licensing can operate at the individual level or at the corporate level. For instance, the Green Deal energy advisors will require appropriate individual level qualifications. By comparison, the Green Deal installers and the Microgeneration Certification Scheme use company level licensing and require that staff be appropriately qualified.

Both approaches have a track record with earlier comparable, but non-low carbon schemes and allow a degree of flexibility when skills requirements need updating. However, experience with licensing suggests that the process does not always lead to more training, competence or safety. Equally, as licensing minimum standards places the responsibility for training on individuals, or their employers, the approach may not increase the number of people with low-carbon skills. Indeed, licensing often tends to create skills shortages, as those with the certification discourage others, in order to maximise the return on their qualifications and registration (Maurizi, 1974). Despite this, in the domestic market consumer confidence is an important barrier to uptake of low-carbon measures and minimum levels of training are better than no training. Given that licensing increases consumer confidence, this should be a positive factor in increasing the take-up of the Green Deal.

In future, the critical factor will be the level of take-up of the Green Deal. If the uptake is lower than the government expects, then few building companies will become involved and few building workers will become certified. However, if the take-up is equal to or greater than the levels the government expects, then it is possible that the certification process will become the norm within the sector. Indeed, beyond the low-carbon agenda, bodies such as the Federation of Master Builders are looking to Green Deal certification as a way of driving “cowboys” out of the industry (Lane and Power, 2010).

However, the Committee on Climate Change, which has a statutory role in monitoring the United Kingdom’s progress towards carbon-reduction targets, has recently questioned the government’s forecasts of Green Deal take-up (CCC, 2011). With low levels of take-up, there is likely to be low levels of training and, in turn, it will be more difficult to reach the levels of critical mass needed to create positive customer confidence in the scheme. In this case, licensing could act as a barrier to the success of the Green Deal, if employers become unwilling to risk the costs associated with training and certification. This is especially the case as the bulk of the sector is composed of SMEs and they are more likely to hold back from investing in training and certification in the face of uncertainty.

The most onerous requirements in terms of quality systems and certification apply to the main contractor while the actual staff installing Green Deal systems will largely be qualified through existing single trade qualifications such as Gas Safe for installers of efficient boilers. The installers are also likely to be sub-contractors or self-employed in line with the structure of the UK construction sector (Briscoe et al., 2000). This means that there are fewer incentives for installers to obtain multi-trade qualifications and there will continue to be a resistance to multi-skilling in the UK construction sector (Ejohwomu et al., 2006).

A further potential problem is that the proposed standards for obtaining Green Deal installer certification (BSI, 2012) recognises that for many areas, including cavity wall insulation and loft insulation, appropriate qualifications do not currently exist. The proposed standards also suggest that people who have worked in the industry for three or more years could be qualified using an experienced worker assessment. This factor, combined with a range of qualification bodies, including those offering “cheap” or “easy” Green Deal installer certification, means that there will in practice be a range of underlying skills as part of Green Deal Certification. This means that potentially not all certified installers will really have the required competencies (Pye Tait Consulting, 2012). In turn, this means that the certification may become devalued in the eyes of consumers and other construction workers, with substantial negative impacts on the uptake of the Green Deal.

These considerations suggest that policy makers will need to pay close attention to the role and effectiveness of licensing and certification schemes, especially to how they relate to SMEs, as this could have significant impacts on the provision of low-carbon skills and on the success of key policy measures for promoting a low-carbon transition.

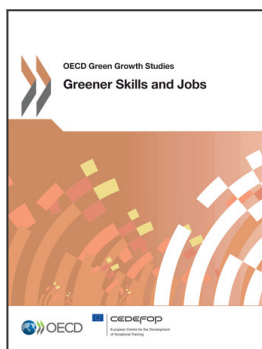
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