

# **Household Energy Efficiency Skills Project**

**Current State Review: Interim Findings**

**Sector Skills Council Perspective**

7<sup>th</sup> July 2010

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# 1. Introduction

The Energy Efficiency Partnership for Homes (EEPH) has been funded by Department of Energy and Climate Change (DECC) to coordinate a project during 2010/11 to assess the needs of the household energy efficiency and low carbon technology skills supply chain, in particular relating to the government's Green Deal for householders.

Subsequently, the group has defined a project scope that will result in a comprehensive analysis of the household energy efficiency skills supply chain and market, which will enable skills sector organisations to meet the training needs of GB business that wish to take advantage of Green Deal as a growth opportunity.

## 1.1 Aim

This report captures **the four Sector Skills Councils view of the current state** of the skills and training landscape relating to the household energy efficiency and low carbon sectors. Further work is required to complete the review and next steps are outlined through the document and presented in a timed plan in section 8.

The objectives of this report are to:

1. Identify the skills requirements to deliver energy efficiency and low carbon technology measures in existing homes (the list of measures to support Green Deal was provided by DECC and outlined in the scope below);
2. Identify, map and analyse current and planned skills training provision for energy efficiency and low carbon technology job functions for Green Deal, in order to assess:
  - a. the uptake of existing training provision;
  - b. the regional distribution of provision (quantified);
  - c. the quality of current training provision;
3. Identify, map and analyse the mechanisms for creation and delivery of training courses for energy efficiency and low carbon technology skills for Green Deal;
4. Identify, map and analyse the mechanisms for funding of training courses for energy efficiency and low carbon technology skills for Green Deal, in order to assess barriers to funding and propose enabling solutions; and
5. Assess risk for the supply of operatives and identify potentially competing policies or sectors.

## 1.2 Scope

The scope for the project has been defined to focus on the installation of measures into homes and does not specifically address delivery through local authorities, social landlords or energy companies. Further work may be required to identify specialist skills requirements in these delivery chains.

### Geographical:

- England
- Scotland
- Wales

### Products/ Systems/ Technologies/ Services:

- Cavity wall insulation
- Loft insulation
- Solid wall insulation (internal and external)
- High efficiency glazing
- Under floor insulation
- Draft proofing and improving air-tightness
- High efficiency boilers
- Heating controls
- Heat pumps
- Solar thermal
- Solar PV
- Other low carbon energy systems (micro-CHP, district heating connection, biofuels, bioliquids, fuel cells, small and community wind, new small scale community heat systems incorporating new technologies e.g. heat pumps)
- High efficiency ventilation systems (MVHR)
- Energy Performance Certificates (EPCs), which provide energy and carbon emission ratings plus advice on cost effective measures to improve performance
- Home Energy Advice about practical, physical measures to improve a home's energy efficiency and the benefits of changing behaviour
- Telephone advice services
- Technical advice on whole house improvements (under discussion)
- Project managing delivery of whole house improvements (under discussion).

### Supply Chain Functions:

- Assessment
- Advice
- Planning (Town and Country)
- Planning (Project)
- Systems integration
- Project initiation (Project / design management)
- Construct/ assemble (where this takes place other than at the job-site, associated with larger community scale renewable measures)
- Install/ commission (at job-site)
- Operate/ maintain/ overhaul
- Building control
- Facilities management

**Note:** The project does not address the manufacturing supply chain for products.

### 1.3 Approach

The table below presents the approach taken to collate the Sector Skills Council's input to the current state review:

Objective	Methodology
1. Identify the skills requirements to deliver energy efficiency and low carbon technology measures in existing homes (the list of measures to support Green Deal was provided by DECC and outlined in the scope below);	Functional Mapping <sup>1</sup> (excel matrix)
2. Identify, map and analyse current and planned skills training provision for energy efficiency and low carbon technology job functions for Green Deal, in order to assess: <ol style="list-style-type: none"> <li>a. the uptake of existing training provision;</li> <li>b. the regional distribution of provision (quantified);</li> <li>c. the quality of current training provision;</li> </ol>	Interviews with Sector Skills Councils.
3. Identify, map and analyse the mechanisms for creation and delivery of training courses for energy efficiency and low carbon technology skills for Green Deal;	Interviews with Sector Skills Councils.
4. Identify, map and analyse the mechanisms for funding of training courses for energy efficiency and low carbon technology skills for Green Deal, in order to assess barriers to funding and propose enabling solutions; and	Desk research.  Interviews with Sector Skills Councils.
5. Assess risk for the supply of operatives and identify potentially competing policies or sectors.	Interviews with Sector Skills Councils.  Risk analysis (excel matrix) <sup>2</sup>

<sup>1</sup> The Household Energy Efficiency Skills Project has modified the functional mapping matrix developed by the Renewable Energy Strategy Skills Project and would like to note their thanks for sharing this intellectual property.

<sup>2</sup> The Household Energy Efficiency Skills Project has extended the risk assessment matrix developed by the Renewable Energy Strategy Skills Project and would like to note their thanks for sharing this intellectual property.

## 2. Background and current context

Since the project proposal was developed, the United Kingdom has undergone a general election, which has resulted in a change in administration to a Conservative and Liberal Democrat coalition Government. The project was defined to support the Household Energy Management strategy developed by DECC and the future state elements will be adapted to reflect the emerging policies produced under the new administration.

### 2.1 Political Context

There have been several announcements from the new administration that are relevant to the project:

- The **Energy Bill 2010**, announced on 25<sup>th</sup> of May 2010<sup>3</sup>, outlines that legislation will be introduced to improve energy efficiency in British homes and businesses, to promote low carbon energy production, and to secure energy supplies;
- The **Energy and Climate Programme for Government** outlines plans for the development of a Green Deal scheme that will encourage home energy efficiency improvements paid for by savings from energy bills<sup>4</sup>; and
- **Business Innovation and Skills**<sup>5</sup> has taken action to reduce the number of its public bodies. The bodies that have been affected, connected to this project, are:
  - Seven regional industrial development boards have been closed down;
  - Ufl/ Learndirect is to operate as an independent training provider from 1<sup>st</sup> of August and will be eligible for funding from the Skills Funding Agency, on the same basis as other training providers;
  - Learning and Skills Improvement Service will be owned and funded by the further education sector, rather than BIS, from April 2011;
  - Public funding for Standards and Verification UK will end in March 2011.

### 2.2 Economic

In the budget<sup>6</sup> on the 22<sup>nd</sup> of June, the Government committed to playing its part in moving to a low-carbon economy. The transition will change the shape of industry, growth and jobs in the future. The budget also confirmed the Government's plans to establish a Green Deal for households through legislation in the Energy Security and Green Economy Bill.

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<sup>3</sup> [http://www.decc.gov.uk/en/content/cms/legislation/energy\\_bill/energy\\_bill.aspx](http://www.decc.gov.uk/en/content/cms/legislation/energy_bill/energy_bill.aspx)

<sup>4</sup> <http://programmeforgovernment.hmg.gov.uk/energy-and-climate-change/>

<sup>5</sup> <http://www.theyworkforyou.com/wrans/?id=2010-06-16a.121.4&s=vince+cable#g121.5>

<sup>6</sup> [http://www.hm-treasury.gov.uk/2010\\_june\\_budget.htm](http://www.hm-treasury.gov.uk/2010_june_budget.htm)

### 3. Functional analysis and occupational mapping

Functional analysis and occupational mapping has been conducted in relation to each product/ system/ technology to provide an overview of the functions that need to be carried out to deliver the measures outlined and to identify the occupations that carry out (or have the potential to carry out) the functions.

Analysing the functions required is the first step in the Sector Skills Council's process towards developing a skills action plan. Once the functions have been identified by a Sector Skills Council, the following steps are then undertaken:

1. Identify occupations that do (or have the potential to) carry out the functions;
2. Identify gaps in skills/ knowledge that need to be addressed through up-skilling training and/ or new entrant training;
3. Identify and/ or develop relevant National Occupational Standards (NOS);
4. Identify and/ or develop relevant Qualification and Credit Framework (QCF) units; and then
5. Identify and develop relevant qualifications with QCF Awarding Organisations

Information on the development of qualifications is available in section 5 below. Further work to map and identify gaps in National Occupational Standards and Qualifications is discussed under 'next steps' below.

#### 3.1 Functions

Functions have been identified along with the respective level and mapped to occupations (further information on levels and the qualifications they correspond to is provided in annex 1). The full functional analysis and mapping to occupations is provided as a supporting document with this report and the occupations have been listed by sector in annex 2.

The total number of occupations in the household energy efficiency and low carbon technology sectors, identified by the Sector Skills Councils, is 54.

#### 3.2 Gaps in the functional mapping

The function/ occupation analysis and mapping has identified some gaps, which largely fall under the insulation and fabric sectors, or concerning advice from installers. These sectors tend to be 'trade owned', lower skilled functions that do not necessarily require training through the further education system:

Function(s)	Gap(s)
Energy Assessment (L3)	<ul style="list-style-type: none"><li>• Energy Assessors are trained to use software in order to provide an assessment of the energy performance of a property. At present, microgeneration, renewable heat technology and mechanical ventilation and heat recovery technologies are not required as part of the assessment process;</li><li>• New build energy assessor's software requires the assessor to input data on the air tightness of properties, as this is a requirement of building regulations. However, this is not a consideration for existing dwellings.</li></ul>
Renewables Advice	<ul style="list-style-type: none"><li>• The Energy Adviser occupation is not currently required to cover microgeneration or renewable heat, but is required to sign post towards other sources of</li></ul>

	information.
Provide Loft Insulation Advice (installer)	<ul style="list-style-type: none"> <li>Advice to the householder is not defined as part of a loft installer occupation.</li> </ul>
Install Loft Insulation	<ul style="list-style-type: none"> <li>ConstructionSkills plan to review NOS shortly (amber status on mapping)</li> </ul>
Provide Cavity Wall Insulation Advice (installer)	<ul style="list-style-type: none"> <li>Advice to the householder is not defined as part of a cavity wall installer occupation.</li> </ul>
Install Cavity Wall Insulation	<ul style="list-style-type: none"> <li>ConstructionSkills plan to review NOS shortly (amber status on mapping)</li> </ul>
Install External Solid Wall Insulation	<ul style="list-style-type: none"> <li>Function and NOS has recently been reviewed for solid wall insulation and a new qualification is in development (for further detail see section 4.1).</li> </ul>
Internal Wall Insulation	<ul style="list-style-type: none"> <li>Advice to the householder is not defined as part of an internal wall installer occupation.</li> </ul>
Install Under floor insulation (all functions)	<ul style="list-style-type: none"> <li>No function defined for under floor insulation installers (therefore no qualification exists).</li> </ul>
Provide Air-tightness advice	<ul style="list-style-type: none"> <li>Function not currently reflected in Energy Adviser occupation;</li> </ul>
Specify Air-tightness requirements	<ul style="list-style-type: none"> <li>No function defined for air-tightness improvements – viewed as a cross cutting knowledge for all trades and needs to be integrated to occupation training accordingly.</li> </ul>
Provide Draught Proofing Advice	<ul style="list-style-type: none"> <li>Advice to the householder by installers/ industry is not defined as part of this occupation.</li> </ul>
Maintain and Overhaul Draught Proofing	<ul style="list-style-type: none"> <li>Maintenance and overhaul is not defined as part of the occupation.</li> </ul>
General Building (Domestic Projects)	<ul style="list-style-type: none"> <li>Occupation for general building operations exists but relates to construction projects and is very broad. General Builders tend to develop from a specific craft or trade and broaden out skills, or sub contract, to become General Builders.</li> </ul>
Whole House Project Management	<ul style="list-style-type: none"> <li>Several functions have emerged for managing a whole house project (Facilities Manager, Project Managers, Building Services Engineer, Technician), with defined functions, although not specifically in relation to energy efficiency upgrades.</li> </ul>

### 3.3 Trigger points

The route to installation of measures will not always follow the supply chain defined in the scope of the project, i.e. starting with the production of an Energy Performance Certificate (EPC) or home energy advice, by face to face visits by home energy advisers and/ or over the telephone.

Alternative routes to improving the energy efficiency of projects, such as repairs, maintenance or improvements to properties, present an opportunity to include appropriate energy efficiency upgrades. These alternative routes may reveal additional functions that need to be addressed.

Projects that could be trigger points for energy efficiency improvements include:

- Fitting a new kitchen
- Fitting a new bathroom/ cloakroom
- Boiler/heating system breakdown
- Rewiring
- Replacing a roof
- Building a brick extension
- Converting a loft
- General refurbishment between occupiers

### 3.4 Next steps

1. To gain a complete view of the current state the following needs to be undertaken by the Sector Skills Councils:
  - a. Extend analysis and mapping to identify National Occupational Standards for the functions identified in annex 2;
  - b. Extend analysis and mapping to identify relevant QCF units; and
  - c. Extend analysis and mapping to identify relevant qualifications.
2. To address the gaps that have been identified in the functional/ occupational mapping above and gather specific information on individual industries supply chains, the project team proposes to conduct interviews/consult as appropriate with relevant trade organisations:
  - a. Insulation industry trade organisations:
    - i. Insulated Render & Cladding Association
    - ii. National Insulation Association
    - iii. Cavity Insulation Guarantee Agency
    - iv. Solid Wall Insulation Guarantee Agency
    - v. Flooring Industry Training Association
    - vi. Thermal Insulation Manufacturers and Suppliers Association (TIMSA)
  - b. Glazing Industry:
    - i. Glass and Glazing Federation
    - ii. FENSA
  - c. Fabric:
    - i. Federation of Master Builders
    - ii. National Federation of Builders

- iii. National House-Building Council
- d. Draught Proofing:
  - i. Draught Proofing Advisory Association (non-domestic but members cover domestic installations)
- e. Whole house project management and wider energy advice:
  - i. Parity Projects
  - ii. Energy Saving Trust
  - iii. BRE Rethink Team
  - iv. Accreditation bodies for Energy Assessors
- f. Specialist Functions:
  - i. National Specialist Contractors Council

## 4. Current and planned training provision

The recent and/or current development work by the Sector Skills Councils is detailed below. Further work is required to map current and planned training provision and delivery. The next steps to complete training provision mapping are outlined at the end of this section below.

### 4.1 Qualification Development

- **Energy Adviser Qualifications:** Level 3 Home Energy Adviser Qualifications are currently being developed by up to three awarding bodies. Additional competencies for a level 4 Home Energy Adviser will be defined as part of an Asset Skills pilot project in the South West;
- **Continuous Professional Development:** Asset Skills is piloting a one day training course in Bournemouth this summer on low carbon for non-technical members of professional bodies (CIBSE, RIBA etc);
- **Building Treatments Level 2 NVQ:** includes solid wall insulation, loft insulation, cavity wall insulation and draught proofing is currently offered by City & Guilds and National Energy Action. From September, ConstructionSkills Awards, will be the awarding body for this qualification;
- **Solid Wall Insulation NVQ:** ConstructionSkills also working with INCA and National Insulation Association (NIA) to develop a specialist apprenticeship programme. Apprenticeships in external solid wall insulation are expected by September, subject to funding;
- **Solid Wall Insulation Certification:** The work that National Insulation Association is undertaking on the Solid Wall Insurance Guarantee (SWIGA) will require the NVQs as a minimum standard for installers;
- **Solid Wall Insulation Supervisors and Managers:** a skills action plan in place with ConstructionSkills and INCA, which will look at the training needs of their members not just for the installers but also supervisors and managers. The specialist apprenticeship programme that is under development is part of this action plan;

- **National Occupational Standards for Environmental Technology Systems:** SummitSkills have developed 16 NOS units on renewable heat and microgeneration – eight operative units, eight higher units<sup>7</sup>;
- **QCF Environmental Technology Qualifications:** Currently being developed by SummitSkills, City and Guilds and EAL. The qualifications will provide existing skilled workers with the opportunity to install, commission, inspect, service and maintain solar thermal, solar photovoltaic and heat pump systems. The qualifications are aligned to MCS and Competent Person Scheme installer competence requirements. Further developments for other technologies and for design and project management functions for environmental technology systems are planned.

#### 4.2 National Skills Academies

Each of the four sector skills councils has developed, or is developing, a National Skills Academy appropriate to the needs of their sector to deliver training.

Owner	Description
Asset Skills	Virtual Skills Academy for Business Services.
ConstructionSkills	Project based skills academies. Projects with a value >£1m can apply for an academy to be developed. Training defined according to the project's needs. Client, employer and publicly funded.
Energy&Utility Skills	National Skills Academy for Power. British Gas Green Academy has also been highlighted as functioning as a National Skills Academy and proposes to open to non-employees.
SummitSkills	National Skills Academy for Environmental Technologies. A nationwide hub and spoke model with accredited centres delivering training to suit regional needs. (Currently in the business planning stage with various pilots during 2010. Launch date January 2011).

<sup>7</sup> [http://www.ukstandards.org.uk/Find\\_Occupational\\_Standards.aspx?NosFindID=4&SuiteID=1593](http://www.ukstandards.org.uk/Find_Occupational_Standards.aspx?NosFindID=4&SuiteID=1593)

### 4.3 Private provision

Private training provision, i.e. training that does not result in a formal qualification, appears to be prolific in the household energy efficiency and low carbon sectors, but requires further work to ascertain the full picture. Training is provided by:

- Commercial organisations
- Not-for-profit organisations
- Manufacturers
- Trade Associations
- Employers
- Accreditation bodies
- Professional Bodies

### 4.4 Next steps

1. In order to understand current and planned training, the relevant awarding organisations will be approached to provide information on assessment centres that currently offer, or plan to offer, qualifications identified by the Sector Skills Councils under the proposed Next Step 1, Section 3.4 above. The exercise will also:
  - a. Quantify the past uptake of the qualifications;
  - b. Identify barriers to uptake of qualifications; and
  - c. Assess quality of current training provision.
2. A map/ table of current and planned training delivery through Awarding Organisations will then be produced;
3. To understand the training that is offered by private providers, the project team proposes to hold a workshop event(s), produced and managed by the Energy Efficiency Partnership for Homes. (The workshop will present a commercial opportunity for private training providers in the form of increased knowledge and understanding of implications of future policy on their industry). The purpose of the workshop will be to:
  - a. Better understand the delivery of private training provision;
  - b. Understand the mechanisms for creation and funding of private training provision (see sections 5 and 6 below for further information); and
  - c. Secure buy-in to the project from private training providers.

## **5. Mechanisms for creation and delivery of training courses**

The routes to the development of training can be segmented into three categories:

- Further Education System
- Private Sector Training
- Higher Education (limited impact on project and not explored below)

### **5.1 Further education system**

The further education system qualification and course development process for levels 1-5 has been presented in section 5.2 below.

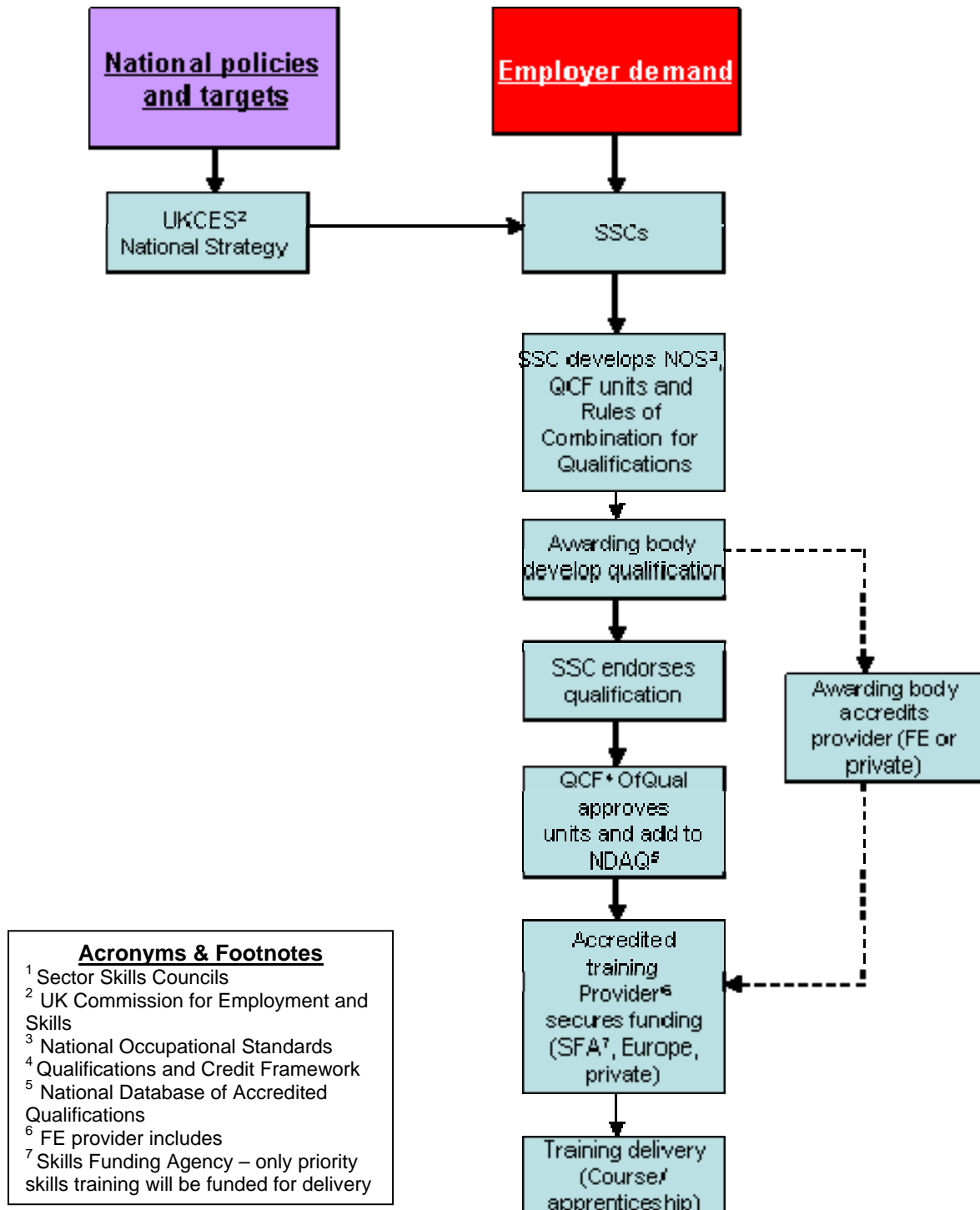
To summarise, the further education system's mechanisms for the training and delivery of courses begins with Sector Skills Councils, who have responsibility for developing and/ or revising National Occupational Standards and Qualification Credit Framework units, in partnership with employers.

Qualification Credit Framework units are then combined by an Awarding Organisation, working with the relevant Sector Skills Council(s), to develop a qualification. The qualification is then registered on the National Database of Accredited Qualifications.

Awarding Organisations approve delivery centres, which offer the training and assessment for the qualification. The decision for an approved centre to offer a qualification in any given region ultimately comes down to demand for the qualification. Qualifications can be offered through physical or virtual approved centres.

## 5.2 Further Education System Mechanics

This diagram represents the English system. The Sector Skills Councils advise that the mechanisms are comparable for the Scottish and Welsh systems, although the organisations may differ.



### **5.3 Private Sector**

The mechanisms of the private sector training for the creation and delivery of training are not part of the Sector Skills Councils' remits, therefore further work with the sector is required to complete the review of the current state.

### **5.4 Next steps**

The workshop event proposed in section 4.4 above will also enable the project team to better understand mechanisms for creation and delivery of training by the private sector.

## **6. Mechanisms for funding of training courses**

The mechanisms for funding have been subject to change with the new administration and therefore the project team have taken the decision to hold full analysis of funding mechanisms until such a time that the landscape is clear. However, a brief overview of funding sources is outlined below.

### **6.1 Public funding**

The following sources of public funding have been identified:

- Further education funding (Skills Funding Agency, Scottish Skills Funding Agency and funding through the Welsh Assembly Government)
- Public funds via delivery programmes/ organisations e.g. Energy Saving Trust, Environment Agency
- Apprenticeships
- Regional Development Agency awarded funded

### **6.2 Employer funding**

- Employer levy (e.g. CITB managed by ConstructionSkills)
- Employer funded (percentage of or full course rate)
- Client funded (training requirements factored into tenders for projects)

### **6.3 European Funding**

- European Social Fund
- Intelligent Energy Europe
- Regional Development Fund

## 6.4 Next Steps

To better understand the funding mechanisms of the sources identified above, the project team proposes the following activity:

1. Collate or produce diagrams of:
  - a. The public funding mechanisms, working with the Sector Skills Councils, Regional Development Agencies and funding agencies;
  - b. The employer funded mechanisms, working with the Sector Skills Councils, agencies and employers; and
  - c. The European funding mechanisms, working with Regional Development Agencies and the relevant European organisations or teams.
2. Identify barriers to funding and propose enabling solutions to allow the HEE skills market to develop.

## 7. Risk and related sectors

Risk analysis has been conducted by the sector skills to identify impact of other policy and commercial programmes drawing on the same labour force/ talent pool.

### 7.1 Related Policies

Other policy areas that may draw on the same labour force/ talent pool as the household energy efficiency and low carbon technology sectors are:

- The Renewable Energy Strategy;
- In Scotland and Wales devolved policies (e.g. Energy Efficiency Action Plan and Arbed) will draw on the same labour force/ talent pool as GB wide policies and needs to be factored into devolved plans.

### 7.2 Related Sectors

Other sectors that may draw on the same labour force/ talent pool as the household energy efficiency and low carbon technology sectors are:

- Construction (domestic, public sector, commercial and civil projects)
- Building services engineering (domestic, public sector, commercial projects)
- Public and commercial refurbishment

### 7.3 High Risk Occupational Shortage Areas

The full risk assessment matrix is provided as a supporting document; high and medium risk occupations that have been identified are presented in the table below. Occupations identified as medium or high risk are defined as requiring high volumes of operatives and/ or requiring up-skilling.

Occupational Shortage areas that have also been identified under the Renewable Energy Strategy Skills project have not been specifically highlighted for this report, but typically include those occupations identified below.

Function	Education Level	Risk
Home Energy Adviser	3	High
Home Energy Assessment	3	High
Telephone Energy Adviser	2	Medium
Building Services Engineer (mechanical) / Technician / Project Manager	4	Medium
Plumber	3	Medium
Domestic Heat Installer	3	Medium
Industrial and Commercial Heating Installer	3	Medium
Gas Installer	3	Medium

#### 7.4 Comments on risk assessment

Insulation, Glazing and Fabric:

- These are niche sectors from ConstructionSkills perspective and data on these roles is provided under a generic 'Repair, Maintenance and Improvement' market segment. Operatives tend to train out with the further education system and therefore risk assessment needs to be undertaken with the trade associations.

Installation Electricians:

- There is already an existing shortage of Level 3 qualified electricians;
- Installations electricians will generally fit all Solar PV equipment and other electrical generation microgeneration technologies;
- A high volume of electricians need to be up-skilled to install solar PV and other electrical generation microgeneration technologies will be required. Up-skilling training will typically take 3-5 days per technology.

Heat pumps and solar thermal installers:

- High volume of Installers/engineers will be required;
- Installers will primarily be plumbers/heating engineers and gas engineers;
- Up-skilling training will typically take 3-5 days per technology.

Home Energy Advisers:

- Represent a brand new role and recruitment will be in part from the existing pool of Domestic Energy Assessors.

#### 7.5 Next steps

1. Conduct risk analysis with trade organisations identified in Section 3.4; and
2. Risk analysis may need to be reviewed inline with any policy or programme alterations made by the new administration.

## 8. Timetable of activity to complete current state review

Activity	Lead	Jul-10	Aug-10	Sep-10
<b>Functional/ Occupational Mapping</b>				
1. Extend mapping to identify National Occupational Standards, QCF units and qualifications for the functions identified	SSCs + EEPH			
2. Conduct trade interviews	EEPH + SSCs			
<b>Current and Planned Training Delivery</b>				
1. Assess training provision through Awarding Body assessment centres	EEPH + SSCs			
2. Produce map of training delivery through Awarding organisation approved centres	EEPH + SSCs			
3. Private training providers workshop	EEPH + SSCs			
<b>Mechanisms for Creation and Delivery of Training Courses</b>				
(Private training providers workshop above)	As above			
<b>Mechanisms for Funding of Training Courses</b>				
1. Produce diagrams of the funding mechanisms	SSCs + EEPH			
2. Identify barriers and propose enabling solutions	EEPH			
<b>Risk and related sectors</b>				
1. Conduct risk analysis with trade organisations identified in section 3.4	SSCs + EEPH			
2. Review risk analysis against new Government policy (if required)	EEPH + SSCs			
<b>Produce current state review report</b>				
Collate the activity above to complete current state review (end of September 2010)				

### Key

	Activity
	Planning

# ANNEXES

## Annex 1. Education levels

From the Household Energy Efficiency Skills Review<sup>8</sup>, produced by ProEnviro Ltd on behalf of the Energy efficiency Partnership for Homes.

Level	Example Qualifications	Entry Requirements	Progression
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>• Entry Level Certificate</li> <li>• Certificate of Achievement</li> <li>• Skills for Working Life</li> <li>• Life Skills</li> <li>• Skills for Life</li> <li>• ESOL</li> <li>• Basic Literacy/Numeracy</li> </ul>	No formal qualifications required; initial assessment may be used to determine appropriate level	Leads into work-related skills or progression to an NVQ course
<b>Level 1</b>	<ul style="list-style-type: none"> <li>• QCF Level 1 Certificates</li> <li>• BTEC Introductory Diploma/Certificate</li> <li>• C &amp; G Introductory Diploma/Certificate</li> <li>• GCSE grade D-G</li> <li>• CACHE Foundation Certificate</li> <li>• NVQ Level 1</li> <li>• Key Skills Level 1/Skills for Life Level 1</li> <li>• Foundation GNVQ</li> </ul>	Minimum of 4 GCSEs at E – G grades, Entry Level Certificate	Allows progression to level 2 course; employment at a junior level; or apprenticeships
<b>Level 2</b>	<ul style="list-style-type: none"> <li>• GCSEs grade A*-C</li> <li>• BTEC First Diploma</li> <li>• C &amp; G First Diploma</li> <li>• OCR First Award/Diploma</li> <li>• QCF Level 2 Diplomas</li> <li>• NVQ Level 2</li> <li>• Level 2 Apprenticeship</li> <li>• CACHE Certificate</li> <li>• Key Skills Level 2/Skills for Life Level 2</li> <li>• Intermediate GNVQ</li> <li>• Foundation to Advanced Studies</li> <li>• ITEC Diploma</li> </ul>	Passed Level 1, GCSEs at D-E Grades	Leads to a more advanced level or into work with training
<b>Level 3</b>	<ul style="list-style-type: none"> <li>• QCF Level 3 Certificates</li> </ul>	Passed Level 2, Achieved 4 or 5	Offers progression to Higher Education or if

<sup>8</sup> [www.eeph.org.uk/skillsandtraining](http://www.eeph.org.uk/skillsandtraining)

	<ul style="list-style-type: none"> <li>• NVQ Level 3</li> <li>• A levels and AS levels</li> <li>• BTEC National Award/Certificate/Diploma</li> <li>• C &amp; G National Award/Certificate/Diploma</li> <li>• OCR National Award/Certificate/Diploma</li> <li>• CACHE Diploma</li> <li>• Key Skills Level 3</li> <li>• Advanced Apprenticeships</li> <li>• Access to HE Course</li> <li>• Pre-BA Foundation Course</li> <li>• Advanced Extension Award</li> </ul>	GCSEs at A*-C	NVQs studied, employment
<b>Level 4</b>	<ul style="list-style-type: none"> <li>• Vocational Certificates</li> <li>• Vocational Diplomas</li> </ul>	Completion of Level 3 qualification	
<b>C</b>	<ul style="list-style-type: none"> <li>• Certificate of Higher Education</li> </ul>		
<b>Level 5</b>	<ul style="list-style-type: none"> <li>• Key Skills</li> <li>• NVQ Level 4</li> <li>• Vocational Certificates</li> <li>• Vocational Diplomas</li> </ul>	Completion of previous level qualification, 1 or more A Levels, Appropriate industrial experience (APEL), Top-up Degrees, require completion of an HND or Foundation degree	Enhanced Career/Employment Options Further Study at University
<b>I</b>	<ul style="list-style-type: none"> <li>• Diplomas of Higher and Further Education</li> <li>• Foundation Degrees</li> <li>• Higher National Certificate (HNC)</li> <li>• Higher National Diploma (HND)</li> <li>• BTEC Higher National Diploma</li> <li>• Top-up Degree</li> </ul>		
<b>Level 6</b>	<ul style="list-style-type: none"> <li>• Vocational Certificates</li> <li>• Vocational Diplomas</li> </ul>	Completion of previous level qualification, 1 or more A Levels	Enhanced Career/Employment Options Further Study at University
<b>H</b>	<ul style="list-style-type: none"> <li>• Bachelor's Degrees</li> <li>• Graduate Certificates</li> <li>• Graduate Diplomas</li> </ul>		
<b>Level 7</b>	<ul style="list-style-type: none"> <li>• NVQ Level 5</li> <li>• Vocational Certificates</li> <li>• Vocational Diplomas</li> </ul>	Previous study	
<b>M</b>	<ul style="list-style-type: none"> <li>• Masters Degrees</li> <li>• Postgraduate Certificates</li> <li>• Postgraduate Diplomas</li> </ul>		

<b>Level 8</b>	<ul style="list-style-type: none"> <li>• Vocational Diplomas</li> <li>• Specialist Awards</li> </ul>	Previous study	
<b>D</b>	<ul style="list-style-type: none"> <li>• Doctorates</li> </ul>		

**Key to Qualifications:**

- ESOL – English for Speakers of Other Languages
- BTEC – Business and Technology Education Council
- C&G – City and Guilds
- QCF – Qualification and Credit Framework
- APEL – Accreditation of Prior Experiential Learning
- OCR – Oxford Cambridge and RSA Examinations
- BA - Bachelor of Arts

## **Annex 2. Function/Occupation lists by Measure**

### **Traditional Heating and Heating Controls**

- Building Services Engineer (Electrical) / Technician / Project Manager(L4/5)
- Building Control (L4/5) or CPS
- Domestic Heat Installer (L3)
- Facilities Manager (L3/4)
- Gas Installers (L3)
- Industrial and commercial heating installer (L3)
- Installation Electrician (L3)
- Plumber (L3)

### **Mechanical Ventilation Heat Recovery**

- Building Services Engineer (Electrical) / Technician / Project Manager(L4/5)
- Building Services Engineer (mechanical) / Technician / Project Manager(L4)
- Domestic Heat Installer (L3)
- Gas Installers (L3)
- Installation Electrician (L3)
- Installation Electrician (L3) (Electrical Connections Only)
- Plumber (L3)

### **Insulation**

- Domestic Energy Assessor (L3)
- Building Control (L4/5)
- Domestic Energy Assessor (L3)
- Energy Advisor (L2)/ Energy Advisor (L3)
- Facilities Manager (L3/4)
- Installer - Building Treatments L2
- Installer - no qualification linked to VQ framework
- Town and Country Planning (L5) (Listed buildings and conservation areas only – External or Internal Wall Insulation)

### **Glazing**

- Building Control (L4/5)
- Domestic Energy Assessor (L3)
- Energy Advisor (L2)/ Energy Advisor (L3)
- Facilities Manager (L3/4)
- Glazer level 2
- Glazer Level 3
- Installer - Fenestration Installation and Surveying Level 3
- Installer - Fenestration Installation Level 2
- Town and Country Planning (L5) (Listed buildings and conservation areas only)
- Project Management - Fenestration Installation and Surveying

### **Fabric (Draught Proofing and Air Tightness)**

- Domestic Energy Assessor (L3) (Draught Proofing only)
- Energy Advisor (L2)/ Energy Advisor (L3)
- Facilities Manager (L3/4)
- Facilities Manager (L3/4)
- Installer - Building Treatments (L2)
- Tradesman involved in construction process (in future the aim is for this to be part of a qualification not an individual function/ qualification)

### **Whole House Project Management**

- General builders - no formal qualification currently available
- Building Services Engineer (Mechanical or Electrical) / Technician / Project Manager(L4/5)
- Constituents parts of whole house upgrade may need planning: Town and Country Planning (L5)
- Facilities Manager (L3/4)

### **Microgeneration (solar, hydro, wind), renewable heat, biofuels and connection to district heating** (Roles assessed under RESS project, further detail available in *Function/ Occupation Mapping* or from Renewable Energy Strategy Skills Project)

- Building Services Engineer (Electrical) / Technician / Project Manager(L4/5)
- Building Services Engineer (Mechanical or Electrical) / Technician / Project Manager(L4/5)
- Building Services Engineer (Mechanical) / Technician / Project Manager(L4/5)
- Cable jointer (L2/3)
- Commissioning Engineer (L4-5)
- Control systems engineer (L5)
- Control systems engineer (L5-6)
- Control systems technician (L3-4)
- Domestic Heat Installer (L3)
- Electrical Engineer
- Energy Advisor (L3)
- Facilities Manager (L3/4)
- Gas Installers (L3)
- Generation operative (L2)
- Industrial and commercial heating installer (L3)
- Installation Electrician (electrical connections only)
- Linesperson (L2/3)
- Maintenance technician - electrical (L3-4)
- Maintenance technician - mechanical (L3-4)
- Network Operations
- Pipe-fitter (L3)
- Pipe-welder (L3)
- Plumber (L3)
- Project Controller (L3)
- Refrigeration and/or Air Conditioning Engineer (L3)
- Refrigeration and/or Air Conditioning Technician (L3)

- Service Engineer (L5)
- Site Manager (L4)
- Systems Design Engineer
- Thermal process supervisor (L4)
- Town and country planning (L5)

### **Large Scale Wind**

- Architect
- Building services engineer (L5)
- Cable jointers
- Commissioning engineer
- Control system engineers
- Control system technician
- Environmental Engineers
- Installation Electrician (L3)
- Lines person
- Project Control Engineer
- Project controller
- Project manager (L4)
- Project Manager/Engineer
- Service engineers
- Site Managers
- Site supervisor
- Specialist consultants
- Systems Engineer
- Town and country planning (5)
- Wayleave Surveyor
- Wind turbine technician