Enterprise and Learning Committee
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Energy Saving Trust scene setting evidence – transforming our housing stock and our economy

Introduction

Investing in transforming the energy performance of our housing stock will create jobs and stimulate the Welsh economy. This much is clear. However the scale of job creation and economic stimulus will be dependent on a number of key factors under the Assembly Government's control. These include:

- Investment in low carbon retrofit programmes that lead the way
- Support for Welsh businesses to develop new skills and experience
- Encouraging delivery by social enterprises and not-for-profit organisations
- Putting polices in place that stimulate longer term demand for low carbon retrofit (this will require a partnership effort between the Assembly Government and the UK Government)
- Ensuring consumers can trust the businesses offering retrofit services

There are large potential economic benefits over the longer term as well as in the immediate future. The scale of these potential longer term benefits will depend to a large extent on how successful the Assembly Government is in helping Welsh businesses to take advantage of the opportunities that lie ahead. The large scale transformation of the UK housing stock is inevitable to meet our carbon reduction targets over the next 40 years.

Energy Saving Trust work in this area

The Energy Saving Trust is currently undertaking a piece of research to develop a model that will quantify the economic impacts of our activities and our policy recommendations.

The first element of the research was a review of the existing evidence base on the economic impacts of sustainable energy projects, programmes, policies, regulations and investments. A list of the existing evidence is included as an annex to this evidence and we suggest that the Committee may like to invite the authors of a few key pieces of research to future evidence sessions. We suggest that evidence from the Committee on Climate Change, the Sustainable Development Commission and the Association for the Conservation of Energy may be particularly useful.

The second stage will involve research to plug the gaps and provide new evidence on the impact of the Energy Saving Trust's activities, government policies and regulations. This will culminate in a new model to be used by that we can use to assess the economic impact of our work and Government policy.

It will allow us to estimate, for example, the likely economic impact (jobs and GVA) of the UK Government's target to insulate every loft and cavity in the UK

by 2015, or the impact of installing solid wall insulation in 10,000 homes in Wales.

Further work to include up-to-date information on the Welsh housing stock (due to be released by the Assembly Government in 2010) in our housing model housing stock will also allow us to estimate the economic, energy and emission reduction impacts of policies like changes to building regulations or requiring minimum energy efficiency standards for home sale or rental.

An estimate of the estimate the economic impact of loft and cavity wall insulation work specifically has already been developed by the Energy Saving Trust as part of work on the South West's Low Carbon Housing and Fuel Poverty Strategy and Action Plan. This work estimates that[1]:

- For every 176 cavity wall insulation installations, one year of full time employment is supported
- For every 164 loft insulation installations, one year of full time employment is supported
- Over £1.5m GVA is created as a result of every 10,000 cavity wall insulation installations
- Over £1.2m GVA is created as a result of 10,000 loft insulation installations
- To put these figures in context, assuming that 5% of CERT[2] activity is undertaken in Wales[3], over 140,000 lofts and 110,000 cavities could be expected to be filled in Wales between 2008 and 2011.

Role of Welsh Assembly Government

Here we provide a brief indication of the types of actions that the Assembly Government could take to use the key factors under their control to maximise the economic impact of domestic sustainable energy in Wales. This is intended to give the Committee a broad idea of the types of actions likely to be necessary, further information can be provided if required, indeed, we would be keen to update the Committee on various aspects of our work in the future as they develop.

Investing in low carbon retrofit programmes that lead the way

The Assembly Government is already investing significantly in low carbon retrofit initiatives as part of their 'arbed' – strategic energy performance

[1] Labour requirements per job derived from discussions with South West installers. Assumes GVA (Gross Value Added) is taken to be turnover less the cost of materials, components and services and represents approximately 40 or 30% (35% taken here as an average) of total installed costs depending on the measure - based on a review of selected annual accounts and discussions with the sector.

[2] CERT = Carbon Emission Reduction Target – an obligation placed on energy suppliers to meet a carbon reduction target that is met by helping householders to take carbon reduction measures. CERT primarily results in energy suppliers providing subsidised or free of charge loft or cavity wall insulation.

[3] This is not necessarily a safe assumption to make. Wales received more than our 'fair share' of activity under EEC 1 and initial estimates suggest that same was true of EEC 2 (EEC 1 and 2 were the predecessors of CERT). It could therefore be the case that there are less lofts and cavities left to fill in Wales than other parts of the UK. A number of planned data improvements over the next 6 months should provide us with a reasonably accurate picture of the number of remaining empty lofts and cavities in Wales.

improvement programme. The arbed programme brings together a range of funding sources, including Assembly Government strategic capital investment funding, to deliver area-based, low carbon retrofit programmes in Wales' strategic regeneration areas.

The Energy Saving Trust has also been part of a concerted effort by the Assembly Government to secure CESP[4] projects in Wales. If Wales is able to secure a good number of CESP projects, this should result in significant work and experience for Welsh businesses in delivering more difficult and expensive energy performance improvement measures like solid wall insulation (provided that the energy companies use Welsh labour rather than bringing in staff from elsewhere).

It is essential that the Assembly Government continues to invest its own capital funding in, and secures external funding (e.g. EU monies, energy supplier funds) for, low carbon retrofit projects once these initial projects are completed. This will ensure continuing work for Welsh businesses until the market for low carbon retrofit is fully developed and stimulated by appropriate UK and Welsh Assembly Government policies.

Support for Welsh businesses to develop new skills and experience

The installation of advanced insulation measures in particular is a relatively undeveloped market. The number of solid wall insulation measures supported by CERT is estimated to be about 3,900 between 2008 and 2011[5]. Although the market for microgeneration technologies is growing, and there are already a number of Wales-based installers and manufacturers, in many cases equipment and labour is still imported from abroad. Although much work is undertaken outside of the UK Government's Low Carbon Building Programme, it is interesting to note that less than 1,000 installations have been funded by the programme in Wales to date.

Welsh businesses need help now to develop the necessary skills to deliver the Assembly Governments' low carbon retrofit investments. Without the right support to get appropriately trained and experienced staff in place, there is a danger that a large proportion of the investment will benefit companies outside Wales.

The UK Government has a target to insulate all cavities and lofts across the UK by 2015. After this target has been met, Government focus will inevitably turn to low carbon retrofit of 'hard to treat' homes. This will require a step change in the level of delivery of more difficult or expensive measures by the energy performance improvement industries.

[4] CESP = Community Energy Saving Programme. This is an obligation placed on energy companies (over and above the CERT obligation placed on suppliers – see footnote 2) that requires the companies to invest in more expensive energy performance improvement measures like solid wall insulation in the lowest income communities in the UK. It is expected that there will be around 100 CESP projects across the UK, helping around 100,000 householders.

[5] Assuming 5% of predicted CERT activity is delivered in Wales. There is no requirement for a certain proportion of activity to be delivered in Wales.

If the Assembly Government can deliver on supporting Welsh businesses to develop the necessary skills and experience now, there is a strong likelihood that Welsh businesses will be ahead of the rest when it comes to delivering the policies and programmes that will be needed when the focus switches to more difficult or expensive measures.

One skill in particular which demand for will inevitably increase is the ability to undertake a 'whole house assessment' of current and potential energy performance. This requires the assessor to have an understanding of building construction, thermal properties and the characteristics of a range of different energy performance improvement interventions. This knowledge and practical experience can then be used to recommend the most appropriate and cost effective measures for improving the energy performance of a particular property.

This requires more than just being able to use the standard Energy Performance Certificate (EPC) software. The software used for EPCs is based on a limited amount of information about each property and gives a basic assessment of likely energy performance. 'Whole house assessors' do need to be able to use the EPC software, but they also need to be able to 'override' the results and recommendations with their own knowledge and experience of buildings and the solutions[6].

Encouraging delivery by not-for-profit organisations and social enterprises

Delivery of programmes by not-for-profit organisations and social enterprises will help to ensure that social and environmental benefits can be maximised. We would like to suggest that the Committee invites a social enterprise expert to provide evidence on how the Assembly Government can support social enterprises to maximise the environment and social benefits of low carbon retrofit programmes for Wales.

Putting policies in place to stimulate longer term demand

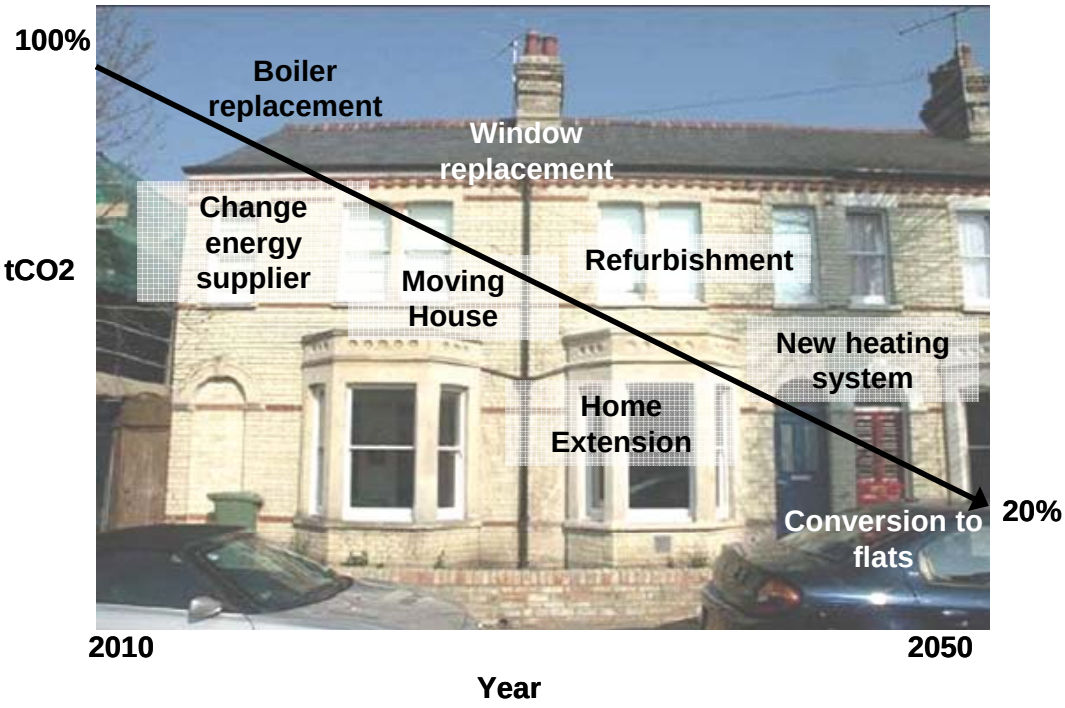
The Energy Saving Trust believes that a combination of area-based programmes and trigger point based policies will be needed to support a large scale transformation of the housing stock.

Delivering energy efficiency programmes on an area basis (i.e. assessing potential for improvement of each home and delivering measures throughout a community) helps to reduce costs as a result of efficiencies of scale and helps to engage householders that wouldn't usually proactively seek out advice or take action of their own accord.

On the other hand it is also effective to provide advice and support to improve energy performance when it is easiest for householders to act and when there are opportunities to save money by incorporating energy

[6] The types of decisions that the assessors will need to be able to make include whether or not solid wall insulation will make a significant difference in a home with thick, solid walls with good thermal properties and the relative benefits of an air source heat pump versus a wood fuelled stove with secondary electrical heating.

performance improvements with other work ('trigger points'). The diagram below demonstrates some of the key opportunities that might arise to improve energy performance of a home over the next 40 years.



We believe that the key pillars of an effective policy to stimulate longer term demand for low carbon homes are:

- Support and funding for area based programmes, focussed on areas where the housing is known to be particularly inefficient.
- Using trigger points as an opportunity to promote or require energy performance improvements. We are currently researching which trigger points are likely to be most effective. Home sale or rental is a key trigger point – therefore effective implementation of policy around Energy Performance Certificates is important.
- Effective communication of the need to transform homes over the next 40 years, the key opportunities for improvement over a home's lifetime and homes as 'energy using systems'.
- Supporting the building industry, including the large number of small builders who undertake 73% of home improvements, to offer and deliver improvements to energy performance as part of other routine work. See sections on 'support for Welsh businesses' and 'consumer trust' for more on this.
- Policies to encourage or require social and private landlords to improve the energy performance of their properties. This can be complex because landlords don't have the same incentive as homeowners who can save significantly on their energy bills. Many of the most inefficient homes in Wales are in the private rented sector.
- Effective monitoring and evaluation of programmes and improvements to ensure that the right solutions are being deployed and that improvements perform as expected. The Energy Saving Trust is currently undertaking a number of field trials to provide robust data on real performance in the field.

- Ensuring Wales has expertise in designing new homes to the highest energy standards. While the majority of demand for low carbon technologies and improvements will eventually stem from existing homes, the new build sector is an important arena for developing new skills and solutions.
- Stimulating consumer demand for low carbon homes. We must not forget that people live in homes, and people need to want what a 'low carbon home'. Unless there is consumer demand for improved homes a large-scale transformation of the housing stock will not be possible. Work on consumer demand for low carbon homes to date has suggested that the key is to communicate the benefits of low carbon homes, rather than try to persuade people that they want a 'green home' per se. This means selling low carbon homes as better homes, 'a new way of living', lighter homes, warmer homes, homes with a feeling of space.

To a certain extent, the Assembly Government's aspiration for all new homes in Wales to be zero carbon in Wales from 2011, while probably unachievable, has had a positive impact in that it has demonstrated the Assembly Government's desire for Wales to lead in this area. The zero carbon aspiration has been an encouragement for the construction and building industries in Wales to start thinking properly about how they can deliver low carbon homes in Wales.

Ensuring consumers can trust the businesses offering retrofit services

Homeowners need to feel that they can trust the businesses that offer them low carbon retrofit services. This is particularly important for encouraging homeowners to improve the energy performance of their home at key trigger points. Homeowners need to feel that builders aren't trying to con them into installing solar hot water heating at the same time as replacing their roof, for example. They need to trust that the information that the builders are providing them is correct.

The Energy Saving Trust is currently exploring the potential for us to use our brand (we are seen to be trusted and impartial by nearly 50% of the population) to endorse the information and advice provided by builders and installers who are members of existing quality assurance schemes. Of course, builders can also refer homeowners to our advice line for free, impartial advice. We are currently further developing the technical expertise available on our consumer advice line to ensure that we can provide homeowners with the right level of advice on the improvements they are considering or have being recommended for their home.

Further information

The Energy Saving Trust would be pleased to supply further information to Committee on any aspect of this evidence. In particular, we are keen to return to provide further evidence in the New Year when our research to assess the economic impacts of domestic sustainable energy is complete.

Annex - summary of existing evidence on the economic case for energy efficiency and microgeneration

UK – key docs

Building a Low Carbon Economy - The UK's contribution to tackling climate change
Part 4 - wider social and economic impacts of budgets by Committee on Climate Change Part 4 of the report considers a range of wider economic and social impacts from the carbon budgets in detail

A sustainable new deal – A stimulus package for economic, social and ecological recovery by the Sustainable Development Commission.
Makes the case for a green economy focussed recovery package and makes recommendations as to what such a package should look like.

Warm Homes, Green Jobs – the economic impacts of the Climate Change Scotland Act in the residential sector by the Association for the Conservation of Energy and Dr Joanne Wade.
Suggests that meeting the targets in the Scotland Act could create 10,000 new jobs and add £4b GVA to the Scottish economy.

Creating Green Jobs by LGA gives good economic arguments for moving to a low carbon economy now, mainly aimed at local council audience.

Including energy efficiency investment in the fiscal stimulus package by Greenpeace has good arguments for investing in low-carbon economy. Economic side focuses on increase in jobs through direct and indirect employment and egs from EU, plus some other reasons. Also suggest policy recommendations

Green Jobs: Prospects for creating jobs from offshore wind in the UK by IPPR argues offshore wind is needed to meet renewable target. Estimates what jobs UK is likely to benefit from - technical consultancy, installation of turbines, operation and maintenance of wind farms and associated legal and financial services. Also has EU case studies and policy recommendations.

Low Carbon and Environmental Goods and Services: an industry analysis by BERR analyses the size of the current low carbon and environmental goods and services industry with more up to date broader definition globally, UK and regionally. Current and future estimates of the market size are broken down into specific LCEGS areas and are done on a regional basis too.

An assessment of the size of the UK household energy efficiency market – EEPH The size of the household UK energy efficiency market is estimated through surveying up to 2020 and is expected to grow, but some areas will decline. Microgen is expected to be the largest growth area, insulation and servicing jobs are expected to decline by 2020 as capacity is reached.

Energy Efficiency and Jobs: UK issues and case studies by ACE for EST (2001) Case studies to show how energy efficiency in buildings is an effective way to stimulate employment, directly and indirectly.

Unlocking Green Enterprise – a low-carbon strategy for the UK economy by Touchstone Gives a short argument for investment in the 'green economy' mainly based on projected growth of the sector, including employment opportunities. Bulk of report covers their 4 headline policy directions they want from government.

Growth Potential for Microgeneration - Energy Saving Trust
Estimates the number of jobs that may be created in the supply chain based on what different policies are implemented up to 2050. It also looks at the scaling up of manufacturing with this.

Going for green growth: a green jobs strategy for Scotland, Scottish Executive
Our aim is to seize the business opportunities and advantages arising from our belief in, and commitment to, sustainable development. This strategy represents a wide-ranging and ambitious programme of work in support of that aim.

Welsh Assembly Government consultation on a Green Jobs Strategy for Wales The consultation and resulting strategy are seeking to ensure that businesses in Wales will be able to make their operations more efficient in an increasingly carbon constrained economy. The strategy will encourage suppliers of new and innovative sustainable products and services to take advantage of fresh business opportunities as the world becomes more climate conscious.

Exploring the skills requirements of the UK Renewable Power Industry by Electricity Training Association
Mainly looks at where there may be job shortages in electrical areas. It covers the skills requirements of a growth in microgeneration and the skills shortage that will need to be met

A Green New Deal by The Green New Deal Group
Joined-up policies to solve the triple crunch of the credit crisis, climate change and high oil prices

The UK economy: addressing long-term strategic challenges BERR/HM Treasury
It emphasises that our drive for a low carbon economy opens up many opportunities for growth, and the opportunity for more and better jobs. Climate change is identified as a future strategic challenge

Prosperity without growth? Sustainable Development Commission Larger study looking at long term move to an economy that is not based on growth. Is supportive of green investment in kick-starting the economy and lists the benefits for this but argues this will return to an increase in consumption growth again which is not sustainable in the long term and the economy needs to decouple absolutely.

ETUC (European Trade Union Confederation), Climate Change and Employment: Impact on Employment in the European Union-25 of Climate Change and CO2 emission Reduction Measures by 2030 Has a section on industrial and employment opportunities for the UK from wind and wave

power, microgeneration, a new biofuels industry, nuclear industry. The energy efficiency and jobs section is based on ACE's report for EST mentioned above.

The impact of renewable energy policy on economic growth and employment in the European Union. The first study to assess the economic effects of supporting RES in this detail, looking not only at jobs in the RES sector itself, but taking into account its impact on all sectors of the economy. http://ec.europa.eu/energy/renewables/studies/doc/renewables/2009_employ_res_summary.pdf

Global

An outline of the case for 'green' stimulus by Grantham Research Institute & Centre for Climate Change Economics and Policy. They do a qualitative assessment of the merits of various specific measures (areas covered - buildings and industry measures; power generation; transport and reducing emissions from deforestation and forest degradation) and look at the possible size of the 'green' element of a global fiscal stimulus.

Climate change, innovation and jobs by S. Fankhauser, F. Sehlleier and N. Stern The report looks at the employment effect of climate policy in the short, medium and long term, generally there is a net benefit but there is uncertainty in the long term.

Making sense of the low carbon economy by Forum for the Future The report offers an overview of a) the science that necessitates the transition to a low carbon economy, b) the political and economic drivers behind the low carbon economy, and c) the potential implications of a low carbon economy for UK business.

Green jobs: Towards decent work in a sustainable, low carbon world by United Nations Environment Programme The report assembles evidence — quantitative and conceptual— for currently existing green jobs in sectors such as renewable energy, energy efficiency in buildings and vehicles, sustainable transportation, and organic agriculture, and presents various estimates for future green employment.

A Global Green New Deal by E. Barbier – United Nations Environment Programme The report say the right mix of policy actions can stimulate recovery and at the same time improve the sustainability of the world economy. If these actions are adopted, over the next few years they will create millions of jobs, improve the livelihoods of the world's poor and channel investments into dynamic economic sectors.