

12. Climate change

12.6 Climate change and energy

Peak oil and energy security

The UK is currently undergoing two major changes in relation to its use of energy. Firstly, North Sea oil and gas production is in terminal decline. In 2005 we became a net energy importer for the first time in 25 years (Oil & Gas UK, 2009). Secondly, more than a third of current electricity generation capacity is due to be retired over the next two decades (Department of Trade and Industry 2007). Both of these factors make this a critical time to assess our energy system. Non-renewable fossil fuels clearly cannot last forever. In particular, serious concerns have been raised over the future of the global oil supply.

'Peak oil' describes a point in the path of the extraction and depletion of conventional oil and other fossil fuels at which world oil production will soon reach a peak, level off and then rapidly decline. Most estimates suggest that we are either at, or very close to this point. At most it is one or two decades away. Peak oil is coupled to climate change and overlaps in terms of time frame. The peaking of the gas supply is predicted to happen only slightly later than the peaking of oil. UK gas fields have already peaked and begun the journey towards decline.

Against a background of rising demand for oil, 'peaking' will result in a major shock to the global economy. Long-distance transport, industrialised food systems, urban and suburban systems and many commodities from cars to plastics are all dependent on abundant, cheap energy. The decline in the availability of oil, gas and later coal, means that unless a systemic transition to a post-carbon society is initiated and planned for now, it is likely to happen without our choosing and with serious consequences for poverty reduction.

Low Carbon Wales

For information on why and how we need to move to a low carbon Wales and UK see:

Sustainable Development's Low Carbon Regions

www.sd-commission.org.uk/data/files/publications/SDC_LowCarbonRegions_report_web.pdf

Zero Carbon Britain

<http://neweconomics.org/publications/zero-carbon-britain-2030>

Fuel poverty

Fuel poverty is defined as *where more than 10% of household income should be spent on energy to keep the home adequately warm (21°C in the living room and 18°C in other occupied rooms)*. Severe fuel poverty occurs where more than 20% of income is required. Fuel poverty has a direct connection to sustainable development through its detrimental effects on social, economic and environmental well-being.

Many households in fuel poverty do not necessarily spend over 10% of their income on energy, instead turning their heating down and living in homes which are not sufficiently heated to protect the health of the residents. Fuel poverty has serious health implications and contributed to 1,700 excess winter deaths in Wales in 2009/10. The majority of these deaths were caused by heart attacks, respiratory infection and stroke, as a result of the cold.

Three key factors impact on a person's ability to keep warm:

1. Energy Inefficient Homes – Homes with poor energy efficiency are more expensive to heat. This is a particular problem in Wales, due to the nature of the housing stock.
2. Income – 22% of people in Wales are considered to be in poverty - their household income being less than 60% of the median income for their type of household. A 'poverty premium' for essential services is often paid by those with the least spending power and fuel prices can be higher if the household does not have a bank account or internet access to benefit from the cheapest payment methods.
3. Prices – There was a significant reduction between 1997 and 2003 in the number of households in fuel poverty in Wales - from 360,000 to 134,000. However, despite government efforts to improve the energy efficiency of homes, subsequent high fuel energy price increases lead to a growth in the number of fuel poor households to 332,000 by 2008. Heating source – One fifth of households in Wales do not have access to mains gas, and instead have to rely on more expensive heating fuels. These households are disproportionately more likely to live in fuel poverty as the costs of heating increase with the use of solid fuel, oil and electricity.

For more information on Fuel Poverty in Wales view the National Energy Action (NEA) website: www.nea.org.uk/welcome-to-nea

Who is affected by fuel poverty?

The Welsh Assembly Government data for 2008 on fuel poverty estimated that 332,000 households in Wales (26%) were 'fuel poor'. Those most affected by fuel poverty include:

- vulnerable households (those with a pensioner, child under 16 or person with a chronic illness or disability) - 29% of whom were in fuel poverty;
- families with dependent children of whom 20% are believed to be fuel poor;

- 20% of households in urban areas are in fuel poverty, compared to 40% of households in rural areas. This is primarily due to rural areas containing high numbers of homes unable to access the mains gas network, relying on more expensive forms of fuel. Also rural areas contain higher numbers of 'hard to treat' homes, without cavity walls or lofts that can be easily and cheaply insulated.

It should also be noted that the majority of households in fuel poverty contain someone who works – approximately 70% compared with 30% of workless households in fuel poverty. Income is directly linked to the likelihood of fuel poverty. The lowest three income bands comprise nearly 75 per cent of all fuel poor households. However, fuel poverty is increasingly becoming a problem in higher income households, due to rising energy prices. Half of the households who are not currently fuel poor spend between 5 – 10% of their incomes on energy, meaning that an increase in energy bills or a reduction in income could push many of these into fuel poverty - an additional 530,000 households.

More detailed statistical information from Living in Wales 2008 is available at <http://wales.gov.uk/topics/statistics/headlines/housing2010/1011261>

Read the Welsh Government's *Fuel Poverty Strategy* at <http://wales.gov.uk/topics/environmentcountryside/energy/fuelpoverty/strategy>

Fuel Poverty Charter Wales

The Fuel Poverty Charter Wales coalition aims to drive forward the fuel poverty agenda in Wales and campaign for fuel poverty to be eradicated in Wales, which they aim to do in collaboration with the Welsh Assembly Government. The coalition is made up of a number of key organisations involved in the fuel poverty agenda and led by Consumer Focus Wales and NEA Cymru (National Energy Action Cymru). They include organisation covering key groups affected by fuel poverty such as children and young people, people with disabilities, people with long term health conditions, social housing tenants, people living in hard to treat homes in rural areas, people on low incomes and older people.

More information is available at www.fuelpovertycharterwales.org.uk and at www.nea.org.uk/welcome-to-nea

Nest

Nest is the Welsh Government's fuel poverty scheme. It aims to help reduce the number of households in fuel poverty and make Welsh homes warmer and more fuel-efficient places to live. Its advisors can give advice on energy saving, money management, fuel tariffs and benefits. Residents may also be eligible to receive home improvements at no cost, to help make their homes warmer and reduce the cost of their energy bills. Nest support is available to everyone in Wales.

More information about Nest is available at www.nestwales.org.uk

Arbed

A Welsh Assembly Government project to improve energy efficiency on a community basis in deprived areas of Wales. Arbed has been established in order to coordinate domestic energy efficiency and renewable energy activity and investment in Wales – maximising the economic potential of investment in energy efficiency in existing housing.

More information about Arbed is available at

<http://wales.gov.uk/topics/environmentcountryside/energy/efficiency>

Welsh Housing Quality Standard

The standard specifies that social housing in Wales should meet a certain minimum energy efficiency standard.

More information is available at

<http://wales.gov.uk/topics/housingandcommunity/housing/social/whqs>

Microgeneration and feed in tariff

Microgeneration means generating low or zero carbon energy (which produces low or no carbon emissions) or renewable energy on a small scale. There are different types of renewable energy sources available to us, wind, biomass, marine and micro generation energy, all have their part to play. More and more communities and organisations use this as a means of generating energy, saving money and helping the climate. Find out more from the Welsh Government and the Energy Savings Trust

<http://wales.gov.uk/topics/environmentcountryside/energy/renewable/microgeneration/?lang=en>

www.energysavingtrust.org.uk/wales/Generate-your-own-energy

For ideas and inspiration from communities please take a look at:

<http://wales.gov.uk/topics/environmentcountryside/energy/renewable/policy/casestudies/talybont/?lang=en>

www.awelamantawe.org.uk/

www.ecodyfi.org.uk/index.htm

<http://thegreenvalleys.org/>

When you generate your own energy, you don't just save money by not having to buy that energy - you can also get paid for the energy you produce.

www.energysavingtrust.org.uk/wales/Generate-your-own-energy/Financial-incentives

www.decc.gov.uk/en/content/cms/meeting_energy/Renewable_ener/feedin_tariff/feedin_tariff.aspx

Community Energy Wales is a network of and for communities working on energy in Wales. www.cynnalcyrmru.com/community-energy-wales

Ynni'r Fro – support & funding for community scale renewable energy projects
www.est.org.uk/ynnirfro

Renewable heat incentive

This scheme is planned to be available to householders in autumn 2012.

More information is available at
www.decc.gov.uk/en/content/cms/meeting_energy/Renewable_ener/incentive

Disclaimer

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Produced by WCVA, County Voluntary Councils and Volunteer Centres.

Last Updated: 15/03/2012



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