

## SCOTTISH RENEWABLES FACTSHEET: ENERGY COSTS

### Introduction

This briefing has been prepared by Scottish Renewables in response to recent media and political debate on energy costs, and to correct spurious claims about the impact of renewables on consumers' bills.

### Consumer Bills

Consumers' gas and electricity bills have increased by up to 19 per cent and 16 per cent respectively in recent months<sup>i</sup>. However, far from being due to support for renewables, this is a result of increases in gas prices of some 40 per cent over the last twelve months<sup>ii</sup>. This continues a long term trend, with the independent energy regulator Ofgem<sup>iii</sup> stating:

*"Higher gas prices have been the main driver of increasing energy bills over the last eight years." (pp1)*

This view is shared by the Department of Energy and Climate Change (DECC)<sup>iv</sup>:

*"Fossil fuel price volatility has been, and is expected to continue to be, a bigger driver of energy price variations than the impact of energy and climate change policies." (pp12)*

With fossil fuel prices set to rise over coming years<sup>v</sup>, further increases in energy bills appear inevitable. However, investment in renewable energy could mitigate the impact of these increases. Friends of the Earth research suggests that failure to back renewables and only to build new fossil fuel power plants would add £300 per year onto energy bills<sup>vi</sup>.

The annual cost of the Renewables Obligation – support for investment in renewables – was £1.1bn in 2009-10, meaning an additional £20 on the average consumer bill, rising to less than £1 a week in 2016<sup>vii</sup>. This contrasts with the £2bn annual cost of nuclear decommissioning<sup>viii</sup>.

And of course, business as usual is no longer an option with a significant part of the country's electricity generation capacity approaching the end of its lifespan, and the environmental, social and economic imperative of tackling climate change. The conclusions of the 2006 Stern Review, which investigated the economics of climate change in the UK highlighted this very point: the overall costs and risks of climate change will be equivalent to losing at least 5 per cent of annual global GDP, 'now and forever.'<sup>ix</sup>

### Costs of Renewables

The most comprehensive recent assessment of the costs of low carbon generation was published by Mott MacDonald on behalf of the Committee on Climate Change<sup>x</sup>, which shows that many forms of renewables are already cheaper than other low carbon alternatives, with prices estimated at:

- Large scale onshore wind output at £83 per megawatt hour (MWh)

- Nuclear power at £96 to £98/MWh
- Carbon Capture and Storage at £105 to £158/MWh)
- Advanced AD Sewage Sludge at £51/MWh
- Hydro (Run of River) at £69/MWh
- Offshore wind at £169/MWh

However the authors state that there is significant uncertainty over costs for both nuclear and carbon capture and storage:

“Nuclear appears as a comparatively low cost option..., however, this estimate must be considered highly uncertain given the limited and troublesome track record of the two reactor models currently being considered for the UK and the lack of recent experience in the UK (among contractors and regulators).

“CCS is seen as being a medium price option, with gas options, estimated to cost around £105/MWh, and coal-CCS at about £150/MWh. However, both these estimates must be considered highly uncertain, given no utility scale demonstration has yet been commissioned.” (pp7.3)

The report forecasts significant reductions in renewable technologies, with offshore wind costs predicted to fall significantly over the next decade to £92-£122/MWh, with further reductions after 2020 making costs comparable to onshore wind and nuclear in the future.

A recent report by Bloomberg New Energy Finance suggests that onshore wind will be cost-competitive with gas and coal generation by 2016<sup>xi</sup>.

### **Transmission Infrastructure**

Significant investment is required in transmission infrastructure for two reasons - to replace existing assets and to upgrade the network to accommodate a new mix of generation. Both SSE and Scottish Power Transmission SSE have submitted business plans for their transmission business for the period from 2012 to 2021, setting out ambitious investment plans. However, the impact on consumers from these upgrades will be less than 10p per week.<sup>xii xiii</sup>

### **Mitigating Rising Energy Costs**

Fuel poverty is dependent on three factors: income, energy use and energy efficiency. Heating is the main energy use in Scotland, accounting for 60 per cent of domestic energy costs, half of total energy demand, and 47 per cent of Scotland's carbon dioxide emissions<sup>xiv</sup>. Almost a third of the population does not have access to mains gas, with householders having to utilise more polluting and expensive fossil fuels to heat their homes. This is a significant contributing factor to many of the 800,000 households in Scotland (almost one in three) living in fuel poverty<sup>xv</sup>.

Renewable heat technologies are already a cheaper option for those off the gas grid, and will soon become far more affordable to a range of homes and businesses as a result of the new Renewable Heat Incentive (RHI).

The Feed-in Tariff (FiT) has already made a substantial impact on homes, businesses, community groups and public bodies looking to reduce bills by deploying small scale renewables to generate electricity. This incentive also offers a huge opportunity to private and social landlords looking to reduce fuel bills for tenants and in doing so, to cut fuel poverty. We believe that the Scottish Government should work with the housing industry,

social and private landlords to assess how best they can access the RHI and FiT in order to reduce bills for householders and to potentially create new revenue streams.

In addition, energy saving and efficiency measures are a common part of community benefit packages offered by renewable energy developers, particularly in the onshore wind sector, often designed to help tackle fuel poverty. For example, the Fintry Development Trust has worked with local people to audit homes and supply free insulation measures, saving on average, £600 on their annual fuel bills, significantly reducing the number of households in fuel poverty in the Fintry area.

## Conclusion

Fossil fuel prices are responsible for the significant recent increases in consumers' energy bills – not renewables. Renewable technologies, particularly onshore wind are becoming increasingly competitive and have the potential to keep bills down for consumers in the future, and the FiT and RHI provide a means for social landlords and others to tackle fuel poverty.

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For further information on renewable energy in Scotland, please contact Rachele Money, Director of Communications – [rachele@scottishrenewables.com](mailto:rachele@scottishrenewables.com)

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<sup>i</sup> BBC (2011) British Gas increases gas and electricity bills – accessed at <http://www.bbc.co.uk/news/business-14077651>

<sup>ii</sup> Ofgem (2011) Why are Energy Prices Rising? – accessed at [http://www.ofgem.gov.uk/Media/FactSheets/Documents1/Why%20are%20energy%20prices%20rising\\_factsheet\\_108.pdf](http://www.ofgem.gov.uk/Media/FactSheets/Documents1/Why%20are%20energy%20prices%20rising_factsheet_108.pdf)

<sup>iii</sup> Ofgem (2011) Why are Energy Prices Rising – accessed at [http://www.ofgem.gov.uk/Media/FactSheets/Documents1/Why%20are%20energy%20prices%20rising\\_factsheet\\_108.pdf](http://www.ofgem.gov.uk/Media/FactSheets/Documents1/Why%20are%20energy%20prices%20rising_factsheet_108.pdf)

<sup>iv</sup> DECC (2011) Provisional estimates of the impacts of energy and climate change policies on energy prices and bills of large energy intensive users – accessed at <http://www.decc.gov.uk/assets/decc/11/about-us/economics-social-research/2350-pro-ests-of-impacts-energy-and-prices.pdf>

<sup>v</sup> DECC (2011) Fossil Fuel Price Projections: Summary - <http://www.decc.gov.uk/assets/decc/11/about-us/economics-social-research/2933-fossil-fuel-price-projections-summary.pdf>

<sup>vi</sup> Friends of the Earth (2011) The effect of green policies on people's energy bills <http://dl.dropbox.com/u/2846460/DirtyHalfDozenreportFINAL131011.pdf>

<sup>vii</sup> DECC (2011) Clegg and Huhne Set out Government Commitment to Renewables – accessed at [http://www.decc.gov.uk/en/content/cms/news/pn11\\_85/pn11\\_85.aspx](http://www.decc.gov.uk/en/content/cms/news/pn11_85/pn11_85.aspx)

<sup>viii</sup> Nuclear Decommissioning Authority (2011) Nuclear Decommissioning Authority Business Plan 2011-2014 (pp6) - <http://www.nda.gov.uk/documents/upload/NDA-Business-Plan-2011-2014.pdf>

<sup>ix</sup> HM Treasury (2006) The Stern Review on the Economics of Climate Change - [http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview_index.htm)

<sup>x</sup> Mott MacDonald (2011) Costs of Low Carbon Generation Technologies - <http://hmccc.s3.amazonaws.com/Renewables%20Review/MML%20final%20report%20for%20CCC%209%20may%202011.pdf>

<sup>xi</sup> Bloomberg New Energy Finance (2011) Onshore wind energy to reach parity with fossil-fuel electricity by 2016 - <http://bnef.com/PressReleases/view/172>

<sup>xii</sup> Scottish Hydro Electric Transmission Limited (2011) Keeping the lights on and supporting growth - Our proposed Business Plan for the next decade – [http://www.ssepd.co.uk/uploadedFiles/Controls/Lists/Resources/Compliance\\_report%281%29/SSE\\_Business%20Plan\\_final.pdf](http://www.ssepd.co.uk/uploadedFiles/Controls/Lists/Resources/Compliance_report%281%29/SSE_Business%20Plan_final.pdf)

<sup>xiii</sup> Scottish Power Transmission (2011) RIIO-T1 Business Plan - <http://www.sppowersystems.co.uk/PublicInformation/pdf/SPTLOfgemJul2011.pdf>

<sup>xiv</sup> Department for Energy and Climate Change (DECC) (2010) Renewable Heat Incentive Consultation - [www.decc.gov.uk/en/content/cms/consultations/rhi/rhi.aspx](http://www.decc.gov.uk/en/content/cms/consultations/rhi/rhi.aspx)

<sup>xv</sup> Energy Action Scotland – Fuel Poverty Overview [http://www.eas.org.uk/key\\_issues\\_fuel\\_poverty.php](http://www.eas.org.uk/key_issues_fuel_poverty.php) (correct as of 26/10/2011)