Introduction to the views of ACE

The Association for the Conservation of Energy (ACE) is a lobbying, campaigning and policy research organisation, and has worked in the field of energy efficiency since 1981. Our lobbying and campaigning work represents the interests of our membership: major manufacturers and distributors of energy saving equipment in the United Kingdom. We welcome the opportunity to contribute to the Scottish Government debate on the “Green Energy powerhouse of Europe” on Thursday 2 June 2011.

Summary

1. Scotland’s 2020 renewables targets are technically achievable without an improvement in demand reduction but:
   1.1. Improved demand reduction will make the renewables targets easier to achieve;
   1.2. Improved demand reduction will require a lower surcharge on electricity bills, and will reduce domestic energy demand, thus reducing, instead of increasing, fuel poverty;
   1.3. Improved demand reduction itself brings green collar jobs and economic benefits.

2. ACE is therefore calling on the Scottish Government to:
   2.1. Undertake an urgent comparison of the costs, benefits and impact on fuel poverty of investment in energy saving versus new renewable generation capacity;
   2.2. Commit to consult within the next 6 months on the introduction of minimum energy efficiency standards for existing homes at point of sale or rental from 2015.
   2.3. Press the UK Government to invest the substantial revenue that the exchequer receives from the European Emissions Trading Scheme and the Carbon Floor Price into demand reduction measures.
Inquiry questions

Are the 2020 renewables targets (for electricity and heat) achievable? If not, why not?
Yes, the 2020 renewables targets for both electricity and heat are achievable, but they will be much easier and less costly to achieve if the Scottish Government also substantially increases their ambition in relation to demand reduction. The targets are also likely to have a regressive effect unless measures to deliver additional demand reduction are improved.

Two studies published by Garrad Hassan in 2010, show that the renewables targets can be met, even with fairly unambitious demand reduction assumptions². For example the Garrad Hassan report for Scottish Renewables examines two scenarios, neither of which deliver demand reduction sufficient to meet the Scottish Government’s own target of a 12% reduction in final energy demand by 2020. If demand reduction is improved, it will be easier and cheaper to meet the targets.

What contribution will achievement of the 2020 renewables targets make to meeting Scotland’s CO2 emissions targets (a reduction of at least 42% by 2020 and an 80% reduction target for 2050) under the Climate Change (Scotland) Act 2009?
Strictly speaking, achieving the electricity target will make no contribution to meeting the CO2 emissions reduction targets since electricity generation is covered by the EU ETS and is therefore part of the ‘traded sector’. This is another reason for an improvement in demand reduction measures since if the EU emissions reduction target remains at 20% by 2020, then only an improvement in the non-traded sector will allow Scotland to meet its targets. Reports from the Committee on Climate Change have consistently made this point.

The heat target, on the other hand, will make a positive contribution to meeting the target since heat is part of the non-traded sector, and progress on meeting the renewable heat target should therefore be prioritised.

Of course, there may be other reasons for supporting renewable electricity, such as showing global leadership; promoting economic growth and delivering green-collar jobs. Without improvement in the EU emissions reduction target, however, achieving the Scottish Government’s renewable electricity target will make no contribution to achieving Scotland’s emissions reduction target.

Will increase in demand from electric heat and transport be offset by efficiencies elsewhere?
This is a question of political will. There is no doubt that with sufficient leadership from the Scottish Government, we can see electricity demand decline despite the electrification of heat and transport. This would be in line with the Scottish Government’s existing target to reduce overall energy demand by 12% by 2020. However, we currently lack the policies to delivery that 12% reduction and unless action is taken it will be yet another missed target.
We believe the Scottish Government should follow the lead shown by the German Government which has undertaken a cost/benefit analysis of new generation capacity vs demand reduction measures. They have concluded that their similar greenhouse gas emission reduction targets can be achieved without new nuclear energy, and with massive demand reduction. They plan to reduce overall energy demand by 53% by 2050 and electricity demand by 25% in the same timeframe. They are also investing more than €1.3bn per annum in energy saving measures. In contrast, the SNP’s renewables mini-manifesto assumes a 7% increase in electricity demand by 2020 and the Scottish Government recently slashed fuel poverty spending by nearly a third to £48m. If the Scottish Government were to invest in energy saving at the same per capita rate as Germany, they should be spending nearly double that.

The graph below shows that the most cost-effective measures to reduce CO₂ emissions are those at the left end of the scale: those with a negative cost of abatement, in other words, those which very quickly pay for themselves. Insulation improvements are by far the most cost-effective means of reducing emissions. In contrast, all new generation capacity (whether nuclear, coal with carbon capture and storage, wind, solar or biomass) has a cost of abatement.

Looking in more detail at some of the building energy efficiency measures which could be used, this graph shows the relative cost of abatement. It is clear that these measures should be prioritised over new generation capacity. At present none of them are being promoted with the required level of ambition by the Scottish Government.
Has the Scottish Government made any estimation of the overall costs of achieving the targets, and identified which parties will bear them?

This is a question for the Scottish Government. We would merely point out that the Scottish Government have not, to the best of our knowledge, compared the costs, benefits and impact on fuel poverty of investment in energy saving versus new generation capacity. This appears to be a major shortcoming, and one that should be rectified as soon as possible.

Is the technology to meet these targets available and affordable? If not, what needs to be done?

The technology is certainly available. As noted above however, it may not be affordable, particularly for the fuel poor who will bear the brunt of any surcharges on fuel bills, unless significant effort is made to improve energy efficiency.

Are electricity generating or heat producing technologies compatible with the need for security of energy supplies?

The best way of improving security of energy supply is to reduce the amount that is required in the first place. This is self-evident, but it appears this message has been lost in the clamour of the renewables debate. The Scottish Government would do well to relearn this lesson and to put it into practice.
Are our universities and research institutes fully geared up to the need for technological development, innovation and commercialisation?

This question falls outside our area of expertise and we therefore give no comment.

Is the supply chain in Scotland in place to meet the targets?

This question falls outside our area of expertise and we therefore give no comment.

What further improvements are needed to the grid infrastructure or heat supply networks both at a national and a local level? Additionally, are we confident that the necessary infrastructure can be developed and financed so that Scotland can export any excess electricity generated to the rest of the UK and/or the EU? What is the role for the Scottish Government here?

This question falls outside our area of expertise and we therefore give no comment.

Is the planning system adequately resourced and fit for purpose?
This question falls outside our area of expertise and we therefore give no comment.

How can national priorities be reconciled with local interests?

Again, the best way to avoid conflict between the two is through improved demand reduction. There is far less likely to be conflict around local siting decisions for wind farms if there is no need to build the wind farm in the first place.

Will sufficient funds be available to allow investment in both the installation and the development of relevant technologies? What can the Scottish Government do to influence this?

This question falls outside our area of expertise and we therefore give no comment.

What will the impacts be on consumers and their bills?

Depending on how renewable energy is subsidised in the future, it could have a significant impact on fuel bills and therefore on fuel poverty. At present, support for renewable electricity represents a very small percentage of domestic fuel bills. However this is likely to rise in the future, and the overall effect will be regressive unless much more ambitious measures are put in place to deliver demand reduction.

Will Scotland have sufficient home-grown skills to attract inward investment? Are current policies producing the desired move towards Science Technology Engineering and Maths subjects at schools and universities? Is the skills transfer from the oil and gas sectors being realised?

This question falls outside our area of expertise and we therefore give no comment.

Are the reforms of the energy markets and subsidy regimes at both UK and EU level sufficient to meet the challenge of the Scottish Government’s renewable targets?
We believe the DECC proposals for Electricity Market Reform are far too unambitious in relation to demand reduction. As mentioned above, we suggest Germany is showing leadership in this regard.

Additional comments not covered by the inquiry questions

We have made clear throughout our response that we believe the Scottish Government should be more ambitious in its demand reduction policies if it is to meet its renewable targets affordably and with a positive impact on ending fuel poverty. To clarify: the ambition set out in the Scottish Government’s Energy Efficiency Action Plan is the right one, but the policies are not yet in place to deliver the 12% reduction in final energy demand by 2020 which that action plan envisages. We also believe the current Report on Proposals and Policies is remarkably unambitious in setting only a 36% reduction in emissions from homes by 2020. We believe this is out of step with the overall 12% demand reduction target, and will mean that Scotland will miss out on the economic stimulus which could be delivered through a 42% reduction from homes. We are therefore calling on the Scottish Government to revise its RPP and to shift many of the ‘proposals’ in the RPP into ‘policies’.

We recognise that in the current straightened financial climate it is not reasonable to expect the Scottish Government to meet all of the cost of investment in building energy efficiency which would ensure that renewables targets can be met without increasing fuel poverty. We therefore call on the Scottish Government to press the UK Government to invest the substantial revenue that the exchequer receives from the European Emissions Trading Scheme and the Carbon Floor Price into demand reduction measures, in line with the current ‘Energy Bill Revolution’ campaign. The Scottish Government has powers to do so under the Greenhouse Gas Emissions Trading Scheme Regulations 2005.

Demand reduction has benefits in itself: research by the Association for the Conservation of Energy has found that reducing emissions from Scotland’s homes by 42% by 2020 would deliver 10,000 new jobs and a £4bn boost to the Scottish economy¹. Meanwhile cutting fuel poverty will also cut respiratory and cardiac illnesses and therefore reduce NHS costs.

We therefore call on the Scottish Government to use its powers under section 64 of the Climate Change (Scotland) Act 2009 and commit to consult within the next 6 months on introduction of minimum energy efficiency standards for existing housing at point of sale or rental in 2015.

Association for the Conservation of Energy
2 March 2012

¹ We use ‘demand reduction’ to encompass both measures which maximise output from a given set of energy inputs, and measures which replace energy wasteful activities with less energy intensive activities.
³ Federal Ministry of Economics and Technology (30 August 2010) Scenarios provide important decision-making basis for energy concept Available online (in English; main report in German): http://bit.ly/itBO7L
Available online: http://bit.ly/lkUu8r

Scottish National Party (2011) Our ambitions for clean, green energy Available online:
http://manifesto.votesnp.com/renewables