

S.E.R.A. Scotland

Our Energy Challenge Response

Please note this submission should be read as complimenting the SERA UK submission which we also support. The SERA Scotland document is from a Scottish perspective.

Macro Economic Indicators of progress

The dependency on GDP as an indicator of growth leads to confusion. It implies that what is not captured in the figure is not important. In so doing, the line between growth and progress is blurred. Growth is not synonymous with progress. There can be unsustainable growth but there can be no unsustainable progress. The full importance of preservation of the environment is just one of the things not captured in the GDP figure.

SERA Scotland believes that individuals, companies and the Government themselves need to be fully informed of the extent of the consequences of their actions. This has specific relevance to this document, from generation, consumption and conservation of energy. To this end we believe that the DTI has a duty to promote the use of a basket of sustainable development indicators as the mainstream measure of progress, as does the administration at Westminster and in Holyrood and Local Authorities.

1. What more could the government do on the demand or supply side to ensure that the UK's long-term goal of reducing carbon emissions is met?

SERA Scotland argues that with effective education programmes, grants and targets, that community, co-operative and domestic scale solutions to the challenging problems we face are the sustainable way forward.

Demand side:

Domestic

- 1.1. Extend the existing boiler regulations to Scotland i.e. only A rated boilers can be fitted
- 1.2. Introduce legislation that requires all domestic boilers over 15 years old to be replaced by A rated condensing combination boilers.
- 1.3. Increase loft insulation levels to 300mm. In particular instruct Communities Scotland to increase the loft insulation specification in the Scottish Housing Quality Standard from 100mm to 300mm.
- 1.4. Increase Scottish Housing Quality Standard to a target of 7.0
- 1.5. Continue the Warm Deal Insulation Programme in Scotland and extend access to the Warm Front Programme in England and Wales.
- 1.6. Continue the Central Heating Programme in Scotland and extend access to persons under 60 on benefit who have inadequate heating.
- 1.7. Extend the Central Heating Programme to England and Wales.
- 1.8. Continue with the domestic stream of SCHRI in Scotland and put the domestic stream of Clear Skies on to the same footing i.e. 30% up to a maximum of £4,000 and they can apply for 2 technologies.

- 1.9. Introduce legislation to allow developers to receive SCHRI grant rather than new owner to claim grant retrospectively.
- 1.10. Introduce tax incentives for developers to install micro-chp.
- 1.11. Instruct Communities Scotland and the Housing Corporation to require housing associations that are involved in refurbishment and or new build to do a 25-year life cycle comparison of renewable technologies such as biomass heating and heat pumps against gas, oil, LPG, and electricity before placing contracts. Stop the practice of reducing HAG when HA's receive SCHRI or Clear Skies funding.

Government & Local Authority

- 1.1 Act as exemplars
- 1.2 Reduce consumption of all buildings
- 1.3 Introduce monitoring and targeting on all buildings
- 1.4 Give all staff energy efficiency training
- 1.5 Publish performance tables
- 1.6 Install renewable energy technologies on as many buildings as possible
- 1.7 Give tax incentives for the formation of car clubs

Industry & Commerce:

- 1.1. Introduce an SME element into Clear Skies and SCHRI with 25% grant and allow them to use Loan Action Scotland or Carbon Trust Loan as match funding.
- 1.2. Continue with Capital allowances for energy efficiency and extend to cover renewable technology products.
- 1.3. Give tax incentives for the formation of car clubs

Transport:

- 1.1. Move more freight from road to rail. Give grants for building of distribution centers at strategic rail points to enable local small truck deliveries by road to final destinations. Ensure availability of grant support for conversion battery powered delivery trucks. These will be short distance thus viable now.
- 1.2. More support for the development of hybrid vehicles
- 1.3. R&D support for development of hybrid engines for aviation.

Supply Side:

Domestic:

- 1.1. Encourage more localized combined heat and power projects particularly biomass boilers.
- 1.2. Simplify planning regulations to allow for micro generation particularly building integrated wind.
- 1.3. Approve all biomass wood chip and pellet boilers for use in smokeless zones
- 1.4. Should also focus on heat provision rather than just electricity which could significantly reduce our electricity demand through intelligent use of solar water heating, biomass, ground heat pumps and CHP systems for larger buildings.

Industry & Commerce:

- 1.1. Encourage development of combined heat and power for individual industrial estates

- 2. With the UK becoming a net energy importer and with big investments to be made over the next twenty years in generating capacity and networks, what further steps, if any should the government take to develop our market framework for delivering reliable energy supplies? In particular, we invite views on the implications of increased dependence on gas imports.**

2.1 Targets

The message sent to the renewables industry in Scotland by the setting of the renewables targets of 20% by 2010 and 40% by 2020 has given a clear message to industry and brought forward many planning applications. There has been some backlash specifically to large-scale wind developments. However, SERA Scotland understands that though there are some genuine concerns about visual amenity, some objections are from a small minority who object to applications across the country of which they will not experience the specific effects. This should be investigated and reported on by the Scottish Executive to build a clear picture of genuine concerns.

Whatever one's view of on shore wind energy, it is beyond doubt that the targets have sent a clear message to industry about new opportunities. SERA Scotland was instrumental in the putting forward of these targets and now argues it is necessary to develop carefully specified targets for all the renewable technologies in order to give confidence to industry about market opportunities. Such targets should be discussed with the whole range of renewable technologies manufacturers, producers and generators to build a picture of what is viable and realistic in the short, medium and long term.

The Scottish Executive should also start formal discussions with research departments of universities and relevant companies to allow projections about medium and long term targets that should be regularly reviewed. These discussions will also enable informed decisions by the Scottish executive about the need and desirability of grant funding for R& D across the range of renewable energy technologies. These should include - solar, wind - on and off shore, tidal, wave, biomass, ground source heat pump, CHP.

Not only is the range but the SCALE of the technologies significant for example:

- Biomass domestic boilers to local authority wide provision
- Domestic wind turbines to large off shore developments
- Individual domestic solar panels to solar panelling on housing association and all new public buildings.

2.2 Planning structures, guidance and personnel

The market framework for a sustainable energy strategy can not be developed and implemented without the highly trained personnel in planning at all levels of government in order to process the whole range of planning applications for renewables technologies.

SERA Scotland suggests a planning arrangement whereby it is ensured that the whole range of renewables applications are heard in parallel and that there are enough personnel in place to prevent the frustration by the industry about delays which is off putting at present.

3.

3.1 No Nuclear new build

SERA Scotland has always argued that nuclear power has no place in a sustainable energy future for Scotland and Britain. Our AGM 2005 reaffirmed this position and led to the SERA Scotland briefing paper "A Sustainable Energy Future to Combat Climate change." which forms a part of our present submission. (1) "The dangers of nuclear power have not gone away" box on page 1 of the briefing, which gives specific examples of computer error, human error, potential of terrorist attacks, cost of policing, the insoluble nature of the nuclear waste legacy and reasons for maintenance of the precautionary principle in relation to links between nuclear power and illness should be read as part of SERA Scotland's submission. SERA Scotland also strongly supports the more detailed arguments put forward by SERA UK in its submission.

3.2 No Energy Gap

Concern has been expressed that Scotland in particular will be subject to an energy gap as its remaining nuclear stations close down in 2011 and 2023. These concerns are usually backed up by the claim that around 50% of Scotland's electricity is provided by nuclear power. In fact these claims are premised on allocating the whole of Scotland's nuclear output to Scottish consumers, whereas in reality a proportion of it will be exported. Of the electricity generated in Scotland in 2004 around 35% was generated by nuclear means.

Scotland has considerable renewable energy potential both on and offshore. Examination of evidence from Government, industry and official inquiries demonstrates that there is sufficient renewables opportunity to exceed Scotland's 2020 renewable electricity targets, without having to risk damage to sensitive environmental areas, and viable alternatives exist to meet necessary levels of carbon reduction, without having to build new nuclear power plants, even with planned closures of conventional power stations in Scotland, especially now that Scottish Power has decided to install Flue Gas Desulphurisation equipment at Longannet.(2)

3.3 Negative effect of nuclear new build on renewables R&D

It has been a particular aim of the Scottish Executive for a number of years to promote the establishment of a renewable energy manufacturing base in Scotland. SERA believes that a decision to promote new nuclear stations in the UK will undermine the prospects for investment in renewable energy and energy efficiency and divert resources from these cheaper options to the more expensive nuclear option. This will not only be bad for jobs in Scotland, but because every pound spent will buy less carbon savings, it will also be bad for our climate change objectives. (3)

3.4 A Just Transition Programme

SERA Scotland, as part of the Labour movement, argues that while no one has a job for life anymore, workers should be supported in the shift from a toxic economy to a sustainable society. In our view, one of the reasons why it might be difficult to move beyond nuclear power generation, which is rarely faced squarely, apart from by unions and MPs with nuclear power stations in their constituencies, is justified concern for the future employment of workers. If a decision is made not to build a new generation of nuclear power stations, we argue there is a responsibility to support workers through the period of transition to a sustainable energy future. Workers are highly skilled and many skills are transferable: for instance, from generation to decommissioning and from nuclear generation to biomass.

Small and medium businesses -There is also an opportunity to enable SMEs to move towards sustainability through grants for training course to develop new skills for example

- Plumbers and roofers to install solar heating systems
- Builders to install under-floor insulation and appropriate energy efficient new build.
- Architects to train and retrain for sustainable building design.

GMB stated this January in Bargaining Brief 57 which focussed on "sustainable development in the workplace" that 'while tackling climate change will lead to job losses in some industries, GMB believes that switching to sustainable development has the potential to create new jobs especially in the renewable energy, transport and recycling sectors given the right level of Government investment in start-up support, skills and training.'

There should be a Just Transition programme for workers agreed between government, trade unions, businesses, colleges and universities and communities. This must involve forward planning to look for where changes are going to happen, skills audits, new courses and retraining opportunities. In SERA Scotland's view the question of financial support packages to support workers and their families in the transition period with retraining on conserved salaries must be addressed.

This is not only a Scottish or British issue. It is a global issue. The Communications, Energy and Papermakers Union of Canada states "The CEP Just Transition policy sets out essential guidelines for environmental and societal change. When public policy decisions result in economic and social dislocation for working families and their communities, it is imperative that society also manages transition for those affected. This Just Transition is not only morally justified, it is also the basis on which working people can embrace environmental change." (2)

SERA Scotland recommends that the Trade Union Sustainable Development Advisory Committee be asked to make Just Transition recommendations direct to the Prime Minister for all relevant sectors, prioritising energy, thus enabling Unions and energy sector workers to be part of a sustainable energy future through a rapidly implemented Just Transition Programme. Further that the First Minister set up a Scottish Trade Union Sustainable Development Advisory Committee to do parallel work in Scotland.

Note - the above Committee has already put forward recommendations to support workers in the shift from landfill to recycling. (3) There is thus a precedent for this work, though no financial packages are so far proposed.

4. Are there particular considerations that should apply to carbon abatement and other low-carbon technologies?

4.1 Cleaner Coal

There should be investment in cleaner coal fired power stations for optional baseload when required. The technology is also an export opportunity.

SERA Scotland stresses the need for continued vigilance in relation to planning decisions in the **opencast coal mining sector**. Two sets of new guidelines in recent years have given a better level of protection to communities threatened by the negative effects of opencast mining. However, communities are still affected by heavy traffic on local roads, subjected to dust and radically altered local environments. The issue of cumulative effect should be reviewed so that communities are no longer subjected to the pressures experienced by Greengairs in North

Lanarkshire. This is an environmental justice issue that the Labour Government is committed to addressing and must continue to do so in practice.

Further development of Peterhead hydrogen development which will mean long-term baseload tied into carbon capture/sequestration. This may also open up opportunities to develop in the central belt.

4.2 Biomass

SERA Scotland recommends Government support of the biomass industry through grants and specific targets for this generation method. The rural economy of Scotland is in a position to benefit from the growing of energy crops. Farmers have an interest in diversification through growing willow for coppicing. There is also much waste timber in Scotland that could be used and the continuation of developments with the Forestry Commission in this respect.

A mix of coal and biomass products for burning for electricity generation should be supported. Biomass boilers should be fitted in Local Authority buildings including schools, leisure centers and hospitals, especially in close proximity to fuel sources, to prevent need for transportation and thus save fuel.

5. What further steps should be taken towards meeting the government's goals for ensuring that every home is adequately and affordably heated.

There is a particular challenge in Scotland due to the large number of rural properties that do not have the option of mains gas. This is 25 % of households in Scotland. Many of these also have solid stonewalls and non-standard roofs all of which have a limited potential for insulation.

Grants should be available for underfloor insulation for properties with enough access space under the ground floor. This can make a difference not just to the fuel bills, but to how comfortable a house is at floor level. This measure is especially useful for detached properties and properties at high altitude.

The Energy Saving Trust advice centres do not give advice about underfloor insulation. Their questionnaire format does not ask about exposed floors. This is a wasted opportunity.

The Central Heating Programme in Scotland has the intention of keeping pensioners warm. It offers pensioners a choice of electric storage heating, oil or gas central heating. Those in rural areas with no mains gas, have the choice of either expensive oil or expensive storage heating. Some do not use the new heating once it is in, because they cannot afford to run it. With recent increases in the price of oil especially, this will become a growing percentage.

The option of ground source heat pumps for the properties/households eligible for the central heating grant should be available as a matter of urgency. These would provide lower running costs and these electric systems would also be easier to budget for than oil, when the payment method is usually for an entire tank full, paid on delivery. Biomass should be available also once the problems of a guaranteed and sustainable supply are overcome. The supply issue should be supported by the Scottish Executive through introduction of specific targets, sending the right signals to the market. Grant support for building of biomass distribution points, support for farmers during a conversion period and for conversion to transportation by battery powered trucks to processing points should be made available.

Smart metering - A key in terms of energy conservation -

In conjunction with micro renewables and energy efficiency. The priority should be to enable people to get more from less. i.e. more efficient appliances - white and brown goods, less always on goods more drawing down from the grid when required - e.g. energy managing plugs. Design smart houses. We also need to raise questions about the need to use our electricity more intelligently to reduce load at key times. Dwight Duncan, Ontario's Minister for Energy, now Minister for Finance, states in the Metering International - "Smart meters will empower consumers to manage their electricity costs in real time and respond to pricing incentives that encourage both conservation and load shifting to off peak periods." (6)

5.1 The long term potential of energy efficiency measures in the transport, residential, business and public sectors, and how best to achieve that potential

Residential and business:

Much of the more straightforward and easy insulation jobs have been done, especially in local authority areas with the most active H.E.C.A. officers. The challenge in the future will be the less straightforward jobs that require more creative approaches.

The Energy Saving Trust advice centres in Scotland would provide more accurate advice if they had a separate specifically Scottish version of the software used to provide advice reports. The current version still uses English Building regulation dates, for working out assumptions about insulation in walls and roofs where there is no access. As Scottish Building regulations are usually a bit behind those of England, this will mean that insulation is regularly overestimated. This in turn will underestimate the beneficial effect of additional cavity wall and loft insulation. This is an issue that is still not fixed after a number of years.

Advice should also be provided about underfloor insulation.

Insulation installers should be given special incentives for doing underfloor insulation where access is tight (not a pleasant job) and incentives to insulate the more challenging lofts. This would make a big difference.

There should be more carrots but also more sticks as incentives. Grants for energy efficiency measures and for microrenewable energy measures should be easier to obtain, less bureaucratic and inflexible to apply for. The funding should also be guaranteed not to run out.

There should also be more changes to legislation. New building regulations should insist on boilers no less efficient than A rated condensing boilers. England and Wales has done this but Scotland lags behind again. Similar legislation in Scotland is long overdue. Building regulations in Scotland should also insist on pressure testing for air tightness, as is planned in England and Wales.

5.2 Implications in the medium and long term for the transmission and networks of significant new build in gas and electricity generation infrastructure

Problems with the grid should be addressed as a matter of urgency. There are long delays in getting connections onto the grid for new renewable energy installations. This is counterproductive as it is a disincentive for industry to achieve the full potential for generating by renewable energy.

5.3 Potential measures to help bring forward technologies to replace fossil fuels in transport and heat generation in the medium and long term

Gordon Brown's announced fund for microgeneration will apply only to England and Wales. There is a gap in Scotland. The best way to stimulate the development of microgeneration is a no brainer. All new buildings should have to have some kind of microgeneration. The building regulations should be changed to insist on this. This is the only way to give a sufficient boost to these often fledgling industries, to provide for a mass market. This in turn would bring the prices down and increase public confidence in these measures.

Existing funding for renewable technologies while useful, do not solve the existing barriers to take-up of these measures. Having a compulsion to install these on new build properties would.

See comments at first section of question 5

Additional points for consideration

Manufacture

There is enormous potential for manufacture of renewable technology in Scotland and many transferable skills from parallel industries.

In order not to lose the advantage, as we did in the case of marine technology at the time of Salter's Ducks, SERA Scotland believes it is imperative that the Government at UK and Scottish level give support to R&D and continue to support new technologies through into the really commercialisation stages.

This means a joined up approach across government at every level, local to national in terms of procurement to drive in energy efficiency and maximum use of practical and flagship micro renewables.

Promotion of micro generation in all new buildings, CHP systems, particularly those that use biomass in rural areas. Over the next 15 years the development of micro gen could lead to energy production equivalent to a nuclear power station.

Grid development - investment in strengthening the capacity of the grid to make the most of renewables, review the investment required for standards in wind farms which are not regarded as baseload.

Conclusion

Energy policy has to be tied to sustainable development objectives - e.g. climate change, our economic prosperity and social justice. Developing a carbon free economy, pricing energy more realistically so that we use it more wisely without causing problems for businesses or people on lower incomes need to be our twin objectives. This is true sustainable development.

The development of Scotland as the Renewable Energy Capital of Europe is a realistic vision- wind farms, marine technology, biomass. This is particular to us, given our huge potential natural resources of wind, waves and wood - if we can tap them cost effectively.

References

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5. Trade Union Sustainable Development Advisory Committee Press release - Waste to Recycling
- 5 Ontario Government sets smart meter implementation targets by Shane Pospisil Metering International Issue 4 - 2005 page 32

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