SUBMISSION FROM SSE

About SSE

SSE’s core purpose is to provide the energy people need in a reliable and sustainable way. We are involved in the generation, transmission, distribution and supply of electricity and in the production, storage, distribution and supply of gas. SSE is a UK-owned FTSE 100 company with over 20,000 employees and serves 9.5 million customers through our Southern Electric, Scottish Hydro, SWALEC and Atlantic supply brands in GB and Airtricity in the Republic of Ireland and Northern Ireland. SSE is the largest renewable energy company in the UK, with over 2.5GW of capacity and the second largest energy generator overall.

SSE Renewables

SSE’s roots go back to the establishment of the North of Scotland Hydro Electric Board, so renewable energy is nothing new to us. Today much of our investment programme is aimed at the development of renewable energy: onshore and offshore wind, hydro, and marine. In the six months to September 2011 SSE’s capital and investment expenditure in renewable generation totalled £479 million, the larger part of which was invested in onshore wind farms in Scotland.

General Point

While we always endeavour to provide all information requested about SSE, our operations and activities to the Scottish Parliament and other parliaments in the jurisdictions in which we operate, some of the questions set out in the Committee’s terms of reference seek an industry wide view which, as a single developer, we are not in a position to give. With regard to these questions we would suggest the committee gives due weight to the evidence of Scottish Renewables. Similarly, the Committee’s terms of reference also set out other questions which can only be answered by the Scottish Government. Where we feel we can give a helpful answer, we have done so below.

Targets

Are the 2020 renewables targets (for electricity and heat) achievable? If not, why not?

SSE’s ambition is to make a significant contribution towards the 2020 renewables targets. For this to happen we require a range of supports from government including an effective planning system and the continuation of adequate supports for renewables. On renewable heat, SSE believes a number of steps need taken, including improvements to public procurement, best practice guidance, permitted development rights for air-source heat pumps in line with England and promotion of renewable heat technologies to customers.
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?

In terms of SSE’s generation portfolio, it is our target to reduce the carbon intensity of the electricity we generate by 50 per cent by 2020 from 2005/6 levels. This will be achieved by reducing the amount of electricity produced from coal, optimising the efficiency of gas-fired power stations and significantly increasing the amount of electricity generated from renewables. In 2005/6 our carbon intensity was 600 grammes of CO2 per KWh generated, by 2010/11 we had reduced that to 504g/KWh. Our ambition to develop a Carbon Capture and Storage (CCS) facility at Peterhead in partnership with Shell UK Ltd, with support from the Scottish Government, UK Government and the EU, is key to further reductions in carbon emissions.

SSE has joined with seven other energy companies in Europe in calling for the EU to adopt greenhouse gas emissions reduction targets of 25 per cent (up from 20 per cent) as part of the long-term move away from fossil fuel-based electricity generation.

The heat sector is particularly important in terms of its contribution to CO2 emissions reductions. It accounts for the largest share (more than electricity or transport) and is mostly non-traded carbon. This means that savings in Scotland are clearly additional and not offset elsewhere in Europe via the Emission Trading Scheme (ETS).

Will increase in demand from electric heat and transport be offset by efficiencies elsewhere?

In recent years SSE’s supply business has seen a significant reduction in demand for both electricity and gas. The graphs below illustrate the pace of this. We believe this reduction in demand can be explained by investment in energy efficiency measures, more efficient appliances, greater awareness of energy efficiency and price sensitivity.

Our expectation is that energy use will continue to decline for the rest of this decade as these factors continue to take effect. Emerging uses of electricity, including electric transport and heat, will create new demand but the pace of deployment would need to increase significantly if this demand is to offset the overall trend. It is also worth noting that electric heating and transport, via intelligent controls, can help increase renewable penetration by flexing demand to accommodate a more variable supply. Energy analysts suggest that demand for electricity will begin to increase around 2020.
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, although there is a general principle that the costs of renewable energy have to be assessed in the context of likely costs of fossil fuels.

**Challenges**

a. Technology

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

Onshore wind technology is available and affordable with Renewables Obligation (RO) support. SSE has a substantial pipeline of onshore wind developments which are commercially viable on this basis, the challenges these projects face are largely around the consenting process.

The cost of deploying offshore wind technology is still too high at this time and getting costs down throughout the supply chain is a priority if the large scale deployment as envisaged by The Crown Estate R3 offshore programme is to be fully realised. The offshore wind industry is making a significant effort to bring down those costs. SSE has taken a leading role in this effort. We welcome the Scottish Government’s recent announcement (8 Feb) of measures to promote greater streamlining and efficiency of Scotland’s marine planning and consenting regimes. Wave and tidal technologies require further development before large-scale deployment is deliverable.
Renewable heat technologies are available and can be cost effective. The Renewable Heat Incentive should drive an increase in uptake which should lead to further cost reductions.

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

It is our strong view that renewable energy generation improves security of energy supply. In the UK 70 per cent of electricity comes from coal and gas fired power stations. The majority of the fossil fuels required are imported and the proportion that comes from overseas is expected to rise over the next decade. In other words, we are increasingly dependent on foreign gas and coal supplies for our energy needs, supplies for which international competition is increasing. The security and consistency of those supplies is linked to global market volatility. The greater the amount of energy we produce at home, from our own resources, the better insulated we will be from these problems.

Are our universities and research institutes fully geared up to the need for technological development, innovation and commercialisation?

We cannot give an overview of Higher Education but from an SSE point of view, we have close and valuable partnerships with several universities and research institutes.

There has been a long standing relationship between SSE and the University of Strathclyde. We are investing heavily in a Technology Innovation Centre which will support research and development across the company. We have also supported the Technology Strategy Board’s Catapult Centre for offshore renewables which will feature Strathclyde University as a major participant. SSE management also attend the Industrial Liaison Boards in various sections of the Faculty of Engineering across the University.

Additionally, SSE has been extensively involved in the Studies of the Marine Environment with Aberdeen University and a pilot with the University of the Highlands and Islands to take 40 youth unemployed through a craft skills programme.

b. Supply chain and infrastructure

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

The onshore wind supply chain is well developed. The supply chain for offshore wind, including design, manufacture and installation, requires further development so as to exert downward pressure on delivery costs.

SSE has recently invested in a range of new initiatives to increase the effectiveness, and decrease the cost, of offshore wind deployment including strategic alliances with companies such as Siemens and Mitsubishi, acquisition of a 15% stake in Burntisland Fabrications (BiFab), the offshore energy structure fabricator and ongoing participation in the Carbon Trust’s Offshore Wind Accelerator.
Wind Towers Ltd (WTL) is a new joint venture between SSE and Marsh Wind Technology Ltd. It was established in May 2011 and supported by Highland and Island Enterprise, when the consortium purchased the wind tower manufacturing site at Macrihanish. WTL is constructing new facilities to allow the production of turbine towers for offshore wind.

Other measures designed to help build the supply chain include a Memorandum of Understanding with Forth Ports, Scottish Enterprise and Dundee City Council to secure Dundee’s position as a hub for Scotland’s offshore renewables sector and the establishment of the Centre of Engineering Excellence for Renewable Energy (CEERE) in Glasgow to manage the development, design, engineering, project management, procurement and asset monitoring of our renewables portfolio.

SSE’s efforts to reduce supply chain costs place us at the forefront of the delivery of the UK Government’s £100/MWh 2020 target for levelised cost of energy from offshore wind and we believe this target can be achieved.

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?

Scottish Hydro Electric Transmission Ltd (SHETL), part of the SSE group but separate in legal and regulatory terms, is responsible for maintaining and investing in the transmission network in its area, which serves around 70% of the land mass of Scotland. As the licensed transmission company for the area, SHETL has to ensure there is sufficient network capacity for those seeking to generate electricity from renewable and other sources within it.

SHETL has welcomed the recent Ofgem announcement (23 Jan) to fast track its business plan for the Transmission Price Control period April 2013 – Mar 2021. This plan contains a £1.1bn capital investment programme, with the flexibility to increase this by up to a further £4bn if required, to upgrade the transmission network in the north of Scotland and between Scotland and England, to ensure sufficient capacity for new renewable generation. The Ofgem decision means SHETL can now focus on delivering this increased capacity.

Separately, SSE is a 25% shareholder of NorthConnect, a joint-venture established in order to develop, build, own and operate a HVDC Interconnector between Norway and the UK. NorthConnect aims for the interconnector, which is currently intended to have a capacity of 1400MW, to be in operation by 2021.

SSE believes that heat supply networks could have an important role to play in decarbonising heat supplies and welcomes the renewed focus on developing heat networks which have historically been inadequately supported and have proved difficult to develop commercially.
c. Planning and Consents

Is the planning system adequately resourced and fit for purpose?

The planning system is the biggest challenge facing onshore wind farm development. The level of resource, understanding and willingness to engage with developers varies between local planning authorities. Anecdotally, there is evidence that some planning authorities are under-resourced or ill-equipped to deal with applications promptly.

We have concerns that Marine Scotland may not be able to cope with a rush of offshore wind, wave and tidal energy development applications. We welcome the Scottish Government announcement (Feb 8) of more resources to provide environmental specialists for efficient scoping and application processes. We would ask that the appropriate level of resourcing at Marine Scotland be kept under review. Anecdotally, there is some evidence that the resource deployed in support of Scottish Ministers when considering applications for approval has become stretched.

How can national priorities be reconciled with local interests?

We believe it is possible to strike a balance between national policy objectives and local interests through the consenting process.

As a developer our primary wish is for consistency between Scottish Government policy and the positions taken by its agencies such as Scottish Natural Heritage. We respect the place of all advisory bodies in the consenting process but their positions can run contrary to national policy objectives. This makes it difficult for us make the best possible decisions on potential developments and further clarity would be welcome.

SSE is committed to excellence as a developer and working with local communities to ensure that their concerns are taken on board in the planning, development and operation of our facilities. We are pleased this is being recognised by communities, most recently by the Chairman of Golspie Community Council regarding the delivery of turbines to Gordonbush wind farm: “SSE responded quickly to the feedback and adjusted timings so that they fitted in better with the community”.

Our new community investment fund announced in November 2011 is industry leading and within it are measures to deliver skills development and support for community energy projects. It is SSE’s aim to ensure that its energy developments deliver a lasting legacy within local communities.

d. Access to Finance

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?

SSE can access funding for renewable energy developments where there is an appropriate rate of return. This includes government supports, particularly the
Renewables Obligation Scotland (ROS). However, longer term, investors, developers and the supply chain face much greater uncertainty which, if not resolved, will mean significantly less investment in renewables in future. These include:

- The closure of ROS in April 2017.
- No mandatory EU climate change targets beyond 2020.
- The risks around the construction of offshore wind.

It is SSE’s view that the referendum on Scottish Independence creates additional uncertainty which it must take account of in future decisions about investment in renewable energy. This is NOT to say that SSE will not continue to invest in renewables in Scotland but rather that the referendum creates additional uncertainty concerning support for renewables. A full statement explaining SSE’s approach to these issues is provided in the appendix to this evidence.

The ROS is now well understood by investors and developers and is viewed as a stable and credible long-term support mechanism and it has been extremely successful. However the exact shape of the new support mechanism for renewables is as yet unknown.

The mandatory EU target for 2020 has been a key driver of investment in renewables with both developers and the supply chain benefitting from the certainty. This has allowed for long-term investments in cost reduction and improved efficiency and performance to be made. Without clarity on the role of renewables post 2020 there is a risk there will be a deployment ‘cliff edge’ in 2020.

Scotland will need significant offshore wind capacity to meet 2020 targets but the risks associated with the construction of offshore wind make finding investment challenging. To their credit the UK and Scottish Governments have recognised this problem and the proposed Green Investment Bank is designed to look at these issues.

**What will the impacts be on consumers and their bills?**

Government supports aimed at reducing carbon emissions (for example the Renewables Obligation) currently add to the cost of energy. The graph below shows the costs that go into energy price and their movement in recent years. Government supports for renewables have pushed up energy price. The DECC report *Estimated impacts of energy and climate change policies on energy prices and bills (July 2010)* estimates that by 2020 climate change and energy policies will have led to increases of 18 per cent and 33 per cent respectively in gas and electricity prices for domestic customers.
In answer to this question we would highlight the difference between energy prices and bills. As energy efficiency measures take effect consumers are using less energy and so their bills are rising slower than prices. Clearly the impact on households will be variable owing to the different take-up of energy efficiency, renewable heat and micro-generation measures. The same DECC report estimates that domestic consumers who take up both renewable and insulation measures will see a decrease in bills by an average of approximately 25 per cent by 2020.

Further, the real cost of renewable energy to consumers is relative to the cost of energy generated from fossil fuels. Energy from renewable sources is currently more expensive but higher costs of fossil fuels would have the effect of making renewable energy relatively cheaper and could in the long term protect consumers from more severe price rises. Again, DECC suggests that if by 2020 the oil price was around $150 per barrel and gas around 120 pence per therm, climate change and energy policies would have the effect of reducing bills by around 5 per cent compared to a bill excluding these policies.

e. Skills and workforce development

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?

Scotland has world class leadership in offshore engineering and these 'oil and gas skills' are readily transferable to offshore wind. SSE is leading in this technology transfer through its pioneering offshore wind alliances.

In terms of home-grown skills and recruitment, SSE actively supports engineering departments and the skills development of their students. In particular, the Industrial
Doctorate Centre for Wind Energy provides research projects and summer placements and it will be our intention to recruit from the 1st wave of this programme (due to graduate in 2013).

f. Energy market reform and the subsidy regime

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 renewables targets?

The Renewables Obligation (RO) has supported the deployment of renewable technologies and notwithstanding the current RO banding review we expect the development and installation of renewables to continue. The exception to this is the proposal to reduce RO support for hydro generation from 1 ROC to 0.5 ROC. This would put an end to further hydro development. We are engaged with DECC on this proposal both directly and through industry groups and believe there is strong case to maintain RO support for hydro generation at current levels.

As noted above, SSE is concerned that the UK Government’s proposed Contracts for Difference mechanism, due to replace the ROS in 2017, may not continue to deliver the levels of investment in renewables which would allow the Scottish Government to meet its target. This is partly due to a lack of clarity around how the new mechanism would work and their complexity.

These issues are already delaying decisions on the development and financing of projects that would commission around, or after the closure of ROS. It is likely that developers and investors will want to see evidence that the mechanism will work before committing to it. It may also discourage the new entrants to project development and financing that the Government wishes to encourage.

SSE has urged the UK Government to make decisions on the CfD quickly, and to try and make the new mechanism as clear as possible in order to prevent any additional delays. Similarly, SSE would urge the Scottish Government to provide clarity over the design and implementation of the post ROS support mechanism as soon as possible.

SSE
June 2012

Appendix

SSE has considered the practical implications for its businesses of the consultations issued in January 2012 by the UK Government and the Scottish Government and they are set out below. In doing so, SSE is mindful of the fact constitutional arrangements are matters for voters.

SSE employs people, serves customers, owns and operates assets and has plans to invest in England, Wales, Scotland, Northern Ireland and the Republic of Ireland. It expects to continue to be a significant business in England, Wales, Scotland,
Northern Ireland and the Republic of Ireland in the short, medium and long term and has a legitimate expectation that its investments in existing assets will continue to be adequately remunerated. SSE has no plans to move its Registered Office from Perth.

SSE believes that the interconnection and integration of the electricity and gas systems and markets in Scotland and in England and Wales should continue regardless of the outcome of the referendum on Scotland’s future. This means that there should continue to be a single energy market for the islands of Great Britain, just as there is a single electricity market for the island of Ireland. Indeed, SSE supports further harmonisation of energy systems and markets to strengthen security of supply and achieve efficient use of energy resources for the benefit of customers.

SSE has long acknowledged, most recently in its Annual Report 2011, that regulatory change and legislative change, of which the current proposals to reform the electricity market in Great Britain are an example, are among the principal risks it has to manage, and it has extensive experience of doing so.

The forthcoming referendum, however, increases the risk of regulatory change and legislative change with regard to the electricity and gas industry in Scotland because it means there is additional uncertainty about the future. This additional risk will apply up to the date of the referendum and, should the result be a vote in favour of a change in Scotland’s status, will continue until there is a binding agreement on all of the issues that could affect the electricity and gas industry in Scotland.

This is because under the existing arrangements investment in new long-term electricity and gas assets in Scotland and England and Wales is effectively remunerated through the bills paid by electricity and gas customers throughout Great Britain. These arrangements were established by the United Kingdom Parliament, and Ofgem regulates electricity and gas markets in Great Britain.

New arrangements would have to be established in the event of Scotland deciding it would no longer be part of the United Kingdom and becoming independent. Determining those arrangements would be just one aspect of the extensive negotiations between the Scottish and UK governments which would follow. In these negotiations no issue, including the electricity and gas industry, would or could be looked at in isolation from all of the others.

Moreover, there does not appear to be a consensus on how Scotland’s position with regard to the European Union, which has a major influence over electricity and gas systems and markets in Member States, would be determined in the event of a referendum result in favour of Scotland ceasing to be part of the United Kingdom.

To be sustainable, all investments have to be adequately remunerated and additional uncertainty about key issues such as regulation and legislation makes decision-making in long-term businesses more difficult. This means SSE has a responsibility to consider the risks to adequate remuneration when making investment decisions concerning any operations and assets, including those in Scotland. Its policy, most recently described in its six-month financial results
statement published in November 2011, is to apply where appropriate a risk premium to the level of remuneration expected from individual projects.

The practical application of this policy means that when making final decisions with regard to possible new investments in Scotland, which will have to be adequately remunerated if they are to be made, SSE will have to decide whether the additional risk of regulatory and legislative change with regard to Scotland means it should apply a risk premium to the investment proposal. If it concludes that a risk premium should be applied, it will have to determine what that premium should be; and, if a risk premium is applied, it will have to assess the impact of that premium on whether or not to proceed with the investment proposal.

Making investment decisions is about striking the right balance between risk and reward. The additional risk of regulatory and legislative change does not mean that SSE will not invest in projects in Scotland while its future is being determined. The development of SSE’s existing projects in Scotland will continue as planned. It does mean, however, that the additional uncertainty represents increased risk, of which SSE will have no alternative but to take account in making final investment decisions on those projects while that additional uncertainty remains.

It does not mean that anyone should seek to attribute to SSE a view on whether or not Scotland should remain part of the United Kingdom: SSE does not believe it is appropriate for it to have a view on that question, which can only be answered by voters.

Notes
SSE is involved in electricity generation, transmission, distribution and supply and in gas production, distribution and supply in Scotland. It employs 5,300 people in Scotland and has operational sites throughout Scotland. Its total capital expenditure in Scotland for the year to 31 March 2012 is forecast to be almost £900m.

SSE has no wish to become involved in a constitutional or political debate. This submission should be considered in its entirety, and SSE will not be adding to it with on- or off-the-record comment to the media.