SUBMISSION FROM EDF ENERGY

EDF Energy is one of the UK’s largest energy companies with activities throughout the energy chain. Our interests include nuclear, coal and gas-fired electricity generation, renewables, combined heat and power plants, and energy supply to end users. We have over five million electricity and gas customer accounts in the UK, including residential and business users.

Scotland’s Renewable Energy Targets

EDF Energy believes that any Scottish renewable energy target should be considered in the wider context of UK energy policy. In setting any target, the UK energy objectives of affordability, security of supply and decarbonisation must be considered.

EDF Energy believes that Government targets should be directed to CO₂ emission reduction in a technology neutral approach, rather than highlighting specific technology types, as this is likely to lead to adverse effects on both cost and energy security.

Renewable Electricity Target

EDF Energy believes that the achievement of a 100% renewable electricity target in Scotland is very ambitious and although it may be technically feasible, its realisation will require reliance on subsidies for renewables, additional investment in transmission and potentially energy storage. We believe that an integrated UK energy policy would best serve the interests of Scottish consumers as well as the interests of the UK as a whole and deliver the most efficient outcome.

EDF Energy recognises, that in a UK context, Scotland has the ability to play a significant role and what could be considered as a greater than proportionate role in delivering the UK’s renewable energy targets, given its size, location and natural resource. Indeed, the pipeline of renewable electricity projects in Scotland suggests there is sufficient capacity to meet the target.

However, even in that context, there are a number of issues that will have to be resolved to ensure that the target can be realised.

It will also be important to consider why such a pipeline of projects exists and how these may compare with other parts of the UK. We believe there are a number of factors encouraging a high level of development in Scotland, particularly with regard to wind generated electricity:

- Scotland has better wind conditions than most other parts of the UK. In some parts of England the load factor for wind farms can range between 20-25%, while in Scotland it can be as high as 30-45%.

- There is greater space available.

- There is a declared desire by the Government to encourage deployment.

However, the value of this additional resource needs to be weighed against the additional costs of transporting electricity to demand and we believe it will be
essential to adopt market frameworks that provide an effective opportunity to make these trade-offs.

**Planning**

Some of the biggest obstacles to progressing energy projects exist within the planning process. In effect this is the first filter through which the pipeline of projects mentioned above must pass. It is important that decisions of the planning authorities are robust and predictable. We are pleased to see appropriate guidance from the Scottish Government and would welcome further early engagement with developers to ensure project proposals are thoroughly prepared. However, it is important that timely conclusions are reached. We believe that issues like radar and aviation have not yet reached satisfactory conclusions, and we are concerned that the Local Review Panel process for non-Section 36 planning applications is flawed, as the appeal process does not involve independent review.

Nonetheless, EDF Energy strongly believes that projects should only be approved following due consideration and that developers must be responsible and only put forward appropriate proposals.

**Electricity Transmission Network**

We have four concerns with respect to the electricity transmission network:

a) **Preparation for new generation**

Traditionally one of the most limiting factors in renewable electricity generation is the ability to get energy to the end user due to the remoteness of where the electricity generation is and the time it takes in securing a grid connection. This has been improved in recent years through the Connect and Manage regime; however, there is a limit to how much additional connection the existing transmission network can manage. Therefore, it is imperative that transmission expansion, upgrades and reinforcements are progressed in a timely manner. Like individual generation projects, these transmission upgrades will need to go through the planning process. However, as we have seen with the Beauly-Denny application, these can become protracted affairs. It is important that both of these upgrades and strategic investments are not unduly delayed, as they will have an impact on when some generation projects may progress to the construction phase, and also cause undesirable constraints for newly connected generation.

b) **Maintenance of existing connections**

The target of 100% electricity from renewable sources will require Scotland to import and export electricity. Therefore, it is important to make sure that the existing network is reinforced and maintained (to ensure that generation is not constrained) as it is to develop new grid networks. Much of the transmission network in Scotland is over 40 years old and is due for extensive maintenance and replacement (as shown in the transmission upgrades proposals from Scottish Hydro Electric Transmission Ltd (SHETL) and ScottishPower Transmission Ltd (SPTL)). Ofgem has recognised the importance of this work and is proposing to fast track the approval of these plans.
c) Export of excess energy

One of the Scottish Government’s stated objectives is to produce surplus electricity in relation to demand. This will require a substantial upgrade of the transmission network to deliver electricity to markets outside Scotland. While this has been proposed at expert panels such as the Electricity Networks Strategy Group (ENSG), the priority is to turn these concepts into reality given the ambitious, but technically feasible levels of generation being proposed.

This will especially be the case towards the end of the decade when a substantial part of the energy mix will be variable wind generation, potentially resulting in peaks of generation that do not coincide with peaks in demand.

d) Transmission Costs

The renewable energy target is based on a pipeline of projects which have been, or are being, established in a pre-TransmiT charging regime. Based on the work of Ofgem in its TransmiT study, we do not believe that transmission charging will impact the achievement of the target, although we accept that the target includes projects which have not reached Final Investment Decision (FID). However, we believe that achievement of the target will have an impact on transmission costs due to investment, as the proposals of the ENSG discussed above are implemented. In this regard, we would emphasise the need to recognise the Scottish target in the context of UK energy policy to ensure the efficient development networks so that the burden of additional transmission costs are minimised for consumers. The Scottish Government should establish how achieving such a target in Scotland affects the cost of generation across the UK, whether the existing charging regime endures, or the improved Incremental Cost Reflective Pricing (ICRP) regime is implemented following Ofgem’s TransmiT consultation, and how any increase in these costs should be funded. EDF Energy is clear in its view that transmission charging must be cost reflective as this helps signal the development of efficient networks and thereby reduces the impact on consumers’ bills. This has been explained fully in our responses to Ofgem’s TransmiT consultation process.

Balanced generation mix

EDF Energy welcomes the statements by the Minister for Energy, Enterprise & Tourism confirming that the Scottish Government supports the extension to the plant life of Hunterston and Torness nuclear power stations. EDF Energy has recently announced that it expects the life of its plants to be extended by an average of seven years from the previously estimated five. We believe that our nuclear stations continue to play an important role in meeting electricity demand in Scotland. It is important to stress that new renewable electricity projects are complementary to existing low carbon generation such as from Hunterston and Torness. Any reduction in such generation will have a negative impact on meeting Scotland’s emission reduction targets.

Electricity Market Reform

At present, renewable electricity projects are supported through the Renewables Obligation, which rewards generation on the basis of metered output. The electricity market is going through a period of reform which, as with any reform, can cause investor uncertainty and can potentially result in an investment hiatus. However, we
believe that the UK government is working to a timetable for implementing market reform that will avoid a hiatus.

We would therefore urge the Scottish Government and all stakeholders to work towards supporting the UK Government process, which will support all low carbon electricity generation. Renewable electricity generation will need continued access to the UK support mechanism and the GB electricity system, if it is to grow and achieve the targets set by the Scottish Government.

We believe that the changes being proposed in the Electricity Market Reform White Paper (and those already passed by UK Government) will create a positive environment for all low carbon technologies, including renewables. For example, the carbon price floor will add value to electricity generated by renewables, while the Contracts for Difference (CfD) mechanism will give an assured price for renewable energy in a cost effective manner. It is important that the industry is seen to be minimising the impact on consumers caused by the transition to a low carbon energy supply

**Renewable Heat**

EDF Energy believes that renewable heat can make an important contribution to the UK’s 2020 renewable energy target. However, we believe that there is currently insufficient evidence of good progress towards the target, and this is primarily due to a lack of suitable processes and incentives (not necessarily financial). We recognise that this will be in part due to the delayed establishment of the full Renewable Heat Incentive scheme for the domestic sector, but nonetheless we believe that this target is less well developed than the electricity target.

We are concerned that there is currently very little industry involvement and demand from consumers is limited. We believe that greater consumer demand will be created when programmes such as the Renewable Heat Incentive and Green Deal are launched. However, additional measures will be needed to stimulate the supply side for both programmes. It is important that installers are trained in readiness for these schemes.

Half of the energy consumed in Scotland is in the form of heat, and approximately half of that is in the domestic sector. The renewable heat target that has been set is equivalent to about a quarter of all domestic demand, which represents some 600,000 homes. While the target will not be achieved solely through domestic uptake, this figure demonstrates the ambition of the goal.

Most boilers have a life of 10-12 years. Therefore, it is possible that around 80% of all boilers currently installed could need to be replaced by 2020. Additionally in Scotland, only about 65% of domestic properties are connected to the gas supply network (in comparison to 85-90% in the rest of the UK), many due to their rural location. This represents over 800,000 homes. The cost differentials for converting properties not connected to the gas grid are smaller than for those which are connected; therefore, Scotland is well placed to initiate the roll out of renewable heating solutions. This leads us to conclude that greater effort is required by stakeholders to inform and enable households to take on renewable heat solutions. This will help the country advance towards its target. We note from the Scottish Government’s Renewable Heat Action Plan that over 13,000 households have been contacted to be given advice on renewable heat sources and this is a positive first step. However, we also note that the plan refers to the promotion of district heating.
To avoid locking in carbon emissions, we believe that a distinction should be made between district heating that uses renewables and that which uses fossil fuels.

Finally, we would like to point to the interdependency of the renewable electricity with the renewable heat and transport targets. Part of the reduction in carbon emissions in heat and transport will involve the shift to electric heating through heat pumps and electric vehicles respectively.

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