Friends of the Earth Scotland Policy Briefing Paper

Scottish Government Debate: Green Energy Powerhouse of Europe

31 May 2011

Friends of the Earth Scotland and WWF Scotland welcome the opportunity to brief ahead of this important debate. We believe the possibility to move faster and further to become the green energy powerhouse of Europe offers great opportunity for both the environment and the people of Scotland. It will require important policy changes at various levels. This briefing deals in turn with Scotland's renewables potential, the need to move beyond fossil fuels and nuclear, and the importance of the UK Government's electricity market reforms.

The Power of Scotland Secured and Scotland's Renewable Potential

The Scottish Government's target of 100% of our annual electricity demand from renewables by 2020 is exactly the type of figure we should be aiming for. Last year we commissioned the world's leading renewable energy consultants, Garrad Hassan, to look at Scotland's renewables potential. The 'Power of Scotland Secured' report[1] concludes that renewables could comfortably provide 100% of our annual electricity demand by 2020, increasing up to 185% by 2030.[2]

Yet generating more renewable energy will do nothing for the climate unless we simultaneously phase out our use of fossil fuels. As events in Fukushima have shown, phasing out Scotland's nuclear power stations is essential too. To truly claim the title of the 'Green Power House' of Europe, Scotland must ensure that its contribution to the UK, and the future European grid, is 100% renewable. The Power of Scotland Secured shows that **by 2030 Scotland could phase out all conventional thermal power, from coal, gas and nuclear, not only keep the lights on but become a major export of green power.**

The key is improved transmission between Scottish, UK and European grids, which will allow Scotland to import electricity when renewable output is low and export electricity when output is high. This isn't unrealistic or unfeasible as some have suggested. Indeed, the level of interconnection needed to have a 100% secure electricity supply without coal, gas or nuclear in Scotland is two to three times smaller than what would be economically justified by the value of exports.[3] There are clear employment benefits too with several studies have shown that energy efficiency and renewables generate more jobs per KWh than fossil fuel and nuclear industries.[4]

It's clear from our research that the coal-fired power station at Hunterston is unnecessary. Scottish Ministers should therefore reject the application as soon as possible and set a long-term target of a wholly renewable Scotland, phasing out fossil fuels and nuclear.

Electricity Market Reform

Electricity market reform (EMR) is critical to the release of Scotland's renewable energy potential. Unfortunately the proposals set out in the Department of Energy and Climate Change (DECC) EMR consultation document will promote investment in new nuclear and gas power stations at the expense of renewable energy – and even deliver windfall gains for existing nuclear power companies. **It is critical therefore that Scotland's voice is heard in Westminster.** The Scottish Government, and all Scottish parliamentarians, must push for an EMR with:

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1 Power of Scotland Secured: http://www.foe-scotland.org.uk/power-secured

2 This 185% figure is based on Scotland's renewable generation versus Scotland's annual demand. Therefore the excess over and above 100% would be exported where possible.

3 Garrad Hassan find that the transmission capacity that would be justified by exporting renewables from Scotland to the rest of the UK, or to Europe, is somewhere in the region of 20-25,000 MW, well in excess of what would be needed to phase out all coal, gas and nuclear in Scotland without threatening security of supply. The full technical report, and a detailed summary, is available at www.foe-scotland.org.uk/power-secured

4 Daniel Kammen, Kamal Kapadia, and Matthias Fripp, April 2004 (updated January 2006), "Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Create?" UC Berkeley: Renewable and Appropriate Energy Laboratory (RAEL), 12; see also José Goldemberg, The Case for Renewable Energies, Thematic Background Paper: International Conference for Renewable Energies, Bonn 2004

1. **A technology specific feed in tariff**

As Westminster's Energy and Climate Change Committee pointed out recently: "The long term contracts designed to encourage low carbon energy sources—known as Feed-in-Tariffs with Contracts for Difference—will work for nuclear, but different types of contract are needed for renewables and other clean technologies"[5]. It is imperative that levels of support should be technology-specific and reflect both the environmental performance and the maturity of the technology. Nuclear and unsustainable large-scale biomass should not benefit from price support.

2. **A tougher emissions performance standard**

The proposed level of the emissions performance standard (EPS) is likely to lead to a new 'dash for gas', and allow for the construction of largely unabated coal plants. This poses a threat to the development of renewables in Scotland, which are already in direct competition with fossil fuel plant for export capacity. In order to avoid this 'lock-in' to a fossil-fuel dependent system, there should be a plant-based EPS set at a level of 300gCO_2/kWh for all new generating plant from now on, tightening to less than 100gCO_2/kWh by 2025 (from which point it should also apply to existing plant). This will ensure that any new gas plant has to have some degree of combined heat and power (CHP) or carbon capture and storage (CCS).

3. **Clear targets for the decarbonisation and renewables**

The lack of a UK renewable energy target for 2030 and concerns that the EMR package favours nuclear could seriously undermine the growth of the UK renewables industry. As well as an ambitious renewable energy target there must also be clarity on the definition of a 'low-carbon' electricity system. The EMR consultation currently makes no commitment to a 2030 deadline for decarbonisation (referring to decarbonisation *during* the 2030s) and the policies in the consultation are supported by modelling on the basis of a carbon intensity of 100gCO_2/kWh. The final EMR proposals must reflect the Committee on Climate Change's recommended carbon intensity of no more than 50gCO_2/kWh by 2030 as the *minimum* effort consistent with meeting our 2050 target.

4. **A windfall tax for nuclear**

As Westminster's Energy and Climate Change Committee pointed out in their report published on the 16th May, "The Carbon Price Support…could provide a windfall profits to existing nuclear generators."[6] This would likely be £3-4bn. If nuclear gains at the expense of renewables, as is likely under the proposed package, the electricity system is likely to decarbonise less quickly (since nuclear plants take much longer to construct than, e.g. windfarms); we risk lock-in to a highly centralized electricity system, with concomitant inefficiencies in transmission and distribution; we will fail to support emerging technologies in which the UK could be world leader, e.g. wave, tidal, and the jobs that would accompany such leadership. A nuclear windfall tax must therefore be imposed.

5. **Greater focus on demand reduction**

The EMR package will fail in its objective of affordability unless it gives much greater attention to the task of reducing and 'smoothing' energy demand. Improving energy efficiency, and enabling greater short and medium-term 'load-shifting' to smooth demand peaks is the cheapest way to cut emissions and would reduce the need for new generation plant. Without such measures, the cost of maintaining security of supply (at any carbon intensity) will be unnecessarily high, and many more households will be pushed into fuel poverty over the coming decades.

Conclusion

Moving faster and further to become the Green Energy powerhouse of Europe is an admirable aim and ambitious renewable energy targets are an important step on the path. Realising that aim will also require Scotland committing to phase out dirty fossil fuel and nuclear power stations. It will also require a seriously strengthened EMR and politicians must make that case to Westminster.

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5 Available at: http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenergy/742/74202.htm

6 Ibid