

ICELAND OUR ELECTRICITY SALVATION?

Scotland has ambitious, and welcome, targets for supplying electricity from renewable sources: 50% from renewables by 2015 and 100% by 2020. Whether this is achievable in the timescales set, given the dependency on intermittent wind generation and the lack of capacity of the national grid to cope, has been widely questioned. So should the potential availability of electricity from a large scale, renewable supply be welcomed?

The source in question is from the geothermal energy sources of north east Iceland, specifically in the Myvatn to Krafla corridor. Here the energy is generated by magma which rises where the Eurasian and North American tectonic plates are drifting apart. The developments have been identified as acceptable in the National Energy Masterplan – Rammaaaetlun – approved by the Icelandic Parliament earlier this year. The total resource available is estimated by the national power company, Landsvirkjun, at between 1476 and 3321 GW hours per annum. Compare this to the total electricity supplied to Scottish consumers of over 32,000 GWH in 2011, so such a supply might provide up to 10% of our current needs. As many energy commentators argue, a variety of electricity sources using different technologies from a diversity of countries is the operationally preferred option. So *prima facie* we should support the Icelandic source through construction of a cable, estimated at 1,000km to north Lewis, or 1,170km to Buchan.

Icelanders might well be convinced of this approach if the economic and technical issues can be resolved. Currently, they have undervalued their electricity generated from renewable sources in their long-term deals with international companies to support the economic diversification into aluminium smelting. Sale of electricity to Scotland onwards into wider UK and European markets seems, superficially, an attractive alternative to a country whose economy has yet to recover from the economic crash.

But what of the environmental consequences? The exploitation area is adjacent to internationally significant bird habitats where North American and European species are side by side. The tourism economy in the area is growing fast and is seen as an economic benefit particularly because of the bird interest, the broader natural environment and the best whale watching area around the shores of Iceland. The exploitation of geothermal energy has not proved unproblematic with environmental side effects on ground water. The surface infrastructure is regarded by many who support renewable energy as unsightly. And the

overland transmission lines to the landfall point, some 200km, will have to pass through areas currently wild with little or no human artefacts: a significant issue given the booming tourism economy and the attraction of wild nature.

So before we look for the next silver bullet for our electricity supply from a friendly neighbouring country, let us think about the implications for its people and their environment. Why wish on the Icelanders the sort of environmental degradation we are seeing through the dash for onshore wind.