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RENEWABLE ENERGY FOUNDATION

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1. We talk of energy as if it is part of the economy, but it is more important than that. For what is economic activity if it is not work, and to do work, as physics tells us, we need energy.
2. Energy is the animating spirit of the economy.
3. So, an increase in the cost and the price of this prince among primary inputs will have effects of more than ordinary consequence.
4. Yet very large increases in the consumer cost of electricity, one of the most important energy carriers, not least for industry, are precisely what policy in Scotland, and indeed in the United Kingdom, and are currently entailing.
5. Let us suppose for the sake of argument that the UK overall meets the EU Renewables Directive target in 2020. That would require upwards of 30% of electricity consumed in the UK to be from renewable sources. About 100 TWhs, 100,000,000 MWhs, a very large quantity, the vast bulk of it requiring subsidy at an average of between £50 and £100/MWh, and the rest at either lower or higher rates.
6. So, assuming the plant mix anticipated by DECC, much of it wind and much of it here in Scotland, the target will require about £8 billion pounds annually in subsidy, for the duration for the program (the next fifteen years or so).
7. But that isn't the end of the cost story. Wind power imposes significant and still poorly understood system costs. Colin Gibson, a former Power Networks Director for National Grid, and well known to many of you, has estimated that the costs of providing short term reserve, funding grid expansion, and securing supply on windless days by maintaining a

shadow conventional fleet equivalent to peak load plus a margin, will add significantly to the cost from the consumer's perspective. Mr Gibson's median figures would give a cost of £5bn a year.

8. Let's say it's only half that, this is still, together with the subsidy, over £10 billion a year in additional cost, nudging towards 1% of UK GDP. This is a great deal of money, a very large barnacle on the hull of the wider economy.
9. This extra cost can only look reasonable if global conventional energy prices, and gas in particular, become equally expensive or more so.
10. Put it another way, assuming that we remain committed to the policy, we are locked in to much higher electricity costs, whether conventional energy prices rise or not.
11. We will consequently have lost a great deal of economic flexibility. If there is low cost clean energy in 2020 we won't be able to take advantage of it, because we will have already chosen and built high cost renewables.
12. So the UK's policy is actually a wager on the price of conventional energy alternatives to current renewables in ten years time.
13. But it is a wager in which governments seem to have no confidence, because if they did it would be simpler and more economically efficient to allow rising fossil prices to drive the adoption of alternatives, rather than using notoriously inefficient and innovation suppressing subsidies and mandates to force premature deployment to meet arbitrary targets.
14. Would Scotland be better off out of this mess. Well, perhaps, but only if the policy direction is changed radically.
15. Consider the current situation. Scotland currently has about 2.7 GWs of onshore wind, roughly 60% of the UK total.
16. About 3 GWs has been granted planning consent in Scotland, and is either being built or awaiting construction.
17. A further 4 GWs is in the planning system. Let's assume that half of that will be consented and built.
18. The total Scottish onshore wind fleet would come to nearly 8 GWs. That would require subsidy of £50/MWh totalling £2bn a year, for 25 years.

19. That would be a very heavy burden on the Scottish consumer base, probably an insupportable burden, and it would only be tolerable if electricity could be traded to advantage over the interconnectors with England, in effect getting the English and Welsh consumer to subsidise Scottish wind power.
20. But the English and Welsh may not want or be able to buy expensive, Scottish renewable electricity. They may seek and find other options, and they would have every incentive to do so.
21. And as far as a global example goes, that Scottish wind fleet would be abating emissions at a subsidy cost alone of around £93/tCO₂, this is not a positively compelling example.
22. We are here to debate the proposition that Scotland's energy industry will be the envy of the world. On the basis of current target and subsidy driven policies that is vanishingly unlikely to be true, whether Scotland is within or without the United Kingdom.
23. But there is still time to change course, and indeed debates such as this are not only a sign that correction is possible, but also a means of catalyzing that reform, and one way in which you can contribute to this essential change of direction is by joining me in opposing the motion.

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