



Innovation: The Environment

Decarbonisation

Commentary

So what does it cost to de carbonise an economy such as the UK? And can we do it? The Stern Review of the Economics of Climate Change, commissioned by the UK government, estimated in 2006 that the cost of decarbonising the world economy amounted to 1% of GDP.

Helm

This number that is only 1% of GDP per annum that it will cost to de-carbonise has been quoted by virtually every politician on the planet. And there is no basis whatsoever for thinking that that's a sensible estimate to have made. You can't say it's "X" billion to do it, or 1% of GDP or whatever. Independent of trying to specify what ways you're going to go about it, how quickly you're going to go about it and of course over the relevant time period the technologies are going to transform.

Hepburn

In the UK, the, you know, the obvious natural resource is our wind resource compared with the other countries of Europe. Wind generation has some of its own difficulties, obviously, intermittency, the wind doesn't always blow, so the set of complementary technologies are required so either grid balancing where we have interconnectors to other countries, or battery storage. Now, battery storage makes a certain amount of sense with electric vehicles as has been widely discussed at the moment in 2009-10 but wind is nevertheless fairly, appears at the moment to be fairly expensive compared to the power, the reliable power that it actually produces. So the question for us in the UK is if we're going to continue with a wind dominated renewable energy programme, can we lower those costs over time through some kind of technological progress or improvements in the supply chain, improvements in the planning process and through the emergence of complementary storage in grid balance technologies?

Helm

For Britain we have amongst the lowest renewable penetration of any countries in Europe outside I think Malta and Cyprus. Contrast that with say a country like Germany, where in order to pursue a renewable strategy there has been an integrated policy which includes the manufacturing of the equipment, the scaling of the equipment, the building of the grids in a co-ordinated way with the investments taking place in the generated capacity and so on. In other words, it's a joined up industrial project in a country like Germany. In France it's been a joined up industrial policy to build a large number of nuclear power stations. In Britain it's chaotic. The regulation of the grid, the development of investments in the networks is disjoint from anything to do with investment in renewables. And the idea that there might be some kind of role for government to bring together regulation, off-shore development and subsidy and support schemes is kind of an anathema to the way in which policy has more generally been developed. So for Britain it's a much more difficult ask than it is for European countries who are more familiar with such kind of large scale industrial planning.

Commentary

Why is Britain so bad at this kind of planning? Do we have too strong a belief in free markets?

Goodwill

Free markets work well, work best when there's a rich tapestry of price information. You know the prices you face now, the prices are likely to be the case in the future. The problem with extremely lumpy investments, such as £5 billion pounds into a huge offshore wind farm, is that the signals are simply not there, and even if they are there it's not easy for people like the big electricity companies who need to build these offshore wind farms, to translate the price

signal information into decisions whether or not to go ahead with these signal lumpy investments with a 50 year life to them. So even for a very large utility company like the German utility companies RWE and E-on operating in this country, those investments in offshore wind farms that are in prospect today are overwhelmingly large and can only be done with secure pricing not the kind of pure free market that people might want to see in electricity.