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**The View from an Island: Could the UK model deliver the aims of the Energy Roadmap 2050?**

I'm delighted to be able to join you here this evening and to be given the opportunity to speak to you the EEF about such a pertinent topic.

It's almost a year since the Commission published the European Energy Roadmap to 2050. At the heart of it lies the belief that the decarbonisation of the energy sector is central achieving the EU ambition of an 80% reduction in greenhouse gases by 2050.

And that's no mean feat: across Europe, ageing infrastructure must be replaced with a diverse, flexible mix of low carbon technologies to produce, transmit and store energy in the most efficient way.

We need to make the right investment choices - to build smarter, more flexible infrastructure, such as cross-border connections and intelligent electricity grids, to avoid more costly changes in twenty years' time.

And we also need to drive consumer behaviour to encourage energy efficiency, to drive down energy demand and change the way we use and think about energy.

It's a very clear challenge ahead of us. As CEO of RWE npower in the UK, I wanted to talk to you this evening about how the UK is addressing this challenge, and whether Member States implementing individual policies is really the most efficient way to meet the Roadmap's aims.

But first, I want to address the *scale* of this challenge to place this discussion into context.

To deliver the new energy infrastructure and achieve the transition to a low carbon economy, the EU will need to invest an addition 270 billion Euros each year, from now until 2050[1.] That's around 1.5% of its total GDP, annually.

In the UK alone, we need to invest 300 billion pounds *(over EUR 370billion)* by 2030 - that's the equivalent of hosting the London Games twice a year, every year, between now and then.

We have seen investment in recent years – in the UK alone RWE has invested over four billion Euros in new gas plants and renewable technologies in the past three years alone.

But one year on from the Commission's Roadmap and investment in European infrastructure is less than forthcoming – perhaps unsurprisingly given the economic climate we have found ourselves over the last 12 months.

You don't need me to remind you that our governments are focused on the Eurozone crisis and delivering on tough austerity measures. So it's not surprising that politicians are more concerned with turning their economies around than targets that are still four decades away.

I think sometimes that this need for investment is too far removed from the everyday lives of most people to really matter; to really become a call for action.

It takes something tangible, like the massive power cuts in India, or the effects of the storm that ravished the East Coast of the US earlier this year, to remind everyone what investment in infrastructure really does for us – and what happens when electricity isn't there at the flick of a switch.

And the scale of this investment challenge must not deflect from the fact that these major infrastructure investments will also be major vehicles for growth, supporting supply chains and securing jobs across the economy.

Between 2008 and 2011 – at the height of the economic crisis - the energy sector and its supply chain added 54,000 jobs to Britain – and not just to London but to every region in the UK – and in the past four years, the sector has invested £43 billion - testament to the importance of this sector to Britain's economic wellbeing.

In fact, the energy sector's total contribution to UK GDP last year was £86bn. I think that should speak volumes to every politician that cares about what's really important to their country, whatever the colour of their politics.

So the decarbonisation challenge can also offer a huge opportunity, but – and here is the crux of the issue – *only* if politicians can create the stable, predictable market conditions needed to attract not just the traditional investors in the energy sector, but also to new investors such as pension funds and private finance initiatives – and *only* if we ensure that the policy to deliver this investment is focused on delivering change at the lowest cost, in the most efficient way.

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I'm convinced that the best way to meet this challenge is through a fully integrated, well-functioning European internal energy market, coupled with a robust and long-term emissions trading scheme.

But when I look around Europe, I see more and more interventions in an increasing number of Member States which appear at odds with this common approach – and in this regard, the UK is no exception.

As far back as 2008, the UK made the unique move to make 2050 goal of an 80% reduction legally binding through the Climate Change Act, and progress towards the target is ensured through mandatory five-year carbon budgets.

In hindsight, I do wonder if the UK would have made such an ambitious commitment had it understood the full impact of the economic crisis – but then hindsight is a wonderful thing!

Nevertheless – the target has been set, and the general consensus is that a diverse mix of renewables, nuclear, and carbon capture and storage is needed to deliver this.

However, whilst current market arrangements have been very successful in delivering one of Europe's most open and competitive markets, they were established in the early 90s, and are more suited to delivering investment in fossil fuel generation.

Renewable generation has instead been underpinned by the Renewable Obligation, which for the last ten years has provided a premium over and above the wholesale electricity price to encourage investment in this technology.

However, the need for a more diverse mix of low carbon technologies has meant the need to change, to accommodate nuclear and CCS.

But rather than expanding the Renewable Obligation into a support mechanism for *all* technologies, the government took the decision that a more radical approach was needed and has set about introducing a broad range of reforms with significant implications.

Its Electricity Market Reform proposals form a key element of the Energy Bill, which we expect to be laid before Parliament tomorrow.

The full package of reforms include a carbon floor price, to underpin EU allowance prices; a 'contract for difference' support mechanism for low carbon technologies; an emissions performance standard to prevent any new coal-fired plants without carbon capture and storage; and a capacity mechanism, to ensure security of supply. A far-reaching and ambitious package of measures compared to the original requirement to encourage low carbon investment.

- So, is this the right model – or even a workable solution?

The fact that it's taken 2 ½ years to introduce the current Energy Bill and that it is only framework legislation speaks volumes. We'll have to wait for Q3 next year before we see the finalised details of the new 'contract for difference' support mechanism, and the end of next year in the case of the capacity mechanism.

What's more, we still see continuing debate and political disagreements about energy – from consumer energy prices to our own energy ministers arguing about the need for more renewable energy in place of more gas on the system: unsettling for the whole industry and causing further delays and uncertainty.

I stressed earlier the importance for regulatory certainty in creating the right environment to attract investment.

But it will take until *2014* to deliver that certainty – and no matter how well designed these new mechanisms are, it will still take several years to bed in and build investor confidence. By that stage, we'll have a new Government – and with energy so high on the political agenda, the prospect for these new proposals to change again is very real. That means that far from a pioneering approach to decarbonisation, we risk an investment hiatus as we wait for policy detail to be refined and then implemented, and then changed once more.

So, what can Europe learn from the UK's approach?

I would say four things: the need for an incremental approach to market design; the need for economic efficiency at the heart of market design; the need to consider both supply and demand; and finally, a need for a common approach across the EU.

Let me briefly expand on this:

Creating the right environment to deliver such challenging levels of investment is absolutely critical. But the UK approach, making fundamental changes across the market, is creating uncertainty and doing nothing to attract investment from outside the sector, where stability and predictable returns is crucial. An incremental approach, building on what already works well, is much more likely to sustain investor confidence and support economic growth.

What's more, the greater the number of interventions and the more complex and novel they are, the more likely it is that we will see unexpected interactions between them.

Take the capacity mechanism, for example. This has been introduced without understanding the impact on either how the new low carbon support mechanism will function, or its impact on security of supply. Perversely, the capacity mechanism could *discourage* new investment in low carbon investment by

encouraging older power plants stay open for longer – the very plant that another element of the same EMR package, the carbon floor price, was designed to close. Not to mention, penalising early movers such as RWE who have interpreted the market signals for new capacity on the system and who have already invested billions in new plant.

What's more, the carbon floor price – which was introduced by Government quite simply as a 'carbon tax', – yet the Treasury is now introducing £250 million of rebates for energy intensive consumers to limit the damage of this measure on UK competitiveness.

At the heart of this change has got to be the overall cost to consumers – and so reform has got to be delivered in the most efficient way. This is why I would say the second lesson is the need for an economically efficient approach.

I also want to stress the importance of recognising that there are two sides to this equation – supply, and demand. And both of these sides must be considered at the same time to ensure we have a holistic and coherent approach, which secures investment at the same time as promoting demand side engagement.

In the UK, we are about to embark on a national roll out of smart meters, which will cost £11.7 *billion* between now and 2020. Yet the capacity mechanism threatens to undermine the benefits of smart meters, by dampening the price signal that is needed to encourage consumer demand away from peak times, which will be crucial with increasing amounts of intermittent renewable supply on the system – what could be yet another perverse consequence of the capacity mechanism.

Unsurprisingly, the Commission itself stated last week that prematurely introduced and badly designed capacity mechanisms may hinder investments and fragment the internal energy market – and that before Member States intervene in the market on a national basis, cross-border solutions should be considered.

Which leads me to my final point: we have to believe that a common approach will result in lower costs and more secure energy supply, compared to 27 different national schemes, running in parallel. What we need to avoid is distortions across national boundaries, causing market inefficiencies and increasing costs for consumers.

If I can move away from the UK momentarily and refer to another country I am familiar with: Germany's national policy to achieve 80% of its energy from renewable sources by 2030 means that there is now over 30GW of solar capacity on its system – the equivalent of thirty large conventional plants. However, not only having a detrimental effect on the economics of all other types of plant, but

as all of this capacity floods onto the grid when the sun is shining that impact is also having a knock-on effect on neighbouring countries' grids too.

To ensure we have the most cost effective solution to meet the challenges, we absolutely must address this from a European perspective. Meeting the aims of the Energy Roadmap could deliver huge boosts to economic growth in the Eurozone, sustaining hundreds of thousands of jobs and supporting industries across the supply chain.

But if we are to learn anything from the UK's experience so far, it has to be:

- the need to retain the focus on delivering change in the most efficient way – delivering reform at the lowest cost possible;
- focusing on the most critical elements rather than trying to fix everything at once;
- and ensuring coherence with policies – both across Member States and to avoid costly changes in the future if we are to move closer towards a cross-border, common approach.

If we can achieve this incremental, coherent and efficient approach together, then we can attract the investment in infrastructure that Europe so urgently needs to meet the Roadmap's aims.

So, I don't want to delay us any longer – but I hope I've given us some food for thought and I look forward to hearing your thoughts over dinner.