

## The Sixth Annual Fuellers' Energy Lecture

# The Future of UK Energy



Presented at Drapers' Hall  
on the evening of  
Wednesday 29<sup>th</sup> September 2010 by

**Charles Hendry MP.**

**Minister of State.  
Department of Energy and Climate Change**

It's an honour to join you today, as Minister of State for Energy, to celebrate the Worshipful Company of Fuellers, 25th Anniversary. And I'd like to talk about the future of the UK's energy and how we, the coalition, see that future coming to fruition.

Our ambitions are clear. We want Britain to be global leader in the transition to a low carbon economy. We are dedicated to achieving a comprehensive international deal on climate change. And we are committed to reducing the UK's carbon emissions by 80 per cent by 2050.

The future of the UK's energy is widely debated. The link between energy and our environment is inescapable. We have pledged to be the greenest government ever. It's something we were tasked with by the Prime Minister on his second day of office. I think that shows how high on the agenda we are.

And that commitment lies at the heart of the Coalition Agreement as a shared philosophy between both political parties .

There's no doubt changes must be made, because we live in a different energy world compared to twenty years ago.

So we must lead by example. Leadership from government departments is a responsibility we cannot - and will not - shirk. Because we are acutely aware that we will be judged by our actions.

Which we why we will, as pledged, cut Whitehall emission by ten per cent over twelve months. The Prime Minister has made it clear this not a target, it is a requirement. We are not asking others to do things we will not do ourselves.

## **Challenges**

The challenge to decarbonise comes at a time when we must in any case re-build our energy infrastructure. Over the next ten to fifteen years £200bn needs to be spent on new generation, transmission and distribution so we can build secure supplies of low carbon generation. That £200bn represents the biggest energy challenge of our lifetime.

The global economic downturn changed expectations, priorities - whole businesses if you will. But as we recover from this recession, the transition to clean energy has the potential let our economy flourish and create millions of jobs - but only if we accelerate that transition

In producing low carbon and affordable energy there are specific challenges. The need for investment, more technology and the reform of the grid for example.

We also need to change our 'old' energy doctrine, such as our reliance on fossil fuels and our abysmal track record in saving energy.

If we are to secure this new investment, we must make Britain an attractive place to invest - indeed we must make it one of the most attractive places in the world to invest, as these decisions are being made by global companies with global opportunities

And we do not have the luxury of time. Over the next ten years more than 18GW of generating capacity will close. One third of our coal capacity is due to close by 2016, as a result of the Large Combustion Plants Directives restrictions on emissions. The new Industrial Emissions Directive will further tighten emissions standards and lead to the closures of further coal and some older gas power stations in the early 2020s.

And earlier this year the Secretary of State, in the Annual Energy Statement, made it clear that in future, we need more gas storage capacity, more gas import capacity, and greater assurance that our market will deliver gas when it is needed.

As set out in the coalition agreement, we will introduce further measures on gas security. Last winter we reached the stage of having just one days gas use left in storage.

By 2020 it's likely that well over half of our energy use will still be fuelled by oil and gas, half of which might be from UK production.

Our indigenous energy, namely oil and gas from the UK Continental shelf has passed its peak. But UK oil and gas will also remain a key element in the UK energy mix. They currently provide around two thirds of the Nation's primary energy needs.

At the same time there is an increase in global demand with intense competition for resources.

So it is vital that we continue to do all we can to make the most of our indigenous hydrocarbon reserves.

And we must encourage industry to continue to invest in exploration, development and production. The terrible disaster in the Gulf of Mexico has made us carefully re-assess our safety and environmental regulations. They are, I believe, amongst the highest in the world and I remain persuaded that deep sea drilling in the North Sea has an important, safe contribution to make.

This transformational agenda is a huge commercial opportunity for British business worth billions. The challenge now for our new Government is to spur consumers and businesses alike to take action.

### **Nuclear, Renewables and CCS**

Our energy security demand a mix of low carbon technologies, new nuclear without public subsidy, renewables and carbon capture storage (CCS).

We are committed to allowing the construction of new nuclear power stations. This will be without public subsidy and I am encouraged by how many companies have indicated they are willing to invest on that basis - so far energy companies have announced their plans to build up to 16GW of new nuclear capacity in the UK by 2025.

New nuclear power stations will attract billions of pounds of investment into the UK and boost British companies in the supply chain. Up to 30,000 new jobs could be created across the country.

A key part of my responsibility is to remove potential barriers to investment. There is no doubt that the UK is one of the most exciting opportunities in the world for new nuclear.

Our wind, biomass, wave and tidal resources makes us a natural world leader for renewable energy but Britain has not realised its own potential.

We need a higher level of ambition because there is a reservoir of opportunity that we are not taking advantage of.

In fact we are the third worst performer in the EU - but we have the resources - over 40 per cent of the EU's wind is in the UK, and we have the largest tidal resources in Europe.

The UK should be the natural place to develop renewables technologies and it is our determination that it will be. Whilst the inevitable fluctuation in generation mean it cannot provide base load capacity, it greatly enhances our energy security if we can generate energy from our own indigenous resources.

To bring forward investment in offshore wind, we are creating a new competitive regime to license offshore grid links to connect new wind farms. Recently, Ofgem selected the first seven bidders to operate the offshore grid.

Wave and tidal technology are now approaching the commercial-scale prototype stage and have the potential to establish a new engineering and manufacturing sector in the UK, providing green jobs for the UK.

And alongside new nuclear and renewables, I want to see rapid investment in Carbon Capture and Storage. In the Coalition Agreement, we committed to the prevention of building coal-fired power stations unless they are equipped with sufficient carbon capture and storage (CCS) .

The UK belongs in the forefront of global activity because we're so well placed to reap the benefits. We've long established the right skills in both fossil fuel power generation and offshore oil and gas.

It's a priority for the coalition which is why we have announced our intention to continue with public sector investment in four CCS demonstration projects – and to consult on the EPS.

All these low carbon technologies have a critical role to play, but they are all some way off – towards the end of the decade at the earliest and that means a crucial continuing role for gas.

### **Energy Efficiency / Green Deal**

All of this new capacity will cost a great deal of money, so the starting point in moving us to low carbon economy must be in reducing our demand.

In this time of global austerity, the cheapest energy is the one we don't use.

The coalition has created the "Green Deal". It's designed for households and businesses to install energy efficiency measures to help them save energy and money. Whether people own or rent their property, there's no upfront cost and the installation is paid for over time, via the savings on their energy bills.

The beauty of the Deal is its simplicity. The total package of energy efficiency measures must aim to save more money than the cost of financing. That's the Golden Rule that will be enshrined in consumer protection.

The most energy inefficient homes in the UK could save, on average, around £550 per year by installing insulation measures under the Green Deal.

And this could support a quarter of a million jobs over the next 20 years. Were all 26 million households to take up the Green Deal over the next 20 years, employment in the sector would rise from its current level of 27,000 - to something approaching 250,000 working all around the country to make our housing stock fit for a low carbon world.

And by making people think about how they save energy we want them to think too about how they can generate electricity or heat at their own homes, businesses or community buildings.

### **Low Carbon Technologies / Investment**

All of this shows there is no simple solution for the energy challenge. Our future energy mix will be made up of different technologies - some well established, some embryonic and some not even thought of.

And part of that tailored fitted solution is looking to 2050 and beyond. Short termism has to be a thing of a past.

If we want people to invest in the supply chain opportunities, they have to know there is a market for decades not a few years.

And despite the obvious caveats in looking so far ahead, we do know that decisions that we make now will have an impact on our future energy and emissions system.

A successful shift to a low carbon economy requires a clear direction and early action. Investors and consumers need confidence to act. But most importantly we must unlock that investment in order for that transition to happen at all.

It's a simple equation. Moving to a low carbon future means we must remove barriers to investment.

But substantial investment in low carbon technologies will not happen quickly enough unless we strengthen the incentives.

Previously our electricity market system has performed well but I know in recent years investors and firms feel the current system needs significant reform.

So we are embarking on the most fundamental reform of the electricity market in a generation.

The forthcoming consultation due this Autumn, on Electricity Market Reform (EMR), will look at how an emissions performance standard (EPS) can be introduced in parallel to the EMR.

The purpose of this is to drive investment by giving investors clarity about the long term environmental standards that will be necessary.

With significant challenges ahead for the energy sector and a need for substantial new investment, this process will review all aspects of the electricity market and create a genuinely new market structure. Without it, the vital investment we need will simply not come.

Having a meaningful carbon price to underpin investment decisions is crucial. The current price just isn't doing this. It is not yet driving our economy towards the green technologies of the future quickly enough.

So we will consult widely, in the Autumn, on how best to give investors in low carbon technologies the certainty they need.

Alongside this, we are looking to remove grid connection barriers for low carbon energy production. We have already brought in a 'Connect and Manage' regime, so that new generations will be able to connect to the grid as soon as their local connection is built.

But the future energy network will be more complex and integrated. A variety of alternative resources such as demand-side management, storage, interconnection and distributed generation. They play important roles in dealing with new challenges presented by a low carbon energy mix and increasing electricity demand from new sources.

I want to a smarter grid to come to life to enable this future system.

For example, there is planned investment of £10 billion on a full smart meter roll-out, smart grid trials and deployment under the Low Carbon Networks Fund and electric vehicle infrastructure.

## **Conclusion**

The importance of reaching a low carbon future is a critical part of our agenda and one that the Coalition is committed to.

New technology takes time to develop.

Building and infrastructure projects require long-term planning.

Behaviour changes take even longer.

We need to make sure that we understand the long-term implications of today's investment decisions.

And we must look further ahead. To 2050 and beyond. To the amount of energy we will need to produce, the costs and benefits of taking action and most of all how to move the UK to a low carbon future and a green economy.

Our rationale for moving a low carbon existence makes sense. Not only for workers and entrepreneurs but the public and private sectors too.

Although it is our clear intention to lead, not just Whitehall but the UK in being the greenest government ever - transforming our economy will require a coalition of citizens, business, and the energy industry.