

Speech: Energy policy now and the direction it's headed

I am delighted to be here this morning with such an illustrious line-up of speakers. The summit should be very enlightening, and this is a great time to have it.

In just over 3 weeks, Secretary of State Greg Clark and I will be celebrating with codeparlleagues in the department the second anniversary of BEIS. We are one of the youngest departments, with a remit cutting across government and the small task of reshaping the British economy.

And when we were formed, it was clear that in delivering this ambition we would need to look to one sector in particular – the energy market. The sector is in the midst of a transformation as the top-down model focused on centralised generation gives way to a new and more dynamic market. From the rise of renewables and small-scale generation, to the digital revolution and our smart meters programme, energy policy is evolving rapidly and challenging historic assumptions.

In recent years, there has been much focus on the energy “trilemma” of security of supply, cost, and decarbonisation. This has been portrayed as presenting trade-offs – and historically this has indeed often been the case.

My argument today is threefold:

1. the UK has led the world in the transformation of the energy sector over the last 40 years
2. we stand on the cusp of the next transformational change in the energy sector, and that this can move us beyond the trilemma; and
3. the UK is uniquely well-placed to lead that next transformation – and in doing so, we can deliver real economic benefit to the UK as part of our [Industrial Strategy](#)

The UK has been at the cutting edge of innovation in energy for the last 40 years. Through the 20th century, the term “energy markets” was a misnomer – with a consensus around centrally planned systems and firm state control.

Britain was at the forefront of the transition to a market-based approach. Nigel Lawson’s landmark speech in 1982 summarised the change: as he said, “our task is to set a framework which will ensure that the market operates with a minimum of distortion and energy is produced and consumed efficiently”.

That approach presaged the privatisation of the market – unleashing a wave of competition and market innovation and replicated in markets across the world. And the benefits of that privatisation are clear.

Network costs have fallen 17% since privatisation at the same time as improving system reliability; and we now have over 65 suppliers in the retail

market, with the number of consumers switching suppliers hitting record highs. From 1990 to 2005, generation grew from 298 to 377 terawatt hours and domestic retail energy prices fell roughly 45% in real terms over the same period.

With privatisation came regulation; and the UK led again with the introduction of RPI-X for natural monopoly regulation and liberalisation for potentially competitive parts of the market. This has heavily and positively influenced the design of the EU's energy market framework.

The second major wave of change has been more recent – the transition to a secure system which is also low-carbon. Again, the UK has been among the world leaders.

The landmark Climate Change Act made us the first country in the world to set a long-term, statutory emissions reduction target.

Electricity market reform delivered new instruments to ensure security of supply, and to slash the costs of decarbonisation – recognising the need for an active role for government, but using competition to minimise costs.

And our approach to new nuclear has enabled us to contract for the first new nuclear plant in a generation, applying innovative thinking to the financial and operating model, and to confirm that we will enter into negotiations in relation to the proposed Wylfa project.

It is worth remembering that many argued that we did not need a capacity market, and that renewable generation could not compete for support. But what we have seen is many other countries following our lead on security of supply, and the costs of offshore wind cut to under £60 per megawatt hour in the most recent auction – unimaginable a few short years ago.

The UK also led the way in the introduction of emissions trading, introducing an emissions trading scheme three years before the EU ETS. Then, in 2013, we delivered a carbon price floor programme to drive low-carbon investment.

These measures have enabled us to lead the world in taking coal off the system, without imperilling our security of supply – a transition we have managed smoothly, without any major supply interruptions.

Already this year we have had more coal-free hours in 2018 than in the whole of 2017 – an enormous achievement, and totemic of the profound change in our power sector in recent years.

But BEIS recognises the need for a relentless focus on keeping costs down for consumers, and, as DECC before it, has taken multiple steps to deliver that:

- our energy price cap is in the final stages of development, and the Bill has received the support of Parliament. This will guarantee protection for 11 million households currently on the highest energy tariffs
- we have compensated our most energy-intensive users to help maintain competitiveness
- we have worked to reduce the impact of renewables on bills

- we have overseen the programme to deliver smart meters, with 12 million installed to date
- and we have supported energy efficiency – recognising that the cheapest unit of energy is always the one that you don't use. Indeed, the Energy Company Obligation has been responsible for installing 2.2 million energy efficiency measures in 1.7 million households since 2013.

The UK has been at the forefront of both these key shifts over the last 40 years – first, to a market-based system, and second, to a system which helps us to resolve the trilemma – integrating large amounts of renewables, while maintaining security of supply and keeping costs down.

But our work to date is not enough. We now need to place ourselves at the front of the pack for the next big transition. That is the challenge set by our reforming Secretary of State, Greg Clark.

And now is the time to do so. The Climate Change Act has a baseline of 1990, and a target date of 2050 to have reduced our emissions by 80%. We are approaching halfway through that timeline. According to the independent Committee for Climate Change, last year we had reduced our emissions by 42%, more than halfway to that 80% goal.

As world leaders in innovation in technology, systems and market design, with a historic and profound influence on the energy sector, we must challenge ourselves to look ahead to the next exciting stage in the long journey.

We must discern and respond to the changes to the system arising from falling technology costs, increasingly distributed energy sources and the rise of the smart digital energy system. And we must deliver all this while ensuring our costs are as low as possible, ensuring that we are competitive in global markets as we leave the European Union.

That is why, last year, the government asked Professor Dieter Helm to carry out his review of the cost of energy. Dieter's report set out his view that the complexity of the system has added unnecessary costs, and that significant change is needed to exploit the benefits of future advances in technology. Following our call for evidence, we are carefully considering Dieter's recommendations and their implications for our energy strategy.

Our approach will be aligned with the key technological changes which can help to cut costs, cut carbon, and maintain security of supplies – and drive towards a future where the three corners of the trilemma work in concert, not opposition.

For example, decarbonisation offers us another advantage besides emissions reduction; it provides an opportunity to ensure we have a diverse and resilient energy mix, which is not too dependent on any single source. And our approach in future must foster that optionality, while ensuring that the technologies we support meet the three criteria set out by Energy Minister Claire Perry:

- can we see the potential for significant cost reduction?

- does this have the potential to deliver large-scale carbon emission reduction?
- and is this an area where the UK can benefit from a comparative advantage, leading to increased growth and exports?

The third of these criteria brings me to the Industrial Strategy. Too often in the past the links between energy policy and economic policy have been too weak. The creation of BEIS offers a unique opportunity to bring those objectives together. What we do to secure our energy policy objectives should be delivering our Industrial Strategy ambitions – the world's most innovative economy, good jobs and greater earning power for all, modern infrastructure, the best place to start and grow a business.

We know that the economic opportunities for the UK are there to be seized. Our record is strong.

Since 1990, we have reduced our emissions by over 40 percent while growing the economy by over two thirds – the best performance in the G7 on a per person basis. The UK's clean economy already supports almost 400,000 jobs and by one estimate, could grow at 4 times the rate of GDP.

And my department, working with people across the sector, have helped to support supply chain investment in offshore wind and nuclear; innovative approaches in retail and supply; investments in battery innovation and storage technologies; and development of a potentially world-leading capability in smart systems.

But this is only the beginning. The future opportunities are huge – out of the world's projected \$10 trillion investment in power generation over the next twenty years, over 85% is expected to be in zero-carbon sources.

Electric vehicles are projected to make up over half of global car sales by 2040, and in 2017, one in eight electric cars sold in Europe was made in the UK. By 2060, the global floor area in buildings is expected to double, with an estimated investment potential of \$16 trillion in green buildings across 21 emerging markets.

Of course we still need to make big changes – not least to our heating systems, which are currently still heavily dependent on hydrocarbons.

But we know that we should not be intimidated by the challenge, as we remember the UK's proud history of being ahead of the curve in the energy sphere.

That is why Clean Growth is one of our Industrial Strategy Grand Challenges – helping to ensure that we maximise the economic benefits to the UK of the low-carbon transition.

Through the Industrial Strategy and [Clean Growth Strategy](#), we are confident we can move towards an economy where low-carbon is synonymous with low-cost. And by harnessing new technologies, we can develop solutions that help meet future demand while keeping down costs.

The role of BEIS is as an agent for this change, creating markets which drive innovation and competition, supporting the conditions for growth, and keeping costs down for consumers. And we want to work with you, in industry, in research, in the investor community and elsewhere in government, to deliver that.