

## The IChemE Energy Centre Board's response to the Secretary of State for Energy and Climate Change's speech on 18-11-2015

On the 18 November 2015 Secretary of State for Energy and Climate Change, the RT Hon Amber Rudd MP, gave a speech which clearly prioritised the importance of energy security, followed by cost of energy strategies.

However, the Institution of Chemical Engineers (IChemE) Energy Centre Board feels that decarbonisation, even in the light of the upcoming COP21 talks, was not recognised by Ms Rudd as important in its own right, apart from its benefits to both improving energy security and cost saving.

The IChemE Energy Centre Board believes that action on climate change is a human imperative and should eclipse the concerns around reducing an economic deficit. With an emphasis on a "global deal" in Paris next month, Ms Rudd notes that Britain's greenhouse gas emissions are "just 1.2% of the global total" – what has happened to the courage and leadership shown with the 2008 Climate Change Act?

Ms Rudd asks "what is the UK's role in that global decarbonisation? Where can we make a difference?" the IChemE Energy Centre Board feels that the UK and chemical engineers can make a difference by providing leadership in developing low-carbon energy technologies, commercialising them in the UK, and then offering this technology and know-how internationally.

Ms Rudd notes that "we don't have all the answers to decarbonisation today". This is profoundly untrue. As noted by Pacala and Socolow in 2004<sup>1</sup>, we absolutely do have the answers; we just need to be brave enough to start applying them.

The speech focused on the phasing out coal-fired power plants from the UK by 2025. This is not a new policy, as the closure of the UK's existing and aged coal fired power plants has been in progress for some time. However, Ms Rudd did identify that this phasing out would only happen if sufficient number of new gas-fired power plants come online in time.

At the time of Ms Rudd's speech, approximately 25% (slightly more than 10GW) of our electricity was being supplied by coal-fired power plants<sup>2</sup>. The deployment of 10 GW of gas-fired power plant is no small task. However, this is only part of the solution without the application of carbon capture, storage (CCS), gas-fired power plants are not *low-carbon*; they are, at best, *medium-carbon*.

The success of nuclear power in the UK, which with effective process safety engineering is as safe and reliable as Ms Rudd suggests, needs to take into account the impact of public opinion in developing the UK's nuclear strategies as well as surrounding environmental issues to ensure it is much more widely accepted as a part of our climate solution.

The offshore wind programme, with 10 GW anticipated to be installed by 2020, needs to be thoroughly reviewed. The Crown Estate<sup>3</sup> indicates that despite two decades of extensive deployment (> 5 GW currently installed), costs have only gone up.

Due to a lack of discussion surrounding renewable strategies such as bioenergy and CCS Ms Rudd's speech offers a limited vision of the 2027 energy system in the UK using just nuclear, gas and wind. Given that the ETI and Carbon Trust have consistently shown that strategies such as CCS are essential to a least cost, low-carbon energy system, this is disappointing.

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<sup>1</sup> Pacala and Socolow, "Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies" Science, 2004

<sup>2</sup> Total demand is ~ 47 GW (17:00, 19/11/15)

<sup>3</sup> <http://www.thecrownestate.co.uk/media/5493/ei-offshore-wind-cost-reduction-pathways-study.pdf>



We are encouraged to note the focus on both heat and energy efficiency. In the UK, a renewed focus on these sectors is welcome as they present relatively attractive targets for success from an economic and environmental perspective. Much greater incentives are required to deliver energy efficiency improvements in the UK.

The IChemE Energy Centre Board welcomes Ms Rudd recognition that “energy research and development has been neglected in recent years”, particularly in the context of developing key chemical engineering strategies such as energy storage, energy efficiency and CCS technologies, and looks forward to increased support for such research by the UK Government.