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The Energy Bill: House of Lords Second Reading

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To prevent the worst impacts of climate change, the world needs to see substantial investment in low-carbon infrastructure as a matter of urgency. The International Energy Agency (IEA) has made it very clear that in the absence of rapid investment in zero carbon technologies such as renewable energy and energy efficiency, the global infrastructure in place by 2017 will be set to produce all the greenhouse gases that we can afford to emit if the world is to limit global average temperature rise to within 2°C.¹ They state that “Delaying action is a false economy: for every \$1 of investment avoided in the power sector before 2020 an additional \$4.3 would need to be spent after 2020 to compensate for the increased emissions.”

To meet the UK’s commitments under the Climate Change Act, the Committee on Climate Change (CCC) has repeatedly recommended early decarbonisation of electricity generation by 2030. The wide range of successful technologies for low carbon power means the sector can cut emissions more quickly and cheaply than other sectors. Furthermore, this is a critical enabling factor for emissions reductions in other sectors such as heating and transport.

In the UK, WWF recommends that the most viable options to deliver a successful and cost-effective decarbonisation of the UK’s power sector by 2030 are an increased deployment of renewable energy technologies coupled with a greater focus on improving energy efficiency and increasing the UK’s interconnection with European grids. The recent report by the Lords EU Sub-Committee D made similar recommendations, particularly with regard to interconnection.² The Energy Bill represents a unique opportunity to put the UK on such a path.

Scrutiny of the Bill is challenging because so much detail is in in secondary legislation and policy documents. This briefing therefore covers both specific amendments and areas in which the Lords might seek reassurances from the Government on wider policy intentions.

Summary

- 1. The Government should set a carbon intensity target for the power sector in 2030 which would provide long-term investment certainty and ensure the successful delivery of the UK’s commitments under the Climate Change Act.**
- 2. The Government must clarify how energy efficiency will be supported through the capacity mechanism.**
- 3. Policies on fossil fuel generation need more careful design – in particular, tightening the EPS and designing the Capacity Market to favour demand-side solutions and avoid an unnecessary and costly dash for gas.**

¹ International Energy Agency (2011), *World Energy Outlook 2011*.

² House of Lords EU Committee (May 2013), *No Country is an Energy Island: Securing Investment for the EU’s Future*

Long-term investment certainty (Part 1)

The CCC has repeatedly recommended that emissions from the power sector should have fallen to around 50gCO₂/kWh by 2030 to put the UK on a path to meet its commitments under the Climate Change Act of a cut in greenhouse gas emissions by at least 80% below 1990 levels by 2050 at the lowest cost.³ In its latest report, the CCC found this could save UK consumers between £25 and £45bn compared to a high gas mix (which would also be incompatible with climate objectives). This rises to an estimated £100bn in the case of high gas and carbon prices.⁴

The Government has announced the size of funding available for low-carbon policies which will encourage the cost-effective delivery of the EU Renewable Energy target for 2020. However, there is currently very little policy clarity beyond 2020. This causes considerable problems for investors and project developers who operate longer-term investment cycles than politicians, and hinders the growth of a UK supply chain in low carbon technologies which would have significant economic and cost reduction benefits. In fact, lack of certainty post 2020 could increase the cost of the UK meeting its 2020 targets as it would delay investments in research and development and in supply chain facilities that are key to generating economies of scale. There is a need for a longer-term investment signal of some kind.

A wide range of stakeholders in the energy sector, supply chain, pension and investor communities have therefore united in support of a sector-specific but technology-neutral target for the power sector's carbon emissions in 2030. The CCC has recommended a carbon intensity in the region of 50g CO₂/kWh by 2030, although a target should allow sufficient flexibility for revision (with agreed, transparent criteria) should some low-carbon technologies not deliver the necessary cost reductions as quickly as anticipated.⁵ This could be accompanied by commercialisation strategies for new technologies like offshore wind and CCS which would contain deployment objectives conditional on certain cost reduction milestones being achieved.⁶

The Government has accepted that the target "would be useful and of value" and has only disputed its timing and mechanism.⁷ The Government's current position is to delay a decision until 2016 following the publication and acceptance of the Fifth Carbon Budget. WWF considers the delay to setting a target is damaging for two key reasons:

1. Delaying a target creates an investment hiatus and increases investment risk. Leading international manufacturers have written to the UK Government, stating that "postponing the 2030 target decision until 2016 creates entirely avoidable political risk. This will slow growth in the low carbon sector, handicap the UK supply chain, reduce UK R&D and produce fewer new jobs."⁸ Investments in low-carbon power need to continue through the 2020s, and projects like offshore wind and CCS have high upfront development and capital costs and long construction times which are not likely to be completed by 2020. Two years of unnecessary delay is out of step with the objectives of the Bill.
2. The UK risks losing out on important economic benefits associated with the development of low-carbon infrastructure. The CBI recently reported that "in trying economic times, the UK's green business has continued to grow in real terms, carving out a £122bn share of a global market worth £3.3 trillion and employing close to a million people. And in 2014/2015, it is expected to roughly halve the UK's trade deficit." They warn that lack of policy certainty could result in "a risk of losing almost £0.4bn in net exports in 2014/2015".⁹ These economic benefits will not materialise without a long-term supportive policy framework.

³ Ibid.

⁴ Committee on Climate Change (2013), *Next Steps on Electricity Market Reform*.

⁵ Ibid.

⁶ Ibid.

⁷ Energy Public Bill Committee, 5 February 2013; C.489.

⁸ Letter to UK Government from Mitsubishi, Gamesa, Vestas, Alstom, Areva and Doosan dated 7 March 2013.

⁹ CBI (2012), *Colour of Growth*.

A recent report by Cambridge Econometrics found that if the UK were to invest steadily in offshore wind out to 2030 instead of relying on gas-fired generation, this would increase its annual GDP by £20bn by 2030, create 70,000 more net jobs, reduce UK gas imports by £8bn/year and produce power sector emissions that would be 3 times lower by 2030.¹⁰ Likewise, research by IPPR suggests that a 2030 decarbonisation target would not result in higher domestic electricity bills in 2030 and would play a key role in reducing their volatility.¹¹

WWF recommends that House of Lords scrutinise the Government's reasons for delaying the decarbonisation target, and support amendments which would set the target earlier and provide criteria to allow both certainty and flexibility.

The Government must clarify how energy efficiency will be supported through the Capacity Market (Part 2, Chapter 3, Clause 37)

Saving energy is a "no regrets" policy and presents the quickest and cheapest way to protect consumers from rising energy bills as well as being one of the most cost-effective ways to reduce UK carbon emissions. It is therefore disappointing that the Government has taken a year to introduce any amendments for energy demand reduction (EDR), and only after trenchant criticism from the ECC Committee and cross-party calls in the Commons.¹²¹³ DECC's own research has identified potential energy savings of 155 TWh by 2030.¹⁴

Following a consultation, the Government amended the Bill at Report Stage to allow for a pilot scheme for EDR as a 'bolt on' to the Capacity Market (part 3 clause 37). Unfortunately the proposals lack detail, and the Commons had no real opportunity to scrutinise the amendments.

The Capacity Market option has many pitfalls and is unlikely to deliver. Respondents to the Government's consultation were overwhelmingly negative about its suitability for delivering adequate levels of energy efficiency¹⁵, and similar schemes in the USA have failed to deliver substantial EDR, and instead have strongly favoured supply-side fossil fuel generation.

WWF recommends close scrutiny of the Government's efforts on demand reduction, and calls for multiple pilots to test different mechanisms.

For further details please see our briefing on demand reduction at www.wwf.org.uk/parliamentary

Policies on fossil fuel generation need more careful design

Tightening the Emissions Performance Standard (EPS) (Part 2, Chapter 8)

The EPS set at 450g CO₂/kWh aims to limit greenhouse gas emissions from new plant. This limit is too high to have any effect on new gas which runs below that level; indeed new gas will be able to continue operating unabated until 2045, and existing coal and gas power stations are ignored altogether, which is a particular concern given the increase in coal burn in 2012. The House of Commons Energy and Climate Change Committee described the proposed EPS as "at best pointless."¹⁶ The EPS should be set at a level compatible with decarbonising power by 2030, and send clearer signals for the future to support the development of Carbon Capture and Storage technology (CCS). WWF therefore recommends the Bill be amended to tighten the EPS.

Designing the Capacity Market to favour demand-side solutions and avoid an unnecessary and costly dash for gas (Part 2, Chapter 3)

A key aim of the Energy Bill is to ensure that with increasing amounts of intermittent renewables and inflexible nuclear power generation, there is sufficient electricity supply to meet

¹⁰ Cambridge Econometrics (2012), *A Study into the Economics of Gas and Offshore Wind*, commissioned by WWF-UK and Greenpeace.

¹¹ IPPR (2013), *Energy Pathways to 2030: An Overview of choices for the Government*.

¹² Energy & Climate Change Select Committee, *Draft Energy Bill: Pre-Legislative Scrutiny*, July 2012.

¹³ Energy Public Bill Committee, 29 January 2013; C.337.

¹⁴ DECC (2012), *Capturing the full electricity efficiency potential of the UK*.

¹⁵ DECC (2013), *Government response to consultation on options to reduce electricity demand*

¹⁶ Energy & Climate Change Select Committee, *Draft Energy Bill: Pre-Legislative Scrutiny*, July 2012.

demand at all times. This requires investing in capacity which can operate flexibly by either increasing electricity supply or reducing demand when required. While gas-fired generation can operate flexibly, it is relatively high carbon. WWF's favoured solutions are low-carbon technologies including electricity storage and demand-side response technologies, combined with increasing interconnection with European grids.

WWF recognises that some limited investment in new unabated gas plant capacity will be required in the period up to 2030 to help balance the electricity system and provide increased flexibility. However, we also recognise the importance of avoiding lock-in to an unnecessarily large number of new fossil fuel plants which could cost more than alternatives as well as jeopardise the UK's decarbonisation ambitions.

Gas will continue to play a role in the UK's energy mix, but it will be substantially different in the decades to come. The CCC recently clarified that "the role for unabated gas fired power stations should be limited to balancing the system in 2030, by which time the share of unabated gas generation in the total should be not more than 10% compared to 40% today. A second dash for gas, resulting in a higher share of unabated gas in 2030, would neither be economically sensible nor compatible with our legislated carbon budgets."¹⁷

The UK's dependence on gas has been the main driver of rising household heat and electricity bills. Between 2004 and 2012, 62% of the increase in the average household energy bill was driven by increases in the international price of gas, with energy efficiency and low-carbon policies each making up less than 10% of the increase.¹⁸ Both DECC¹⁹ and the IEA²⁰ forecast continued increases in both the price of gas and volume of gas imports over the next 20 years. Exploitation of shale gas is unlikely to change these expectations.

Despite these concerns, a renewed dash for unabated gas in the UK remains a distinct possibility in the EMR package as it is currently proposed. Loopholes include the lack of a 2030 carbon intensity target in the Bill; an EPS too high to incentivise the development of CCS for new gas plant; a capacity market which favours new generation above solutions such as interconnection, demand-side response and storage; and the Government's Gas Generation Strategy, which includes a scenario in which the UK power sector reaches a carbon intensity of 200g CO₂/kWh in 2030, some four times the level recommended by the CCC in its 4th Carbon Budget report.²¹

The Capacity Market will prolong the operational life of existing power generation capacity and is likely to give a windfall to existing generators including old coal and nuclear. It will also incentivise the building of new supply, mainly gas. The market design is unlikely to do enough to incentivise investment in flexible technologies such as electricity storage and demand side response, which would help limit the amount of new fossil fuel plants that need to be built.

WWF recommends that the Capacity Market design should avoid procuring excess new capacity given that this will be at the consumer's expense, and give priority to non-generation forms of flexibility such as demand-side response and electricity storage ahead of new electricity generation options.

For further details please see our briefing on the Capacity Market at wwf.org.uk/parliamentary

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¹⁷ Statement by David Kennedy on Unabated Gas Fired Generation, Committee on Climate Change (24 May 2012).

¹⁸ Committee on Climate Change (2012), *Household energy bills – impacts of meeting carbon budgets 2012*

¹⁹ DECC (2011), *Fossil Fuel Price Projections*

²⁰ IEA (2012), *Golden Rules for a Golden Age of Gas*.

²¹ DECC (2012), *Gas Generation Strategy*.