

## EURACOAL Position Paper

### on the “Clean Energy for all Europeans” package and the proposed 550 gCO<sub>2</sub>/kWh emission performance standard for access to capacity markets

- At the end of November 2016, the European Commission published the “Clean Energy for all Europeans” package also known as the “Winter Package” or “Fourth Energy Package” – a comprehensive proposal for reforming energy policy directives and regulations.
- Introduced at the last minute is a new hurdle to participation in capacity markets – an emission performance standard of 550 gCO<sub>2</sub>/kWh. The European Commission did not assess the impact of this emission performance standard in its impact assessment that accompanies the package. The proposed standard would effectively ban all coal-fired, most oil-fired and even many older gas-fired power plants from participating in capacity markets.
- As a result, a significant amount of generation capacity would be barred from capacity markets. For example, in Germany, two-thirds of the secure power generation capacity remaining after the nuclear phase-out would be excluded from capacity markets. If the 550 gCO<sub>2</sub>/kWh standard is enacted, many of these power stations would be forced to shut down only to be replaced by new gas plants, thus increasing the costs of ensuring electricity supply security.
- The proposed CO<sub>2</sub> emission performance standard would not only make it much more expensive to provide secure capacity, it would also undermine the successful EU emissions trading system (ETS). Not a single tonne of CO<sub>2</sub> would be saved.
- An emission performance standard would significantly increase dependency on imported gas from non-EU countries such as Norway, Qatar and Russia. Moreover, it ignores the upstream emissions associated with imported gas supply (fugitive methane emissions, energy used in pipeline transport, efficiency of LNG supply in terms of losses during liquefaction, shipping and regasification, *etc.*). The environmental advantages of gas are much smaller when all these considerations are taken into account, including those environmental impacts that lie outside of the EU.
- It would be impossible to reconcile an affordable and secure electricity supply with a CO<sub>2</sub> emission performance standard if this became a prerequisite for access to capacity markets. From a climate policy perspective, such a standard would have no climate protection benefits given that CO<sub>2</sub> emissions are capped by the ETS. **Under no circumstances should the European Commission’s proposal be implemented.**

## Background to the Clean Energy Package and the 550 gCO<sub>2</sub>/kWh standard

On 30 November 2016, the European Commission published a legislative reform proposal called the “Clean Energy for all Europeans” package, also known as the “Winter Package” or the “Fourth Energy Package”. In the most far-reaching changes seen so far, the proposed legislation addresses nearly all major areas of energy policy, including electricity market design, renewable subsidies and energy efficiency.

Just prior to publication, an “environmental criterion” for accessing capacity markets found its way into the package, which greatly surprised stakeholders. It envisages granting *new* power plants access to capacity markets only if they emit less than 550 gCO<sub>2</sub>/kWh. This emission performance standard would also apply to *existing* power stations following a grace period of five years from its entry into force, *i.e.* probably from as early as 2023 onwards.

The impact of this last-minute proposal was not considered in the impact assessment prepared by the European Commission which accompanied the “Clean Energy” package. According to the Commission, the 550 gCO<sub>2</sub>/kWh emission performance standard was adopted from the European Investment Bank which uses this criterion in its screening and assessment of all new, fossil fuel electricity generation projects, including those outside of the EU, with few exceptions.

The European Commission has justified its proposal citing the need for more action to protect the climate and its intention to avoid stranded investments in coal-fired power plants. In doing so, however, it is actually meddling with existing market structures to a very significant extent. In addition, the European Commission has always been critical of capacity markets and so wants to establish the highest possible hurdle for entry. However, this contradicts the findings of DG Competition in its *Sector Inquiry on Capacity Mechanisms* which concluded that capacity mechanisms may be necessary under certain conditions and that, when necessary, they must apply to the entire market and be open to all types of generation capacity (COM(2016) 752).

The 550 gCO<sub>2</sub>/kWh emission performance standard is set to allow gas-fired combined-cycle gas turbine (CCGT) power stations, as well as modern open-cycle gas turbines (OCGTs) and reciprocating engines fuelled with gas or oil, to participate in capacity markets while excluding coal-fired power plants of all types and many older gas- and oil-fired power plants. This would prevent a large number of the power stations that already provide secure capacity today from receiving appropriate and necessary compensation – *i.e.* power plants that supply electricity reliably at all times regardless of the weather or time of day. Moreover, CO<sub>2</sub> emissions would not be reduced: firstly, because plants in capacity markets do not run for many hours and, secondly, because they operate under the EU ETS.

## **550 gCO<sub>2</sub>/kWh standard would not save a single tonne of CO<sub>2</sub> (but it would harm the EU ETS)**

The UNFCCC Paris Agreement is a step towards curbing the rise in worldwide greenhouse gas emissions. With its targeted 40% reduction of greenhouse gas emissions by 2030, the EU will make the most ambitious contribution to this end. The EU emissions trading system (ETS) is already a very effective and efficient tool which – after implementation of the ongoing ETS reform – will ensure that the EU’s climate goals are achieved in the energy sector and major parts of industry because the number of emission allowances issued will be reduced each year, reaching zero in approximately 2058.

Because carbon emissions are capped under the ETS, the 550 gCO<sub>2</sub>/kWh emission performance standard does not offer any additional climate protection. For instance, if a coal-fired power plant is barred from a capacity market and is then shut down prematurely, this will not reduce emissions. It would merely shift emissions as the emission allowances could be used elsewhere by other branches of industry and/or in later years. At the same time, demand for emission allowances would decline, reducing the price of CO<sub>2</sub> and damaging the trust in the ability of the ETS to function as an incentive to reduce emissions. Some stakeholders and even some policymakers have proposed that this could be mitigated by further interventions in the ETS, *e.g.* by cancelling or retiring emissions allowances. Such endless interventions are unnecessary in terms of climate policy and would only serve to undermine the cost efficiency of the ETS and its intended function of capping emissions.

Moreover, the provision of secure capacity – which is the sole objective of a capacity market – does not result in large emissions as plants are not required to operate for many hours. Therefore, it is nigh impossible for a 550 gCO<sub>2</sub>/kWh standard to contribute to climate protection.

The proposal thus violates the “one goal, one tool” principle of good policy making, *i.e.* climate protection is provided via the ETS and security of supply via capacity mechanisms. The 550 gCO<sub>2</sub>/kWh standard would thus put the ETS as a whole at risk.

## **550 gCO<sub>2</sub>/kWh standard would make capacity markets unnecessarily expensive**

The electricity market ensures that a combination of the lowest-cost power plants is used to generate electricity at any one moment. Power plants that are too expensive are not used. The same holds true for a capacity market: low-cost power stations are used to provide secure capacity and are properly rewarded, whereas those that are too expensive are not.

**Background: capacity markets will increasingly supplement electricity markets**

The expansion of renewable energy will result in a steady drop in electricity generation from conventional energy sources. However, as long as energy storage solutions are not available on a commercial scale, then a large number of conventional power stations will have to be ready on standby to meet demand for electricity during periods when there is little or no wind and sunshine. However, this standby capacity is less and less able to recover its costs in the wholesale electricity market because this would require very high prices during the short periods when they are required.

A number of member states doubt the future viability of financing secure capacity from the electricity market alone. For example, France and the UK have already taken action and supplement their respective electricity markets with non-discriminatory capacity markets, with approval of the European Commission.

In this context, a capacity market is not a subsidy or state aid, but merely ensures that wholesale electricity market prices are supplemented with a proper reward for secure capacity. This then creates an incentive to invest in secure capacity.

A 550 gCO<sub>2</sub>/kWh emission performance standard would exclude a significant amount of power plant capacity from capacity markets, *e.g.* in Germany, two-thirds of the secure capacity remaining after the nuclear phase-out would be excluded. Many of these power stations would thus be forced to close. Expensive new gas power plants would have to be built quickly to offset the shortage of secure capacity resulting from power plant closures.

Instead of compensating existing, affordable power plants for the relatively low cost of providing secure capacity, a capacity market would have to cover the high cost of financing new power stations. Security of supply would thus become unnecessarily expensive for consumers. In 2014, the German Federal Ministry for Economic Affairs and Energy commissioned various expert opinions in order to assess capacity market proposals. A capacity market that excludes coal-fired power stations – as now proposed by the European Commission – was considered by all the experts to be the worst and most expensive option.

As it cannot be guaranteed that new plants would be constructed at the same time as existing plants are shut down, the Commission proposal would put security of supply seriously at risk, increasing the occurrence of compulsory load shedding, hurting industrial and residential consumers alike.

## **550 gCO<sub>2</sub>/kWh standard increases dependency on imported gas**

The introduction of a 550 gCO<sub>2</sub>/kWh standard would steer the EU energy mix radically away from coal towards gas – far more than is necessary to achieve the carbon reduction targets. Coal mined in the EU would have to be replaced by imported gas. This would result in a completely one-sided electricity generation structure and an increasing dependence on gas producing countries outside the EU, such as Norway, Qatar and Russia, at a time when the EU actually wants to significantly reduce its energy import dependency, not least through the expansion of renewable energy sources. Moreover, the upstream emissions associated with imported gas supply would add to global greenhouse gas emissions (fugitive methane emissions, energy used in pipeline transport, efficiency of LNG supply in terms of losses during liquefaction, shipping and regasification, *etc.*), negating the relative environmental advantage of using gas in the EU.

## **550 gCO<sub>2</sub>/kWh standard creates an uneven playing field**

EU member states have widely differing power plant portfolios due to their geographical, historical and other developmental influences. The EU recognises this by allowing member states to decide on their own energy mixes for power generation. However, the 550 gCO<sub>2</sub>/kWh emission performance standard would favour power plants in some member states and disadvantage power plants in other member states. Coal-fired power stations would be punished whereas nuclear power stations would be rewarded. The internal energy market would thus become an uneven playing field across Europe.

## **Conclusion**

The EU emissions trading system serves the purpose of achieving a targeted reduction of greenhouse gas emissions in a cost-effective manner. Capacity markets serve the purpose of ensuring security of supply. Both these markets work very well if they are non-discriminatory and technology-neutral. However, the introduction of an emission performance standard of 550 gCO<sub>2</sub>/kWh would permanently disrupt both these markets, without providing any *additional* advantage: not a single *additional* tonne of CO<sub>2</sub> would be saved and not a single *additional* MW of secure capacity would be provided. Instead, consumers would be forced to bear the substantial additional costs of new gas-fired power plants and the EU's dependency on imported gas would rise considerably.

Therefore, anyone in favour of affordable and effective climate protection and affordable and effective security of supply must oppose the proposed CO<sub>2</sub> emission performance standard for capacity markets and advocate for the ETS coupled with non-discriminatory capacity markets.

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