EURACOAL
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AISBL

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EURACOAL Position Paper

on the "Clean energy for all Europeans" package

Introduction

The European Commission presented on 30 November 2016 a legislative package aimed at reforming the EU energy system towards three main goals: putting energy efficiency first, achieving global leadership in renewable energies and providing a fair deal for consumers through better electricity market design and regulation.

EURACOAL welcomes the Commission's ambitious proposals towards a more EU-integrated, more market-based and cleaner energy system. As electricity prices rise and security of the electricity system decreases,[1,2] this new legislative package brings a much-needed re-calibration of the electricity market and addresses whether capacity mechanisms are needed in member states or regions.

The coal industry fully supports what is enshrined in Article 1 of the Regulation on the Internal Market for Electricity to "allow non-discriminatory market access for all resource providers". We therefore consider that the proposed 550 gCO_2/kWh emission performance standard contradicts the overall intent of the regulation. It is proposed to apply this standard to new plants immediately after the regulation comes into force and to existing plants after five years. The standard is set at a level that discriminates against coal which is not in accord with Article 194 of the Treaty on the Functioning of the European Union. According to this article, each member state has the right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply.

[1] Retail electricity prices have risen on average by 3.2% per year between 2008 and 2015 (COM(2016) 769 final), compared with an average inflation rate of 1.8% over the same period.

[2] *Winter Outlook Report 2016/2017 and Summer Review 2016*, ENTSO-E, p.11: "*The MW installed capacity of renewable cannot replace the equivalent MW capacity of dispatchable generation one to one: wind or solar produce at a certain period only, not always correlated to the consumption needs. Therefore, the risks of adequacy tensions may appear more often in the future.*"

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Key Points

The proposed 550 gCO_2/kWh emission performance standard in the revision to the Regulation on the Internal Market for Electricity discriminates against certain technologies (*i.e.* coal-fired power stations, certain gas-fired power plants and oil-fired plants) while privileging others (*i.e.* nuclear power plants and combined-cycle gas-fired power plants).

- The proposal is diametrically opposite to the EU's objective of creating a competitive, technology-neutral, non-discriminatory internal electricity market.
- The inability of power plants trading in the energy-only wholesale market, so outside of capacity markets, to recover their operating costs would lead directly to plant decommissionings.
- The cost of electricity supply security would increase.
- Electricity supply would become more expensive without actually reducing greenhouse gas (GHG) emissions.
- The electricity sector would be subject to a pointless double regulation: the sector is already regulated by the EU emissions trading system (ETS) which achieves the politically agreed GHG emission reduction targets in a cost-efficient manner.
- EU member states would lose their sovereign right to determine their own energy mixes.
- It is unclear whether and how the EU would intervene in existing national solutions for electricity supply security, such as capacity reserves.

The European Commission's proposal to deny access to capacity markets by setting an emission performance standard of 550 gCO_2/kWh should be rejected.

Productivity in the energy industry

To remain competitive, the EU must maintain high levels of productivity. If employees are not productive, then jobs will be lost as we are overtaken by our competitors. This is true in all sectors, including the energy sector.

The European Commission quotes EurObserv'ER to show that, in 2014, more than one million workers are employed, directly or indirectly, in the renewable energy related sectors.[3] While new renewables provided 16.4% of total EU electricity generation in 2014, coal-fired power plants provided 26.4% and employed around 200 000 workers. This higher productivity of the coal-fired sector is reflected in its lower cost of electricity generation.

Today, the EU is investing heavily in a new renewable power system. In fact, this is a second system as we still rely on conventional power plants on still nights and at many other times. Whereas nuclear plants produce around 80% of their maximum possible output and fossil plants can run with similar reliability, wind turbines might produce 25% or 30% offshore, and

[3] COM(2016) 860 final, quoting EurObserv'ER Report, 15th edition.

solar PV panels generate not much more than 10% of their rated full-load output.[4] From a productivity perspective, it is important not to confuse generation capacity with useful power output.

Europe needs competitive energy for a competitive industry

Today, renewable energy sources need massive public support, calculated by the Council of European Energy Regulators (CEER) at an additional 110.22 €/MWh paid *on top* of the 45 €/MWh wholesale market value of the electricity produced. This additional €59 billion cost is expressed by CEER as the weighted average across twenty-five member states plus Norway in 2015.[5] The International Energy Agency similarly estimates that, in total, subsidies for renewable energy sources across the EU28 rose to more than US$ 60 billion in 2015.[6] This sum – essentially a tax hidden in electricity bills – is equivalent to an annual cost to every EU household of approximately €275.

This cost, which must be paid by consumers in commerce, industry, the public sector and households, can be moderated in a power generation mix that includes other, more competitive sources. For example, the European Commission reports that coal-fired electricity offers the lowest back-up costs during periods with low wind and sun.[7] Using competitive coal as a back-up allows greater potential for the continued support of novel, new renewable energy sources as Europe's industrial competitiveness would improve. The alternative of ever-growing subsidies for existing wind and solar technologies is not economically sustainable.

Security of electricity supply is the main imperative

Interruptions to electricity supply or "blackouts" are unthinkable in modern society. When they do happen, as in Italy in 2003, the impacts become serious very quickly. For this reason, the security margins provided by available and dispatchable generation, as well as black-start generation, are closely monitored by system operators. Currently, few electricity generating technologies can fulfil this role and hence guarantee system reliability. Coal-fired power generation is the only technology in Europe that offers year-round, dispatchable power with no geopolitical risks. In recognition of the vital role that coal plays in balancing power

[4] All percentages are compared with full-load operation. For example, the average onshore wind turbine in Europe produces an output equivalent to the same turbine running at full output for 1,936 hours. Given that there are 8,760 hours in a year, this is a 22% load factor. In practice, wind is highly variable, so the turbine rarely runs at full output and has periods when it is stationary, but the load factor gives a precise indication of how much power the machine produces each year.

[5] *Status Review of Renewable Support Schemes in Europe*, C16-SDE TF-56-03, Council of European Energy Regulators, 2017, p.20 (excludes Bulgaria, the Netherlands and Slovakia). Here, the quoted wholesale market price for electricity is an average of Platts Pan-European Power Index for 2015.

[6] *World Energy Outlook 2016*, International Energy Agency, OECD, Paris, November 2016, pp.99-100.

[7] SWD(2015) 142 final, p.36

systems, system operators have been forced to block the closure of coal-fired power plants.[8] A more market-based approach, such as capacity mechanisms, would reward those power plants that provide backup and balancing services. However, it is unclear whether and how the EU would intervene in existing national solutions for electricity supply security.

Capacity mechanisms will secure electricity supply

EURACOAL agrees that financial responsibility for balancing should apply to all market participants. Eliminating price floors and caps could bring further investment into system balancing, thus allowing a higher share of renewable energy sources. We concur with the ENTSO-E and EURELECTRIC opinions that limitations on the design of capacity mechanisms, such as the proposed emission performance standard (Regulation on the Internal Market for Electricity Art. 23), would endanger security of supply and increase costs. Furthermore, it would interfere with other European legislation designed to decrease GHG emissions, namely the EU ETS Directive. There should be only one guiding instrument to achieve each of the EU's goals: EU ETS for "climate protection" and capacity mechanisms for "security of supply". With its declining cap, the EU ETS allows the politically agreed climate targets to be met in an economically efficient manner. Adding layer upon layer of different instruments is economically inefficient and politically confusing.

EURACOAL is specifically opposed to the 550 gCO_2/kWh emission performance standard proposed by the Commission (Regulation on the Internal Market for Electricity Art. 23.4). This is intended to apply to capacity mechanisms from 2018 at new plants and from 2023 at existing plants. No coal plant can meet this standard unless fitted with CCS – the very best-performing coal plants without CCS might emit 700 gCO_2/kWh and many lignite plants emit more than 1 000 gCO_2/kWh.[9] Capacity mechanisms should be technology neutral so that power system balancing is achieved with the most cost-effective technologies. In practice, this may well include existing coal-fired assets running at low load factors, especially those that have been largely written down on corporate balance sheets. Capacity mechanisms respond to the need of system operators to secure electricity supply and keep the lights on. They should not be in any way restricted. Not only coal-fired power plants, but also open-cycle gas-fired power plants with an efficiency of less than 36% and oil-fired plants would be affected. An emission performance standard would fundamentally affect the ability of system operators to ensure grid integrity, leading to energy supply vulnerabilities and a greater reliance on imported fuels, especially natural gas.

In addition, the aim of a capacity market is to guarantee the desired level of supply security. The 550 gCO_2/kWh threshold would exclude large parts of secure capacity from any capacity

[8] Most recently, the operator of the 780 MW Bexbach and the 724 MW Weiher coal-fired units was refused its request to close these units as they are required to secure the German electricity system.

[9] Coal-fired CHP plants have much lower emissions because they are more efficient, supplying kWh of both heat and power. They are best operated to meet a steady heat demand and, as such, are not well suited economically to flexible, load-following operation.

market. The excluded plants might or might not be decommissioned, as they would have no obligation or incentive to provide their secure capacity. It is therefore impossible to predict how much new-build capacity would be required – any attempt would likely be an under- or over-estimate. Two outcomes are likely: either security of supply is put at risk with too little new capacity, or the cost to consumers is too high with too much new capacity. In both cases, the desired level of supply security is not achieved.

Finally, if new gas-fired plants are subsidised through capacity mechanisms, then the energy-only wholesale market would be further eroded such that there would be no longer any price signals for the necessary investments in the power sector. Supplementary instruments merely reduce the economic efficiency of the EU ETS and lead to a confusing array of policies. Moreover, discriminatory capacity mechanisms add to the cost of balancing when compared with energy-only markets with capacity reserves.[10]

Renewable energy in a competitive marketplace

If planned targets for renewable energy sources are not met, then the Commission proposes to fine member states and use the money raised to fund a financial instrument managed by the Commission that would be used to support renewable projects across the EU. EURACOAL questions if this is a desirable way forward for Europe. If renewable targets are not met, then this would suggest a lack of competitiveness or an unwillingness to subsidise. If member states are forced to achieve targets, regardless of economics, then Europe will become poorer. Renewable energy sources already enjoy support with other legislation, such as the Renewable Energy Directive. Creating a single market in subsidised renewable energy, as also proposed, would be a better step forward and one that could help to eliminate the inefficient allocation of capital across Europe. For example, investment in solar PV is clearly more attractive and more sensible in Southern Europe.

From priority dispatch to a more competitive power market

Moving from priority dispatch to market-based dispatch leads to better prices for consumers. EURACOAL therefore salutes the elimination of priority dispatch (Regulation on the Internal Market for Electricity Art. 11), in line with the joint position of ACER and CEER on market integration. Priority dispatch destroys the very competition that is necessary in the electricity market to drive down prices: competition between renewable sources, as well as competition with conventional sources. More ambition from the Commission is welcome; exceptions for priority dispatch should be limited to demonstration projects for innovative, new technologies such as carbon capture and storage or use (CCSU).

[10] Frontier Economics / Consentec, *Folgenabschätzung Kapazitätsmechanismen (Impact Assessment) – Bericht für das BMWi*, Juli 2014 and r2b energy consulting, *Endbericht: Leitstudie Strommarkt – Arbeitspaket Funktionsfähigkeit EOM & Impact-Analyse Kapazitätsmechanismen – Bericht für das BMWi*, Juli 2014.

Coal subsidies have fallen significantly

EURACOAL notes the figure of €41.9 billion of direct EU fossil-fuel subsidies in 2012, quoted by the European Commission using data from the OECD.[11] In its recent World Energy Outlook, the OECD International Energy Agency estimates that coal subsidies *around the whole world* total just US$1 billion, so a small fraction of the total.[6] In some member states, the coal industry receives public support, not for coal sales, but to facilitate the closure of uncompetitive coal mines in order "to alleviate the social and regional condequences of the closure".[12]

Coal in the energy transition

The coal industry is a willing partner in the energy transition, investing now in lower-carbon technologies and for the future in research on a closed-cycle carbon economy. It should be noted that carbon dioxide emissions from coal combustion in the EU were reduced by 40% between 1990 and 2014, a higher reduction than demanded by EU targets. Further power plant efficiency gains are envisioned – with new high-temperature metal alloys, the latest digital control technologies and improved industrial techniques – that will lead to further emission reductions and so respect the EU emissions trading system cap.

Conclusion

The Commission proposal is an important step towards a properly functioning Internal Market for Electricity, this being an objective that EURACOAL fully supports. However, the good progress made to date might be jeopardised if capacity mechanisms are subject to emission performance standards that interfere with a member state's right to choose its own energy mix and with the proposed package's own major objectives. Policies that endanger security of energy supply also endanger European integration.

To that end, EURACOAL remains committed to its 3-step clean coal strategy:

- TODAY: modernise and replace older, inefficient coal-fired power plants;
- TOMORROW: capitalise on R&D with new high-efficiency, flexible coal-fired power plants; and
- DAY AFTER TOMORROW: deploy CO_2 capture and storage or use at coal-fired power plants.

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[11] SWD(2016) 420 final, p.224.

[12] Council Decision 2010/787/EU of 10 December 2010 on State aid to facilitate the closure of uncompetitive coal mines