

European Commission Public Consultation on a New Energy Market Design

1. *Would prices which reflect actual scarcity (in terms of time and location) be an important ingredient to the future market design? Would this also include the need for prices to reflect scarcity of available transmission capacity?*

In general prices reflect the scarcity of supply in relation to effective demand and liberalized electricity wholesale markets have been helpful in driving efficiencies that can be achieved over the short term. But experience has shown that in deregulated energy markets electricity prices have not adequately guided investment and governments have therefore intervened with ad hoc measures (for example, to introduce capacity mechanisms where these were not part of the original market design). (There is a discussion of market design for ensuring energy security, system efficiency and environmental protection in the International Energy Agency's report *World Energy Outlook 2014*: pp. 427-428.) We would therefore favour a strong common regulatory framework for energy markets that avoids the need for ad hoc state intervention or subsidy and rewards reliability and environmental 'goods'.

In many energy markets, average prices have been driven down by the penetration from intermittent renewable energy sources and such near-term prices do not reflect longer-term scarcity. With wind turbines and solar PV panels not contributing to the maximum estimated load in the grid (see for example the report of the German grid operators; <http://www.bmwi.de/BMWi/Redaktion/PDF/J-L/leistungsbilanzbericht-2014,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>), any wind or solar PV capacity as a result is added on top of existing (but still necessary) capacity, which is sometimes even prevented from long-term shut-down for grid stability reasons. Additionally, there may be limits to how far battery capacity can be increased and consumer behaviour modified to allow sufficient time for a fast shut-down of thermal and nuclear capacity. Installed capacity can therefore be expected to consistently rise while maximum and average load can be expected to stay stable or even to drop. This will lead to a false low 'market' price in the long-term. A transparent market price (over relevant intervals) and revenue stability, however, are crucial for capital-intensive projects like nuclear power plants (see the report of the OECD-Nuclear Energy Agency on *Nuclear New Build: Insights into Financing and Project Management* (July 2015)). Investment will not be forthcoming without a degree of assurance on future prices so that the risks can be assessed.

We suggest that the challenge of combining unpredictable supply sources with not-so-predictable demands must be addressed in the new energy market design and that this cannot in practice be achieved without some regulatory guidance to the market.

2. *Which challenges and opportunities could arise from prices which reflect actual scarcity? How can the challenges be addressed? Could these prices make capacity mechanisms redundant?*

An electricity system that is based mainly on price signals over the short-term appears to be unable to deliver the results that consumers and governments expect from the energy system. In some deregulated energy markets the required market signals have been lacking so there is a role for capacity mechanisms to permit short-term load balancing and for long-term power purchase agreements backed by market authority/government guarantees to secure investment in new capacity. We are concerned that the assumption in the European Commission's Communication (COM (2015) 340: pp. 4-5) that price peaks will generate a sufficiently large demand-side response to balance the market hour-by-hour will not be sufficient in practice. An unexpected shortfall in supply is far more likely to result in an outage (in the absence of capacity mechanisms or a regulated margin of reserve capacity) and if the markets are inter-connected this could trigger a major European blackout. We believe it is time to re-think and look again at a well-regulated market system, with a stable common market framework conducive to investment.

3. *Progress in aligning the fragmented balancing markets remains slow; should the EU try to accelerate the process, if need be through legal measures?*

We make no comment.

4. *What can be done to provide for the smooth implementation of the agreed EU wide intraday platform?*

We make no comment.

5. *Are long-term contracts between generators and consumers required to provide investment certainty for new generation capacity? What barriers, if any, prevent such long-term hedging products from emerging? Is there any role for the public sector in enabling markets for long term contracts?*

Forward markets for electricity have not developed sufficiently to provide a hedging opportunity for long duration power projects. We consider that price and revenue assurance are vital for the large investment projects needed to provide reliable baseload electricity. Payback for these projects can span decades and long-term contracts, which fully internalize system costs and environmental benefits/costs, could supply assurance to investors. Long-term power purchase agreements require the presence of consumers as well as producers with a sufficiently long-term interest in making a deal. As this might not always be the case it is likely that the market authority is required to stand in for the final consumers. The UK's

arrangement of contracts-for-difference is an example of the way in which a public agency can express the consumers' interest. This, in turn, requires a market design with a strong common regulatory framework.

The environmental benefits from low-carbon generating sources (nuclear and renewable) could be credited through an EU-wide arrangement that establishes a cost for emitting greenhouse gases, such as a carbon tax on emissions or a carbon fee levied on coal, oil and gas extraction. The World Nuclear Association is neutral as to which mechanism is appropriate but we recommend that the EU takes another look at this question after the Conference of Parties this December and puts any proposals out for further consultation. It should be noted however, that as there is political uncertainty associated with carbon taxes investors may not be incentivized to invest in low-carbon technologies until they are confident that the carbon tax has been accepted across a wide spectrum of political opinion. A carbon fee might carry less political risk.

6. *To what extent do you think that the divergence of taxes and charges levied on electricity in different Member States creates distortions in terms of directing investments efficiently or hamper the free flow of energy?*

We agree that the diversity of charges and taxes on electricity producers introduces an element of market distortion that can deter investment. We draw attention to the existence on taxes on nuclear electricity generation or capacity in several countries (Belgium, France, Germany, Sweden and the UK), which other power sources do not have to pay and which are additional to legitimate levies to cover decommissioning and future waste management costs.

Further to our answer to Q.5, the introduction of a carbon tax band to underpin the European Emission Trading Scheme (or another arrangement) could provide a technologically neutral level playing field to secure sustainable low carbon development. The European Commission should, of course, consult on any such proposal.

7. *What needs to be done to allow investment in renewables to be increasingly driven by market signals?*

Market based instruments can contribute to meeting climate goals at lowest costs. A well-functioning carbon pricing scheme will provide clear market signals. Robust carbon pricing will encourage technology neutral investment. A proper EU ETS reform is the first step to allow investments for a low-carbon future.

8. *Which obstacles, if any, would you see to fully integrating renewable energy generators into the market, including into the balancing and intraday markets, as well as regarding dispatch based on the merit order?*

The integration of renewable energy sources should involve the elimination of differential subsidies and their replacement by an EU-wide arrangement that requires the full internalization of transmission and system costs into wholesale power prices. The market would then 'decide' on the contribution made by renewable energy sources and other clean power technologies, including nuclear energy. (There is a good report from the OECD-Nuclear Energy Agency on *Nuclear Energy and Renewables: System Effects in Low-carbon Electricity Systems*, 2012.)

9. *Should there be a more coordinated approach across Member States for renewables support schemes? What are the main barriers to regional support schemes and how could these barriers be removed (e.g. through legislation)?*

Yes. There would be many advantages to the abandonment of targets for the proportion of renewable energy sources in the energy sector and their replacement by an EU-wide arrangement that establishes a cost for greenhouse gas emissions (such as a carbon tax band to underpin the European Emission Trading Scheme or a carbon fee on extraction). The European Commission should, of course, consult on any such proposal.

Support schemes should be redesigned to include any low-carbon technology, including nuclear energy, so that there is technological neutrality.

10. *Where do you see the main obstacles that should be tackled to kick-start demand-response (e.g. insufficient flexible prices, (regulatory) barriers for aggregators / customers, lack of access to smart home technologies, no obligation to offer the possibility for end customers to participate in the balancing market through a demand response scheme, etc.)?*

We make no comment.

11. *While electricity markets are coupled within the EU and linked to its neighbours, system operation is still carried out by national Transmission System Operators (TSOs). Regional Security Coordination Initiatives ("RSCIs") such as CORESO or TSC have a purely advisory role today. Should the RSCIs be gradually strengthened also including decision making responsibilities when necessary? Is the current national responsibility for system security an obstacle to cross-border cooperation? Would a regional responsibility for system security be better suited to the realities of the integrated market?*

We make no comment.

12. *Fragmented national regulatory oversight seems to be inefficient for harmonised parts of the electricity system (e.g. market coupling). Would you see benefits in strengthening ACER's role?*

We make no comment.

13. *Would you see benefits in strengthening the role of the ENTSOs? How could this best be achieved? What regulatory oversight is needed?*

We make no comment.

14. *What should be the future role and governance rules for distribution system operators? How should access to metering data be adapted (data handling and ensuring data privacy etc.) in light of market and technological developments? Are additional provisions on management of and access by the relevant parties (end-customers, distribution system operators, transmission system operators, suppliers, third party service providers and regulators) to the metering data required?*

We make no comment.

15. *Shall there be a European approach to distribution tariffs? If yes, what aspects should be covered; for example tariff structure and/or, tariff components (fixed, capacity vs. energy, timely or locational differentiation) and treatment of self-generation?*

We make no comment.

16. *As power exchanges are an integral part of market coupling - should governance rules for power exchanges be considered?*

We make no comment.

17. *Is there a need for a harmonised methodology to assess power system adequacy?*

Yes. Such a harmonised methodology would contribute to equal levels of energy security in all EU Member States.

The Commission gives the impression (section 4) that capacity markets may be costly and distortive. We believe that capacity markets need to be a planned element of the market design to achieve a targeted level of adequacy with a minimum cost for society. Capacity

markets provide additional options for investors and therefore lower the risk premium (required by the capital market) and thus the capital costs for investors. They thus facilitate the agreement of long-term contracts in the power supply market.

18. *What would be the appropriate geographic scope of a harmonised adequacy methodology and assessment (e.g. EU-wide, regional or national as well as neighbouring countries)?*

The assessment of generation adequacy has to start on the national level. Given that several EU Member States have historic links to the energy supply system in the European neighbourhood it would be sensible to apply the common methodology to these partner states as well.

19. *Would an alignment of the currently different system adequacy standards across the EU be useful to build an efficient single market?*

Harmonization of system adequacy standards would contribute to energy security, eliminate overlaps, and should in principle be supported.

20. *Would there be a benefit in a common European framework for cross-border participation in capacity mechanisms? If yes, what should be the elements of such a framework? Would there be benefit in providing reference models for capacity mechanisms? If so, what should they look like?*

A capacity mechanism to ensure adequate investment in a multi-country electricity supply system must not discriminate against a power source like nuclear energy or rely too heavily on gas-powered turbines to provide spare capacity to the system.

21. *Should the decision to introduce capacity mechanisms be based on a harmonised methodology to assess power system adequacy?*

While an EU-wide harmonized methodology to assess power system adequacy is important, it should not block Member States from developing capacity markets where they are needed to address the system adequacy.

The World Nuclear Association is an international business association that supports the global nuclear industry, its people, technology and enterprises. WNA members include the full range of enterprises involved in producing nuclear power – from uranium miners to equipment suppliers and generators of electricity. With a secretariat headquartered in London, the World Nuclear Association serves as a global forum for industry experts and an

authoritative information resource on nuclear energy. It works to build worldwide understanding of the economic and environmental merits of nuclear power and to coordinate industry cooperation to strengthen human, organizational and technical capabilities. Among its 178 member, 50 are companies based in the European Union; other members, including reactor technology vendors and equipment and service suppliers are investing in the European energy sector or have firm intentions to do so.