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Launching the public consultation process on a new energy market design

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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
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Launching the public consultation process on a new energy market design

{SWD(2015) 142 final}

1. A VISION FOR THE TRANSITION OF THE ELECTRICITY SYSTEM

In its Political Guidelines, the Juncker Commission made the development of a resilient Energy Union with a forward-looking climate policy one of its strategic objectives.

This ambition was confirmed in the Commission Work Programme for 2015¹ and further detailed in the framework strategy Resilient Energy Union with a Forward-Looking Climate Change Policy² with the aim of setting the conditions for a reliable and affordable energy for all, to apply the efficiency first principle and to make the European Union the world leader in renewable energy. Achieving these goals will require a fundamental transformation of Europe's energy system including the redesign of the European electricity market, providing more predictability linking wholesale and retail as well as attracting further investments. This will contribute to delivering a new deal for Europe's energy consumers as spelled out in the adjacent Communication COM(2015) 339.

Europe's electricity system is in the middle of a period of profound change. Since the adoption of the Third Internal Energy Market Package³, electricity policy decisions have enabled competition and increasing cross-border flows of electricity. Wholesale markets are increasingly characterised by fair and open competition, and – though still insufficient – competition is also taking root at the retail level. With the introduction of so called "market coupling" and "flow-based" capacity allocation, electricity can more efficiently be traded across Europe. At the same time electricity generated from renewable sources has become one of the most important sources of electricity thanks to the Renewables Directive⁴ and the efforts of Member States, heralding a transition towards a low-carbon energy system.

These are all elements of a future-oriented energy system, but Europe still faces considerable challenges before its energy landscape is fit for purpose. In order to manage these changes and benefit fully from them we must look again at how Europe's electricity system and markets are organised and regulated.

¹ COM(2014) 910 final of 16.12.2014.

² COM(2015)80 final of 25.02.2015.

³ Notably the Third Energy Package consisting of Directive 2009/72 of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, *OJ L 211, 14.8.2009, p. 55–93*; Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity repealing Regulation (EC) No 1228/2003. *OJ L 211, 14.8.2009, p. 15–35*; Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators. *OJ L 211, 14.8.2009, p. 1–14* as well as Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. *OJ L 140, 5.6.2009, p. 16–62*.

⁴ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. *OJ L 140, 5.6.2009, p. 16–62*.

The existing market concept dates from an era in which large-scale, centralised power plants, largely fuelled by fossil fuels, had the key aim of supplying every home and business in a limited area – typically a Member State – with as much electricity as they wanted, and in which consumers – households, businesses and industry – were perceived as passive. Today, the move towards decentralised generation increases the number of involved players and changes the existing market roles. The electricity market needs to adapt to this new reality; it needs to fully integrate all market players – including flexible demand, energy service providers and renewables. One concrete example is the flexibility that enables industrial consumers to participate in the market and profit directly from increased competition. It needs an effective regulatory and governance framework which reduces the need for interventions such as capacity mechanisms.

A fully functioning European market should allow electricity to move freely to where it is most needed, wanted and valued, reap maximum benefits from cross-border competition and provide the right signals and incentives to drive the right investments. Further, it should ensure that electricity is only dispatched based on market signals. Today, this is not always the case. While market coupling where it is applied has resulted in an increasing correlation between wholesale prices, absolute price levels, even in adjacent markets differ significantly and price spreads are not shrinking. Further efforts are also needed to ensure that sufficient interconnection between the grids become a reality and to promote long-term stability for investments in the energy sector as a whole.

The 2030 targets agreed by the October 2014 European Council⁵ – at least 40% reduction in domestic greenhouse gas emissions, at least 27% renewables share of energy consumption at EU level and at least 27% improvement in energy efficiency – reflect a high level of ambition. This means that changes to the electricity system in favour of decarbonisation will have to continue and intensify. Reaching the European Union 2030 energy and climate objectives means the share of renewables is likely to reach up to 50% of electricity produced. Today markets are not sufficiently flexible, both on the supply and on the demand-side to accommodate the increased share of renewable energy in the market. The new market design should ensure that energy markets can fully support this transition at minimum cost. This can be achieved by removing the remaining obstacles for renewable energy and ensuring the market provides the right signals for sufficient investment in the flexible capacity needed to accommodate increasing participation of variable renewables in the system. A necessary step to achieve a successful and least-cost integration of renewables is through well-functioning short-term electricity markets, running from the day ahead of the delivery of electricity right up to the moment of consumption, which give full access to flexible technologies.

The potential for energy efficiency is being considered in all decision-making related to the development of the Energy Union (which gives prominence to the energy efficiency first principle). Nonetheless, the demand for electricity is forecast to increase as consumers switch to electricity from other energy sources. Any review of the market design must therefore create conditions that are conducive to further reduce the EU's energy consumption while allowing for the cost-effective integration of new types of flexible demand into the market.

⁵ EUCO 169/14.

Moreover, new enabling technologies such as smart grids, smart metering, smart-home, self-generation and storage equipment are empowering citizens to take ownership of the energy transition, using these new technologies to reduce their bills and participate actively in the market. This needs to be promoted by the market.

The EU's market design should ensure that the energy needs of large and small consumers can be met by innovative companies and reliable intermediaries across Europe. They should take the opportunities offered by new technology and the focus on consumers to develop and deploy new products and services. This will help to ensure delivering a new deal for consumers that can link the different elements of the Energy Union Strategy: delivering jobs based on research and innovation and putting energy efficiency at the forefront of our policies.

Our aim is to integrate renewables fully into the electricity system by ensuring that markets are fit for renewables, promoting their participation in electricity markets on an equal footing with conventional generation.

This will mean developing a new framework which delivers market arrangements:

- suitable for an interconnected EU-wide electricity market providing clear price signals for new investments and facilitating the further development of renewables;
- to promote regional cooperation and coordination on energy policies;
- to enable cooperation on development of renewables, including on support schemes;
- to provide a truly European dimension to security of electricity supply.

This initiative is one of the key action points of the Energy Union strategy⁶. It is adopted alongside the Communication on Delivering a New deal for Energy Consumers, with the aim at putting these at the centre of the future energy system and as its first deliverable the revised directive on energy labelling.

2. DELIVERING THE NEW ELECTRICITY MARKET FOR THE EUROPEAN UNION

2.1. Making the market work

A fully functioning European wide electricity market is the best means to ensure that electricity can be delivered to consumers in the most cost-efficient way at any time.

2.1.1. Establish cross-border short-term markets

Electricity is not worth the same at every point in time and at every place where it is produced and consumed. Prices should reflect this fact in order to provide correct and meaningful production and investment signals. This means inevitably that high prices may occur when generation is scarce, which would also have the potential to kick-start "demand response".

⁶ A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy COM(2015)80 final of 25.02.2015.

Short-term markets, notably intraday and balancing markets, must be at the core of an efficient electricity market design. They must be designed with the energy system of the future in mind – one with large-scale cross-border flows and high volumes of variable renewable production. In many Member States the market functioning could be significantly improved by introducing market coupling, improving cross-border flows, strengthening intra-day trading and demand response. Constraints on pricing should be removed, intraday lead times and trading intervals should be shortened and gate closure times should be brought closer to real time.

Secure operation of the grid has become more challenging with the rapid growth of variable renewables, and both the demand side and conventional generation plants must be able and incentivised to respond to this flexibility challenge. Integrating storage in the electricity market would further increase the necessary flexibility: electricity should be stored when there is a surplus and prices are low; it should be released when generation is scarce and prices are high, smoothing out variable power production.

To this end, most importantly, an EU-wide system for cross-border intraday trading needs to be set up – as has successfully been done already for day-ahead trading. To be more effective and efficient, balancing markets will have to cover larger areas than they do today. This will reduce the need for back-up generation and enable the European energy system to use the potential of renewable energies to the full. This should be complemented by common approaches to managing network congestion. A limited number of wider balancing regions should be defined in a European perspective by the needs of the network and not national borders. Similarly, wholesale electricity price zones should also reflect where there is transmission capacity and not simply the borders of Member States.

2.1.2. Foster long-term markets to enable investment

From an investment perspective, long-term price signals are just as important as properly functioning short-term markets. Another important investment signal related to decarbonisation is the reformed European carbon market, with a functioning Market Stability Reserve and further measures as included in the ETS review proposal adopted alongside this communication.

We must ensure that these markets are truly open to all market actors. Conventional producers, flexible demand, energy storage technologies, renewables, new energy service providers and not just incumbents, need effective access to long-term markets that signal what investment makes economic sense and where they should be located.

In some markets, the large-scale shift towards capital-intensive electricity production from wind and sun with marginal costs close to zero has led to prolonged periods of low spot prices as well as reduced running hours of conventional generation. In such a situation, an essential condition for electricity markets sending the right price signals for investment in adequate capacity is to allow prices to reflect scarcity during demand peaks, and for investors to have confidence in this translating into long-term price signals.

Allowing wholesale prices to rise when demand peaks or generation is scarce does not necessarily mean that customers are exposed to higher or more volatile prices. Well-functioning longer-term markets will allow suppliers and producers to manage price swings on spot markets – where generators effectively can sell insurance to suppliers and

consumers against the impact of price swings and also improve the long term investment signals. Market participants, including renewables producers, should be able to hedge against price volatilities and volume risks translating the uncertainties connected to price peaks into planned and secure revenue. This is why it is critical both to allow for price fluctuations in short-term markets and link them to long-term markets.

Long-term contracts between market participants can help mitigate the investment risk for the capital-intensive investments required in the electricity sector, facilitating access to capital in particular for low-carbon technologies at reasonable costs. It is therefore important to promote the availability of suitable long-term products and establish whether there are any obstacles to competitive long-term contracting. When entering into long-term contracts on power exchanges, parties to the contracts are often asked to provide guarantees. As providing such guarantees might be costly, mechanisms to reduce the related costs, while still limiting risks associated with counterparty default, should be assessed.

2.1.3. Infrastructure for a functioning market

A well interconnected European energy grid is vital for Europe's energy security, for more competition in the internal market resulting in more competitive prices and for providing the right signals to drive investments towards the decarbonisation energy and climate policy targets to which the European Union has committed⁷.

Completing the infrastructure links still missing for a truly integrated internal market, and enabling the necessary investment for this to come forward, is therefore one of the key priorities in implementing the Energy Union strategy.

The projects of common interest (PCIs)⁸ are the principal instrument to physically integrate the national electricity markets and to diversify their energy sources. Many of the proposed infrastructure links will play a key role in coping with the variability of renewables sources between countries like Norway and the United Kingdom, France and Spain, or Norway, the Netherlands and Germany. The European Fund for Strategic Investment, complementing the existing funding available from the Connecting Europe Facility, would also support energy projects, including energy infrastructure. In addition, the European Investment Advisory Hub will provide expertise and technical assistance to public and private promoters to design and structure financially good investment projects.

2.2. Adapt market design to renewables and support schemes to markets

Delivering on the Energy Union's ambition of making the European Union the world leader in renewable energy will involve creating an environment in which renewables can attract the required investments. Low-cost financing for capital intensive renewables

⁷ COM(2015)82 final of 25.02.2015 - Communication from the Commission to the European Parliament and to the Council - Achieving the 10% electricity interconnection target - Making Europe's electricity grid fit for 2020.

⁸ Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009

depends on having a stable investment framework that reduces regulatory burden and risk.

2.2.1. A market fit for renewables

Investment decisions in renewables need to take into account the natural endowments of the geographical location, grid availability, public acceptance, consumption location and administrative as well as investment conditions, including taxes and levies. All are relevant factors as regards production costs. A functioning market with appropriately defined price zones would thus signal where and when electricity should be generated from renewable sources.

At the same time, successfully integrating renewables' electricity generation into the system requires flexible markets encompassing a broader range of players, both on the supply and demand side. The establishment of liquid and better integrated short-term markets will help increase flexibility and allow renewable energy producers to compete on an equal footing with conventional energy producers. Equally, markets to manage volume risk should be encouraged.

Likewise, both improving interconnections and enabling demand response will further contribute to the flexibility required to integrate renewable energy into the market. However, consumers are currently not sufficiently incentivised to adapt their consumption pattern to the changing supply situation. Furthermore, regulatory barriers and discriminatory rules in place prevent customers, or aggregators acting on their behalf, from using demand response (including storage management) and taking part in electricity markets on an equal footing with generators.

Making markets more flexible will enable producers of electricity from renewable energy sources to be fully involved in the market, including in balancing their portfolio. They should also be enabled to contribute to increasing the flexibility of the system themselves. Existing provisions excluding particular means of power generation from normal market rules have to be reviewed.

2.2.2. Promoting renewables fit for the market

Reforming the market in this way is, together with a strengthened EU ETS, a fundamental step to create the conditions that will eventually allow investment in new renewable energy capacity to be driven by the market.

In the meantime, the production of electricity from renewable energy sources should be supported, if necessary, through market-based schemes that address market failures, ensure cost-effectiveness and avoid overcompensation and market distortion in line with the State aid guidelines⁹.

Support schemes for renewable energy are almost always national in scope. A more coordinated regional approach to renewable energy – including support schemes – could deliver considerable gains, among others by promoting cost-efficient development of

⁹ Communication from the Commission — Guidelines on State aid for environmental protection and energy 2014-2020 *OJ C 200*, 28.6.2014, p. 1–55

renewable generation in optimal geographic locations. This would enlarge the market for renewable energies, facilitate their integration and promote their most efficient use. While Member States are becoming increasingly open to enhanced regional cooperation, practical difficulties remain. A concrete framework for cross-border participation in support schemes could address these practical difficulties.

2.3. Linking wholesale and retail markets to deliver a new deal for consumers

The integration of the internal market should not stop on the wholesale level. To realise the full potential of the European internal energy market, the retail part of the electricity market has to offer consumers – households, businesses and industry – the possibility of active and beneficial participation in the European Union's energy transition. This has to be one of the goals of the new market design and requires a fundamental change in the role of the consumer on the electricity market.

Many obstacles to full participation of consumers in the energy market persist today. Lack of appropriate information on costs and consumption or transparency in offers leads to a lack of sufficient competition on many retail markets. At the same time, markets for residential energy services remain insufficiently developed.

Being an active energy consumer should not be complicated or time-consuming. The technologies now exist to enable consumers to become full participants in the energy transition. However, regulatory interventions such as price caps, price regulation, distortive taxation and other state interventions result in prices that do not provide signals and value for consumers to participate in the market. Thus the potential for optimal demand response remains untapped. Accordingly, neither households, businesses nor industry are currently sufficiently incentivised to participate in electricity markets.

Appropriate price signals are therefore crucial. This includes linking wholesale and retail markets more closely, notably by offering prices to end users which reflect variations in wholesale prices. Besides, network tariffs must be designed in a way that they do not discourage demand response while ensuring a fair contribution to network costs.

Moreover, other regulatory barriers and discriminatory rules in place prevent customers, or aggregators acting on their behalf, from taking up the demand response option (including storage management) and taking part in electricity markets on an equal footing with generators. The existence of regulated prices that shield the final consumer from market price signals is the most obvious among them. Besides, market rules are not always conducive to the participation of aggregators yet. It may be desirable to develop a common approach to market design for enabling demand response to compete on an equal footing with generators.

QUESTIONS

- 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?
- 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?
- 3) Progress in aligning the fragmented balancing markets remains slow; should the EU try to accelerate the process, if need be through legal measures?
- 4) What can be done to provide for the smooth implementation of the agreed EU wide intraday platform?
- 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?
- 6) To what extent do you think that the divergence of taxes and charges¹⁰ levied on electricity in different Member States creates distortions in terms of directing investments efficiently or hamper the free flow of energy?
- 7) What needs to be done to allow investment in renewables to be increasingly driven by market signals?
- 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?
- 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)?
- 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.)?

3. STEPPING UP REGIONAL COOPERATION IN AN INTEGRATED ELECTRICITY SYSTEM

The need for secure and cost-efficient development and management of the electricity system calls for increased coordination and cooperation between all actors in the internal energy market. In some cases, this will involve moving from national to regional or European-wide approaches.

¹⁰ These may be part of general taxation (VAT, excise duties) or specific levies to support targeted energy and/or climate policies.

3.1. Regional coordination of national policymaking

A fully-functioning internal energy market requires that Member States coordinate and cooperate with their neighbours when developing their energy policies. Likewise, it needs to be assured that all regional initiatives evolve in a coherent way and lead to a fully-integrated energy market. When fragmented national systems exist, regional cooperation should become an essential part of effective governance for the Energy Union and a first step towards European Union-wide harmonisation where required.

Regional cooperation between Member States will also be key to achieving the agreed European Union-level targets more cost-effectively (e.g. making better use of cooperation mechanisms to meet the renewables target), furthering the integration of the internal energy market and strengthening energy security. Examples of political cooperation in energy matters such as within the Pentalateral Forum, in the North Seas Countries' Offshore Grid initiative (NSCOGI), the Baltic Energy Market Interconnection Plan (BEMIP): <http://ec.europa.eu/energy/en/topics/infrastructure/baltic-energy-market-interconnection-plan>, the new South-West Europe Interconnectivity Group: <https://ec.europa.eu/energy/en/news/high-level-group-energy-infrastructure-south-west-europe-created> or the Central and South Eastern Europe Gas Connectivity Group: <https://ec.europa.eu/energy/en/topics/infrastructure/central-and-south-eastern-europe-gas-connectivity>, in the field of gas are steps in the right direction. Regional cooperation should not be limited to EU Member States or stop at EU borders. The application of third package legislation by neighbouring countries such as the Energy Community Contracting Parties will ensure that benefits of the internal market span beyond the EU. Regional fora should also assess and address the intrinsic risks related to overdependence on third countries that choose not to apply EU internal market legislation. Strengthening regional cooperation offers unique opportunities to deliver faster and more cost-efficient progress towards an integrated market.

3.2. Improving interconnections

Given the clear benefits of better interconnection, the Commission, as part of the Energy Union package, presented a detailed strategy how to bridge the gap to the 10% interconnection target¹¹ and intends to come forward in 2016 with a communication on how to fulfil the further reaching objective of an interconnection level of 15% as called for by the European Council.

Interconnection capacity between several countries is still fairly low and insufficient for the expected power flows. The projects of common interest introduced by the Regulation on guidelines for trans-European energy infrastructure¹² are fundamental to physically integrating the national electricity markets and to diversify their energy sources. For example, the Baltic States do not form part of the continental European synchronous area yet. It is also agreed policy that regional cooperation to enhance interconnectivity needs to be enhanced in particular in the Baltic region, the Iberian Peninsula, the Northern seas

¹¹ COM(2015)82 final of 25.02.2015 - Communication from the Commission to the European Parliament and to the Council. Achieving the 10% electricity interconnection target - Making Europe's electricity grid fit for 2020.

¹² Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009.

and Central and South Eastern Europe. Further links towards neighbouring regions such as the southern Mediterranean and Western Balkans should also be considered.

Managing the system and identifying where new interconnections are needed requires that transmission system operators can rely on the price formation on spot and wholesale markets. Currently, income from congestion charges – revenues stemming from transporting electricity from low-price areas to areas where prices are higher – is often substantial but rarely used for building or reinforcing interconnections. This should change and these funds could be put to effective use in building Europe's electricity system.

3.3. Cooperation between System Operators

In such an integrated electricity grid, operational planning and decision-making has to be coherent at every point in time. Regional cooperation and regional decision-making are particularly crucial for secure system operation. The establishment of regional operational centres will help effectively plan and manage cross-border electricity flows in the transmission systems also in real time. Existing Regional Security Cooperation Initiatives (RSCIs) are important first steps into the direction of further regional coordination and integration of system operation – they should be gradually equipped with decision-making powers and could pave the way ultimately for pan-European coordination of system operation.

The European Network of Transmission System Operators for Electricity (ENTSO-E) currently plays an important role in coordinating Transmission System Operators (TSOs) and developing network codes. The need for increased coordination between transmission system operators may, in addition to the establishment of regional operational centres, require a stronger ENTSO-E. This would also necessitate changes to the governance structure of ENTSO-E and its contribution to the effective governance for the Energy Union.

Against the background of the increased integration of European transmission systems, it may also be necessary to revisit the revenue framework for transmission system operators (tariffs, congestion rents and inter-transmission system operator compensation) to ensure it provides the right incentives for all transmission system operators.

Grid expansion and optimal grid management is also needed at the distribution level as distribution grids are instrumental for integrating decentralised, locally produced renewable energies. New procedures will have to be introduced to incentivise Distribution System Operators (DSOs) to use local flexibility and respond to those new challenges in a cost effective manner. In this context the role of DSOs needs reconsidering. DSOs should be neutral market facilitators to enable the development of market-based services to consumers by third parties. This is especially true in cases where DSOs are bestowed with the responsibility of smart metering and data handling. Questions related to ownership of data and security of data against cyber-attacks must be resolved in a satisfactory manner independently whether this task is allocated to DSOs or other service providers.

It might also be necessary to reflect if distribution system operators are sufficiently involved in European regulatory bodies and in the effective governance of the Energy Union. Furthermore, network tariffs must be designed in a way to incentivise efficient grid utilisation and ensure a fair contribution to network costs, while they should not discourage demand response.

Enhancing the intelligence of the electricity grid, from the highest voltage levels down to the individual households can help in dealing with variable and decentralised electricity production in a more cost-effective manner and reduce or postpone the need for new lines, interconnectors or capacity mechanisms. Closer cooperation between DSOs and TSOs on issues around network planning and operations is therefore paramount and should be pursued further.

3.4. Adapting the regulatory framework to integrated markets

Integrated electricity grid operation and trading rules require an aligned regulatory oversight. An enhanced role for the Agency for the Cooperation of Energy Regulators (ACER) to oversee the effective functioning of the integrated markets and cross border infrastructure is the natural consequence of market integration.

ACER currently acts primarily through recommendations and opinions and has very limited decision-making rights. In line with the increased cooperation of system operators, the powers and independence of ACER may need to be reinforced so that it is able to carry out regulatory functions at European level where needed. ACER could then arbitrate in regional and EU level disputes.

The reinforcement of the powers of ACER could include giving the agency the power to adopt directly applicable and binding decisions on EU-level initiatives and cross-border issues and the introduction of enforcement powers to ensure compliance with such decisions.

The review of the roles of ENTSO-E and ACER provides an opportunity to assess the process for developing detailed regulatory rules on the operation of the market and networks (network codes and guidelines). These are developed with the strong involvement of both ENTSO-E and ACER.

Strengthening the regulatory framework may also require integrating entities which currently are not subject to regulatory oversight, such as power exchanges which play a crucial role in coupled European electricity markets and perform also functions which have characteristics of a natural monopoly. Likewise the increasing link between retail and wholesale markets will have to be reflected in the regulatory framework.

QUESTIONS

- 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?
- 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?
- 13) Would you see benefits in strengthening the role of the ENTSOs? How could this best be achieved? What regulatory oversight is needed?
- 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?
- 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?
- 16) As power exchanges are an integral part of market coupling – should governance rules for power exchanges be considered?

4. A EUROPEAN DIMENSION TO SECURITY OF SUPPLY

Closer integration of markets across national borders and the development of short- and long-term markets with effective price formation – notably reflecting the need for new capacity – should deliver the right investment signals to allow new generation sources to come onto the market and, where overcapacity exists, signals for decommissioning.

The Commission notes that in many Member States the market functioning and security of supply could be significantly improved for example by introducing market coupling, improving cross-border flows, strengthening intra-day trading and the demand side as well as removing price caps to wholesale markets. All of this would improve price formation and enable peak prices that should translate into better investment signals whilst overall facilitating increased renewables penetration.

Nonetheless, today a number of Member States anticipate inadequate generation capacity in future years. To tackle this, they have introduced or plan to introduce capacity mechanisms which involve making separate payments for available capacity rather than paying for electricity delivered.

While capacity mechanisms might be warranted under certain circumstances, they may be costly and distort the market. Furthermore, they may contradict the objective of phasing out environmentally harmful subsidies including for fossil fuels¹³. Capacity mechanisms should only address real market failure and not support uneconomic or unsustainable generation¹⁴.

The Commission recently launched a sector inquiry into capacity mechanisms¹⁵ – the first under the European Union state aid rules. This will examine in particular whether they distort competition or trade in the internal electricity market.

4.1. Alignment of methods to determine system adequacy

In the Communication *Delivering the internal electricity market and making the most of public intervention*¹⁶ the Commission addressed the need for public authorities to regularly undertake an objective, facts-based assessment of the generation adequacy situation; while the electricity security of supply Directive¹⁷ requires public authorities to regularly assess the adequate level of generation in their Member State.

The determination of generation adequacy is currently carried out very differently in EU Member States. In November 2013, the Electricity Coordination Group called for a harmonised European methodology for assessing generation adequacy and ENTSO-E ran a public consultation on its methodology for generation adequacy assessment in 2014. In parallel, the Pentalateral Forum is committed to developing a regional level adequacy assessment.

A more standardised assessment in the EU would have to properly take into account the contribution of interconnections, generation across borders, variable renewables production, demand response and storage possibilities as well as the relevant European policy contexts, such as the expected evolution of the carbon market and energy efficiency policies ("system adequacy assessment"). The decision whether there is a need for a capacity mechanism should be based on such a standardised assessment.

4.2. Reliability standards

System reliability in interconnected markets is interdependent. Even if Member States may have legitimate reason to establish different system adequacy standards to take

¹³ See Point 220 of the Communication from the Commission — Guidelines on State aid for environmental protection and energy 2014-2020

¹⁴ C(2013)7243 - Communication from the Commission to the European Parliament and to the Council Delivering the internal electricity market and making the most of public intervention and SWD(2013) 438 final– Staff Working Document - Generation Adequacy in the internal electricity market - guidance on public interventions

¹⁵ http://europa.eu/rapid/press-release_IP-15-4891_en.htm - http://ec.europa.eu/competition/sectors/energy/state_aid_to_secure_electricity_supply_en.html

¹⁶ C(2013)7243

¹⁷ Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment, *OJ 33, 4.2.2006, p.22-27*

account of national circumstances, the impact on the internal market needs to be taken into account. If Member States fail to act to ensure system adequacy this would increase supply security risks for the wider system. This particular risk is even greater where Member States have implemented below-cost regulated prices which in the long run mean insufficient revenues to cover necessary investments. Alternatively, there may be a tendency to err on the side of caution and "over-insure" against the risk of a supply disruption. This could result in high costs and undermine the ability of the internal market to guide investments¹⁸.

If all Member States set clear system adequacy standards this would give greater clarity to all stakeholders. Working together with Member States, the Commission could establish a range of acceptable standards for expected *involuntary* disconnections of consumers which take account of the costs to the economy and society of unforeseen supply interruptions.

4.3. A framework to opening capacity mechanisms across borders

European security of supply monitoring and clear system adequacy standards should be the basis to identify whether a capacity mechanism is needed. Existing Commission action, in particular State aid guidelines¹⁹, require all Member States to respect a number of important principles when opting for capacity mechanisms. Notably such mechanisms should not discriminate between technologies (including demand response or storage) or between new and existing capacity providers, but should pay only for availability (per MW) and allow for cross-border participation. In the absence of common arrangements, organising effective cross-border participation can be challenging.

A way forward could be to develop EU-level rules on cross-border participation where capacity mechanisms are implemented. This would involve setting clear roles and responsibilities for the parties (in particular for generators, demand response providers and consumers and transmission system operators) and a framework to calculate and allocate cross-border capacity in such mechanisms.

However, if capacity mechanisms are very different in design, capacity providers across borders might face a number of different requirements when participating in different schemes. This increases transaction costs and might reduce overall efficiency. It might therefore be sensible to lay out a reference model for a capacity mechanism (or a limited number of mechanisms) for use on a regional basis, thus facilitating cross-border participation and minimising distortions to the market.

The results of the Commission's recently launched sector inquiry²⁰ will provide useful material to establish future rules in this area. A draft report on the sector inquiry will be published for public consultation at the end of the year.

¹⁸ Comparing the adequacy standards applicable in neighbouring systems, the Electricity Coordination Group found a lack of clarity regarding responsibility for setting these standards for system adequacy and security of supply with many Member States having no formal standard.

¹⁹ Communication from the Commission — Guidelines on State aid for environmental protection and energy 2014-2020 *OJ C 200*, 28.6.2014, p. 1–55

²⁰ http://europa.eu/rapid/press-release_IP-15-4891_en.htm.

Questions

- 17) Is there a need for a harmonised methodology to assess power system adequacy?
- 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)?
- 19) Would an alignment of the currently different system adequacy standards across the EU be useful to build an efficient single market?
- 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?
- 21) Should the decision to introduce capacity mechanisms be based on a harmonised methodology to assess power system adequacy?

5. NEXT STEPS

This consultative Communication on electricity market design will launch the public consultation on the elements of the new market design for the preparation of any future legislative and non-legislative proposals. The aim of this consultative Communication is to give the opportunity to all stakeholders to provide feedback on the vision presented and the identified steps required to deliver that vision. It will be complemented by more detailed and comprehensive questions regarding certain aspects, notably regarding security of electricity supply.

At the same time, the Communication on Delivering a New Deal for Energy Consumers adopted alongside this consultative communication on market design presents a detailed vision of how the new role of the energy consumer might look like and outlines the necessary steps. Consumer empowerment – households, businesses and industry – smart homes and networks and data management and security are the three pillars to achieve such a vision. The actions outlined in the communication on consumers build on extensive consultations with citizens, consumers and stakeholders, including a public consultation conducted in the first half of 2014 and discussions in Commission-led expert groups²¹.

The possible legislative follow-up to the Communications presented today could include amendments to the following pieces of legislation, depending on the outcome of the future work:

- Electricity Directive,
- Electricity Regulation,
- ACER Regulation,
- Infrastructure Regulation,
- Electricity Security of Supply Directive,

²¹ ENER Smart Grids Task Force, Vulnerable Consumers Working Group under the Citizens' Energy Forum.

- Energy Efficiency Directive,
- Renewables Directive.

Furthermore, the work will impact the shape of a number of network codes, in particular the codes on Balancing and Emergency and Restoration. The future proposals and their impact assessments will take into account the economic implications and the inputs received through the consultation process.

All the questions in this Communication, as well as the separate questionnaire on electricity security of supply are available on the Commission website. Responses should only be provided in accordance with the instructions there²² and by 8 October 2015 at the latest. The Commission intends to publish a findings document summarising the main outcomes of this consultation. It will preserve the confidentiality of the responses it receives, provided confidentiality claims have been made and these are based on reasonable grounds.

²²

<https://ec.europa.eu/energy/en/consultations>