

## EWEA response to public consultation on a new energy market design

7 October 2015

### Introduction

In June 2015, EWEA put forward its key priorities for power market design reform in a position paper<sup>1</sup>. In the view of the European wind energy industry, implementing the elements mentioned in this paper would help overcome two of the main problems investors are currently facing in the EU power sector: 1) depressed wholesale market price levels; 2) fading EU-coordination of energy policies.

EWEA believes that in a well-functioning power market, supply choices - and the corresponding investment decisions - are driven by price signals. In principle, a market-driven investment environment is the best means to provide long-term price signals together with the necessary stability needed to trigger investments and lower the cost of capital, while meeting all system needs and increasing the share of wind energy in the power mix.

The following items should be prioritised in the market design reform:

- Improving cooperation between system operators and further grid reinforcements both at transmission and distribution levels as a prerequisite to further integration of energy markets;
- Making the energy-only market functional by fostering liquidity and cross-border trading in all market time frames thereby re-establishing adequate price signals that will enable an affordable, secure and decarbonised electricity supply;
- Ensuring wind power generators can fully participate in cross-border intraday and balancing markets<sup>2</sup>;
- Focusing regional cooperation initiatives on removing remaining off-market distortions - such as price regulation - and inconsistencies across different national electricity markets;
- Enabling the European Commission to play an active role in ensuring Capacity Remuneration Mechanisms (CRMs) are used as a last resort option and only after standardised system adequacy analysis;
- Reforming the ETS to provide for a high and stable carbon price, thereby creating market exit signals for carbon-intensive and inefficient power plants;
- Reviewing ENTSO-E decision-making processes to ensure innovative solutions are developed towards an integrated but inclusive European system operation;
- Reforming ACER and increasing its resources enabling it to become effective in its mission to facilitate the creation of an Internal Energy Market and increasingly act as a European regulator.

These measures will all contribute to creating a more level playing field for all power generation technologies. They may ultimately not be sufficient to create meaningful price signals for investors in wind energy, or indeed any other power generation technology.

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<sup>1</sup> EWEA, 2015. Market Design, A position paper from the European Wind Energy Industry.

<http://www.ewea.org/fileadmin/files/library/publications/position-papers/EWEA-Position-Paper-Market-Design.pdf>

<sup>2</sup> In most cases, wind power generators are in most cases only partly allowed to participate in balancing markets whereas they are balancing responsible in legal and/or financial terms. See EWEA, 2015. Balancing responsibility and cost of wind power plants.

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In the long term, the current energy-only market model might not always deliver this desired outcome. As a result, the EU could still face an investment dilemma, especially for low marginal cost and CAPEX-intensive power generation technologies such as wind energy.

To deal with this challenge, an additional market based investment support for zero carbon technologies will likely be necessary, a system defined on a competitive basis that would provide investors certainty and visibility in the long term.

A proper market for ancillary or grid support services also needs to be fostered to provide additional non-discriminatory revenue streams to wind power producers, as well as overall operating cost savings for the power system. As of today, a lot of services and solutions from wind power plants are technically feasible but current market conditions do not properly value their commercial provision.

These views build on more than 10 years of experience calling for a power market reform at European level that takes into account the intrinsic characteristics of wind power. The European wind energy industry hopes that its response to this consultation will help inform this important debate, and contribute to the completion of an Internal Energy Market that enables the full potential of large amounts of wind energy, for the benefit of consumers and society in general.

## Consultation questions

### (1) Would prices which reflect actual scarcity (in terms of price 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?

Yes. In a well-functioning power market, supply choices - and the corresponding investment decisions - are driven by price signals, including scarcity. Today, such price signals are absent due to a combination of oversupply of carbon intensive generation as well as number of uncoordinated regulatory intervention. In a well-functioning energy market, market distortion mechanisms are minimised or eliminated and the external environmental cost is included into the value of power.

A market-driven investment environment is in principle the best means to provide long-term price signals together with the necessary stability needed to trigger investments and lower the cost of capital, while meeting all system needs and increasing the share of wind energy in the power mix.

In this context, price spikes should be treated as a desired market outcome and market prices should be undistorted and allowed to move freely without caps. This will help to incentivise and reward the provision of flexibility services. Policy makers should be aware that price spikes are needed to trigger the right scarcity signals on both the supply and demand side.

Scarcity prices and the procurement of ancillary and reserve services may not be sufficient to drive the needed amount of renewable investment to ensure that European targets on renewables are achieved, and a complementary mechanism therefore has to be developed.

Wholesale electricity prices reflecting scarcity and physical constraints, including transmission capacity, are desirable in a fully functional electricity market. This is already expressed in the present zonal pricing model inside bidding zones and between bidding zones where price differentials signal the need for transmission investments.

In terms of time, scarcity prices are especially relevant for short-term system operation, namely a cost-efficient dispatch. In the different energy and flexibility markets (day-ahead, intraday and balancing), scarcity

prices should trigger the use of all available capacity within a short timeframe. In this sense, the ability of scarcity prices to form freely in the market should be kept and enhanced in any future market design.

**(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?**

EWEA believes that uncapped prices, along with strong systems interconnection, would minimise the need for capacity mechanisms. Prices that are more volatile will trigger the need for more and more adequate hedging products. To date, only relatively basic financial risks can be hedged in the long term with present derivatives. With the growing uptake of wind energy, volumes of electricity traded on financial markets will surge, since price volatilities in physical markets will lead to increased risks, resulting in additional demand for financial protection.

Accordingly, the development of new market products must match this trend, allowing market participants to hedge against price volatilities, and allowing for the securitisation of revenues. For example, this can be seen in the recent EEX “cap future” product<sup>3</sup>.

In this context, EWEA believes that short-term market signals will become increasingly important and constitute a new price reference next to day-ahead market prices. Selling wind power directly in wholesale markets shifts trading activities closer to real time. This leads to higher activity in the intraday market, since the forecasted day-ahead volumes will deviate from the actual volumes because of the remaining forecast error margin.

Such short-term market risks can be managed via specific products referring to an intraday price index in the mid-term, or combining continuous trading with an intraday auction. Assuming that a further developed intraday and balancing market design results in these market forms being liquid, truly cross-border and fit for wind energy participation, stakeholders will increasingly refer to intraday prices after 2020 for investment decisions in generation assets, alongside day-ahead market prices.

Furthermore, the uptake of such more volatile price signals can be further supported through long-term contracts, which could help make new investments in wind energy economically sound in the context of decreasing public financial support, (see also answer to question 5). Moreover, transparent market prices must be in place in all time horizons, forward, day-ahead, intraday and real time, and also used for settlement of remaining imbalances.

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

Yes. EWEA believes that a more ambitious approach on cross-border balancing market arrangements is urgently needed. Integrated balancing markets across coordinated areas are foreseen after 2022, according to the final Network Code on Electricity Balancing (NC EB).

EWEA has called for the acceleration in the development of balancing markets and their integration across borders since 2011, when the completion of the Target Model was thought to be finalised in 2014<sup>4</sup>. We have reiterated this call in the first public consultation of the NC EB in June 2013, and more recently, EWEA

<sup>3</sup> <https://www.eex.com/en/about/newsroom/news-detail/eex--trading-of-cap-futures-to-begin-on--14-september/89880>

<sup>4</sup> EWEA, 2012. Creating the Internal Energy Market in Europe.

[http://www.ewea.org/fileadmin/files/library/publications/reports/Internal\\_energy\\_market.pdf](http://www.ewea.org/fileadmin/files/library/publications/reports/Internal_energy_market.pdf)

joined other European associations in calling for improving the involvement of stakeholders in balancing pilot projects.<sup>5</sup>

Overall, balancing market arrangements were designed considering the characteristics of conventional power generation whereas wind power plants can today provide ancillary services including balancing energy offering significant flexibility to the system. Currently, wind power generators are in many cases only partly allowed to participate, often only in providing replacement reserves<sup>6</sup>.

If these market entry barriers at national level are not removed, any hasty cross-border integration of balancing markets would lead to sub-optimal outcomes. Importantly, all future considerations by policy makers on balancing responsibilities by wind power generators need to take into account market maturity as well as the penetration level of wind power in the respective power system. Therefore, we believe that efforts should focus on increasing the harmonisation of the different balancing markets on the basis of a model enabling participation of wind energy generators.

If benefits from the Internal Energy Market and wind power are to be fully exploited<sup>7</sup>, more ambitious provisions in balancing markets are needed and the European Commission should act upon it. The definition of such rules needs to be derived from the most progressive ideas and not be left to the least common denominator. In this regard, harmonisation of gate closure times and balancing energy products characteristics are necessary first steps.

Addressing shortcomings in the NC EB should focus on accelerating the harmonisation of the following aspects:

- the criteria and methodology for Cost-Benefit Analysis of integrating balancing markets;
- the modifications of the European integration models;
- the main features for Imbalance calculation and Imbalance pricing<sup>8</sup>;
- the definition of Standard Products;
- the common pricing method for Standard Products for Balancing Energy;
- the methodology for a co-optimised Capacity Allocation;
- the methodology for a market-based allocation of Cross Zonal Capacity, and
- the principles for the algorithms to be applied in the transmission cross zonal capacity calculation.

Critical aspects that need to be defined urgently are:

- The terms and conditions related to balancing, which the NC EB does not address and foresees a long and complex process<sup>9</sup>;

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<sup>5</sup> <http://www.ewea.org/fileadmin/files/library/publications/position-papers/Joint-Associations-BPP-Stakeholder-Engagement.pdf>

<sup>6</sup> EWEA, 2015, Balancing responsibility and costs of wind power plants

<sup>7</sup> Integrated balancing markets will enable cost efficient system operation with large shares of wind energy and will improve overall market efficiency. By balancing wind power on a regional level, reserves will be optimised, requiring fewer real-time assets online. Large geographical areas reduce balancing costs due to the smoothing effect of variability that aggregating wind power output has. Functional balancing markets that are integrated across borders also improve intraday markets' liquidity and create incentives for all generators to reduce their power imbalances.

<sup>8</sup> Harmonisation of imbalance settlement period will not be done until 3 years after entry into force of the NC EB and subject to a cost-benefit analysis. This reflects a long and complex process that does not enable the rate of deployment of RES to meet renewable energy and climate targets.

<sup>9</sup> In the longest timeline, the establishment of terms and conditions related to balancing will take 39 months from the entry to force of the NC without taking into account the consultation period (currently proposed as 4 weeks only). This means no

- The minimum Standard Product characteristics;
- The definition of technical requirements for becoming a Balancing Service Provider (BSP) and the prequalification procedures, which are not explicitly included in the NC EB;
- The responsibilities of BSPs. On the one hand, there should be an obligation on TSOs to allow participation of BSPs without a contract and on the other, the NC EB imposes obligations on BSPs for providing reserves and information on unused generation capacity to the TSO, even without a contract;

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

No opinion

**(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?**

In order to attract investments in new generation capacity, it is necessary to provide stability and visibility through long-term contracting. This lowers risk premia and helps attract new investors such as pension funds, infrastructure companies investors who demand predictability.

Long-term contracts could help make new investments in wind energy economically sound in the context of decreasing public financial support. However, three elements could prevent the liquidity of long-term contracts in the future:

1. Risk aversion of counterparties;
2. Scarcity of suitable forward products;
3. High cost of guarantees to underpin the contract.

Long-term contracts have the potential to mitigate volume risk as complementary hedging tools for short-term market risks. Policy makers should look into ways to remove these barriers to liquidity of long-term products.

While these long-term products would be applied on a voluntary basis, as seen in already recent B2B contracts, investors should be able to rely on underlying general principles of continuity and stability of the regulatory regime. Importantly, this includes the rule of grandfathering and the avoidance of any retroactive measures. Wind-specific provisions for existing plants should continue to be applied and only phased out subject to the achievement of certain conditions<sup>10</sup>, in order to retain investors' confidence through ensuring stable frameworks.

As uncertainty remains on market players voluntarily entering into this kind of contracts, additional measures would help increase the volume of capital available for investments in wind power plants, such as the development of public guarantees. In these instruments project developers would have to pay a fee for insurances that would cover them against regulatory and counterparty risks.

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start of an integrated balancing market before 2018. Moreover, the NC EB includes provisions entitling TSOs to reassess the terms and conditions "on the basis of their own judgement" without clarifying any regulatory procedure;

<sup>10</sup> 1° In mature markets with a high level of wind energy penetration; 2° fulfilling the criteria mentioned in answer to Q8.

For more information see EWEA's position paper on priority dispatch:

[http://www.ewea.org/fileadmin/files/library/publications/position-papers/EWEA\\_position\\_on\\_priority\\_dispatch.pdf](http://www.ewea.org/fileadmin/files/library/publications/position-papers/EWEA_position_on_priority_dispatch.pdf)

In general, the public sector can provide investment protection in the first place by articulating a long-term view and promoting a predictable and coherent energy policy, effective implementation and enforcement of the rules, elimination of harmful subsidies, and avoidance of unpredictable or even retroactive changes. EWEA calls for the Commission to be empowered with regards the avoidance of any retroactive measures and compliance with the grandfathering principle.

**(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?**

EWEA agrees that different taxes and levies implemented in an uncoordinated manner by Member States create market distortions that affect investments and free flow of energy. In particular, the application of non-energy related taxes and levies in consumer electricity bills is of special concern as they make consumers less responsive to market signals. In this sense, more transparency and monitoring of these add-ons to electricity bills is important. Ideally, a common European approach on energy taxes and levies would be advisable.

Governments use taxes and levies through energy bills for a wide variety of purposes, for example for general revenue raising for social services like health and education. In addition, Member States use taxes and levies for financing energy and climate change specific policies, such as energy efficiency, fossil fuel sectoral adjustments and renewable energy support schemes. According to the European Commission itself, the European framework for energy taxation does not provide for full harmonisation, so Member States may change their taxes individually, going beyond the core elements or minimum levels contained in EU law.

According to the European Commission, taxes and levies for financing energy and climate policies are generally the smallest element in most Member States, but there is a wide range of costs across Member States. In general, in Member States where taxes are a significant part of final consumer bills, these are seldom fully connected to the functioning of the electricity market or to the production of electricity.

Crucially, household and industrial consumers' electricity bills currently do not respond to variations in wholesale prices. Particularly, consumers have not benefited from the downward trend that wind power produces on the wholesale market. Any future design of the energy market should seek for an increased link between wholesale prices and retail prices in order to guarantee a pass-through effect to consumers.

Finally EWEA would also like to draw some attention to the fact that non harmonised fees on generation may imply similar distortions to the system development. Diverging G-Charges for generators in different markets distort investment signals acting as a barrier to the deployment of wind energy in some areas with good wind resource and as an investment signal distortion for all generators.

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

The most important factor that policy makers have to ensure for continued investments in wind power is to ensure stable, long-term and predictable regulatory and legislative frameworks across all Member States.

EWEA believes that the following actions will create adequate price signals for further penetration of renewable energies:

- 1) Provide operating price signals that reward low carbon generation through an ETS reform and a restrained approach to CRM as last resort option;
- 2) Making the energy-only market work by fostering liquidity and cross-border trading in all market time frames;

- 3) Create a truly integrated internal energy market by including the commercial provision of ancillary services as a fundamental feature;
- 4) Implement the most important grid reinforcements at national, regional and EU-wide level;
- 5) Accelerate the electrification of heat and transport sectors in order to increase demand and signal new investments in clean power technologies;
- 6) Develop new financial products to hedge against price and volume risks and fostering the liquidity of long-term markets.

These measures are essential but may not be sufficient to create meaningful price signals for investors in wind energy, or indeed any other power generation technology. In the long term, the energy-only market model might not always deliver this desired outcome. As a result, the EU could still face an investment dilemma, especially for low marginal cost and CAPEX-intensive power generation technologies such as wind energy. To deal with this challenge, additional long term investment signals may be necessary.

### **1) Provide operating price signals that reward low carbon generation through an ETS reform and a restrained approach to CRM as last resort option**

A structural reform of the ETS will provide for a high and stable carbon price that truly internalises greenhouse gas emissions, health impacts and climate change effects of fossil fuel power generation, thereby creating market exit signals for carbon-intensive and inefficient power plants. In addition, the ETS should function as a tool to create longer-term investment signals for all available carbon abatement options.

To this end, the reform should comprise the removal of excess allowances and the phase-out of exemptions for utilities in new EU Member States (article 10.c.) in order to provide scarcity on the carbon market and a high carbon price that deters investment in carbon intensive power plants.

However, expectations are that the ETS reform will not provide a sufficient price on carbon to trigger timely and sustained investments. In parallel, the EU should therefore encourage national policy makers to provide additional measures that, for instance, aim at phasing out subsidies to convention generation.

In particular, Capacity Remuneration Mechanisms (CRMs) should be used as the last resort option and only after standardised system adequacy analysis. Failing to perform this analysis could be very costly for consumers, as continuation of over-capacity is the most likely result, while failure to set an adequate target could lead to involuntary load shedding.

Since many countries lack a well-defined target level for supply adequacy, CRMs must be measured against transparent and EU-wide supply adequacy targets. These common standards for security of supply and system adequacy should be defined and enshrined in EU legislation.

If a capacity shortage is identified, only the most non-distortive types of CRMs, in line with European State aid guidelines, should be considered. Any CRM should be a temporary solution until the adequacy gap is overcome. A governance model for any future CRMs should be considered by the European Commission which would clear the implementation of a CRM under state aid scrutiny, on an ex-ante basis.

Last, reducing the need for keeping inflexible, antiquated and carbon intensive supply assets in the market, thereby reducing the need for CRMs, should be achieved by refocusing liberalisation efforts away from the power supply side solely and to include demand side participation and storage in the markets.

### **2) Making the energy-only market work by fostering liquidity and cross-border trading in all market time frames**

The full achievement of the EU-wide target model, including integrated and well-functioning intraday and balancing markets is a no-regret option.

The implementation of the Target Model should prioritise development of intraday and balancing markets. The aim should be to foster liquidity and cross-border integration in these markets, which are cornerstone for efficient operation of the market with large amounts of wind.

Therefore, market arrangements should be aligned to promote price formation in the short-term markets so that they can become a new price reference. After 2020, stakeholders should increasingly refer to intraday prices for investment decisions in generation assets, alongside day-ahead market prices. Moreover, allowing for price spikes across all timeframes, including short-term markets will provide scarcity signals and incentivise the provision of flexibility services.

### **3) Create a truly integrated internal energy market by including the commercial provision of ancillary services as a fundamental feature**

As part of a truly integrated IEM, not only power, but also grid support or ancillary services should be increasingly commoditised to ensure their most cost-efficient provision. Markets for grid support services and flexibility would provide additional non-discriminatory revenue streams to investors and ensure the most cost-effective provision of these services in the energy sector.

Furthermore, under current market conditions no value is given to increased plant flexibility whereas a lot of services and solutions from wind power plants are technically feasible. These new market forms are an important building block of the IEM given the lack of timely investment signals coming from energy-only markets. Wind energy participation in ancillary services markets is needed. Also, new products such as ramping margins and cycling incentives can be envisaged. EWEA therefore calls for a proper market for ancillary or grid support services, alongside the energy-only market.

Compulsory grid support services requirements that are not remunerated should be minimised or replaced by remuneration schemes as it is neither cost-efficient nor necessary to request services from all connected generators in most systems.

However, a differentiation could be made between non local services and local services, such as reactive power, U-control or damping. For those latter, it has to be assessed whether their provision would be better organised on a local level, off the market, as their nature is to be available in immediate time frames.

### **4) Implement the most important grid reinforcements at national, regional and EU-wide level.**

Adequate grid infrastructure enables trade, competition and economic growth by maximising the comparative advantages of each market area. It also minimises risks associated with access to the market from wind energy and other renewables, and enables optimal resource use.

Sufficient grid infrastructure, both at transmission and distribution levels, enables aggregation of wind power output over wide geographical areas smoothing out its variability, therefore reducing the need for balancing energy and risks associated. It also allows for production of wind power in most windy areas and transferring this energy to high consumption areas. In that sense, they support lowering the cost of production.

### **5) Accelerate the electrification of heat and transport sectors in order to increase demand and signal new investments in clean power technologies**

Large amounts of wind power and other variable renewables in the market will reduce wholesale electricity prices for long periods, benefiting consumers, but decreasing their revenues in the long term in the absence of a fully integrated electricity market able to transmit electricity to areas of higher prices. If in addition the

EU foresees a reduction of energy use due to energy efficiency, it is reasonable to expect that the time horizon of investment recovery of many projects will be longer than today.

Accelerating the electrification of other energy sectors can sustain a level of power demand that, on the one hand, will contribute to decarbonisation of the economy and in the other, will be supplied by technologies that can contribute to further clean energy investments in regular time horizons.

Synergies across the entire energy sector need to develop in order to maximise cost-efficient solutions for decarbonisation. In the long run, this includes the use of electricity in the heating/cooling and transport sectors, through e.g. heat pumps or electric vehicles, and potentially an increase of electricity storage in these sectors, this would allow balancing variable renewable energies, particularly at the local and regional level. Once conversion and efficiency rates improve, power-to-gas storage might also become a viable option.

#### **6) Develop new financial products to hedge against price and volume risks and fostering the liquidity of long-term markets**

In view of specific support schemes progressively diminishing for mature RES technologies, an additional feature of the energy-only market model could be the introduction of new financial products to hedge against price and volume risks, in which wind producers could participate on a voluntary basis. To date, only relatively basic financial risks can be hedged in the long term with present derivatives products.

Such new derivatives would both turn flexibility into a tradable commodity with a market-based price, and help wind power generators and all remaining market participants to stabilise their revenue streams rather than making them entirely reliant on extreme scarcity periods. Importantly, these products must facilitate the participation of the demand side and aggregators in order to optimise the potential of both supply and demand side.

The uptake of price signals can be further supported through long-term contracts. Please refer to the answer of question 5) for information.

However, these signals may not be sufficient to drive the needed amount of renewable investment to ensure that European targets on renewables are achieved, and a complementary mechanism therefore has to be developed.

#### **(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 merit order?**

Structural market distortions and discriminatory rules remain the main obstacles to successfully operating a market with large amounts of wind power and other variable renewables.

Regulated prices, lack of internalisation of full externalities into generation costs, subsidies to conventional generation and lack of demand-side participation remain the rule rather than the exception in the European power markets. In addition, current market rules do not take into account wind power's inherent characteristics of variability and limited predictability. All this creates significant challenges and risks for generators to fully trade their electricity in the market without regulatory interventions.

Furthermore, the incomplete market liberalisation and sluggish integration of markets across borders create an additional layer of challenges. Market fragmentation and lack of harmonisation of rules across Member States are the most significant obstacles to overcome in this aspect.

EWEA believes that integration efforts focused solely on technological aspects and on temporary, localised marginal impacts created by renewables, will not yield cost-efficient sustainable solutions. Significant off-market distortions, such as the lack of fully accounting for polluting, health and climate change effects into marginal costs of power generation, as well as continued subsidies to fuel extraction, and fuel, are crucial to tackle as a precondition for exposing renewable generators to full market risks.

EWEA believes therefore, that successful integration and active participation of wind energy into the market cannot take place without transforming the electricity market itself. Such a transformation shall start with creating rules enabling the trading of electricity from the aggregation of generators over large geographical areas and at a shorter trading time horizons as minimum features.

Intraday and balancing markets are the cornerstones for cost-efficient market and grid operation with large amounts of wind power. However, challenges remain in the implementation and integration across borders of these markets. Moreover, the use of interconnectors intraday is practically unchanged over the last few years<sup>11</sup> and only a very limited number of borders have seen increases in their intraday volume trades recently<sup>12</sup>.

Another persistent barrier in intraday markets is the lack of harmonisation of gate closure times. While the Target Model prescribes continuous trading, there are only two Member States using intraday auctions and many have no intraday markets trading at all. Lack of harmonisation of gate closure times constrains the possibility of trading aggregated wind power output over large geographical areas across Member States' borders.

Regarding balancing markets, important barriers include the different market designs across Member States, the lack of harmonisation of balancing services and products and the lack of transparency on the prequalification criteria for generators to participate in the provision of reserves and balancing energy. EWEA has continuously highlighted these barriers (see answer to question 3) and urges policy makers to take action by accelerating the development and integration of balancing markets across borders.

EWEA also believes that barriers obstructing the dispatch of power generation based purely on the merit order are a consequence of prevailing market distortions from the past rather than a new feature created by renewables.

For wind energy, priority dispatch has been an important tool to facilitate its integration into the power system. The lack of transparency in curtailment rules of generators makes priority dispatch a policy-driven solution that ensures that wind power's intrinsic characteristics are not a barrier to its exploitation.

Priority dispatch has to be understood as an enabler for the power system to adapt to signals based on the availability of fluctuating sources, given that the current market structure and rules were not designed with these features in mind. This provision in fact makes the "market fit for renewables" in systems which have not developed the rules for its operation with variable renewables.

Wind power generators base their production decisions mainly according to their fluctuating source, which they cannot control, and thus have a different response to existing market signals than incumbent generators. If there is also a lack of transparency in operation and curtailment rules, wind generators need

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<sup>11</sup> Ibid. p. 128

<sup>12</sup> Ibid. p.129

to hedge for an additional market risk. In this sense, well described and clear rules for curtailing wind power generation would reduce such risks, specifically by providing market-based compensation rules for non-system security related curtailments.

In mature markets with high penetration levels of wind power only, future regulatory frameworks and power market design can consider increased exposure of wind generators to market risks such as imbalances and possible negative prices, and/or developing a more market-price responsive mechanism. However, this requires a level playing field with a fully transparent, fair and well-functioning power market, which can be tested against the criteria below:

- Existence of a fully functioning intraday and balancing market;
- A satisfactory level of market transparency and proper market monitoring;
- Priority dispatch for conventional generation and all other forms of non-RES power are removed;
- The requisite transmission and distribution infrastructure;
- System operation using sophisticated forecasts and operational routines.

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

Creating a level playing field for all power generation technologies to compete is necessary but may not be sufficient to create meaningful price signals for investors in wind energy, or indeed any other power generation technology. In the long term, the current energy-only market model might not always deliver this desired outcome. As a result, the EU could still face an investment dilemma, especially for low marginal cost and CAPEX-intensive power generation technologies such as wind energy. To deal with this challenge, additional long term investment signals may be necessary.

Harmonisation versus coordination

EWEA considers that it is important to make a clear distinction between “harmonisation” and “coordination” of support schemes as the two terms are often used interchangeably.

Harmonisation implies a *de facto* opening up of national support mechanisms to generation from other Member States which will eventually result in the creation of a uniform support scheme across the 28 EU Member States. In July 2014, the European Court of Justice ruled in its Ålands Vindkraft case that Member States are not required to support renewable electricity generation in other EU states and could thus retain control over national support mechanisms as per the 2009 Renewable Energy Directive.

Coordination, on the other hand, implies an intergovernmental strategy to align the designs of support mechanisms across several Member States. EWEA believes that the wind power industry and Member States should make full use of the cooperation mechanisms (including joint support schemes) set out in the Renewable Energy Directive in order to fulfil the EU-wide binding renewable energy target by 2030.

The State Aid Guidelines 2014-2019 set a general framework for support mechanisms design among the EU-28 signalling an evolution towards market compatible support mechanism with certain flexibility remaining with the Member States.

Regional approach

Renewable energy mechanism convergence will depend strongly upon the elimination of structural barriers preventing the completion of the internal energy market (e.g. regulated prices, subsidies for conventional

power generators, insufficient interconnection, no access to balancing markets etc.) and should also be adapted to renewable energy technology maturity.

Furthermore, such move would have to be accompanied by regional approaches in planning and operating the power system and the market. Regional impact assessments, regional system adequacy analyses and regional cost-benefit analyses have to be developed in parallel in order to provide an equitable, fair and transparent evolution. Opportunities to launch such regional support schemes lie in both onshore and offshore wind industries.

The barriers for developing regional support schemes are likely to be similar to those for developing bilateral support schemes, only larger. These include:

- Sustaining political support throughout the entire period of a regional support scheme duration;
- Estimating the indirect costs (e.g. grid infrastructure upgrade) and benefits (e.g. employment) arising from joint RES deployment;
- Avoiding unbalanced distribution of direct and indirect costs (e.g. system operation) and benefits (e.g. physical electricity transfer) between participating Member States;
- Agreeing on a common support mechanism when countries have divergent renewable energy potentials and technology preferences;
- Settling legal arrangements regarding the establishment of a common fund for financing regional RES projects and its administrative operation.

The upcoming proposals on a governance system for the Energy Union should provide for the further enhancement of regional cooperation among Member States. As national climate and energy plans will be the backbone of the governance regime, their renewable energy component should be developed, based on the available potentials and regional system adequacy assessments, and with a view to increased regional cooperation. They could feature an assessment of a Member State's renewable energy policy and its effect on neighbouring countries as well as prospects for aligning policy objectives and measures for optimal resource use and stimulation of necessary decommissioning of aged and polluting capacities.

#### Possible coordination post-2020

As part of the post-2020 renewable energy framework, onshore wind incentives should come as a top-up to market prices instead of being the sole source of revenue making renewable power producers respond to market signals.

Any coordination of support mechanisms will need to avoid retroactive changes and fully consider national characteristics. In this context, a possible option for coordination would be to develop a methodology for a cost-effective mechanism providing long term visibility and stability to remuneration.

The details of the mechanism would vary from one Member State to another to reflect the specific costs for developing onshore and offshore wind energy in the different countries (cost of capital, grid connection costs, administrative costs, availability of resource, etc.).

#### **(10) Where do you see the main obstacles that should be tackled to kick-start demand response?**

Demand response must be further developed at all levels: industrial, business and household. This is essential in order to drive a cost-efficient integration of RES-E in the European electricity system. So far, the main obstacles to its development are mainly related to price structure and customers' involvement through market rules and technology diffusion.

Enabling consumers to base their decisions during scarcity periods on market price signals will be a major step away from the dominant supply-side focus at present. In particular, time-of-use/dynamic tariffs on the

energy component can already be implemented to reflect the different value of energy, in particular when smart meters are deployed. The economics of demand response, however, will depend strongly on overall consumption and consumers having realistic possibilities and incentives to shift demand.

Price signals could be given through specific contractual arrangements with customers who actually want to be involved in demand response programs. Currently, some contractual arrangements are missing between customers, suppliers, balancing service providers (between them load shedding entities), balancing responsible parties, system operators and aggregators. The regulatory framework should enable the creation of these contractual arrangements in order to rightly share benefits/costs, avoid operational issues as well as any form of free-riding.

Demand side flexibility of customers should be treated in the same way as supply-based flexibility sources, with all appropriate rights and duties. The regulatory framework should allow their participation in balancing markets, either directly (mainly large industrials and partially SMEs) or through aggregation of service providers (residential load shedding), ensuring a level playing field between all participants. In this view, characteristics of balancing products should be defined in a proper way. In particular, dimension, start-up and activation time should take into account customers' needs.

Overcoming the undue focus on the supply side also contains a technological dimension. There is a growing need to further incentivize the digitalization of European distribution networks, as the "hardware" to enable demand-response and other initiatives related to energy efficiency. Next to industrial DSM, the roll-out of smart grids and smart technologies is a precondition for households and "prosumers" to participate in individual supply adequacy contracts, and ultimately for the power sector to address the 'collective good' dilemma of system adequacy. This should come alongside with a new role for DSOs as neutral market facilitators, that enable customers to play an active role in the market and integrate RES connected at MV/LV.

**(11)Should Regional Security Coordination Initiatives (RSCIs) like CORESO and TSC 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?**

Yes. In the current patchwork of national systems, TSOs' technical habits and processes to manage grid stability are very different by tradition. This includes safety margins, roles of various potential contributors, different products of ancillary services, etc. To align them across borders requires active participation and progressive solutions within the respective regulatory bodies.

RSCIs should act as more regional system operators and market facilitators. A dedicated roadmap towards establishing such regional system operators should therefore be adopted. RSCIs should develop common network operation tools to ensure coordination of network operation in normal and emergency conditions, provision of network information day ahead, intraday and real-time, and all other measures to increase operational coordination between TSOs.

ENTSO-E is expected to play an important role to facilitate and coordinate the development of such facilities and, in the long term, lead to an integrated European system operation approach. However, in order for ENTSO-E to take such forward-looking initiatives, its decision-making processes need to be reviewed to ensure innovative solutions can be agreed rather than approaches that represent the lowest common denominator among the member TSOs. To this end, a review of ENTSO-E's governance is needed to ensure that the EU-dimension of their responsibilities prevails over the specific interests of their individual

members, given their commercial interest of TSOs in an increasingly liberalised market environment. See answer to question 13.

As regards delegating responsibility to regional or even centralised bodies, EWEA urges the Commission to consider a refinement and technical differentiation of tasks and duties to be performed. Given the fact, that more electricity will be coming from distributed generators, the role of DSOs and their share of responsibility will change. This regards less the trading of electricity but rather the different ancillary system services. Some responsibilities can be defined regionally (overlapping TSO), some can be applied on smaller scale (TSO) but still some can only be defined on the DSO level. There would not be much gain to delegate all responsibility to a single aggregated body which has very limited control over the generating devices. What is needed is a functional differentiation of responsibilities taking their physical nature into account.

### (12) Would you see benefits in strengthening ACER's role?

Yes. ACER should be equipped with enhanced competences.

Firstly, EWEA believes that ACER's scrutiny tasks, in particular on the reasoned opinions on the ENTSO-E network codes have not been carried out in a satisfactory manner. Evident deficits and deviations in draft ENTSO-E network codes with the respective ACER Framework Guidelines have not been duly considered by ACER in the reasoned opinions and recommendations.

Particularly, this has been the case for ACER's reasoned opinions and recommendations on the ENTSO-E Network Code on grid connection applicable for all generators (NC RfG) as well as on the Network Code on HVDC connections. While the reasoned opinion rightly identified some important deficits and deviations from the according Framework Guideline, the subsequent ACER recommendation failed to highlight that ENTSO-E addressed the deficits only with generic briefing notes rather than targeted amendments to the NC RfG and HVDC.

EWEA therefore calls for a proper allocation of resources within ACER on such crucial deliverables as reasoned opinions and recommendations on the ENTSO-E Network Codes to duly carry out the assigned assessment tasks. In case ACER resources are deemed insufficient to fulfil these tasks, they should be increased. Where deficits outlined in the reasoned opinions and recommendations are not remedied in subsequent Network Code drafts, ACER must act in accordance with §6 of Regulation 714/2009 and only submit a Network Code to the Commission when ensured the Network Code is in line with the relevant Framework Guideline.

EWEA believes that both a regular and transparent process of maintenance of the network codes is needed in order to adequately reflect technical and regulatory progress in all aspects of the power system. In this respect, it is important that the different European Stakeholders Committees remain led and coordinated by a neutral party. Such functioning could be extended to the Stakeholders Committee for the Ten Year Network Development Plan.

On market monitoring tasks and possible additional assignments, EWEA suggests ACER gathers data on variable RES curtailments to provide more transparency on this increasing practise and ultimately help avoid abusive behaviour. To this end ACER should encourage NRAs to monitor and gather data about RES curtailments such as:

- its duration and spilled energy;
- its justification by the TSO/DSO;
- how compensation was treated, if at all.

Transparency in curtailment data across the EU would help understand underlying issues such as grid bottlenecks and any discriminatory practises. Ultimately, provisions such as priority dispatch for RES would be put in a more adequate context of on-going curtailments practises. In the same view, much more clarity is needed from NRAs on trade flow: national production (monthly), load flows, traded volumes, power certification (of origin). Information could then be aggregated by ACER and made publicly available.

In summary, EWEA believes that ACER can become effective in its mission to facilitate the creation of an Internal Energy Market once Regulation 713/2009 is revised accordingly in the future, to allow ACER to increasingly act as a European regulator with augmented resources, responsibilities and decision-making powers. This strengthening should nonetheless go hand in hand with new governance arrangements (including a change in board composition to be extended beyond national regulators), increasing transparency and further involvement of stakeholders in the decision-making processes, so as not to increase the bureaucratic burden and avoid any discrimination.

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

As stated in our response to question 11, EWEA believes that in order for ENTSO-E to take forward-looking initiatives, based on strong technical expertise, its decision-making processes need to be reviewed. As a technical body in charge of coordination of the companies responsible of security of power supply, it needs to ensure innovative solutions are discussed and agreed among its members, rather than settling for the lowest common denominator among TSOs.

With two connection Network Codes now approved and many in the pre-comitology stage, EWEA is concerned that network codes have not been developed based on principles of transparency, clarity, measurability, consistent terminology and both future proofing and relevance to the present. If strengthened, ENTSOE needs to be more independent from national TSOs.

To this end, a review of ENTSO-E's governance is needed to ensure that the EU-dimension of their responsibilities prevails over the specific interests of their individual members, given the commercial interest of TSOs in an increasingly liberalised market environment.

**(14) What should be the future role and governance rules for DSOs? 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?**

In a future energy system with high shares of distributed renewable energy, the role of DSOs will and needs to change, as secure system operation will have to be supported by the distribution system. This means both an evolution of the responsibilities and tasks of DSO as well as changes in coordinating and interacting with TSOs.

DSOs play an increasing role to enable new businesses and services to be developed, by giving to commercial parties a non-discriminatory access to their interoperable infrastructures. Due to technological reasons and to economies of scale and scope, DSOs are well positioned in many countries to help kick-start new markets, notably by boosting investments in new assets (e.g. charging infrastructure for electric vehicles, local meter interfaces able to raise customers' awareness) and making them available to third parties. Wherever a competitive activity relies on their duties and functions, DSOs should in any case

guarantee a level playing field toward other operators. In this regard, the unbundling provisions of the Third Energy Package must be fully implemented and the principle of DSO's role as neutral market facilitator should be enshrined in EU legislation.

With regards to data management, EWEA deems that DSOs are best positioned to act as data hub in the countries where they are also responsible for operating the metering infrastructure and collecting the metering data. In such countries, DSOs have developed the necessary technological and organizational know-how to ensure a neutral and non-discriminatory access to these data (under customer consent). Moreover, these data are key to optimize network and asset management. Provided that such activities would be appropriately overseen by NRAs, a DSO model would prove in the end to be more cost efficient than creating a new regulated entity, and would guarantee a more adequate level of data privacy and security than a market-based approach<sup>13</sup>.

Importantly, a thorough reassessment of the TSO-DSO interaction is needed. While parts of short term stability instruments can be provided through markets (e.g. balancing), others need to be defined on a local level (e.g. reactive power) and some need to be imposed to both (e.g. frequency response). The strengthening of the long overdue TSO-DSO cooperation must be pursued<sup>14</sup> in order to ensure a coordinated and secure system operation, to facilitate the development of new market mechanisms and integrate large amount of renewables cost-effectively.

Although the DSOs landscape is very diverse throughout Europe, such TSO-DSO platform would greatly benefit from a common DSO representation at EU level, if not an increased coordination amongst existing DSOs associations. The Commission should encourage DSOs to speak much more with one voice<sup>15</sup> in the energy policy debate in order to tackle the numerous issues that arise at the distribution level.

**(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?**

With the ongoing energy market liberalisation aiming for all power generators compete in a single internal market, there is a clear need to harmonise charges for access and use of the transmission network. This will be instrumental in creating a level playing field between new and existing generation when it comes to cross-border trading.

Regarding distribution tariffs, the EU should promote a common approach that adequately adapts distribution remuneration to the new role of DSOs as neutral market facilitators while allocating efficiently distribution costs.

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<sup>13</sup> Ecorys/ECN, 2014. The role of DSOs in a smart grid environment

[https://ec.europa.eu/energy/sites/ener/files/documents/20140423\\_dso\\_smartgrid.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/20140423_dso_smartgrid.pdf)

<sup>14</sup> ACER-CEER, 2014. Energy regulation : A bridge to 2025. "TSO-DSO (is) a pivotal step for the efficient development of our electricity grids.

<sup>15</sup> EDSO/Eurelectric/CEDEC/GEODE, 2014. DSO declaration. Power distribution: contributing to the European energy transition. <http://www.edsoforsmartgrids.eu/wp-content/uploads/public/DSO-Declaration-EDSO-CEDEC-Eurelectric-GEODE-May-22-2014.pdf>

Member States should receive guidance on how to foster digitalization and innovative investments through an appropriate regulation.

Regarding allocation of network costs, efficient and sustainable consumption requires that customers pay through the energy bill the real industrial cost-to-serve. While peak capacity is commonly an important costs driver for DSOs, a “one size fits all” approach would not work because the specifics of network costs structure very depend on the local situation. The Commission should therefore encourage NRAs in identifying “best practices” rather than imposing a top down harmonisation of distribution tariffs. Furthermore, system charges and other levies like policy costs should not artificially increase the cost of electricity, acting as a bias penalizing its consumption. Taxes and levies could be collected through the national budget or through standing/capacity-based rates, instead of being included in distribution tariffs as it is the case in some countries.

**(16)As power exchanges are an integral part of market coupling – should governance rules for power exchanges be considered?**

The governance structure in the Capacity Allocation & Congestion Management guidelines should be the main framework for regulation and governance of power exchanges. Since their implementation has barely started, it is in EWEA’s view far too early to say whether or not the current guidelines are sufficient.

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

Yes. A thorough system adequacy assessment needs to be carried out first based on a commonly accepted methodology – with the ENTSO-E system outlook and adequacy report (SOAF) as potentially a main reference tool. EWEA has called for such a methodology since 2013, in its consultation response to the European Commission’s public consultation on generation adequacy, capacity mechanisms and the internal energy market<sup>16</sup>.

Importantly, the following elements should be part of this assessment:

1. Common standards for security of supply and system adequacy, including a clearly defined supply adequacy target level for all control areas in the EU should be defined and enshrined in EU legislation out as swiftly as possible.
2. System adequacy analyses should be performed at a regional level to assess the need of a present or future CRM and consider the amount of firm capacity from variable renewables such as wind energy. Other system adequacy sources such as interconnectors, storage and demand side response should be factored in as well.
3. If a relevant capacity problem is not found in the power system being assessed, decommissioning of carbon intensive power plants should be accepted as an appropriate market response with any further market exit barriers removed.

<sup>16</sup> [http://www.ewea.org/fileadmin/files/library/publications/position-papers/130215\\_EWEA\\_response\\_to\\_EC\\_public\\_consultation\\_on\\_generation\\_adequacy\\_capacity\\_mechanisms\\_and\\_the\\_internal\\_market\\_in\\_electricity.pdf](http://www.ewea.org/fileadmin/files/library/publications/position-papers/130215_EWEA_response_to_EC_public_consultation_on_generation_adequacy_capacity_mechanisms_and_the_internal_market_in_electricity.pdf)

Ultimately, any harmonised methodology to assess power system adequacy needs to provide transparent results and reasoning.

**(18) What would be the appropriate geographical scope of a harmonised adequacy methodology and assessment?**

As a prerequisite, the methodology itself should be developed and updated on the EU-wide level to ensure gradual implementation of the adequacy assessment will not lead to creation of non-compatible approaches between the regions.

In a first place, this assessment should follow a regional approach in the short term based on ENTSOE regions. In the mid-term, this could be extended to macro regions, connecting regional markets established in the short term perspective.

In principle, development should be stepwise and based on TSO cooperation. The rules in the guidelines on Capacity Allocation & Congestion Management could be a basis for establishing regions for such regional adequacy assessments.

In the long term, an EU-wide approach should prevail.

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

Yes. As stated in our answer to Q7, many countries lack a well-defined target level for supply adequacy. The appropriate level of supply adequacy (i.e. supply equalling demand in real time without involuntary load shedding) should therefore be deliberated on transparently, and defined as a desired system adequacy level, taking due account of the various energy sources potentials in each region. Such a criterion could be used to assess the potential need for a CRM in case the desired security of supply level is deemed unachievable.

The regional system adequacy should be prepared in cooperation between relevant TSOs and NRAs in charge with the overall methodology. Assessment principles should be defined at EU level and facilitated by ENTSO-E and ACER in order to ensure optimisation of work on the regional level.

**(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?**

As a matter of principle, the sheer necessity of CRMs, and possible alternatives, should be examined before deliberating about common EU rules for cross-border participation in CRMs or a common reference model. In this regard, EWEA believes that the Commission's focus on promoting demand side flexibility is the right approach. Generally speaking, CRMs should be used as the last resort option and only after standardised system adequacy analysis.

EWEA acknowledges the need for a common set of indicators and criteria for cross-border participation, as this is a necessary condition for the existence of capacity markets where needed. Their development should be carefully considered and opened for consultation with all relevant stakeholders. In this process, we call

for a strong involvement of the Commission to ensure that such a common European framework for cross-border participation do not serve as a pretext for introducing potentially unnecessary CRMs.

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

As a prerequisite to any introduction of such mechanisms, regional and/or EU-wide adequacy assessment should be scrutinised by the Commission, on the basis of the 2014-2019 State aid guidelines for environment and energy.

Only if a defined adequacy target is not met as an outcome of a regional or EU-wide adequacy assessment, a CRM in line with European legislation could be considered. If a clear and significant capacity gap is identified after this thorough system adequacy analysis, careful and temporary measures in terms of capacity remuneration mechanisms could be considered.

A governance model for any future CRMs should be considered by the European Commission which would clear the implementation of a CRM under state aid scrutiny on an ex-ante basis.

Policy makers should be aware that as national practice shows, capacity remuneration mechanisms turn out to be complex with possible free riders and other externalities resulting in further market distortions. Most notably, capacity remuneration mechanisms could remove incentives for investments in cross-border grid infrastructure, demand-side response and energy storage. Furthermore, they could also impede cross-border trade of electricity since the reduction of peak prices through additional local supply lowers the price arbitrage effect in cross-border power exchanges.

For more information, please refer to section 2 of the EWEA consultation response to the European Commission's public consultation on generation adequacy, capacity mechanisms and the internal energy market<sup>17</sup>.

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<sup>17</sup> [http://www.ewea.org/fileadmin/files/library/publications/position-papers/130215\\_EWEA\\_response\\_to\\_EC\\_public\\_consultation\\_on\\_generation\\_adequacy\\_capacity\\_mechanisms\\_and\\_the\\_internal\\_market\\_in\\_electricity.pdf](http://www.ewea.org/fileadmin/files/library/publications/position-papers/130215_EWEA_response_to_EC_public_consultation_on_generation_adequacy_capacity_mechanisms_and_the_internal_market_in_electricity.pdf)