



EWEA

THE EUROPEAN WIND ENERGY ASSOCIATION

2030 EU Climate and Energy Framework: How Europe can maximise its benefit from wind energy

Executive Summary

Wind energy will play a key role in meeting the EU's objectives of economic growth, affordable energy, decarbonisation, competitiveness and energy security. It is therefore critical that the post-2020 climate and energy framework allows Europe's wind industry to reach its full potential. This paper sets out the European Wind Energy Association's views on how to optimise wind energy's role in the post-2020 framework and maximise its benefits.

To this end, the European Wind Energy Association sets out proposals in three key areas:

- Electricity markets and infrastructure
- Post-2020 renewable energy framework
- ETS

The wind industry's objective is to be competitive in a fully liberalised electricity market, and to deliver the benefits of wind energy in the most affordable way for consumers. Investments made possible by stable legislative frameworks help drive down costs, will enable on-going cost reduction and, ultimately, remove the need for specific incentives.

EWEA, therefore, strongly supports a 2030 EU Climate and Energy Framework with ambitious and binding headline targets for greenhouse gas emissions reductions and renewable energy, as well as a target for energy efficiency. Those should be underpinned in particular by an effective EU framework on markets and infrastructure, ETS and renewable energy. The following instruments would go a long way to ensuring that the headline targets agreed in the October 2014 Council are met in the most cost-effective manner.

Key priorities for well-functioning electricity markets and adequate infrastructure

- Achieve liquid wholesale markets, in particular integrated intraday and balancing markets, and create new grid support services markets including flexibility services and ancillary services from all market participants, including wind power generators.
- Adopt balancing responsibility in markets with intra-hour gate closure times and balancing markets open for wind generators, for the most cost-efficient integration of wind in the market.
- Gradually phase-out priority dispatch, firstly for conventional generation, then non-variable renewables and, provided the adequate market features are in place, for low marginal cost variable renewable energy sources such as wind energy.
- Agree binding interconnectivity objectives.
- Harmonise grid access and tariff structures to promote a level playing field between new and existing generation assets.
- Ensure full TSO cooperation and optimise system operation and power market functioning through the establishment of regional and, subsequently, European system operation facilities.
- Develop clear, harmonised and transparent market-based operations for curtailing generation.
- Design onshore wind incentives, where needed, on the basis of a market-responsive mechanism.
- Put in place a joint incentive system for offshore wind based on a common methodology agreed in a bottom-up approach with the relevant Member States.

Key priorities for a post-2020 renewable energy framework providing both flexibility to Member States and confidence to wind power investors

- Provide flexibility to Member States in determining their renewable energy objectives while incentivising ambitious national growth paths for renewables deployment.
- Enable the Commission to ensure the EU binding target can be achieved via a renewables development sharing mechanism.
- Empower the Commission to intervene early and ensure proper implementation of the EU renewable energy target via a more efficient enforcement and flexible oversight.
- Ensure Member States address challenges to the cost-effective deployment of wind energy in particular avoiding retroactive changes to incentive schemes and cumbersome administrative procedures.

Key priorities for a structurally sound ETS

- Agree an ambitious domestic GHG target for 2030 in line with the EU's decarbonisation objective of 80% to 95% by 2050, taking into account the emission reductions provided by renewable energy and energy efficiency objectives and with a linear trajectory adjusted from 2016.
- Create scarcity in the carbon market through a permanent retirement of surplus allowances and a flexible adjustment mechanism, as from 2016.
- Avoid loopholes, e.g. by applying full auctioning in the power sector in all Member States.
- Stimulate demonstration/deployment for wind energy technology through earmarking auctioning revenues.

Well-functioning electricity markets and adequate infrastructure

Introduction

Well-functioning electricity markets are instrumental in improving the integration, competitiveness and affordability of wind energy. As the EU develops its internal energy market and with rising penetration levels of renewables, it is increasingly important that all power producers respond to market signals. However, the EU market integration efforts have to be seen also against the recent backdrop of nationally focussed capacity remuneration mechanisms in various Member States, which will have further distortive effects on the functioning of electricity markets. Overall, the cost-effective implementation of the 2030 renewables objective will require adjusting market incentives to technology maturity levels.

1. Fully-functioning electricity markets

Functioning intraday markets are crucial for the efficient and cost effective integration of large amounts of wind energy as well as for system operation. The current ambition of a fully functioning EU electricity market does not include the fundamental features of **intraday and balancing markets**, which are essential for wind energy integration. These features include measures to improve market liquidity, harmonising rules across borders and the interactions between these market forms.

To this end, a revamped version of the target model ("EU-wide target model 2.0") should be agreed and endorsed jointly by the European Commission, Member States, regulators, TSOs and the electricity industry. Beyond providing day-ahead market integration across borders and improved transmission capacity allocation, a more ambitious vision of cross-border balancing markets should be developed, as well as a more prescriptive design for intraday markets and critical assessment of the current various nationally focussed capacity remuneration mechanisms.

Future energy market forms like **grid support service markets**¹ should be established, to provide additional non-discriminatory revenue streams to investors and ensure the most cost-effective provision of such services in the energy sector. These new market forms are crucial given the lack of timely investment signals coming from energy-only markets.

With a growing share in the power mix, wind energy technology is able to contribute significantly to reliable system operation. This includes providing support services to the grid in an increasingly similar way to conventional generators. This capability has value in an integrated market, therefore, grid connection requirements for all generators must focus on the essential aspects of technical performances, leaving an opening for remunerated grid support services.

To achieve maximum cost efficiency when setting up these new market forms, grid connection requirements in Europe should first consider market options for grid support services instead of compulsory requirements to be fulfilled without specific remuneration. This should be properly reflected in sound, well-balanced and non-discriminatory rules encompassed in ENTSO-E Network Codes which should be put in place before 2020, and reviewed on a regular basis.

2. Balancing responsibility adapted to market maturity

In many markets wind energy is already taking on balancing responsibility. However, a number of market features need to be in place to ensure that balancing risk is shared by both renewables and conventional technologies. Wind generators can be exposed to balancing responsibility in mature intraday markets with a high level of liquidity and non-discriminatory rules constraining their capability to fully react to market signals. An important part of this is the uptake of intraday markets. While the latter exist in some Member States, the volumes of energy traded are still relatively low, gate closure times are far from energy delivery times and the markets are not regionally integrated.

¹ An EU Grid support services market would cover all types of flexibility services, including system stability, balancing, adequacy, emergency and system restoration services. Wind energy is capable of participating in such markets providing e.g. downward balancing reserve, frequency response, reactive power and further technical services in the future such as emergency and system restoration services according to technology development. http://www.ewea.org/uploads/tx_err/Internal_energy_market.pdf

Wind generators must be able to participate in balancing markets. Most existing regulations, however, lock wind generators out of providing reserves and balancing energy. Voluntary participation in the market, with or without pre-contracting capacity, together with suitable reserve and balancing energy products that wind generators can offer are fundamental if wind energy generators are to be accountable for their imbalances. Clear and harmonised prequalification procedures for participating in balancing markets are needed.

Finally, integrating balancing markets across coordinated areas, necessary to smooth variability and reduce uncertainty, is currently foreseen only after 2022 according to the Electricity Balancing Network Code. The balancing responsibility of wind generators has to be assessed against this significant delay from the 2014 target of a fully implemented target model and completion of the internal energy market.

3. Priority dispatch

A fully functioning EU electricity market should be implemented to ensure that the technologies with low marginal costs are dispatched first. Priority dispatch, and protection from curtailment, for conventional generators and non-variable renewables, therefore, should be ended. Priority dispatch for low marginal cost renewables should be maintained, as a transitional measure, in Member States where the energy market is incomplete and the requisite infrastructure is not in place. To phase out priority dispatch for low marginal cost renewables, the following minimum conditions need to be met in Member States' power markets²:

- Existence of a fully functioning intraday and balancing market.
- A satisfactory level of market transparency and proper market monitoring by the national regulatory authority.
- Priority dispatch for conventional generation and all other forms of non-RES power is phased out.
- The requisite transmission and distribution infrastructure is in place, which can be assessed against the completion of TYNDP projects in the relevant Member State.
- Best use of sophisticated forecast methods as close to real time as possible and operational routines by the TSO.
- A harmonised, transparent and justified curtailment regime is in place.

4. Binding 2030 interconnectivity objectives

The success of the European Infrastructure Package and implementation of the "Projects of Common Interest" (PCIs) will determine if the 2002 10% interconnectivity targets will be finally achieved. New infrastructure objectives for the 2030 period will maximise the new regulatory tools at hand in EU legislation, in particular in the 3rd liberalisation and infrastructure packages.

To constitute a more tangible infrastructure target the use of firm benchmarks such as reaching a certain percentage of the PCIs or the "projects of Pan-European Significance" as identified in the ENTSO-E ten year network development plans (TYNDPs) needs to be considered. This should also include national grid reinforcements and be weighted on a regional and inter-regional basis according to the severity of the grid bottlenecks.

An ambitious approach should, therefore, entail a more detailed country and region-specific determination of interconnectivity deficits identifying the severity of bottlenecks according to transparent and comparable data such as price differentials, congestion rents and the share of variable renewable power. Firm benchmarks exist such as the full achievement of the 2018 PCI or TYNDP list of electricity infrastructure projects by 2030.

² For additional detail please see the [EWEA position paper on priority dispatch of wind power](#)

5. Harmonised grid access and tariff structures across the EU

Since grid congestion and the resulting need for grid reinforcements can be caused by a number of factors, the costs necessary to accommodate new generation plants need to be shared across the system.

Shallow grid charging regimes should be maintained, promoting a level playing field between new and old power generators.

Transmission tariff regimes promoting locational aspects, which are currently applied in a couple of Member States and are regarded as discriminatory towards resource-driven wind energy investments, and deep connection charges need to be assessed against total system costs. New generation build close to demand centres may not be more cost effective once assessed on a life-cycle basis.

6. Full cooperation between TSOs across Europe through the establishment of regional and European system operation facilities

Enhanced and compulsory TSO cooperation should be in place by 2020. This would require improved coordination strategies facilitated by regional and subsequently European system operation facilities, modelled on existing regional best practise, for example CORESO. Such facilities have a proven track record with regards to their contribution to cross-border electricity markets by load-flow control to alleviate loop-flows and increase interconnection capacities and should be further developed across Europe.

Such facilities 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 (a technical body) to take such forward-looking initiatives, its decision-making processes need to be reviewed. A review of the role of the Commission and ACER should occur to ensure decisions are taken by the appropriate body. For ENTSO-E instead of unanimity, decisions should be taken by qualified majority to ensure innovative solutions can be agreed rather than approaches that represent the lowest common denominator among the 41 member TSOs.

7. Clear, harmonised and transparent market-based operations for curtailing generation

A satisfactory level of market transparency and harmonisation, in particular with regards to curtailment practices is needed. Curtailments must be justified by the TSO in terms of the technical root cause of the problem to ensure transparency and only be used as a last resort.³ Whenever curtailments take place on a market basis (for instance, providing downward reserves) curtailment has to be understood and applied as a grid support service, which should be remunerated. However, in situations of low demand or even negative prices,⁴ wind generators should logically be exposed to these market signals and not be dispatched.

To minimise operational curtailments, sophisticated forecast methods and operational tools and policies must be set up. They should be aggregated and as close to real time as possible, with a maximum of four hours ahead to minimise forecast error and with the possibility to refine the forecast until one hour before delivery. All generators, including wind, should be able to participate in a grid support services market. This should promote flexibility taking into account the specificities of each technology.

Other factors such as minimum levels of generation and transmission constraints also need to be investigated and changed to ensure that actual dispatch reflects the market as accurately as possible, such that generation which is not in the market schedule is not constrained on. However, in the mid to long-term, grid reinforcements will be the main measure to truly minimise the number of operational curtailments.

³ E.g. on which voltage level the grid congestion took place or if an inertia problem was identified.

⁴ For additional detail please see the [EWEA position paper on priority dispatch of wind power](#)

8. Convergence and eventual phase-out of market incentives for onshore wind

Ultimately, the objective of the industry is to be competitive in a liberalised electricity market, and to deliver the benefits of wind energy to consumers. Incentives for onshore wind would not be needed with a fully functioning electricity market⁵, an end of subsidies to conventional generation, and full internalisation of external costs⁶.

A strong 2030 Climate and Energy framework with an ambitious and binding target backed by a supportive renewable energy framework would help accelerate this process, by providing investor confidence and driving economies of scale.

In the interim, as part of that 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.

The Commission should, therefore, develop a methodology for a feed-in premium to be used in all Member States. The level of the premium would vary from one Member State to another to reflect the specific costs for developing onshore wind energy in the different countries (cost of capital, grid connection costs, administrative costs, availability of resource, etc.). This premium would be capped to avoid any overcompensation and would be zero in the rare occurrences of negative electricity prices, where negative prices are not caused by inflexible generation, inadequate infrastructure, or inadequate system operation.

The methodology would be based on the approach presented in the Commission November 2013 guidance on support mechanisms, and enable market incentives in the different countries to be compared. For example, all Member States would support projects for the same duration (e.g. 15/20 years). In turn, this would incentivise Member States to bring down administrative costs (which can represent more than 5% of overall project costs)⁷, and costs of capital.

9. Joint market incentive system for offshore wind

EWEA favours the development of a voluntary single framework to support offshore wind in Europe to be agreed through a bottom-up process. Member States, possibly in the context of existing cooperation structures such as North Sea Countries Offshore Grid Initiative, could agree on a methodology developed with the European Commission.

As a first step the relevant Member States would agree on a framework for environmental and technical requirements and a development plan for infrastructure to enable offshore wind development. This would help create the conditions for determining a common incentive system, possibly leading to joint targets for offshore wind.

This would give a common impetus to reduce the costs of offshore wind and send a very strong signal of the EU's long-term commitment to its development. It would also mean that the success of offshore wind projects would depend on the projects themselves rather than on the stability of national regulatory frameworks.

10. Improved cooperation mechanisms

To date, cooperation mechanisms have been underused. They are, however, valuable tools to help meet the 2020 renewable energy targets cost-effectively. Cooperation mechanisms should be developed and improved for the post-2020 period as part of the post-2020 framework for renewable energy. In particular, regional cooperation should be encouraged.

⁵ See sections 1-6 on market design

⁶ For example see chapter *A structurally sound ETS that drives investments*

⁷ Wind Barriers 2010 http://www.ewea.org/fileadmin/files/library/publications/reports/WindBarriers_report.pdf

A post-2020 Renewable Energy Framework providing both flexibility to Member States and confidence to wind power investors

Introduction

The EU Heads of State and Government agreed in March to a “supportive EU framework for renewables”. The Commission’s proposal for a 2030 Climate and Energy package includes binding EU wide targets for greenhouse gas emission reduction and renewable energy. Achieving the renewable energy objective will require an improved EU renewable energy framework and EU directive post-2020.

1. Renewables development sharing mechanism

Given the long-term investment horizon of the energy sector, investors already need visibility on the post-2020 period to ensure a seamless transition between the current regime and the 2030 climate and energy framework. The binding nature of the Commission’s proposed EU-wide target and request from Heads of State for a “supportive EU framework for renewables” and a “mechanism which will result in an overall fair effort sharing” point to a necessary coordination role for the European Commission and an EU renewable energy directive.

By the end of December 2015, the Commission should propose linear renewable energy growth paths for each Member State which, aggregated, meet at least the EU-wide objective. On this basis, Member States would then come forward with national renewable energy plans for the post-2020 period, together with their national renewable energy progress reports, by the end of December 2016.

Member States that go beyond the Commission’s growth path proposal should benefit from increased and facilitated access to structural funds earmarked for renewable energy infrastructure (a co-financing requirement for structural funds reduced to 5% combined with a dedicated EIB finance facility). These Member States would also benefit from facilitated access to funds from a new version of the NER300 programme for renewable energy projects. The benefits would be proportionate to Member States’ ambition.

If growth paths set in the national renewable energy plans were not to add up to the EU wide objective, the Commission should engage with Member States, in particular those with growth paths below the level originally suggested by the Commission, and make proposals to ensure the EU-wide renewable energy target is met. To this end, the Commission should notably be able to coordinate cooperation mechanisms ensuring a cost-effective implementation of the EU-wide target.

The resulting renewables development sharing mechanism should be enshrined in the supportive EU framework for renewables by 1 January 2018.

2. A more efficient and effective oversight for the European Commission

Under the current framework, the development of renewables has been disrupted by the difficulty for the European Commission to intervene when Member States made counter-productive changes to their regulatory or market framework. Reinforcing the role of the Commission is essential to ensuring the legal certainty and stability of regulatory frameworks which will continue to be critical in the post-2020 period.

As under the *European Semester*, the Commission should be able to make official policy recommendations. These recommendations should be made at a minimum every two years. The Commission should, moreover, be able to intervene at any time even outside the two year review. If a Member State were to ignore a policy recommendation six months after it has been formulated, the Commission would issue a policy warning. If six months thereafter this policy warning were not to be followed with effect, the Commission would be able to refer the case to the European Court of Justice.

To ensure timely action by the Commission, the trajectories would no longer be exponential. A linear trajectory will avoid artificially displacing investments associated with meeting the renewable energy target to the end of the decade. Ultimately, this means that regulatory issues are identified and tackled sooner, thereby improving the likelihood of objectives being met.

Non-retroactivity/retrospective principle

Retroactive changes to incentive mechanisms have been particularly damaging to the investment climate for wind energy during the past three years. They have needlessly increased the cost of meeting the 2020 EU renewables target via higher risk premiums for investors. With increasingly market-oriented and flexible incentive mechanisms, there is no rationale for such adjustments. All national measures and in particular retroactive changes to incentive mechanisms which undermine the cost-effective implementation of the national renewable energy targets should therefore warrant action by the European Commission.

Streamlined administrative procedures

Permitting procedures should be streamlined through measures such as a mandatory one-stop-shop. Other key enabling measures would include setting binding deadlines for administrative decisions where lack of response by competent authorities would equate to consent. This would incentivise the Member States to allocate sufficient resources to deal with building and grid connection permits.

A pro-active approach towards spatial planning should also be promoted. Instead of defining the areas in which wind energy projects are not allowed, the competent authorities should determine preferential wind energy development areas enabling a fast-track permitting process as part of their national renewable energy plan.

Support for innovation

Next to operational aid, investment aid should remain available to the Member States in particular to fund innovation. Developing a broad portfolio of renewables in view of reaching the EU's long term decarbonisation objectives will remain a priority in the post-2020 period. A one-size-fits-all approach will limit innovation in the technologies that are further from the market including offshore wind power. Incentives will therefore need to be adjusted to the maturity levels of different technologies.

A structurally sound ETS

Introduction

Confidence in the ETS has been fundamentally undermined as it is currently neither giving long-term price signals that impact investment decisions or operating price signals. Without a real carbon price, coal and gas have a comparative advantage over generation technologies with no emissions such as wind energy, as they do not pay for the costs they impose on society. Structural measures are required to fix the ETS in the short and medium term. For the long term, the ETS needs to create a carbon price that can drive investments in the transition of the energy sector, including in wind energy.

1. A robust domestic 2030 GHG reduction target

An ambitious domestic GHG reduction target should accelerate the movement of the energy sector towards a higher penetration of wind energy. The ETS cap should be binding and set high enough to be in line with the EU's decarbonisation objective of 80% to 95% in 2050. The linear trajectory should be adjusted as from 2016, aligned with other EU climate and energy targets, so that they are mutually supportive and take into account the emission reductions from renewable energy and energy efficiency.

The 2030 GHG target should not be conditional on the outcome of international climate negotiations on a new global climate change agreement. However, EWEA supports an increase of ambition following the conclusion of a new binding international climate agreement, which could be partially met by international credits.

2. Achieving scarcity in the carbon market

The ETS can only drive investments in new wind power capacity when it puts a significant price on the carbon externalities of fossil fuels. This requires scarcity in the carbon market which can be achieved by a permanent retirement of surplus allowances and introducing an automatic market stability reserve.

Although back-loading will provide some short-term relief, the ETS surplus in 2020 is still estimated at 2.6 billion allowances – worth one year of ETS emissions⁸. As the post-2020 linear reduction adjustment will not start reducing the surplus significantly and increase carbon prices before 2027, the carbon price will only have little impact on investment decisions for a further 10 years, resulting in a fossil fuel lock-in. It is therefore crucial that scarcity is achieved in the ETS market before the start of phase 4 in 2021 by bringing down the surplus through a permanent retirement of surplus allowances or other means such as placing surplus allowances in the Market Stability Reserve.

The ETS needs to be made more resilient to events that disturb the supply and demand balance, including macro-economic shocks and a large inflow of international credits, by introducing an automatic market stability reserve. Such a mechanism, as proposed by the European Commission in January 2014, can prevent a rapid build-up of a new surplus in the future. However, it is necessary to find more ambitious triggers that create more significant supply adjustments and to implement the market stability reserve in 2016 to reach a higher carbon price before 2020. Returning allowances from the reserve back to the carbon market should be strictly limited to the minimum necessary to retain liquidity in the market.

If bringing scarcity to the market through a permanent retirement of the allowance surplus and an automatic downward adjustment mechanism is not politically feasible, EWEA would support an EU-wide carbon floor price as an alternative. It would be a welcome addition to a currently ineffective system, preventing the disappearance of investment signals in times of oversupply, while still incentivising investments in wind and other renewable technologies.

3. No loopholes

Although measures to address carbon leakage can be justified to ensure the competitiveness of European industries covered by the ETS, they also resulted in free over allocations to heavy industry. These surplus allowances that are not used for compliance undermine the carbon price when they are sold by industry

⁸ European Commission, SWD(2014) 17 final, Impact Assessment of the proposal for a Market Stability Reserve

on the market. Moreover, derogation from full auctioning for the power sector until 2019 was made for ten Member States.⁹ These exemptions should end on schedule as they hinder the transition to a renewable power sector in those countries. Full auctioning in the power sector should be applied from 2020 onwards in all EU Member States.

4. Stimulating wind energy development and deployment through auctioning revenues

Investing in wind energy will deliver a real return on investment in terms of green growth, job creation and a world-leading industry. While Member States should maintain the freedom to allocate ETS revenues to specific projects, revenues should continue to be earmarked for climate-related projects, including demonstration/deployment projects for wind technology.

These principles should apply to any successor programme of the NER300. Moreover, NER300 attribution criteria should take into account the ambition levels of Member States' renewable energy growth paths.

⁹ Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Poland and Romania have made use of the derogation, Latvia and Malta decided not to.