

## The revision of the Energy & Environment State Aid Guidelines WindEurope response to the European Commission consultation

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WindEurope welcomes the possibility to provide input to the revision of the Environment and Energy State Aid Guidelines (EEAG). State aid rules are of utmost importance for the development of the wind energy sector as they represent the tool used by the European Commission to assess the compatibility of national support mechanisms for renewable energy with internal market rules.

With 197 GW installed across Europe<sup>1</sup>, wind energy today supplies already 15% of the total European electricity demand. Wind energy brings local value and creates jobs and growth: contributing €37bn p.a. to the EU economy and employing 300,000 people across all regions.

Wind energy is central to the European Green Deal as the most easily scalable and competitive form of new power generation in many countries in Europe today. To become climate-neutral, the European Union needs 1,300 GW of wind power in 2050 – providing more than 50% of the European electricity consumption<sup>2</sup>.

European State aid rules should be fully aligned with EU market design reforms to underpin the decarbonisation of Europe's economy by 2050. Today a number of **remaining barriers prevent adequate price signals on the energy market that can accelerate wind deployment**.

The EU Emissions Trading System (ETS) has been reformed. However, prices continue to be insufficient to drive polluting thermal generation and overcapacity out of the system. The European wholesale power markets has been designed based on the characteristics of thermal generation but fails to put variable renewable generation such as wind energy on a level-playing field. National transposition of the EU Clean Energy Package provisions aiming to make the market “fit for renewables” are lagging. Regulated end-user tariffs fail to address the main problem for final consumers: high taxes and levies on retail electricity prices. Inadequate grid infrastructure operation as well as build-out and insufficient interconnectivity slow down renewable energies expansion and trading cross countries. Negative prices are more recurrent due to lack of flexibility of technologies and market design on supply & demand side and export capacities. And increased curtailment of wind power in some systems is often due to local grid constraints and lack of cross-border interconnection.

**In this context, revenue stabilisation mechanisms are indispensable to deploy the necessary wind volumes, and to do so at the least cost for society.** Wind is a capital-intensive investment: it has high

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<sup>1</sup> Data refers to H1 2020, EU-27 + UK. Source: WindEurope. For cumulative installations EU-28, end of 2019 see *Wind energy in Europe in 2019*, WindEurope (2020).

<sup>2</sup> Data refers to the European Commission's Impact Assessment underpinning a 55% GHG reduction target.

upfront costs but very low running costs. This makes financing a very significant share of the overall cost. Minimising finance costs is therefore essential.

Having a predictable income from **reliable revenues is the most important way a wind farm can minimise its finance costs**. Additional volumes from renewables will be needed in the coming years. So it is very important to ensure low costs and keep de-risk investments. Government auctions that offer reliable revenues are crucial to attract investments and to provide low-interest capital to wind energy projects and thereby deliver lower electricity costs to society.

Competitive bidding processes can deliver more renewables at the lowest cost for citizens if sufficient projects can participate. But this is **only possible if sites are available and if the permitting process works properly**. Burdensome and lengthy permitting procedures, lack of sites due to administrative barriers such as unnecessarily strict set-back distance rules or tip/hub height restrictions, often result in **undersubscribed auctions**<sup>3</sup>. They decrease the level of confidence in project realisation, leading to lower project development pipelines and subsequently low participation in auctions. Removing existing national barriers to renewable energy deployment and thereby increasing site availability is an absolute priority to reach the climate protection and the Climate & Energy targets of the EU in a most cost competitive way.

Aligning the European State aid policy with the Green Deal objectives means for the European Commission to:

**1) Ensure revenue stabilisation mechanisms like two-sided Contracts for Difference (CfD) or sliding feed-in premiums are applied by Governments.**

Such mechanisms offer renewable energy projects a reliable long-term price for the electricity they produce. As a result, risk premiums are lower and overall financing costs decreases. Banks are willing to lend money to wind farms at good conditions. And there is no risk for overcompensation from Governments or society.

Without revenue stabilisation the financing costs rise significantly, increasing massively the overall project costs and costs to society. Wind farms that are supported by a 2-sided CfD are able to predict their future revenues very accurately. And this gives banks confidence that they will be able to repay their loans. So banks are happier to lend to them. **With CfDs, banks are willing to lend 80% of the upfront cost to build a wind farm**. But where there is no visibility on future revenues, banks will only lend 25% of the total amount required to build a wind farm. And the rest will need to be financed by equity, a much more expensive way to raise money. **This makes a huge difference to the costs of wind energy**. Financing costs make up a large proportion of wind projects' overall costs and the impact is substantial.

Importantly, the **so-called 'zero bids' are an exception to the rule rather than the new normal**. They are only possible in certain markets and under specific conditions. These include – but are not limited to – the location of the project, the scalability of offshore wind, the optimisation of the value chain and exploited synergies between existing infrastructure and transmission system assets, long lead times and expected decline in technology costs. The pre-development of sites by national authorities, including the grid connection and a one-stop-shop for administrative procedures have allowed for winning tenders with

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<sup>3</sup> Please refer to the recent auction results in Germany or Italy as an example.

- 2) Continue to support technology-specific auctions.** These are the best way to provide this visibility to investors and are tailored to the generation specificities of different power sources.

Technology-neutral auctions often result in a single technology winning the entire auctioned volume, therefore not exploiting the complementarities of the different power generation profiles across technologies. For example, the complementarity between wind, whose generation is higher in winter months and at night, and solar energy whose generation is higher during summer months and during the day. This complementarity is essential to guarantee a balanced energy system as Europe electrifies its economy with renewables to fulfil the Green Deal and ensures a better grid utilisation.

Technology-specific auctions are fully in line with the Governance Regulation and the Renewable Energy Directive (in particular its Art. 4), and the provisions therein asking Member States to provide long-term visibility over renewable energy volumes by technology.

- 3) Ensure Governments provide long-term visibility on wind energy volumes in auctions.** Competitive bidding processes should be organised on a **regular basis, at reasonable notice** and should provide visibility on the size and overall budget to be awarded over multiple years.

This is key to industrial planning and the ability to further cut down costs. It allows the wind industry to realise long-term investments in factories, infrastructure (e.g. ports, shipyards, roads), skills development, test facilities, research and innovation. Investments create jobs and deliver revenues to national budgets. All this contributing to a swift economic recovery post COVID-19.

The European Commission must ensure Member States respect the Clean Energy Package rules whereby National Government must give at least 3-year upfront visibility on auctions. And that they deliver the auction pledges via the monitoring and review of their 2030 National Energy & Climate Plans.

- 4) Ensure corporate Power Purchase Agreements (PPAs) and market-based support mechanisms (such as Contracts for Difference) coexist as revenue stabilisation mechanisms.**

Europe already has over 10 GW of renewable energy capacity contracted through PPAs. One means of making the most out of corporate PPAs for the fulfillment of Europe's Climate & Energy goals is for Member States to design their national levies for the promotion of renewables to factor in and incentivise corporate renewable energy sourcing. This could be done for instance by permitting partial relief from these levies to corporates who bring about new renewable capacity additions through their purchasing.

However, the current EEAG limit Member States' potential to maximise the impact of a mechanism like this. The provisions in section 3.7.2 apply to only a small subset of industries. By expanding the provision to allow more industries to be eligible this would allow Member States

to use their renewable levies as instruments to incentivise voluntary renewable energy purchasing from more businesses. This will help to diversify the sources of financing for renewables and accelerate the deployment of new renewable generation.

- 5) Ensure Guarantees of Origin (GOs) are given to all renewable energy produced.** GOs are essential for corporates to engage in PPAs as they provide the proof of the green credentials of their power supply. State aid policy should support the development of a robust GOs framework that is harmonised across EU Member States.

For GOs to be the traceability instrument the Commission has designed it for, it is essential that the European State aid policy:

- Clearly allows for GOs to be combined with market-based support systems. The Renewable Energy Directive (Art. 19) already provides guidelines to ensure the **compatibility between renewable support schemes and GOs**, which should therefore be given to all renewable electricity producers irrespective of whether they benefit from a support mechanism (e.g. premium allocated via an auction).
- Prevents national rules on GOs from breaking the link between renewable energy production and the renewable electricity buyer.

- 6) Ensure industrial and commercial consumers transition to an electricity-based energy supply.** The change to the ETS State Aid Guidelines enabling energy-intensive industries to qualify for indirect ETS cost-compensation when procuring renewable electricity is an important step in the right direction. It is now essential that the European Commission ensures this is properly implemented at national level.

- 7) Ensure that the guidelines factor in the contribution of renewable-based electrification** and in particular industrial technologies (e.g. industrial electric boilers and industrial heat pumps) to the common environmental and energy objectives.

Renewable-based electrification will require a significant increase of investments. Electrification of industrial processes can have higher operational costs than current processes due to the price difference between electricity and currently used fuels (e.g. natural gas) and differences in network charges.

- 8) Ensure the EEAG reflect the contribution of renewable hydrogen in delivering climate neutrality.**

Renewable-based direct electrification will be the key driver to decarbonise industry, transport and buildings. But where this is neither technically feasible nor cost-efficient, renewable hydrogen

will be crucial to reach deeper decarbonisation of the so called hard-to-abate sectors (heavy-duty transport, heavy industry, maritime and aviation).

All EU policies should be consistent in providing a clear and simple definition of hydrogen and hydrogen derivatives, where renewable hydrogen is the reference baseline (i.e. the hydrogen produced through electrolyzers using 100% renewable electricity). Renewable hydrogen is “the most compatible option with the EU’s climate neutrality”, as stated in the recently published European Commission Hydrogen and Energy System Integration Strategies. A robust methodology for counting the CO<sub>2</sub> emitted during the production of the various hydrogen types will be crucial in this respect together with measures to scale up renewable hydrogen production.

The current EEAG put non-renewable energy-based hydrogen – e.g. the hydrogen produced from natural gas and making use of Carbon Capture and Storage (CCS) - in a more favourable position as compared to renewable electricity-based hydrogen. National subsidies to CCS that are compatible with section 3.6 of EEAG, in particular to cover additional costs of capture, transport and storage of CO<sub>2</sub> emitted according to §165 EEAG could put non-renewable energy-based hydrogen in an economically more favourable position than the production of renewable electricity-based hydrogen.

The 2018 Renewable Energy Directive foresees that the hydrogen produced via electrolyzers that are directly connected to wind generation installations can claim GOs and will count towards fuel supplier obligations, but there is no clear provision for the hydrogen that is produced by electrolyzers that are directly connected to the grid. A clear and unambiguous definition at the European level would ease the interpretation of the State Aid Guidelines and thus would facilitate a market uptake of renewable electricity-based hydrogen. If produced from fossil fuels such as coal, oil or natural gas, hydrogen can have a high CO<sub>2</sub> intensity upstream. This is not the case if hydrogen is produced from CO<sub>2</sub> free sources like renewables.

We support the proposal under Art.27 of the Renewable Energy Directive establishing criteria for renewable fuels of non-biological origins (RFNBOs), including renewable hydrogen, to qualify to the 14% share of renewable energy in the transport sector by 2030. This article puts forward 3 criteria for renewable hydrogen to contribute to this 14% transport target: it should come from additional renewable power plants and should respect both temporal and geographical correlations.

- 10) Provide a level-playing field between fossil fuel and electricity taxes.** European State aid and competition rules should factor in the need for a shift in the national tax structures and levies, which have historically favoured fossil fuels to the detriment of electricity. They should actively encourage adjustments to national levies that support renewable electricity sourcing as a driver for climate neutrality. This would support the deployment of renewable hydrogen, where electricity represents 65-80% of the operational cost of electrolyzers.

### Additional considerations

- **Storage.** A renewable-based energy system comes along with a growing need of flexibility and storage. The number of projects seeing a combination of wind farms and storage facilities or the so-called renewable hybrid power plants (e.g. wind, PV solar, hydro and/or storage) is increasing.

Today adding a storage device to the renewable energy plant means having to re-apply for the renewable energy revenue stabilisation mechanism. This is for example the case in Germany and in the UK. But the wind energy assets have already cleared all permitting and administrative procedures to build and operate the plant and to receive support. **Wind energy asset owners should not be obliged to reapply for revenue stabilisation when adding energy storage to an existing wind farm.**

Regulators fear that operators claim electricity absorbed from the grid by the storage device as wind power-generated, hence receiving compensation from non-renewable electricity. Therefore, it is essential that regulators clarify rules on metering so that developers do not need to reapply for the support instrument.

When storage technologies form part of a renewable hybrid power plant (e.g. a battery system controlled in combination with a power plants including wind turbines and PV systems, or any other combination of two renewable energy generation technologies), the full scope of the power plant should follow the same rules and principles adopted for the support of any other renewable generation technology.

- **Negative electricity prices.** The current version of the State Aid Guidelines requires that “measures are put in place to ensure that generators have no incentive to generate electricity under negative prices”. In principle, support during times of negative prices should not occur. However, negative electricity prices are the symptom of lack of flexibility in the energy system. They can happen because conventional baseload power plants continue to feed power into the grid, either due to must-run obligations (e.g. to provide ancillary services or heat cogeneration) or for economic reasons (because the ramping costs would exceed the payments from selling electricity at negative prices). This means that **support for production in times of negative prices should be phased out hand in hand with regulatory requirements that increase system flexibility on supply and also on demand side.**

Member States have created different national rules to suspend the financial support to wind power generators during these hours while still trying to protect them from a high revenue uncertainty that leads to higher financing costs. In Denmark there is a “one-hour rule” but combined with support given for a number of full-load hours over the lifetime of the project. This means that the support otherwise given in the hour with negative prices is not lost, but rather postponed. France has adopted a different approach in which wind farm operators will receive no premium on top of the market price only for the first 20 hours of negative prices in a year.

These rules are helpful on their own, but they may lead to market fragmentation across all countries.

The French approach provides investors with a degree of certainty and investment security. If such scheme or similar was applied across all countries (i.e. same number of hours) until market design and technologies are sufficiently flexible to prevent high numbers of hours with negative prices it would help reducing market distortions. Such homogeneous rule shall follow the logic applied by the new Renewable Energy Directive in the context of curtailments due to grid constraints by reducing the non-controllable volume risk to a minimum.

The State Aid Guidelines should allow wind energy to also participate in the market for ancillary services and at the same time incentivise the uptake of demand-side response and other flexibility options in the system.

- **Ensure the innovation leadership of the European wind technology.** Exemptions intended to foster Research and Innovation and enable demonstration projects should not be based on the nameplate capacity of a generating unit (e.g. a wind turbine), as technology development is usually faster than regulatory updates.

In Germany, the EEG correctly exempts pilot test turbines and research turbines from having to participate in auctions. A certain number of turbines can be installed at a certain remuneration outside of the auction system to allow for testing in real conditions. However, the German Government only allows this exemption for turbines with a capacity below 6 MW referring to paragraph 127 of 2014 State Aid Guidelines for Environmental Protection and Energy. As wind turbines get bigger with the drive for cost reduction, a significant share of turbines tested will be 6 MW or above in the near term.

This national policy results in our view from an incorrect interpretation of paragraph 127 of the guidelines as the 6 MW threshold is not intended to apply to demonstration projects. However, it would be important to clarify this language to avoid varying or even incorrect interpretations of the guidelines at national level. This will go a long way in enabling testing of larger turbines that will be critical to the delivery of the EU's Climate and Energy objectives.