

Siemens Gamesa Renewable Energy

Position and comments on the revised Climate, Energy and Environmental Aid Guidelines (CEEAG)

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Siemens Gamesa Renewable Energy (SGRE) welcomes the possibility to provide input to the public consultation on the revised Climate, Energy and Environmental Aid Guidelines (CEEAG). 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.

Wind energy supplies already 15% of the total European electricity demand, but it should grow up to 50% of the European electricity consumption by 2050¹. Currently, wind energy brings local value and creates jobs and economic growth: contributing €37bn p.a. to the EU economy and employing 300,000 people across all regions.

The European wind energy sector is a global leading sector, strategic for the EU economy – it has developed a successful economy and value chain, while it will contribute to energy security and to reach the EU's climate targets. We expect the EU to install 15 GW of wind energy each year between 2020 and 2025. This will need to increase to an annual installation rate of at least 30 GW if the EU is to deliver on its climate and energy objectives that have been included in the revision of the Renewable Energy Directive². The release of the Fit for 55-package has unveiled an undeniable political commitment towards the energy transition putting renewables at the heart of the pandemic's recovery and EU's future; however, we must continue combining forces between policymakers, industry, and the European population – we will need far greater investment, planning, research and robust policy frameworks including cooperation to be able to deliver on the recently updated ambitious targets.

Nevertheless, the current draft of the CEEAG, as well as the inclusion of renewables in a broad “Decarbonisation” heading, seems to suggest that a one-size fits all approach to decarbonising the EU economy is fit-for-purpose. And decarbonising the power sector and promoting renewables is a secondary objective.

¹ Data refer to the European Commission's Impact Assessment underpinning a 55% GHG reduction target for 2030.

² WindEurope: 'It's official: The EU Commission wants 30 GW a year of new wind up to 2030'. July 14, 2021. See: <https://windeurope.org/newsroom/press-releases/its-official-the-eu-commission-wants-30-gw-of-new-wind-a-year-up-to-2030/>

This may not be the correct approach. The EU power system needs to simultaneously fully decarbonise and double in size between now and 2050 as highlighted by the Climate Law Impact Assessment. This requires significant investments and planning. This should be reflected in dedicated section under the new State Aid Guidelines.

The latest Dutch SDE++ auction has shown the limits of a very broad approach to decarbonisation focused on a CO2 abatement criterion. 70% of the €4.6bn budget is going to CCS. €99m is going to 13 onshore wind projects corresponding to a capacity of 107 MW which means onshore wind will have a slower expansion from this round. We need a focus on what technologies can be quickly adjusted to deliver in the very short, the short and the medium term time horizon, fostering renewable energies rather than other technologies.

The decarbonisation of industry and the roll out of renewables need to work in conjunction. Not be made to artificially compete with one another. The design of such auctions is unnecessarily complex and bound to yield sub-optimal outcomes.

In developing the new CEEAG, the European Commission should:

- **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, infrastructures (e.g. ports, shipyards, roads), skills development, test facilities, research and innovation, and provides governments with the required timeline to develop ancillary infrastructures, such as transmission lines. Investments create jobs and deliver revenues to national budgets. All of this contributing to a swift economic recovery post COVID-19. The European Commission should ensure that Member States respect the Clean Energy Package rules on 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. Including a clear auction calendar with volumes per technology would give visibility and certainty, keeping financing costs low and de-risk investments.
- **Ensure technology-specific auctions: they're crucial to market and energy system balance.** Technology-specific auctions are the best way to provide visibility to investors, to the industry, and are tailored to the generation specificities of different power sources. Technology-specific auctions are core elements in the transposition and implementation of the Renewable Energy Directive (in particular its Art. 4) and the Governance Regulation.

Technology-neutral auctions often result in a single technology winning the entire auctioned volume³ therefore not exploiting the complementarities of the different power

³ One of the most recent examples (January 2021) is the 1GW technology-neutral auction in Spain where the entire volume has been allocated to solar PV.

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 and ensures a better grid planning and utilisation. Such ideal combination triggers also the development of energy storage solutions, including green hydrogen, to maximize even more the power of combination of the well balanced different renewable energy sources.

Footnote 54 (page 38) reads:

“Eligibility in such a case should only be limited in line with relevant definitions where available in the sectoral legislation. For example, renewable energy sources--specific schemes should be open to all technologies that meet the definition of ‘renewable energy sources’ in Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 8). “

It thus promotes technology-neutral auctions as the best way forward in contrast with Member States’ right to design their renewable energy support schemes to fit national market conditions. The principle of technology-specific auctions (e.g. wind-specific auctions; geothermal-specific auctions, etc.) must be clearly spelled out in the body of the Guidelines. National Governments need to have the confirmation that these technology-specific auctions are consistent with the EU framework – consistently with the Renewable Energy Directive. This coherence is critical to investor visibility and to the timely implementation of national auctions systems.

Moreover, the draft new Guidelines allow for Member States to place a cap on the aid if they decide to let different technologies with different costs compete together, so to avoid that the most cost-competitive technology gets overcompensated. By organising rounds of technology-specific tenders there would be no risk of overcompensation.

- **Ensure national auctions allocate well-designed revenue stabilization mechanisms like two-sided Contracts for Difference (CfD).** 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 upfront costs but very low running costs. This makes financing a very significant share of the overall cost. Having a predictable income from reliable revenues is the most important way a wind farm can minimise its finance costs. Government auctions that offer reliable revenues – such as two-sided Contracts for Difference (CfDs) or other market premiums - are crucial to attract investments and to provide low-interest capital to wind energy projects and deliver lower electricity costs to all users.

- **Ensure corporate Power Purchase Agreements (PPAs) and market-based support mechanisms coexist as revenue stabilisation mechanisms.** Renewable energy investors need stable revenues. Market premiums e.g. CfDs together with PPAs are the best way to minimise finance and project costs. And Governments must be able to experiment combining the two models for the same project (not the same MW) to achieve the increased and faster scale of decarbonisation required by the 'Fit for 55' package. Europe already has over 15 GW of renewable energy capacity contracted through PPAs. Companies in chemicals, steel, ICT, aluminium, transport, pharma and food/drink are now sourcing power directly from wind farms on long-term supply agreements. Allowing the combination of PPAs and CfDs will help drive the shift to a demand driven energy transition, which shall encompass renewable generation with consumption and, thus, supportive of grid stability.

The traceability and proof of green credentials of the power supply brought in by Guarantees of Origin (GOs) underpinned these PPA volumes and should be maintained going forward.

- **Do not arbitrarily reduce the auctioned volume when auctions are undersubscribed.** You increase artificially competition but fail to address the root cause of the problem (ref. to Par. 48 of the draft new Guidelines).

Competitive bidding processes can deliver more renewables at the lowest cost for citizens if sufficient projects can participate⁴. But this is only possible if the market is healthy and does not suffer from administrative or regulatory barriers. Permitting of renewable energy projects is the key such bottleneck in all EU markets. Burdensome and lengthy permitting procedures, lack of sites due to e.g. unnecessarily strict set-back distance rules or tip/hub height restrictions, often result in undersubscribed auctions. Those barriers decrease the level of confidence in project realisation leading to lower project development pipelines.

Competition in auctions cannot be increased by decreasing the auctioned volumes as this exacerbates further investors' confidence and decreases visibility on auction rounds. Competition should rather be increased by removing all existing regulatory barriers to

⁴ The Spanish renewable auction that took place in January 2021 was open to any renewable technology, with a premium in case of adding storage: 1,000 MW were reserved for wind, 1,000 MW for solar, and 1,000 MW for any technology. The awarding process focuses only on bid price: the lowest wins. **Solar was the clear winner, winning the whole "any technology" block.** Nevertheless, average price of wind ended close to solar price, with EUR 25.3/MWh for wind and EUR 24.5/MWh for solar.

Following the auction, the Spanish Wind Association (AEE) concluded that it was not possible to identify the real cost of each technology because different strategies were allowed. In addition, there was a clear segment of price range -between €20/MWh and €28.9/MWh- in which solar PV and wind energy offers coexist. Only 7.6% of the total awarded renewable power was below this price range, corresponding entirely to PV technology and representing 11% of the total awarded PV power. Therefore, based on these facts, the AEE said that it was not rigorous to state that one technology is cheaper or more expensive than the other as to justify that the neutral quota has been allocated in its entirety to a single technology.

renewable energy deployment (such as administrative delays and regulations preventing fast & efficient permitting).

If tenders are undersubscribed, the non-awarded volumes should be incorporated into later auctions so that the projected deployment path could still trigger investment decisions.

- **Dedicated chapter on ‘Aid for renewable energy sources’:** A dedicated chapter on “Aid for renewable energy sources” should remain at the core of the Guidelines and underpin the right regulatory framework that delivers this necessary volume expansion alongside further cost reductions to the benefit of end users.

The new draft Guidelines prioritise a technology-neutral approach in rewarding CO₂ savings rather than capacity by putting all guidance on different support scheme design under a generic chapter of “Decarbonisation”. This approach could undermine the appropriate allocation of public spending into the technologies that will drive decarbonisation in the power sector.

The scale of the EU decarbonisation challenge calls for the Guidelines to provide a more flexible and tailor-made support scheme design toolbox for EU Member States. EU-27 wind energy capacity is expected to grow from 197 GW today to 1300 GW in 2050 – by this wind will be the leading delivering technology for net zero. This requires an almost doubling of the annual installation rates for wind from 15 GW today to 30 GW p.a. by 2030.

- **Support the development of a business case for renewable hydrogen.** Renewable-based indirect electrification will be the key driver to reach deeper decarbonisation in the hard-to-electrify sectors (heavy-duty transport, heavy industry, maritime and aviation). The new Guidelines should align the allocation of support with the EU Hydrogen Strategy. It clearly states that renewable hydrogen is “the most compatible option with the EU’s climate neutrality”.

The draft new Guidelines shouldn’t treat low carbon and renewable hydrogen the same way. They should instead replicate 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). A robust methodology for counting the CO₂ emitted during the production of the various hydrogen types will be crucial in this respect as will the monitoring and recording of CO₂ and methane leaks in relevant plant. This definition should go beyond greenhouse gas emissions (GHG) reduction which fails to address the multifaceted value of renewable hydrogen to the energy system and economy including: contributing to energy security, helping balance the energy system, and driving growth spurring innovation, alongside its best in class environmental footprint.

Renewable hydrogen is not yet competitive with other forms of hydrogen. To reach the European Commission's target of 6 GW of renewable hydrogen by 2024 and 40 GW by 2030, we need to close the cost gap between fossil and renewable hydrogen while accelerating the scaling up of electrolyzers. On the one hand important investment will be needed to reach these targets. On the other hand, the main operational costs of electrolyzers are the use of electricity representing 65-80% of these costs.

So renewable hydrogen should be supported both by investment aids and operating aids. Carbon Contracts for Difference (CCfDs) can be a useful tool to support industrial decarbonisation and promote renewable hydrogen. CCfDs can support the introduction of renewable hydrogen in hard-to-abate sectors with the most emissions potential reduction. Nevertheless, it needs to be carefully designed in order to have no impact on ETS prices.

- **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 favored 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 also greatly support the deployment of renewable hydrogen (see next section), as electricity represents up to 80% of the levelised cost of hydrogen over its lifetime. The revision of the Energy Taxation Directive will be crucial in this respect.

Additional considerations

- **Make storage eligible for state aid.** The number of projects seeing a combination of wind farms and storage facilities or the so-called hybrid renewable power plants (e.g. wind, PV solar, hydro and/or storage) is increasing. Yet, the draft new Guidelines suggest electricity produced as a result of a storage facility should not be granted state aid. This is a grave error. Integration of storage technologies is in the development phase and still in its infancy, and needs substantial de-risking in the form of pilot projects. Combined renewable power plants provide huge benefits for the acceleration of renewable-based electrification and system integration based on grid optimisation and sustainability criteria. Renewable electricity stored should qualify for state aid when it is released from the storage system.

To address regulators' fear that operators claim all electricity absorbed from the grid by the storage device as wind power-generated, hence receiving compensation from non-renewable electricity, it is essential for regulators to clarify the rules on metering. They need to ensure that grid-absorbed non green electricity is distinguished (and not compensated) from the electricity generated and stored by the power plant.

- **Negative electricity prices.** The previous version of the state aid guidelines required 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.

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. Similar system just adopted in Germany: hours that have not been compensated due to negative prices can be added at the end of the running time of the project. Ideally such rules are harmonized in Europe in the future.

The CEEAG 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 leadership in European technology innovation by allowing support for demonstration projects:** Demonstration projects are vital in de-risking new technologies and new configurations of technologies to give proof of concept and realtime operation experience which drives investor interest, market and industrial footprint growth going forward.

Exemptions intended to foster Research & 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 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.

The new draft Guidelines do not include any thresholds for demonstration projects. They seem to allow for demonstration projects to receive aid through dedicated (technology-

specific) competitive bidding processes (ref. Par. 83) but remove the possibility to receive direct aid (without tenders).

The European wind industry believes that Member States should have the possibility to still allocate direct support to demonstration projects on fact based projections of their potential market impacts as this will help enabling testing of new technologies that will be critical to the delivery of the EU's Climate and Energy objectives.