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Danish Energy's position on the revision of the EEAG

Danish Energy thanks for this opportunity to provide input to the European Commission on the European State Aid Guidelines for Environment and Energy (EEAG). The EEAG play an important role in the green transition, as they represent the tool used by the Commission to assess the compatibility of national support mechanisms for renewable energy with internal market rules.

Danish Energy represents Danish energy companies within power, heat and hydrogen production, energy-trading of power and gas as well as owners of power distribution grids. We hope the Commission will find our feedback regarding the design of the future EEAG valuable.

The EEAG have a great impact on the buildout of renewables and on industry, who rely on the availability of affordable and green electricity. It is important, that the revision of the EEAG serves the EU's overarching target of climate neutrality by 2050 and the Commission's newly proposed target of at least 55% CO₂e emissions reduction by 2030. This means continued national support schemes to ensure the necessary deployment of renewables in order to reach the EU's climate and energy objectives.

Climate transition powered by green energy

In order to reach the EU's climate objectives, the annual buildout rate of all types of renewable energy must significantly increase.

A new study from the European Environment Agency shows the RES share in the EU27 grew by an average 0.7%-points per year between 2005 and 2018. For the EU27 to reach the current binding target of at least 32% share of renewables in gross final consumption by 2030, the RES share must grow by an average of 1.1%-points each year between 2018 and 2030¹. The RES target for 2030 is up for revision as part of the "fit for 55 package" expected to be presented by the Commission in June 2021. The Commission's own estimates point towards a RES target of up to 40% in order to reach the proposed 2030 GHG-emissions

¹ [European Environment Agency \(2020\) "Trends and projections in Europe 2020"](#)

reduction target. This implies significantly ramping up the annual buildout of renewables across Europe.

Based on the current RES-target of 32% in 2030, the study also estimates that the annual average growth rate of RES should more than double to at least 2.7%-points after 2030 to achieve the long-term EU target of climate neutrality by 2050 (ibid).

In our future energy system, we will need all types of renewables in large scales. The EU's strategy for Offshore Renewable Energy sets out political targets of increasing Europe's offshore wind capacity from its current level of 12 GW to *at least* 60 GW by 2030 (this is lower than the Commission's 2030 Climate target impact assessment estimating that the EU needs 70-79 GW offshore wind to comply with the newly proposed 2030 reduction target) and to 300 GW by 2050. In 2019, the EU27 added 1,863 MW capacity. If current buildout rates do not speed up, projected installation capacity would lead to only approx. 90 GW in 2050.

The Commission's 2030 Climate target impact assessment also point towards significant increases in other types of renewables in the coming decades. Onshore wind is projected to reach a capacity of 295 GW by 2030 and 361 GW by 2050, which represents a massive growth from the current 170 GW installed capacity in EU28. Solar capacity is estimated to grow from 127 GW in 2015 to 343 GW in 2030 and 543 GW in 2050.

In the EU Hydrogen Strategy, the Commission sets out the ambitious strategic target of 40 GW installed electrolyser capacity by 2030. As the total European production capacity for electrolysers is currently below 1 GW per year², reaching 40 GW in less than one decade will require support schemes before renewable hydrogen becomes cost competitive. Renewable hydrogen produced via electrolysis using green electricity and hydrogen-derived synthetic fuels offer a viable solution to decarbonise the so-called hard-to-abate sectors such as aviation, shipping and certain industrial processes where GHG-reductions are hard to achieve.

Besides being essential in meeting the EU's climate objectives, renewables also provide major environmental, societal and economic benefits as they reduce air pollution, provide citizens with clean affordable energy, improves the competitiveness of EU industry and maintains the EU's frontrunner position on offshore energy and hydrogen. Investments in the renewables sector also has significant employment effects. Our analysis shows that investments in the green transition towards Denmark's national climate target of a 70% GHG-reduction by 2030 will create 290.000 person-years of employment in Denmark³.

The greatest challenge Europe is facing regards the green transition is ensuring sufficient amounts of green energy in our future energy system. Continuing state aid for these strategic important clean technologies will be of importance for the development of RES.

Ensure mechanisms that deliver a sufficient RES deployment

The current EU rules on state aid in place since 2014 have proven successful. Over the past decade, the buildout rate of renewables has increased, and renewable energy costs have

² [EU Hydrogen Strategy, 2020](#)

³ [Dansk Energi \(2020\) "Beskæftigelseseffekter af investeringerne i den grønne omstilling"](#)

dropped significantly. As an example, the cost of crystalline solar PV modules sold in Europe declined by approx. 90% from 2009 to 2019. Also, European offshore wind projects commissioned between 2010 and 2019 experienced a 27% fall in LCOE⁴.

Ideally, the green transition could happen without state aid. Current market prices are not yet sufficient for ensuring the needed energy transformation. That being said, investment signals should be market-driven, so state aid should be market-compliant and commercially viable projects should manage without subsidies. However, in order to meet the Union's climate objectives, putting subsidies to rest is not a viable solution in the short term.

In Denmark, subsidy levels for solar and onshore wind were record low in 2019 with a weighted average price premium of the winning bids of just 1.54 øre per kWh or approx. 0.21 Euro-cent per kWh⁵.

Solar and onshore wind are thus close to being completely subsidy free, but even for mature technologies such as onshore wind and solar, continued support is needed due to the scale of buildout. As the share of renewables in our energy consumption grows, more and varying sites for the deployment of renewables will need to come into play. This means that sites, that may not have the ideal geographical or climate conditions for producing wind or solar power will need to come into play. Subsequently, the cost of producing renewable energy will vary depending on the specific site chosen – even in a time where renewable energy as a whole is moving towards soon becoming subsidy free. It is thus essential, in order to not slow or hinder the green transition, that the principles of the current RES support schemes are upheld and that national RES support schemes are still made available in member states.

Subsidies serves a purpose of stimulating a certain kind of supply that would otherwise not emerge and it serves the end goal of climate neutrality and Paris Agreement compliance. Removing support schemes for renewables will only delay the necessary buildout. Postponing build-out of clean technologies will stall the development of RES as price reductions are highly driven by the volume of demand.

It is important to avoid market distortions and seek the most cost-effective routes to emissions reductions. However, investments are often shortsighted not taking into account the overarching target of climate neutrality by 2050. In the short term, transitioning from coal to gas, e.g. from coal-based hydrogen production to natural gas-based hydrogen, will deliver short term GHG-reductions at the lowest costs. On the contrary, switching directly to renewable-based hydrogen production represents the most cost-efficient route to GHG-reductions in the long run, since the inevitable switch to renewables is necessary in order to reach climate neutrality.

The green transition requires massive public and private investments. Risks of turning investments into stranded assets should be avoided at all time. Including the long-term target of climate neutrality when calculating costs related to investments in energy projects will highlight that investing in renewables is the most cost-effective way to cut emissions in the long run.

⁴ [IRENA \(2020\) Renewable power generation costs in 2019](#)

⁵ [Danish Energy Agency](#)

Continued state aid will play an important role in incentivising investments in renewables, ensuring a cost-efficient route towards climate neutrality.

National support schemes supporting an efficient electricity market

Emission reductions and electrification of industry will require substantial investments and industries should expect a predictable framework for the necessary investments in renewable energy production. The Commission should create a politically stable framework for the buildout of renewables across the EU by ensuring certainty for investors and promoting costs- and risk sharing among participants.

Danish Energy recommend the European Commission to design the future EEAG in a way that continues to allow member states to support renewable energy through national tenders.

For solar and onshore wind, we recommend continuing with the technology neutral tenders, as they have proven to effectively bring down costs.

For renewable hydrogen, the state aid guidelines should enable member states to provide differentiated support for boosting demand and supply, allowing for direct market-based support schemes and quotas in order to kick-start a hydrogen ecosystem throughout the EU working towards full commercial deployment. In the Commission's inception impact assessment, there is no clear distinction between low-carbon and renewable hydrogen. We would like to underline the importance of making a clear definition of renewable versus low-carbon hydrogen in order to create certainty for producers and investors and steer investments in the right direction.

In order to reach climate neutrality, Europe needs to increase number of renewable energy projects overall, and projects must be commissioned cost-effectively placed in optimal areas. The ideal scenario is that all of Europe is driven entirely on renewable energy, and green electricity and gas is traded and transported across borders. Therefore, the Commission should consider increasing incentives for Member States to make cross border tenders, opening support measures across borders.

De-risking investments in offshore wind projects

Future buildout of offshore wind demands risk-sharing with the Government, protecting developers from risks the developer essentially has no control over. Risk-sharing in the shape of double-sided contracts for difference (CfDs) protects developers from market price fluctuations and removes risks from the business case, enabling developers to make lower bids at auctions. This allows for the project developer to focus on getting his investment repaid with a fair return without calculating the risk of low electricity prices due to lack of electrification or infrastructure buildout, as these are risks that are outside the control of project developers and furthermore are extremely difficult to quantify.

The strike price, i.e. the guaranteed price for green electricity over the period in which the contract is made, provides less risk which lowers the required yield, i.e. the minimum acceptable return that investors demand as compensation for accepting the level of risk. This in turn results in lower costs of capital.

Being double-sided, this form of risk sharing can result in negative subsidies when the market price is higher than the strike price. In this case, the generator pays back the difference between the market price and the strike price to the Government. This will also be a good guidance of the need for subsidies, as longer periods with negative subsidies will indicate when it is time to remove support entirely.

The CfD scheme represents the most cost-effective way to support the deployment of new renewable energy production, as CfD-contracts stabilise a wind farm's revenue and gives high certainty to investors which enables a lower cost of capital. CfD schemes are transparent and compete purely on price. CfDs as support scheme is the closest, we get to market conditions, guaranteeing the lowest costs for Governments in the form of low subsidies, and provides consumers with cheaper electricity prices.

In the EU's Offshore Renewable Energy Strategy, the Commission estimates investments needs to be almost 800 billion euro in order to reach the target of 300 GW offshore wind by 2050. Around two thirds of these investments are related to the associated grid infrastructure. In order to activate private capital, we would like to underline the benefits of full scope tenders. Including the associated grids in the offshore wind competitive bidding process represents a cost-effective means to attract private investments in the necessary grid infrastructure and lower costs related to grid build-out.

More power to the EU ETS

Danish Energy believes markets should be the main tool to ensure investment incentives and security of supply and aim for a subsidy free RES buildout in the future. But Europe is not ready to entirely say goodbye to national support schemes just yet. The EU ETS is the EU's main tool in fighting climate change but is not yet sufficient to drive the green transition entirely on its own. We must avoid the risk that markets will not deliver on EU's climate objectives.

Alongside upholding the option for keeping or introducing national support schemes for RES through the EEAG, Danish Energy believes it is of utmost importance to further strengthen the EU ETS in order to ensure a sufficient and stable CO2 price that effectively incentivises emissions reductions and guides investments in a green direction. Please read the Danish Energy position on the EU ETS for an elaborated view on how to strengthen the EU ETS⁶.

Yours sincerely
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⁶ [Danish Energy comments on the ETS Roadmap consultation, 2020](#)