

## Maritime Issues - Renewable energy including offshore wind power: European Commission approves French state aid to six offshore wind farms

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### 【概要 : Summary】

In order to meet its commitments under the Paris Agreement and its long-term CO2 emission reduction target of 80%-95% below the 1990 figures by 2050, the EU needs to introduce more sustainable energy generation systems and renewable energy sources including solar, hydro, tidal, geothermal, biomass and also wind power.

Regarding wind power, besides wind power generation onshore, also offshore wind parks are a key element to achieve a reduction of CO2 and other emissions by introducing energy generation by wind as renewable energy source. Offshore wind turbines are considered more powerful, as they use more regular and stronger marine winds. In 2018, there were installed 2.6 GW (gigawatt) of new offshore wind energy capacity in Europe in 15 new offshore wind farms. The total installed offshore wind capacity grew by 18% to a total of 18.5 GW. The UK and Germany accounted for 85% of these installations, with an installed 1.3 GW and 969 MW, respectively.

According to the European Wind Energy Association (now WindEurope), by 2020, 230 GW of wind capacity will be installed in Europe, consisting of 190 GW onshore and 40 GW offshore. Besides Germany and the UK, new offshore wind capacity is expected to be constructed off the coasts of Denmark and the Netherlands, as well as floating wind farms off Portugal and France.

Recently, the European Commission approved the support for offshore wind farm projects in France, which receive also financial support by the French state. Each of the wind farms will be composed of 62 to 83 turbines with an installed capacity of 450 to 498 megawatts per farm. The selected installations will receive support in the form of feed-in tariffs over a period of 20 years. The construction of the first of the wind farms is to start in 2019 and they should be operational as of 2022. Once finalised, the wind farms will increase France's renewables generation capacity by about three gigawatt. The projects aim to help France to meet its climate targets based on the Renewable Energy Directive, which established targets for all EU Member States. The target for France regarding the necessary shares of renewable energy sources in the gross final energy consumption is 23% by 2020.



Image of offshore wind farm

Photo by [Nicholas Doherty](#) on [Unsplash](#)

## 【記事 : Article】

### 1. Support of wind power generation in the EU

Under the Paris Agreement, the EU committed to reduce its GHG emissions significantly in order to mitigate the impacts of climate change. The EU has also set a long-term CO<sub>2</sub> emission reduction target of 80%–95% below the 1990 figures by 2050. Furthermore, under the Renewable Energy Directive, each EU Member State has to meet its individual climate targets.

In 2009, the European Environment Agency (EEA) presented a report entitled “Europe’s onshore and offshore wind energy potential” in order to evaluate the Europe-wide resource assessment of onshore and offshore wind potential. This report was prepared by the EEA’s European Topic Centre for Air and Climate Change (ETC/ACC). In addition to calculating raw wind resource potential, this study quantitatively analysed the environmental and social constraints on wind sector development. The EEA report confirmed that, alongside other renewable sources such as biomass, wind energy could play a major role in achieving Europe’s renewable energy targets. However, the analysis’ results also showed uncertainties, particularly as Europe-wide data on meteorology, land cover, sea depth and wind turbine technology and their costs were applied. The aim was to use the result of this study as benchmark for the evaluation of the potential role of wind energy at European scale. However, more detailed analysis and assessments at regional, national or local scale were needed for taking decisions on supporting the further development of wind farms.

One of the study’s results was that wind energy could play a major role in achieving the European renewable energy targets and that the extent of wind energy resources in Europe was very considerable. However, regarding offshore wind farms, the study also concluded that the environmental and social constraints have a larger impact, due to the existing restrictions imposed by shipping lanes, gas and oil platforms, military areas, and environmentally protected areas, like Natura 2000 areas etc.. These restrictions significantly reduce the potential of

offshore wind farms. In Europe, the UK and Norway show the largest share of available offshore areas for wind energy generation. In the report, in order to clarify the relationship between wind energy potential and distance to the shore, offshore areas were split into categories according to their distance to the coast: 0–10 km; 10–30 km; 30–50 km; and > 50 km. The EEA report assumed, however, that only 4% of the offshore area in the 0–10 km class might be available for developing wind farms. 10% of the areas 10–30 km and 30–50 km from the coast can be used for wind farms. Regarding distances from the coast above 50 km, a larger share of offshore areas could be utilised, as wind is stronger in these areas while other functions such as shipping are less concentrated.

However, in order to utilise these up to 80% of offshore wind resources in areas with deep waters of 60 metres and more, a new technology had to be developed. Meanwhile, the floating wind farm concept is seen as the best approach for offshore deep-water areas, where the traditional bottom fixed installations techniques of wind turbines cannot be applied. While the technical feasibility of deep-water floating wind turbines has been successfully demonstrated, the technology of floating wind farms still needs financial support in order to accelerate the clean energy transition in Europe and to mitigate climate change. Therefore, from the economic perspective, commercially used floating wind turbines are still at the early phase of development. In 2018, the European Commission had already supported the construction of a floating wind farm in Portugal. Earlier in 2019, the European Commission already approved a French plan to support four demonstration floating wind farms.

### 2. Six offshore wind farm projects in France

The Renewable Energy Directive 2009/28/EC currently in force will be repealed by Directive (EU) 2018/2001 of 11 December 2018 on the promotion of the use of energy from renewable sources in 2021. However, for the six offshore wind farm projects in France, the

Directive 2009/28/EC will still be applied.

In France, there have been several plans of constructing offshore wind farms in order to use the steadier marine winds for the production of energy from the renewable source wind. The latest French plans for six offshore wind farms received the European Commission's approval for state aid on 26 July 2019. The offshore wind farm sites are located in "Courselles-sur-Mer", "Fécamp", "Saint-Nazaire", "Iles d'Yeu / Noirmoutier", "Dieppe / Le Tréport" and "Saint-Brieuc" in the North-West of France. Each of the wind farms will be composed of 62 to 83 turbines with an installed capacity of 450 to 498 megawatt. Saint-Nazaire on the west coast of France about 70km from Nantes in the Bay of Biscay will be the first project under construction. The park will consist of 80 offshore wind turbines with a unit capacity of 6 megawatts (MW) for a total capacity of 480 MW. The planned production will cover the equivalent of 20% of the electricity consumption of the Loire-Atlantique. Also the Iles d'Yeu / Noirmoutier offshore wind farm is located on the French West coast, about 100 km from Nantes.

The two Norman projects of Courselles-sur-Mer and Fécamp near Le Havre in the North of France will produce enough electricity to cover the equivalent of the electricity consumption of nearly 630,000 people, or more than 90% of the inhabitants of Calvados, and more than 770,000 people, or more than 60% of the inhabitants of Seine-Maritime, respectively. Also the Dieppe / Le Tréport offshore wind farm is located in the North of France, at the English Channel coast, between Le Havre and Calais.

Saint-Brieuc is located in the North-West of France, about 70 km west from Saint Malo. All these offshore wind projects have been selected for receiving support by the French government. The selected installations will receive support in the form of feed-in tariffs over a period of 20 years. The construction of the wind farms Courselles-sur-Mer, Fécamp, Saint-Nazaire, Iles d'Yeu/Noirmoutier, Dieppe/Le Tréport and Saint-Brieuc are expected to start in 2019 and are expected to be operational by

2022.

Once finalised, the wind farms will increase France's renewables generation capacity by about three gigawatt.

### 3. The Commission's approval of the support for six French offshore wind farms

On 26 July 2019, the European Commission announced that it has approved the French states' support to six large offshore wind farms located in "Courselles-sur-Mer", "Fécamp", "Saint-Nazaire", "Iles d'Yeu / Noirmoutier", "Dieppe / Le Tréport" and "Saint-Brieuc", in French territorial waters to be in line with EU State aid rules. The Commission assessed the six support measures under EU State aid rules, to be in line in particular with the Commission's 2008 Community guidelines on state aid for environmental protection. The European Commission's Community guidelines on State aid for environmental protection of 2008 allow EU Member States to support the production of electricity from renewable energy sources, subject to certain conditions. These rules are aimed at meeting the EU's ambitious energy and climate targets at the least possible cost for taxpayers and without undue distortions of competition in the Single Market.

According to the European Commission, the level of aid granted to the six projects is proportionate and does not entail overcompensation of the beneficiaries. Therefore, the projects in French territorial waters are in line with EU State aid rules, in particular the 2008 Guidelines on State aid for environmental protection. The companies involved in the construction of the six wind farms selected through two tenders in 2011 and 2012, will receive the support in the form of feed-in tariffs over a period of 20 years. The Commission concluded that the supported projects would help France boost its share of electricity produced from renewable energy sources without unduly distorting competition in the single market.

#### 4. The further way forward

Regarding the current development of offshore wind farms, it can be expected that Europe will further increase its grid-connected offshore wind capacity. In 2017, a record 3,148MW of additional capacity was installed, which was twice as much as the previous year (1,558MW in 2016). The figures for 2018 with 15 new offshore wind farms completed suggested that the expansion of offshore wind energy would further continue. According to WindEurope, Europe installed 1.9 GW of new offshore wind in the first half of the year, up from the 1.1 GW in the same period in 2018. Regarding the offshore installations in the first half of 2019, the UK (931 MW), Denmark (374 MW), Belgium (370 MW) and Germany (252 MW) accounted for most installations. Instead, France led the onshore installations. In the first half of 2019, Europe invested a total of EUR 8.8 billion in the construction of new wind farms, out of which EUR 6.4 billion went into onshore wind farms and EUR 2.4 billion into offshore wind farms. The Commission assessed the six new French projects for offshore wind farms and they are supported under EU State aid rules, as these projects will help France to boost its share of electricity produced from renewable energy sources.

According to the European Wind Energy Association (now WindEurope), by 2020, 230 GW of wind capacity could be installed in Europe, consisting of 190 GW onshore and 40 GW offshore. This would mean that 14-17% of the EU's electricity is produced by wind power, avoiding 333 million tonnes of CO<sub>2</sub> per year. Therefore, wind energy can play a major role in achieving the European Member States' renewable energy targets.

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