

【欧州】 【海事】

Maritime Issues - Renewable energy including offshore wind power generation: The European Parliament endorses own-initiative resolution on the EU' s offshore renewable energy strategy

Andrea Antolini Former Researcher JTTRI

【概要 : Summary】

The EU plans to reach at least 340 GW of energy production from offshore renewable energies in all EU sea basins by 2050. The installed capacity of offshore wind should reach 70-79 GW to ensure a cost-competitive transition to a 55% GHG emission reduction by 2030. However, many EU Member States are lagging in the deployment of renewable energy and the necessary infrastructure, including wind energy.

Considering this situation, during the February 2022 plenary session, the European Parliament adopted a resolution on the EU offshore renewable energy strategy based on the Committee on Industry, Research and Energy (ITRE)' s own-initiative report on the strategy. This constitutes the European Parliament' s response to the European Commission' s strategy paper COM(2020)741 final, which was adopted in November 2020 as part of the measures regarding the European Green Deal.

The European Parliament' s resolution calls on all Member States to make considerable efforts to realise their full renewable energy potential, because there are areas where offshore energy potential remains largely unexplored, such as in

the Atlantic or in the Mediterranean Sea, Baltic Sea, and Black Sea. Since the installation of offshore wind farms is still progressing too slowly, more measures need to be taken to accelerate the deployment of the offshore renewable energy production. In this context, the European Parliament calls on the European Commission and the EU Member States to urgently simplify and streamline the relevant permission procedures, including the revision of the public procurement and state aid rules, and to coordinate their efforts to achieve the green transition. The acceleration of the deployment of offshore renewable energies would also make the EU geo-politically independent from fossil fuel imports from Russia or other world regions.

【記事 : Article】

1. Background of EU' s offshore wind power generation

Based on the EU' s target to achieve net-zero GHG emissions by 2050 in the European Green Deal (COM (2019) 640 final) and the EU' s commitments under the 2015 Paris Agreement, the EU will have to significantly increase the utilisation of renewable energies in its energy mix.

Furthermore, recently, the EU's dependence on fossil fuel imports from Russia emerged as a new geo-political problem, due to the Russian invasion in the Ukraine. Therefore, the increase of the share of renewable energies in the EU's energy mix has become not only an ecological necessity to achieve the 2050 carbon neutrality target, but also a new geo-political necessity to become independent from Russian energy supplies. The EU must diversify its energy sources as soon as possible and to transform its energy supply more rapidly toward renewable sources.

The development of offshore wind farms is one of the EU's crucial tools. Wind power comes as a clean, free, and abundant energy source for generating electricity. In contrast to onshore wind parks, the EU's offshore wind power generation has benefits from the utilisation of the stronger and steadier winds at sea and less space restrictions, as onshore wind farms (European Commission 2021a). The offshore wind energy production is considered being “...essential, building on regional cooperation between Member States”, according to the European Commission's European Green Deal (COM (2019) 640 final).

To cover the future electricity demand with an estimate of at least 50% of the total energy mix in 2050, the EU is committed to significantly increase offshore wind development and explore the potential of offshore wind in Europe's seas. European Commission estimates that between 240 and 450 GW of offshore wind power is needed by 2050 (European Commission n.y.).

The EU has contributed significantly to wind power development so far, through ambitious policies and investments. The EU's North Sea is currently the leading region for deployed capacity and expertise in offshore wind and the EU's main producers of offshore wind energy are Germany, the Netherlands, Belgium, and Denmark (COM/2020/741 final). However, also the Baltic Sea, the Atlantic Ocean as well as the Black Sea

offer a good natural potential for both, offshore bottom-fixed and floating wind energy, while the Mediterranean Sea shows potential for floating offshore wind energy (COM/2020/741 final). Moreover, the EU islands have large potential in marine energies and can play important role in the EU's offshore energy development. Finally, many European outermost regions and overseas countries and territories have a good potential for offshore renewable energy (COM/2020/741 final). The EU strategy on offshore renewable energy (COM(2020)741) covers various technologies, including the deployment of offshore wind farms, bottom-fixed and floating. The first pilot projects of floating offshore wind turbines are in operation and the deployment is expected to accelerate towards the end of this decade.

In 2018, the EU's total offshore wind power generation capacity reached 22.1 GW from 5,047 grid-connected wind turbines across 12 countries (European Commission 2021b). In 2019, 502 new offshore wind turbines of 10 projects were connected to the grid across. In 2020, 2.4 GW of new capacity were added (European Commission 2021b). The bottom-fixed wind turbines reached a total installed capacity of 45 MW in 2019.

However, floating wind farms will open the possibility to harvest the most resourceful wind energy sites in Europe and is expected to open the market for more offshore wind farms in the deep-sea areas of more than 60 metres (European Commission 2021c). The uptake of floating offshore wind technology is expected to take place in particular in the Atlantic and Mediterranean Sea and the installation of 350 MW of floating capacity in European waters should be finalised by 2024 (European Commission 2021b).

2. Main elements of the Strategy on offshore renewable energy (COM(2020)741 final)

On 19 November 2020, the European Commission published an EU Strategy to explore offshore renewable energy for a climate neutral future.

“An EU Strategy to harness the potential of offshore renewable energy for a climate neutral future.” (COM(2020)741 final) on offshore renewable energy plans and follow-up actions contains suggestions regarding the investment, regional cooperation, predictable legal framework, and measures to strengthen the supply chains and to support continuous innovation in the EU (COM(2020)741 final). To achieve the objectives of climate neutrality and zero pollution, the offshore renewable energy plays a central role and needs to be focused on, as it can utilise the oceans’ energy without additional GHG emissions in the production process of electricity. Therefore, the offshore renewable energy is considered being a cornerstone of the EU’ s clean energy transition. Out of the various renewable energy technologies covered in the EU strategy on offshore renewable energy (COM(2020)741), offshore wind energy is currently the only commercially deployed marine renewable energy source with wide-scale adoption (European Commission 2021b). The strategy COM(2020)741 proposes to increase Europe’ s offshore wind capacity from 12 GW to at least 60 GW by 2030 and to 300 GW by 2050. The Commission aims to complement this with 40 GW of ocean energy and other emerging technologies such as floating wind and solar by 2050. The commercial development of floating technologies will allow exploitation of a much wider range of offshore locations (Wilson 2022).

Whereas wind power is the only offshore renewable technology that currently operates on a commercial basis, the European Commission also sees potential in other renewable technologies such as tidal and wave energy, salinity gradient energy and ocean thermal energy conversion (OTEC), floating solar energy, and algae for biofuels. The EU strategy not only considers offshore energy production, but also addresses broader issues, including access to sea-space, industrial and employment dimensions, regional and

international cooperation, and the technological transfer (COM(2020)741 final).

The strategy intends to enhance maritime spatial planning for a successful large-scale deployment of offshore renewable energies and the sustainable use of the EU’ s Sea space and resources, while encouraging the necessary private investment to effectively develop offshore renewable technologies. The strategy also promotes a pan-European supply chain that involves multiple regions, in coastal and inland areas. Regarding the financing of offshore projects, the strategy COM(2020) 741 final underlines the importance of EU programmes such as the Connecting Europe Facility (CEF) for cross-border infrastructure, the Horizon Europe programme for research and innovation, the InvestEU programme and the NextGenerationEU recovery plan. Finally, the Recovery and Resilience Facility (RRF) has a total budget of EUR 672.5 billion of which at least 37% should be spent on climate related actions (Wilson 2022).

3. The European Parliament’ s own-initiative resolution on the offshore renewable energy strategy

Considering the EU Strategy for Offshore renewable energy sources, the European Parliament’ s ITRE committee adopted an own-initiative report entitled “A European strategy for offshore renewable energy “ on 30 November 2021 (ITRE Committee 2022). This own-initiative report constitutes Parliament’ s response to the Commission’ s strategy COM(2020)741 proposal. The European Parliament adopted an own-initiative resolution based on the ITRE Committee rapporteur Morten Petersen’ s final report on the offshore renewable energy strategy in a plenary vote on 16 February 2022, with 518 votes in favour to 297 against, and with 33 abstentions (European Parliament 2022a).

The report calls for the EU and its Member States to scale up their offshore renewable energy

production and to extend its scope to all of Europe's sea basins (ITRE Committee 2022). The resolution emphasises the need for major investment in infrastructure, improved collaboration between EU Member States, further research, and development, streamlined permits and maritime spatial plans, and more effective market design, including access to sufficient EU funding necessary to implement these goals (ITRE Committee 2022).

According to IRTE Committee's rapporteur Morten Petersen, the offshore renewable energy strategy is essential to reaching the EU's climate objectives (European Parliament 2022b).

In the light of the EU's ratification of the Paris Agreement, the European Green Deal and the recently adopted European Climate Law, which set an EU target of reducing GHG emissions by at least 55% by 2030, the transition to a net-zero GHG economy requires a rapid and clean energy transition that ensures sustainability, security of supply and affordability of energy, as well as the necessary energy infrastructure among others (European Parliament 2022a). However, while the EU target aims at reducing GHG emissions by at least 55% by 2030, the European Parliament now calls on EU Member States and the private sectors to go beyond this envisaged 55% reduction target by 2030 (European Parliament 2022c).

The European Parliament emphasises that energy savings, energy efficiency and renewable energy are among the key drivers for reaching a net-zero emissions economy and recalls the EU's commitment to the energy efficiency first principle in all relevant legislation and initiatives (European Parliament 2022a). The Parliament also emphasises that the EU will not be able to live up to its climate commitments if no further actions are taken to accelerate the deployment of offshore renewable energies (ORE) (European Parliament 2022a).

Based on the significant decrease of the cost of renewable offshore electricity, which has fallen

by 48% between 2010 and 2020, the European Parliament believes that combating climate change with the take up of ORE is vital to achieving the Paris Agreement goals and the EU's commitment to achieve net-zero GHG emissions by 2050.

Furthermore, the NextGenerationEU recovery plan provides a unique opportunity to mobilise significant amounts of public capital in addition to private investment. While investments in the wind energy value chain have allowed the sector to develop; the investment needed to pursue the large-scale deployment of ORE by 2050 is estimated to be almost EUR 800 billion. Two thirds will be necessary to funding the associated grid infrastructure and around one third for offshore power generation (European Parliament 2022a).

The Parliament stresses that a net-zero emissions economy requires renewable energy to be deployed on an unprecedented scale, while at the same time many Member States are lagging behind in deploying the necessary renewable energy and infrastructure (European Parliament 2022a). The European Commission and Member States are urged to ensure to build the adequate infrastructure, such as transmission lines, to integrate and transport electricity generated from offshore renewable energy (European Parliament 2022c).

The Member States' maritime spatial planning should also ensure that offshore energy infrastructure can co-exist with maritime transport routes, the fishing industry, traffic separation schemes, anchorage areas, shipping access and activities and port development. Moreover, the resolution underlines the importance of modern, sustainable, and innovative seaports for the assembly, manufacture and maintenance of offshore renewable energy equipment and the considerable investment needed to upgrade port infrastructure (European Parliament 2022c).

Furthermore, the European Parliament calls for accelerating the deployment of offshore renewable energy by applying time limits for authorities to

approve permits for offshore wind farms and others. Therefore, the MEPs recommend that the Commission should revise public procurement and state aid rules to ensure a cost-competitive transition, supported by a well-functioning market that encourages the take-up of offshore wind. The authorities' permits remain a key problem as the process for permissions needs to be accelerated to reach the 2030 and 2050 goals. Consequently, the European Parliament calls on EU Member States to urgently simplify the relevant procedures and coordinate their efforts. This includes creating transparent processes and introducing time limits for issuing permits (European Parliament 2022c). The resolution also underlines that offshore wind farms can benefit marine biodiversity if designed and build sustainably (European Parliament 2022b). The Commission is invited to carry out an impact assessment that clarifies the economic and socio-economic impacts of offshore renewable energy, focusing on existing and creating jobs by the deployment of 300–450 GW of capacity by 2050 (European Parliament 2022c).

The EU's offshore renewable energy (ORE) production sector is a technological leader with significant potential to boost the EU economy, including technology and systems exports could be significant (European Parliament 2022a). Therefore, the Parliament stresses the importance of maintaining the EU's competitive advantage and calls on the Commission to ensure that the EU keeps its technological leadership, and providing affordable, safe, and sustainable energy while considering potential impacts, including those related to climate change and the marine environment (European Parliament 2022a).

The European Parliament's own-initiative resolution underlines the urgency to accelerate offshore renewable energy production to reach the targets of the European Green Deal and to mitigate climate change.

4. Conclusion

With the adoption of the own-initiative resolution on a European strategy for offshore renewable energy (2021/2012 (INI)), the European Parliament gives its non-legislative response to the European Commission's strategy COM(2020)741 final. While the EU has enormous potential for offshore renewable energy production, the quick deployment of offshore renewable energy is one important pillar to achieve the net-zero emission target by 2050. The own-initiative report by the ITRE Committee and endorsed by the European Parliament underlines the need to significantly accelerate the deployment of the offshore renewable energy farms. In this context, the EU Member States will also need to urgently simplify and streamline the relevant permission procedures and to coordinate their efforts. The EU Member States also need to expand and improve their energy infrastructure to cope with the increased amount of renewable energy.

The offshore renewable energy strategy is key to the green transition but also to become independent from oil and gas imports from Russia. This has become highly necessary after the recent Russian invasion into Ukraine and the resulting war. Therefore, from a geopolitical perspective, reaching this independence from fossil fuel imports from Russia is of utmost importance, as the EU's geopolitical position is weak due to the impossibility of implementing an oil or gas embargo against Russia in a reaction to the invasion in Ukraine. This war situation has made the shift towards renewable energies in the EU's energy production even more urgent. The EU must accelerate the deployment of renewable energy sources not only for covering the consumption of energy in general and in the transport sector in particular, to reach its net-zero emission target by 2050, but also to become independent from imports of fossil fuels from Russia or other geo-politically instable world regions.

References

- COM (2019) 640 final: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The European Green Deal. In: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019DC0640&qid=1647938998647>, 11.12.2019, accessed 29 March 2022
- COM/2020/741 final: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS An EU Strategy to harness the potential of offshore renewable energy for a climate neutral future. COM/2020/741 final. In: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A741%3AFIN&qid=1605792629666>, 19.11.2020, accessed 29 March 2021
- Committee on Industry, Research and Energy (ITRE Committee 2022): EU strategy for offshore renewable energy. At a Glance. In: [https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA\(2022\)698909](https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA(2022)698909), 10-02-2022, accessed 29 March 2022
- European Commission (n. y.): Onshore and offshore wind. In: https://ec.europa.eu/energy/topics/renewable-energy/onshore-and-offshore-wind_en, accessed 30 March 2022
- European Commission (2021a): Kadri Simson at COP26 potential of offshore renewable energy and green hydrogen. In: https://ec.europa.eu/commission/commissioners/2019-2024/simson/announcements/kadri-simson-cop26-potential-offshore-renewable-energy-and-green-hydrogen_en, 5 November 2021, accessed 29 March 2022
- European Commission (2021b). The EU Blue Economy Report. 2021. Publications Office of the European Union. Luxembourg. In: https://blueindicators.ec.europa.eu/sites/default/files/2021_06_BlueEconomy_Report-2021.pdf, accessed 29 March 2022
- European Commission (2021c): Innovation on floating wind energy deployment optimized for deep waters and different sea basins (Mediterranean Sea, Black Sea, Baltic Sea, North-east Atlantic Ocean). In: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl5-2021-d3-03-12>, 02 September 2021, accessed 29 March 2022
- European Parliament (2022a): European Parliament resolution of 16 February 2022 on a European strategy for offshore renewable energy (2021/2012 (INI)). In: https://www.europarl.europa.eu/doceo/document/TA-9-2022-0032_EN.html, 1 March 2022, accessed 30 March 2022
- European Parliament (2022b): Boost offshore renewable energy sources to meet climate targets. In: <https://www.europarl.europa.eu/news/en/press-room/20220210IPR23015/boost-offshore-renewable-energy-sources-to-meet-climate-targets>, 16-02-2022, accessed 30 March 2022
- European Parliament (2022c): A European strategy for offshore renewable energy. 2021/2012 (INI). In: <https://oeil.secure.europarl.europa.eu/oeil/popups/summary.do?id=1694133&t=e&l=en>, 16/02/2022, accessed 30 March 2022
- Wilson, Alex (2022): Legislative Train Schedule. A European Green Deal. EU Strategy for Offshore renewable energy sources. In: <https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-offshore-wind>, 20 February 2022, accessed 29 March 2022