



CEIF's Working Group on Offshore Renewables

EXPERT INFORMATIVE NOTE FOR NSEC'S MINISTERIAL SUMMIT OF 12 SEPTEMBER 2022

Current barriers of the EU supply chain for offshore renewables

In November 2020, the European Commission published its Offshore Renewable Energy Strategy¹, highlighting the high potential for offshore renewables across the EU to become a pillar of the energy transition. The Strategy stressed the importance of having competitive supply chains and developing a skilled workforce able to scale up to meet offshore renewable political ambitions and to maintain the EU's global leadership and excellence.

The Strategy also pointed at the importance of identifying critical supply chain segments that may become bottlenecks or barriers to achieving the mid- and long-term renewable goals. In consequence, the European Commission established a dedicated working group under the existing Clean Energy Industrial Forum. The working group is composed of industry experts from the different segments of the offshore renewable supply chain (including renewable project developers, OEMs, bottom-fixed and floating foundations, TSOs, ship-owners, ports, etc.), academia and NGOs.

The working group has started investigations to identify the bottlenecks that the supply chain might face in delivering the EU's offshore renewable ambitions and accelerated deployment, including the different production and logistics capabilities, skills and staffing and sustainability.

In view of the Ministerial meeting of the North Seas Energy Cooperation (NSEC) of 12 September 2022, the working group has prepared this short note to inform policy-makers of current supply chain challenges faced by the industry, some of which are exacerbated by

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A741%3AFIN&qid=1605792629666>

ongoing global developments. The working group notes that it will continue its work on the assessment of mid- and long-term supply chain barriers and needs, and stands ready to inform NSEC and other high-level regional groups of its findings, including suggestions on how to overcome the challenges.

Working group's short messages to NSEC policy-makers:

- Current **disruptions to current global supply chains and energy markets are putting substantial pressure** on some of the segments of the offshore renewable supply chain. Production and profitability are affected by soaring energy, commodity and transport prices. With the pandemic, the availability of raw materials and components has been limited and ports are overloaded. The war in Ukraine is adding on difficulties in some areas. The price jumps in raw materials and equipment costs were to an extent not foreseeable for investors and companies and have an impact on the offshore supply chain.
- The EU offshore supply chains needs to remain open to **global and fair competition**, competitive globally and within the EU, in the benefit of both the industry and consumers, and considering that competition is the main driver for incremental innovation. Offshore renewable supply chains therefore need to be **based on a reciprocal level playing field** for EU and third country actors through adequate trade mechanisms. Global markets enable the industry to make efficient procurement decisions based on the availability, quality and cost of the raw materials and components needed. At the same time, **sufficient EU resilience** is necessary, avoiding over-dependencies on single third parties on critical parts of the supply chain or on energy imports.
- To establish efficient supply chains, it is necessary to have **long-term visibility** (e.g. until 2050) of the desired offshore renewable capacity ambitions in the North Sea and other EU sea basins, to adapt the relevant supply chain segments (e.g. turbine manufacturing, vessels, etc.), minimise bottleneck risks and invest in them accordingly in facilities and production capacity.
- Moreover, clarity on the long-term **target amounts of offshore renewables per technology** would further allow the industry to adapt its supply chain segments accordingly, especially on the amount of ocean renewables and floating offshore wind, which have different supply chain requirements than bottom-fixed offshore wind, such as different equipment, assembly and skills.
- At the same time, **short- and mid-term visibility on project pipeline and volumes** (e.g. until 2030-2035) is also highly important to ensure readiness of the sector for specific short- and medium-term project needs. This is essential since the main driver for the current losses in some key segments of the supply chain is the lack of sufficient volumes being auctioned. It also provides substantial advantages in planning and investment; for example, visibility on tenders to be expected in the next years may enable TSOs to aggregate tenders for offshore and onshore converter stations and

corresponding HVDC technologies into a single large-scale tender (instead of a tender per project), enabling technology providers to do better investment planning.

- **Lengthy national permitting processes and appeals** should be minimised as much as possible, since these hamper the industry's ability to attract investors and the timely achievement of renewable energy goals, in the detriment of consumers. The working group recommends Member States to streamline national permitting and Court procedures to the extent possible, to rapidly establish one-stop shops for permitting, to identify offshore renewable and afferent energy infrastructure projects as of 'overriding public interest' and to extend permitting streamlining requirements applicable to PCI energy infrastructure projects to non-PCI offshore grid projects. Moreover, for small demonstration renewable energy projects needed to continue developing new renewable energy technologies, permitting should be proportionally lighter and limited. The roll-out of port infrastructure and dredging needed to achieve the offshore renewable ambitions would also benefit from accelerated permitting.
- **Innovation** in offshore renewables must remain a top priority, with a particular focus on the continued deployment of improved technologies at scale and in real-sea conditions. While Europe retains technological leadership in floating wind and ocean renewables, global industrial leadership remains contested. Member States are advised to actively leverage existing EU-level funding opportunities such as the Recovery and Resilience Facility, the Connecting Europe Facility, the Innovation Fund and Horizon Europe.
- Active engagement and collaboration with **stakeholders** is highly beneficial for the supply chain. For example, ports can provide relevant information when setting the location of offshore wind farms such as on sailing and maritime access routes.
- Despite the enormous offshore potential and opportunities in the EU, in the context of today's supply chain and energy challenges, **EU turbine manufacturers are currently making losses** and experiencing financial difficulty that hampers investment in new production capacity. The working group recommends NSEC continuing to exchange **best practices on auction design**, including: the consideration of possible non-price criteria to reflect additional benefits to society and pursue objectives that are not directly or indirectly related to the main objective of the state aid measure; the exchange of learnings from negative bid results; the possibility of indexing tenders to inflation or input costs; the possible inclusion in tender criteria of sustainability and biodiversity, the engagement of renewable energy communities and criteria for efficient integration of offshore wind within the wider energy system. The working group notes that auction design should strive for reducing costs for consumers, support the energy system as a whole, and at the same time incentivise project developers to increase the sustainability of the selected technologies, while in all instances avoiding local content requirements and to establish sustainable partnerships within the supply chain.
- The **working group** notes that some segments of the supply chain will need **careful further assessment** and consideration to ensure that they do not become bottlenecks

in reaching long-term offshore renewable ambitions, on which the working group will continue to **focus its future investigations**. The working group welcomes receiving input from relevant stakeholders that could support its further investigations. This includes but is not limited to the following points:

- Further understanding the current capabilities of the offshore supply chain, main actors, level of EU production vs imports, market concentration, resilience of the entire EU offshore supply chain, etc.
- Analysing the needs for sufficient installed capacity of large machinery and components (e.g. tower factories, blades, foundations, castings, etc.);
- Assessing whether current port and yard (e.g. shipyard) capabilities and planned upgrades are adequate to manage regionally the commissioning and operation of offshore renewable projects, including the investment needs for ports to perform such upgrades and afferent energy transmission infrastructure;
- Looking into the availability of vessels, in number and in technical capabilities, to commission and operate the offshore wind farms and energy transmission infrastructure, and the parameters that vessel manufacturing companies need to make the necessary investment decisions (e.g. visibility on and possibly standardisation of the expected size of wind turbines);
- Exploring the advantages of ‘mobile factories’ for modular components of ocean renewable components;
- Standardisation needs in different segments of the supply chain (e.g. wind farm foundations or HVDC topsides, components and control systems, enabling interoperability);
- Addressing the need for developing floating transmission infrastructures (e.g. floating substations and their associated dynamic cables) unlocking large scale development of floating wind in deep water areas ;
- Considerations on the staffing and skills of the sector, such as HVDC engineering capabilities;
- The sustainability of the whole supply chain, including eco-design and circularity, recyclability, repowering, decommissioning and carbon footprint will be explored.
- The interlink with resilient global markets for critical raw materials used in the offshore renewable supply chain, based on open competition, exploring new sources as well as innovative alternative solutions, minimising over-reliance on single countries, and with sufficient processing capacity in Europe.