



Planning offshore renewable energy with nature in mind

Guiding principles

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1 Objectives of this paper

The EU [Offshore Renewable Energy Strategy](#), published at the end 2020, plans for a 25-fold increase in offshore wind by the year 2050, together with significant deployment of wave, tidal, thermal and other marine renewable energy. In principle, Seas At Risk welcomes this step in the transition to renewable energy but cautions that countries will have to dramatically step up the implementation of environmental legislation if this large-scale infrastructure deployment is not to come at the cost of marine biodiversity and ecosystem health.

Climate breakdown and biodiversity collapse are two sides of the same coin. Large-scale deployment of offshore ocean energy should be carried out with respect for marine life. However, the starting conditions do not bode well. Europe's seas are already in a dire state due to over-exploitation and weak implementation of environmental legislation. Unless these issues are tackled, adding more pressure will lead to a rapid further deterioration of the marine environment.

While offshore renewable energy will help to mitigate climate change, the biodiversity concerns it raises need to be addressed. This paper aims to set out some principles that offshore renewable energy planning at regional and national levels should adhere to in order to be in line with key EU objectives for biodiversity restoration and nature protection.

2 The EU Offshore Renewable Energy Strategy: environmental challenges

The EU Offshore Renewable Energy Strategy aims for 300 GW of wind and 40 GW of ocean energy by 2050. This unprecedented upscaling of the sector would contribute strongly to the EU meeting its Paris Agreement target. The Strategy also sets out a vision to ensure that the planning of offshore renewable energy is compatible with biodiversity protection and is done in a holistic and regionally coordinated manner. In this, it relies heavily on the effective implementation of the Maritime Spatial Planning (MSP) Directive and the comprehensive set of EU environmental legislation (the Marine Strategy Framework Directive (MSFD), Habitats and Birds Directives, Strategic Environmental Assessment (SEA) Directive, among others), whose implementation to date does not inspire confidence.

The European Environment Agency's [Marine Messages II](#) shows a continuing trend of over-exploitation and degradation of Europe's seas. The Commission's [evaluation of the first cycle of the MSFD](#) concluded that Member States have failed to achieve good environmental status by 2020. In its [Special Report 26/2020: Marine environment: EU protection is wide but not deep](#), the European Court of Auditors came to a similar conclusion.

Although the MSPD calls for ecosystem-based, cross-sectoral planning to keep cumulative impacts within ecological limits, in practice, planning is often done on a sector-by-sector basis, with nature protection considered a 'user' like any other, and often sacrificed to make space for others.

The Strategy overlooks the poor status of the Marine Protected Areas (MPAs) network designated under the Nature Directives and the MSFD. By 2030, the Biodiversity Strategy aims to transform 30% of Europe's seas into effectively managed protected areas, with one-third strictly protected. Today, 12.4% of the EU marine area is designated for protection but [only 1.8% of the seas are covered by MPAs with management plans](#). In addition, marine protection in European seas is largely focused on coastal areas, with few protected offshore areas. Efforts have to be stepped up drastically to implement management measures in all MPAs so that existing harmful activities are stopped and new ones prevented. Large-scale

infrastructures such as offshore wind farms should not be allowed in MPAs and other ecologically valuable areas, and buffer zones should be established.

In March 2021, countries have to submit their Maritime Spatial Plans for the next six years to the Commission. It will be a challenge for these plans to integrate national offshore renewable energy targets (as set in the national energy and climate plans) and at the same time, comply with the Biodiversity Strategy objective of 30% effective protection and nature restoration.

The EEA Marine Messages II report projects a doubling of the EU maritime economy by 2030 in light of the EU's 'Blue economy' objectives, with competition for space thus likely to increase. To make room for renewable energy, harmful activities such as oil and gas drilling, extraction of raw materials, harmful fisheries practices and dirty shipping will have to be reduced or banned.

Finally, it is crucial that offshore energy is planned as part of integrated energy scenarios with far-reaching measures to reduce overall energy consumption. Reports by the Intergovernmental Panel on Climate Change (IPCC) conclude that technology and innovation alone will not suffice. Rather, a deeper transformative change of our economies, lifestyles and consumption will be required, alongside the transition to renewables.

3 European principles

3.1 Climate and energy strategies: the need for transformative change

- The EU aims to be climate-neutral by 2050 and – as part of the [European Green Deal](#) and the upcoming [Climate Law](#) – a greenhouse gas emissions reduction target of at least 55% by 2030 compared to 1990. While this is an improvement compared to the EU's previous 2030 target (at least 40% cuts in greenhouse gas emissions from 1990 levels, at least 32% share for renewable energy, and at least 32.5% improvement in energy efficiency), this is not sufficient to reach the Paris Agreement objective to limit global temperature rise to 1.5°C.
- According to the [CAN-EEB clean energy scenario](#), which Seas At Risk supports, the EU can achieve climate neutrality by 2040 – a decade before the 2050 target proposed by the EU. This requires that in the coming decade and beyond, EU Member States need to significantly reduce overall energy consumption, improve energy efficiency, and scale-up the deployment of renewable energy.
- Offshore renewable energy should be planned as an integral part of such an overarching strategy to reach 100% renewable energy by 2040. Ambitious targets for offshore renewable energy deployment will not replace but will complement the deployment of other renewable energy sources such as onshore wind and solar energy.
- IPCC and IPBES reports conclude that technology or efficiency fixes will not be enough to counter climate and biodiversity collapse. In addition, a transformative change of our economic systems is needed – from a throw-away economy to a circular one, from an economy aiming for eternal GDP and consumption growth to one focusing on sufficiency and the well-being of the planet and people. This would reduce the demand for energy – including demand for renewable energy – much more than technology or efficiency measures alone, and thus keep energy demand (and the required amounts of offshore renewable energy) within ecological limits. Future energy demand

outlooks should include such a strong sustainability scenario, and not merely be based on business-as-usual economic development.

- Moving towards climate neutrality by 2040 also means phasing out fossil fuels before that date. As at least 80% of discovered fossil fuels need to stay in the ground, the EU should immediately stop subsidising all fossil fuels, stop approving new permits both for exploration and exploitation of oil and gas, and adopt an offshore drilling ban in EU waters.

3.2 Minimising impacts on marine environment

- The planning and deployment of offshore renewable energy should be handled with respect for marine ecosystems, use marine space carefully, support ocean resilience and apply the precautionary principle at all times. It is imperative that climate, energy and marine biodiversity policies reinforce each other.
- The extent of renewable energy installation and related grid infrastructure is limited by the vulnerability and carrying capacity of marine ecosystems. The cumulative effects of multiple large-scale offshore wind farms and of impacts from other sectors on the marine environment need to be fully taken into account. Where these are uncertain or unknown, the precautionary principle has to be applied and knowledge gaps must be addressed.
- Poor implementation, sector-by-sector planning, and fragmented governance means that good environmental status (the objective of the MSFD) is far from being reached. The [Blue Manifesto](#), signed by more than 150 NGOs, sets out a road map for restoring European seas to health by 2030.
- Large-scale offshore renewable energy deployment should be framed according to the road map laid out in the Blue Manifesto. The Blue Manifesto measures that are most relevant to offshore renewable energy are:

- **By 2030, at least 30% of the ocean will be highly or fully protected.** We need vulnerable marine and coastal areas to be kept pristine and wild: they will act as safe havens for animals and plants to have a break from harmful human activities and where coastal communities can enjoy a preserved nature. These areas must be restricted to most human activities. They must form an ecologically coherent and continuous network to allow species to travel from one to the other and have long-term budgets, monitoring, and management plans.
- EU adopts an **Offshore Wind Strategy which fully takes into account the impacts on marine ecosystems** of the development of offshore wind energy production plants.
- Ensure the EU countries adopt ecosystem-based **maritime spatial plans** that include at least 30% of highly or fully protected MPAs and areas for human activities allocated based on ecosystem sensitivity.

4 Guiding principles for regional and national planning

4.1 Regional planning

- Develop regional strategies for offshore renewable energy, including cross-border cooperation between countries, also on maritime spatial planning and monitoring.
- Give a coordinating role to Regional Sea Conventions on renewable energy planning and maritime spatial planning in order to ensure cooperation and alignment with environmental regulations.

4.2 Ecosystem-based maritime spatial planning

- Ensure that maritime spatial plans are aligned to the EU Offshore Renewable Energy Strategy, use an ecosystem-based approach and are framed by ecological targets, as explained in [Seas At Risk's guide to maritime spatial planning with nature in mind](#).
- Ensure much stronger implementation of the MSD, Nature Directives and other environmental legislation so that maritime spatial planning, including offshore renewable energy planning, can build on a sound and environmentally sustainable basis.
- To underpin maritime spatial planning, carry out vulnerability mapping to identify zones where offshore renewable energy planning development can take place with the lowest environmental impact.
- Implement strong management measures in MPAs to remove existing harmful activities and to prevent the establishment of new ones.
- Do not deploy offshore wind energy in MPAs and other ecologically valuable areas for sensitive species and habitats and/or providing climate refugia. Where construction takes place near such (protected) areas, buffer zones should be established.
- Ensure that offshore wind farms apply nature-inclusive design (e.g. artificial reefs in wind parks).
- Ensure that offshore wind farms, when planned in close proximity, are complementary in design, e.g. ensure continuation of a bird corridor, also when planned at both sides of a border.
- Make space for renewable energy by reducing space for non-sustainable sectors, i.e. gradually ban offshore oil and gas drilling, deep sea mining, bottom trawling, sand extraction and other harmful activities.
- Ensure that maritime spatial planning integrates new findings from research, innovation and monitoring data through adaptive management.
- Promote multi-use in offshore renewable energy, on condition it does not create additional impacts and does not impair the resilience of the marine ecosystem.

4.3 Impact assessments

- Apply Strategic Environmental Assessment (SEA) to maritime spatial plans and offshore renewable energy plans (including alternative plans) in order to address cumulative and trans-boundary impacts. This will help identify the siting with lowest environmental impact as well as mitigation measures.
- Apply Environmental Impact Assessment (EIA) for all offshore renewable energy projects and Appropriate Assessment for projects with a potential impact on Natura 2000 sites (according to Habitats Directive), ensuring full stakeholder consultation and public consultation.

4.4 Monitoring, research and mitigation

- Monitor cumulative environmental impacts and benefits on a regional basis and on a project basis, including the collection of baseline data before construction starts as well as during and after operation.
- Stimulate research and innovation into the ecological effects of offshore renewable energy and the potential of mitigation measures.
- Ensure the scientific reports and data about environmental impact are published and publicly available e.g. through an open data sharing platform or dashboard.
- Always make use of Best Available Technologies and Best Environmental Practices to avoid and, where necessary mitigate, impacts (such as underwater noise, habitat destruction and other direct and indirect impacts on fauna, flora and substrate).
- Develop EU-wide thresholds for underwater noise during the construction phase (e.g. pile driving and noise from support vessels) to avoid detrimental effects on marine mammals, fish and their larvae, crustaceans, molluscs and plankton. Research into such impacts must be intensified and subsidised, including on the effects of operational noise and increased continuous noise in wind parks.
- Conduct research on whether or not windfarms could lead to win-win effects for nature.

4.5 Circularity

- Ensure that the offshore renewable energy sector applies circular economy principles, i.e. that technologies (e.g. wind turbines, cables) are designed in such a way that they can be repaired, reused, and recycled. This should ensure that use of primary metals is minimised, and that metals are sourced in a responsible manner.
- Ensure that the decommissioning of wind farms in the future is carried out according to circular economy and zero pollution principles and guarantee that nature will not be harmed.



for the protection and restoration of the marine environment

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