

Powering the future, preserving the ocean

A vision for nature-inclusive
offshore renewables



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Executive summary

The window to limit global warming to the 1.5°C threshold agreed in Paris is rapidly closing, and emissions have been at a record high between 2010 and 2019.

In 2021, the EU adopted the [Climate Law](#), pledging to achieve climate neutrality by 2050. Since then, the Russian invasion of Ukraine has further accelerated the transition to renewable energy and has led to the adoption of a revised [Renewable Energy Directive](#) (RED). The RED sets a target of 42.5% of renewables in the EU energy mix by 2030. In parallel, Member States have pledged to achieve almost 500 GW of offshore renewable energy in EU waters by 2050.

As offshore renewable energy is projected to increase exponentially, concerns are growing over the deteriorating health of the ocean, which is already threatened by climate change and human activities. The European Court of Auditors' recent [report](#) assessing whether offshore renewable energy is developing sustainably in the EU concluded that “the environmental footprint on marine life may be significant and has not been taken sufficiently into account by the Commission and member states,” and that “ensuring the social and environmental sustainability of offshore renewable energy development remains a challenge”.

To enable renewable energy to play a key role in achieving the climate targets and reducing the adverse effects of climate change on nature, its expansion must be aligned with biodiversity objectives and put nature and people at its heart.

This report presents concrete policy recommendations to ensure that offshore renewable energy develops within planetary boundaries and to the benefit of people.



1. Ensure coherence between energy and environmental policies and step up implementation of EU biodiversity protection and restoration objectives

To ensure coherence between environmental and climate objectives, Member States must urgently implement the targets of the Biodiversity Strategy before designating areas for offshore renewable energy as required by the RED. They must also ensure that offshore renewable energy installations, and the infrastructure required to connect them to the grid, are not built within Natura 2000 sites and other marine protected areas (MPAs).

The mapping of suitable areas and renewable acceleration areas (RAAs) under the RED must also be coherent with national restoration plans under the Nature Restoration Law (NRL) to prevent overlap between habitats in need of restoration and offshore renewable energy installations. Derogations for reasons of “overriding public interest” must not be applied to offshore renewable energy.

In parallel, Member States must strengthen the link between the Marine Strategy Framework Directive (MSFD) and the RED to ensure that the development of offshore renewable energy does not negatively impact relevant indicators under the MSFD.

2. Implement the Renewable Energy Directive through effective maritime spatial planning and the application of the Environmental Impact Assessment and Strategic Environmental Assessment Directives

Member States must not designate renewable acceleration areas for offshore renewable energy, i.e. areas where environmental impact assessments (EIAs) and appropriate assessments can be waived according to the RED. Instead, offshore renewables must be planned in suitable areas, with plans integrated into maritime spatial plans or at least undergoing a strategic environmental assessment (SEA) in line with the SEA Directive. Sensitivity mapping must be used to identify areas for the deployment of offshore renewable energy and related infrastructure and areas considered as no-go areas, where such infrastructure cannot be built, including Natura 2000 sites and other MPAs, as well as other sensitive areas. Throughout the mapping exercise, Member States must not make use of derogations granted by the RED for reasons of overriding public interest. Following this process, all offshore renewable energy projects must undergo an environmental impact assessment in line with the EIA Directive.





3. Strengthen cross-border cooperation on maritime spatial planning

Member States must strengthen international cooperation on maritime spatial planning to ensure coherence in their measures on protection, restoration and the management of human activities. Such cooperation must be further supported by establishing a maritime spatial plan for each EU sea basin, with the EU under the coordinating role of regional sea conventions. Enhanced cooperation among Member States must also advance and harmonise work on assessing the cumulative impacts of offshore renewable energy.



4. Reduce energy demand and phase out fossil fuels

The EU and Member States must phase out fossil fuels, transition to 100% renewables, and halve energy demand by 2040 compared to 2020 levels to reach climate neutrality by 2040. In line with this, the EU must set a binding energy efficiency target of at least 20% energy savings by 2030 and propose a ban on offshore oil and gas extraction and exploration by 2025. Finally, the EU and Member States must ensure that all offshore renewable energy projects are exclusively used to replace fossil fuels.



5. Reduce the material footprint of renewable energy through circularity and effective resource reduction

The EU and Member States must swiftly adopt a regulatory framework on resource reduction that includes binding objectives to reach sustainable levels of resource consumption. To complement this approach, the waste hierarchy must be enforced, and circularity must be incentivised, including through non-price criteria. To further ensure that the most unsustainably sourced critical raw materials (CRMs) are not used by the offshore wind industry, Member States and the EU must be ambitious in the implementation of the Critical Raw Materials Act (CRMA) and of the Corporate Sustainability Due Diligence Directive (CSDDD) to reduce demand for, and the social and environmental impact of CRMs and ensure that supply chains adhere to strict environmental and social standards. The EU and its Member States must also support a moratorium on deep-sea mining at the International Seabed Authority (ISA), impose a ban on deep-sea mining in European waters, and ban imports of deep seabed minerals in the single market.



6. Make nature-inclusive design and active restoration within offshore wind farms mandatory

Member States must require developers to integrate nature-inclusive design to reduce the impact of offshore wind at all stages, always taking into account the characteristics of local habitats. Active restoration within offshore wind farms must be mandatory and incentivised through non-price criteria but cannot count towards national and EU restoration targets under the NRL. Compensation measures may be implemented but only as part of a coherent strategy to complement avoidance and mitigation measures; they cannot be used to simply offset environmental impacts. The EU must establish minimum standards for mitigation measures to the benefit of both developers and marine ecosystems.



7. Strengthen and harmonise data collection and environmental assessments, and improve access

The EU and Member States must address existing knowledge gaps by advancing research on the environmental impacts of offshore renewable energy, including cumulative impacts. Data collection must be centralised in relevant sea basin databases and made more accessible, including through the mandatory publication of monitoring data. The EU must develop standards to harmonise EIAs and SEAs across Member States, ensuring that assessments of cumulative impacts are integrated into EIAs.



8. Ensure early and effective public consultation and facilitate the participation of local communities in offshore renewable energy projects

When deploying offshore renewables, Member States must fully comply with public consultation requirements under European and international law to ensure early, accessible and inclusive public participation. To this end, Member States must implement the permitting provisions of the RED and equip national, regional and local authorities with sufficient financial and human resources to ensure citizens and energy communities can participate in offshore renewable energy projects. Similarly, they must support energy community projects and increase communities' capacity to engage in both national and cross-border offshore renewable energy projects, including by removing practical, legal and financial barriers to their participation.



9. Introduce mandatory non-price criteria on the environmental and social performance of offshore renewable energy projects

In the implementing act on renewables auction design under the Net-Zero Industry Act (NZIA), the European Commission must include criteria aimed at minimising the environmental impact of offshore renewable energy, reducing its environmental footprint, and facilitating citizens' and energy communities' participation in these projects. Based on this, the EU must present a proposal to make non-price criteria mandatory. In the meantime, Member States must increase the share of non-price criteria in their auctions by introducing mandatory selection and award criteria that focus on the environmental and social performance of offshore renewable projects.



10. Implement co-location strategies to improve the state of marine ecosystems and support local communities and low-impact sectors

Industrial fishing, including bottom trawling, and industrial aquaculture must not be allowed in offshore wind parks. Only low-impact activities can be considered for co-location within wind farms. The aim of co-location must always be to support the achievement of the EU marine protection and restoration targets and ultimately improve the state of marine ecosystems while also increasing the well-being of affected communities and low-impact sectors. To ensure coherence with nature protection and restoration, as well as with other human activities, co-location must always be integrated into maritime spatial plans. Data collection on the co-location of low-impact activities and offshore wind farms must be strengthened, with a focus on the environmental and social impacts. The European Commission must issue further guidance, setting basic principles for the sustainable co-location of offshore wind farms and low-impact activities.

“The **‘Blue Revolution’** should not be pursued at all costs.”

European Court of Auditors



Offshore renewable energy in the EU

The total offshore renewable energy capacity of the EU, Norway and the UK combined could reach almost 500GW by 2050, a 17-fold increase compared to the 2023 capacity of 28.35 GW.

In 2020, the European Commission published the [Offshore Renewable Energy Strategy](#), pledging to achieve 60 GW of offshore renewable energy by 2030 and 300 GW by 2050. The strategy also set the objectives for ocean energy expansion, targeting 1 GW by 2030 and 40 GW by 2050.

Since then, these ambitions have been raised. The revised Trans-European Networks for Energy (TEN-E) Regulation, an EU instrument aimed at connecting energy networks among Member States, came into force in June 2022 and introduced new provisions on offshore grids that led EU Member States to set higher targets for offshore energy in their waters.

In particular, the TEN-E Regulation required Member States to conclude non-binding agreements by January 2023 to cooperate on offshore renewable energy goals for each sea basin up to 2050, with intermediate objectives for 2030 and 2040. These agreements must be updated by December 2024 and every two years thereafter. Under the framework of the TEN-E Regulation, the European Network of Transmission System Operators for Electricity (ENTSO-E), together with national regulatory authorities, Member States and the European Commission, are also required to adopt offshore network development plans for each sea basin. These plans contain a high-level outlook on potential offshore generation capacities and the related offshore grid needs, while taking environmental

protection and other uses of the sea into consideration.

In April 2023, countries bordering the North Sea – including both EU Member States and non-EU countries – announced the common goal to achieve at least 300 GW of offshore wind in the North Sea by 2050. Offshore network development plans suggest that, based on updated strategies from some Member States and on the pledges by the UK and Norway, the total offshore renewable energy capacity of the EU, Norway, and the UK combined could reach almost 500 GW. This would be a 17-fold increase compared to the 2023 capacity of 28.35 GW.¹

The new targets would imply a 45-fold increase in offshore renewable energy capacity in the Atlantic Ocean, a 23-fold increase in the Baltic Sea, a 14-fold increase in the North Sea, and an 827-fold increase in the West Mediterranean. No figure is available for the East Mediterranean, where the capacity is currently 0.

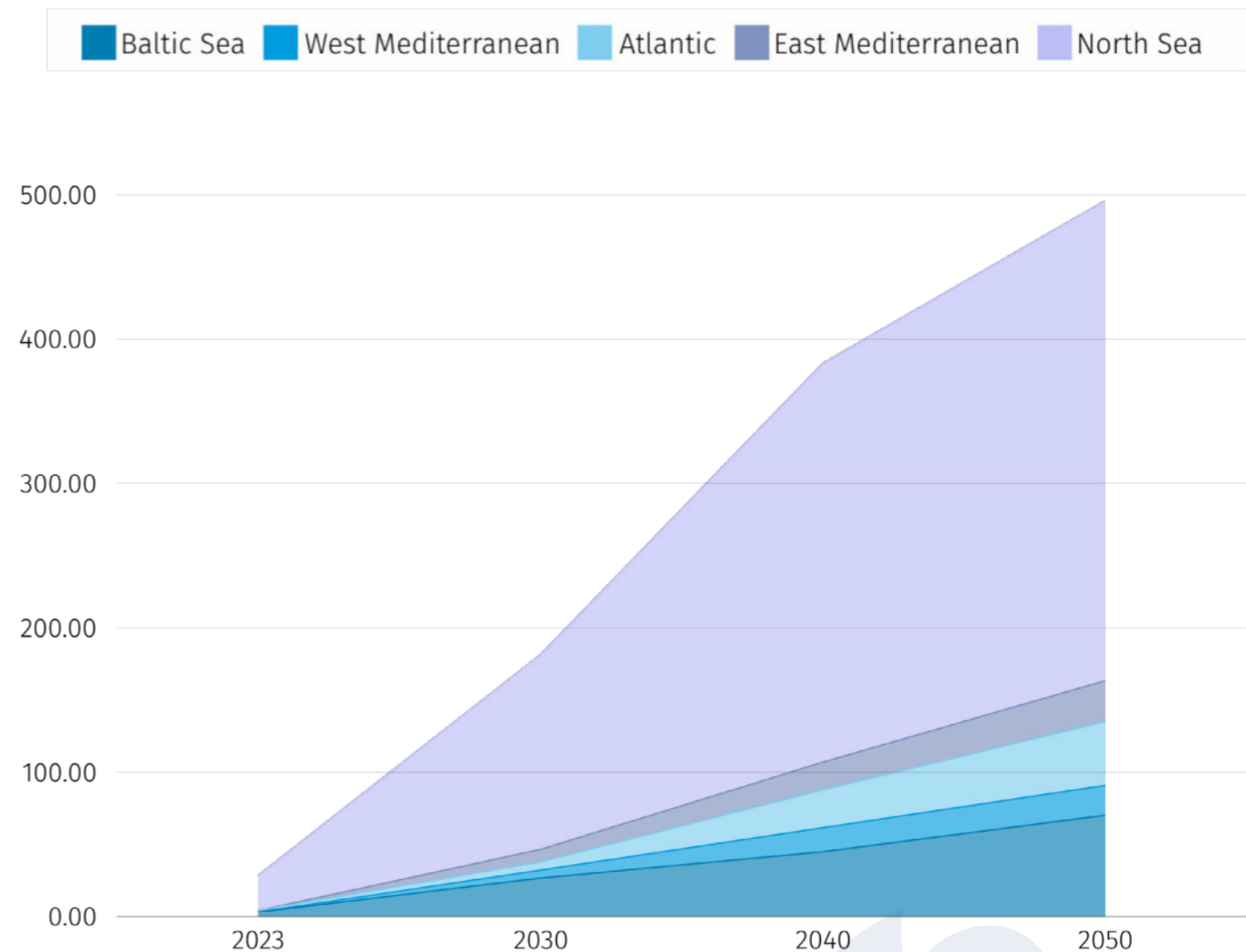
Currently, 11% of wind energy in Europe comes from offshore wind. By 2030, this is expected to increase to 28%.

In terms of technologies used, there are approximately 3600 fixed turbines and 30 floating turbines in European waters². However, the development of offshore wind varies greatly between sea basins. For example, in the North Sea and the Baltic Sea, capacity and targets are higher, while in the Mediterranean, only one wind farm is operational, and in the Black Sea there are none.

Achieving the targets set out in the non-binding agreements would mean installing around 12 GW of

generation capacity per year on average, ten times more than the 1.2 GW installed in 2022. In addition, as indicated by the European Court of Auditors' recent report on offshore renewable energy, there are various barriers that could hinder the achievement of these targets, including challenges related to environmental sustainability and slow permitting processes.

Graph 1. Offshore renewable generation capacity (in GW)



Source: ENTSO-E

Policy developments

Three major revisions, responding to growing climate ambition and changing geopolitics, resulted in a revised Renewable Energy Directive.

Renewable Energy Directive

Targets

As part of the EU Green Deal, the European Union adopted the Climate Law, which enshrines the EU's objective to achieve climate neutrality by 2050 in legislation. The law sets the objective of reducing greenhouse gas emissions by 55% compared to 1990 levels. To align EU legislation with this target, the European Commission adopted the [Fit for 55 package](#), a comprehensive set of new and revised measures to align EU policies with climate goals. The package included a revision of the Renewable Energy Directive (RED) which increased the 2030 target for the share of renewable energy sources in the EU energy mix from 32% to 40%.

In May 2022, in response to the Russian invasion of Ukraine, the European Commission presented the REPowerEU Plan, which aimed to rapidly reduce dependence on Russian fossil fuels by diversifying energy supply, promoting energy efficiency, and increasing the share of renewable energy. As part of the Plan, the Commission adopted a proposal to amend the RED to further increase the 2030 target and accelerate permitting for renewable energy projects. A subsequent emergency regulation, adopted by EU ministers in December 2022, introduced temporary measures to accelerate permit-granting procedures and further stimulate the uptake of renewables while waiting for the revised RED to enter into force.

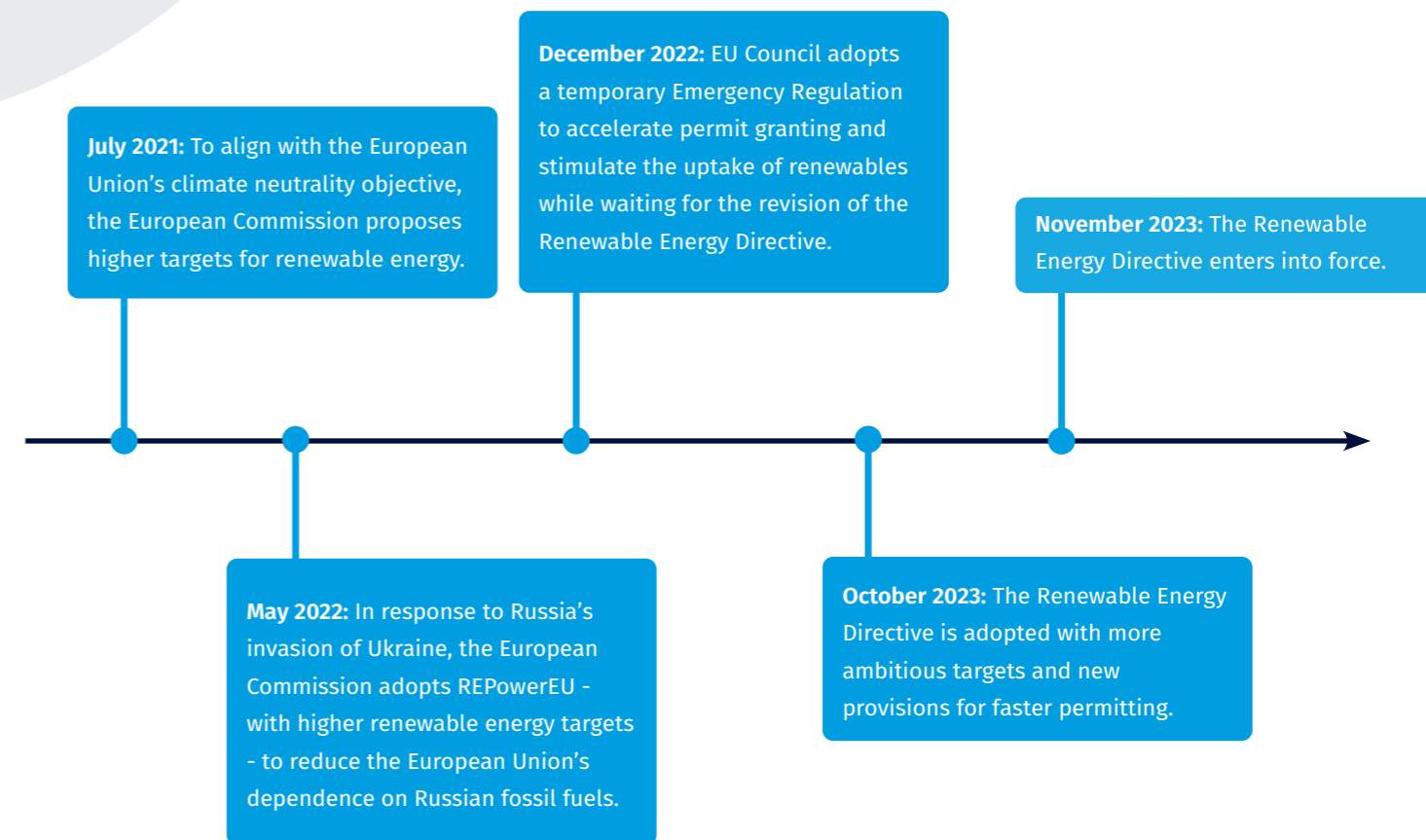
These three revisions converged in the adoption of the [RED](#) in November 2023. The final text almost doubles the share of renewables in the EU energy mix

compared to 2022 by setting a binding target of at least 42.5% by 2030, encouraging Member States to aim for 45% by 2030.

Suitable areas

To achieve these targets, the RED requires Member States to follow a two-step spatial planning process as detailed in a recent [guidance document](#) from the European Commission. By 21 May 2025, national governments must map the areas for the deployment of renewable energy necessary to achieve their national contributions to the EU renewable energy targets specified in their national energy and climate plans (NECPs).³ These "suitable areas" are to be selected based on their potential for renewable energy production, the projected demand for energy, and the availability of energy infrastructure. While the Directive does not yet require Member States to take environmental considerations into account, it mentions that environmental sensitivity should be considered in line with the Environmental Impact Assessment (EIA) Directive.

While the RED excludes Natura 2000 sites and other protected areas from renewable acceleration areas (RAAs), suitable areas may include certain protected areas. For projects in suitable areas, Member States are required to fully apply the EIA and Habitats Directives, carrying out an environmental impact assessment for each project and an Appropriate Assessment (AA) when the project is likely to have an impact on a Natura 2000 site.



Renewables Acceleration Areas

Renewables acceleration areas (RAAs) are a sub-set of suitable areas where the installation of renewable energy projects is not expected to have a significant impact on the environment and where projects can benefit from easier and faster permitting procedures. Member States need to designate RAAs for at least one type of renewable energy technology by 21 February 2026.

The revised RED specifies that when designating RAAs, Member States must give priority to artificial and built surfaces. However, the Directive only provides examples of such priority areas on land. It also identifies areas that cannot be designated as RAAs, such as Natura 2000 sites, areas designated under national protection schemes, major bird and mammal migratory routes, and other areas identified through sensitivity mapping or other relevant tools such as data available in the development of Natura 2000 networks, and birds and sites protected under the Birds Directive.

To identify RAAs, Member States must prepare an

RAA plan that includes the areas identified and a "mitigation rulebook". The rulebook consists of a list of rules on measures to be applied in the RAA to avoid or, where this is not possible, significantly reduce the impact of the installation on the environment. The plan, including the mitigation rulebook, must then undergo a strategic environmental assessment (SEA). This is a tool defined in the Strategic Environmental Assessment (SEA) Directive that aims to integrate the assessment of environmental impacts early in planning processes as well as assess alternative plans. In cases where the plan is also likely to impact Natura 2000 sites, an AA in line with Article 6(3) of the Habitats Directive also needs to be carried out.

Once this process has been completed, projects in RAAs are exempt from AAs and EIAs that would be required by the EIA Directive and the Habitats Directive. When an application for a project in an RAA is submitted, the Member State carries out a prompt screening process to determine if the project is highly likely to have significant unforeseen adverse environmental impacts, including in another Member

State. If the screening finds that the project is likely to have significant adverse environmental impacts, an EIA must be carried out and, if relevant, an AA in line with the Habitats Directive. However, the revised RED allows Member States to exempt wind and solar projects from such assessments in justified circumstances, such as when there is a pressing need to accelerate the deployment of renewable energy to achieve climate and renewables targets. In such instances, operators must adopt suitable mitigation and compensation measures to address any adverse effects. When such effects impact species protection, the operator must pay monetary compensation for species protection programmes for the duration of the operation of the renewable energy plant to ensure

or improve the conservation status of the species affected.

Areas for storage and grid infrastructure

Under the revised RED, Member States can designate areas for energy storage and grid infrastructure projects to support and complement RAAs provided the development is not expected to have a significant environmental impact, the impact can be mitigated or, where some impact is unavoidable, the impact will be compensated.

These areas should be chosen to ensure synergies with RAAs. Natura 2000 sites or areas designated under national protection schemes may not be used for

storage projects, while for grid projects, the Directive only mentions that such areas should be avoided unless there are no appropriate alternatives. The plans must undergo an SEA and, if they are likely to impact Natura 2000 sites, an appropriate assessment in line with Article 6(3) of the Habitats Directive. Member States must also establish appropriate and proportionate rules and mitigation measures to prevent environmental harm or, when this is unavoidable, significantly reduce it.

However, Member States can decide to exempt these projects from EIA and appropriate assessment requirements, as well as from assessments of their implications on certain species under the Birds and Habitats Directives, if they respect the above-mentioned rules. This exemption can extend to infrastructure areas that were designated before 20 November 2023. If a project is granted such an exemption, the Member State must carry out a screening process to identify any significant unforeseen adverse effects on the environment that were not identified during the SEA. If any such effects are detected, the competent authority must ensure that appropriate and proportionate mitigation measures are applied. Where mitigation is not possible, compensatory measures should be applied. This can take the form of monetary compensation for species protection programmes if no other proportionate compensatory measure is available.

Projects aimed at reinforcing existing grid infrastructure or located outside of dedicated infrastructure areas must also undergo a screening process. If the screening process finds that the project is likely to have adverse effects on the environment, an EIA must be carried out.

projects by 2030. Those that have an annual energy consumption above 100 TWh are expected to establish a third joint project by 2033. The Directive also encourages Member States to create opportunities for energy communities to participate in joint offshore renewable projects.

Overriding public interest

The revised RED establishes that, until Europe achieves its goal of climate neutrality, the planning, construction and operation of renewable energy plants, along with their connection to the grid and the related grid and storage assets, are presumed to be in the “overriding public interest” for the purpose of specific provisions in the Birds, Habitats and Water Framework Directives.

In particular, Article 6(4) of the Habitats Directive states that projects with significant environmental impacts on a Natura 2000 site can still be approved for “imperative reasons of overriding public interest” when there are no alternative solutions, provided that all the necessary compensatory measures are in place to ensure that the overall coherence of the Natura 2000 Network is protected.

Table A. Permit-granting procedures for offshore renewable energy – maximum deadlines

	New offshore renewable energy projects for more than 150kW	Repowering projects, new projects for less than 150kW, co-located energy storage, and grid connection
Within RAAs	24 months + maximum 6-month extension in extraordinary circumstances	12 months + 6-month extension in extraordinary circumstances
Outside of RAAs	3 years + maximum 6-month extension in extraordinary circumstances	24 months + 3-month extension in extraordinary circumstances

Source: Renewable Energy Directive

Joint projects

Recognising the limited cooperation among Member States for the deployment of renewable energy, the revised RED requires Member States to establish a framework for cooperation on joint projects by 31 December 2025. Under this framework, Member States should aim to establish at least two joint



Article 9(1)(a) of the Birds Directive specifies that exemptions from the provisions relating to the protection of certain species can be established for reasons of overriding public interest. Article 6 of the Nature Restoration Law (NRL) also states that renewable energy projects are presumed to be of overriding public interest.

The NRL, which was adopted in June 2024, sets out specific targets and measures for restoring precious and deteriorated land and marine ecosystems in the EU. Marine habitats to be restored include gravel beds and sandbanks. In particular, Member States are required to develop and adopt national restoration plans to restore at least 20% of their degraded marine habitats by 2030. They must also implement continuous measures to ensure that specific degraded habitats both within and outside Natura 2000 sites are restored and prevent the significant deterioration of such habitats.

The labelling of renewable energy projects as being of overriding public interest allows Member States to implement renewable energy plans even when less damaging alternatives exist, which is otherwise not allowed under the NRL. Other provisions exempt Member States from their obligations to restore and prevent the deterioration of certain habitats outside Natura 2000 sites for reasons of overriding public interest, provided that an SEA or an EIA has been conducted. A similar provision in the Habitats Directive grants an exemption from the restoration and non-deterioration obligations within Natura 2000 sites for plans and projects carried out for reasons of overriding public interest and in the absence of alternative solutions, provided that compensatory measures are in place.

Wind Power Package

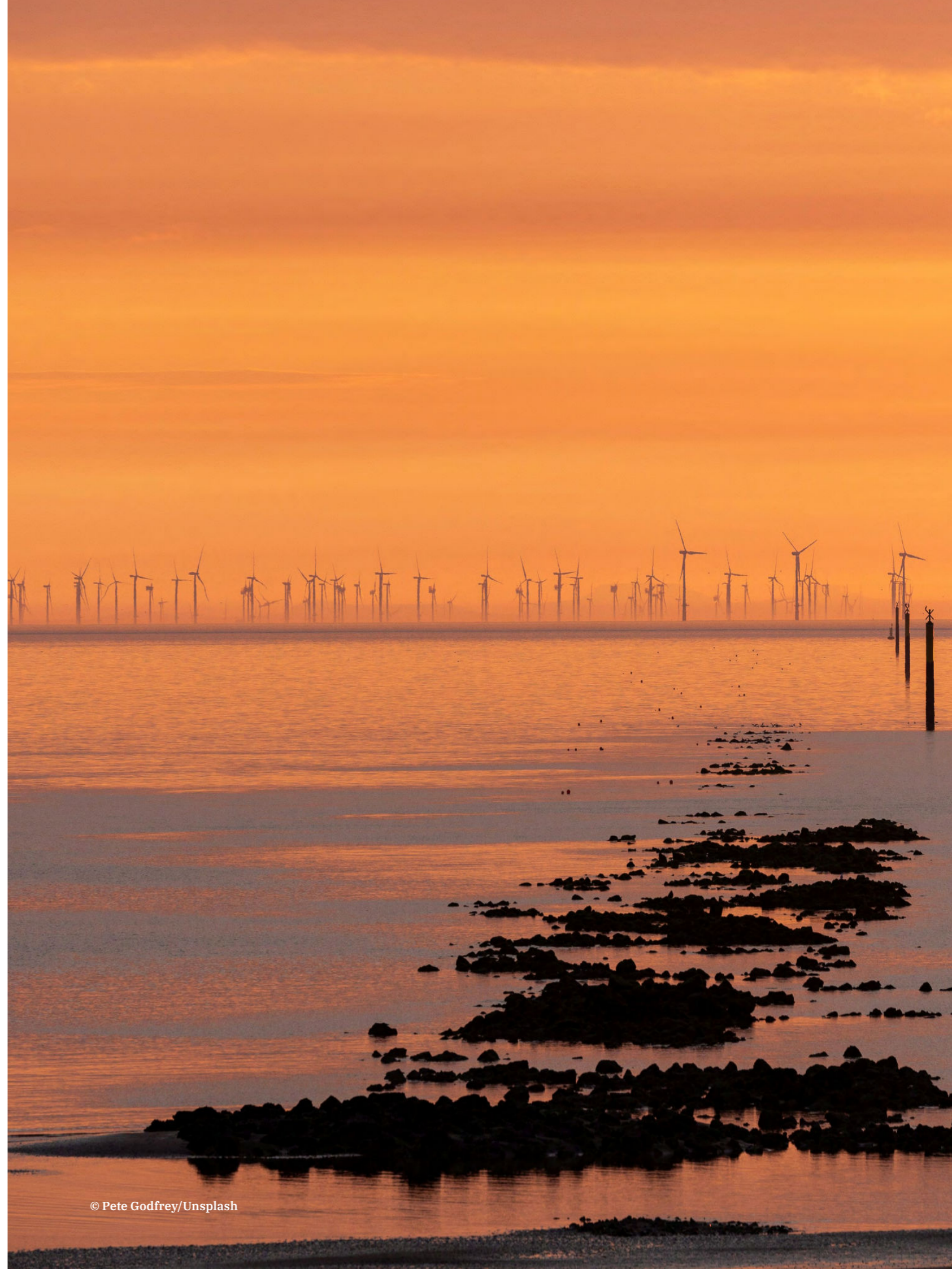
In October 2023, the European Commission published the Wind Power Package, including a European Wind Power [Action Plan](#) and a [Communication](#) specifically about the EU's offshore renewable energy ambitions. The Action Plan takes stock of the challenges

limiting the uptake of wind energy in the EU, such as demand uncertainty, access to raw materials, auction design, weak environmental and social standards, international competition, and a shortage of skilled workers.

Alongside the Action Plan, the Communication focuses on several pillars of action: strengthening grid infrastructure and regional cooperation, accelerating permitting, ensuring integrated maritime spatial planning, strengthening the resilience of infrastructure, research and innovation, supply chains, and skills. To complement the Wind Power Package and guide Member States in implementing the revised RED, in May 2024 the European Commission published a set of [recommendation and guidance documents](#) on permit-granting procedures, RAAs and auction design. While these documents provide useful guidance and inspiring best practices, the fact that they are non-binding essentially leaves it up to Member States to implement the RED in a way that balances offshore renewable energy development with nature.

Net-Zero Industry Act

In June 2024, EU institutions adopted the Net-Zero Industry Act, a regulation aimed at boosting European manufacturing of technologies needed for the green transition. Article 26 of the Net-Zero Industry Act requires Member States to incorporate selection criteria or award criteria in the design of auctions for the deployment of renewable technologies. These criteria serve to assess the auction's sustainability and resilience contribution in relation to at least one of the following dimensions: environmental sustainability beyond minimum legal requirements, innovation, and energy system integration. The same Article requires the European Commission to adopt an implementing act by spring 2025 to specify these criteria further. As a result, while Member States can set criteria related to the environmental performance of a project, they are not obliged to do so. Furthermore, the implementing act does not mention the social dimension.



The environmental impacts of offshore wind

This infographic depicts a non-exhaustive list of the environmental impacts of offshore wind energy during different stages of its lifecycle, such as construction, operation and maintenance. ^{4 5 6}

Wind turbines are collision risks for birds, bats and marine mammals. Wind farms may also disrupt migratory routes and affect animal behaviour, leading to the loss of foraging and resting habitats.

The impulsive noise generated by pile driving in the construction phase has received the most attention regarding its potential negative effects on marine life.

Underwater structures can alter currents and the stratification and mixing of the water column, affect nutrient concentration and seabed habitats. These changes can impact primary production, the process through which marine microorganisms create organic matter from non-organic matter, and which is at the basis of the oceanic food web.

The construction, operation and maintenance of wind farms generates underwater noise. This noise can be both continuous and impulsive, and may cause physical injuries or impact behaviour in many species including birds, marine mammals, fish and fish larvae as well as invertebrates.

Support vessels generate a largely unknown amount of continuous noise to the surrounding ecosystem. This noise level should be assessed and monitored at every wind farm.

Turbine foundations can act as artificial reefs, potentially attracting marine life and boosting biodiversity. However, the introduction of these structures can also displace and convert habitats, attracting invasive species, and impacting ecosystems and the food web. When installing offshore wind turbines, it is crucial to consider the characteristics of native habitats to restore their original features and avoid habitat conversion, the introduction of alien species, and the resulting impacts on the food web. Longer term benefits of artificial reefs depend on wind farms are decommissioned.

The cables connecting wind turbines to land create electromagnetic fields that can affect the behaviour of species with electroreceptors such as sharks, rays, sturgeons and lampreys, and of species with a significant migratory phase.

Offshore wind farms can help re-establish or recover key spawning and nursing areas and may boost the recovery of benthic communities previously affected by industrial fishing and bottom-contacting gear.

NO BOTTOM TRAWLING

Policy recommendations

The latest assessment report by the Intergovernmental Panel on Climate Change underscores that the window to act and limit global warming to the 1.5°C threshold agreed in Paris is rapidly closing, with emissions having been at a record high between 2010 and 2019.

At the same time, the health of our ocean is threatened by climate change and the impact of destructive human activities. As the ocean plays a crucial role in the mitigation of climate change, it is only by tackling the climate and biodiversity crises jointly that real progress can be achieved to safeguard the health of our planet, human well-being, and the right of future generations to a healthy environment.

Offshore renewable energy will play a critical role in mitigating climate change, but its success hinges on harmonious integration with nature and on the benefits it brings people. While the EU and its Member States set increasingly higher targets for the deployment of offshore renewables, “ensuring the social and environmental sustainability of offshore renewable energy development remains a challenge,” as concluded by the European Court of Auditors’ recent report assessing whether offshore renewable energy is being developed sustainably in the EU.

The following policy recommendations aim to pave the way for nature-inclusive offshore renewable energy projects that respects human well-being.



1. Ensure coherence between energy and environmental policies and step up implementation of the EU biodiversity protection and restoration objectives

- **Member States must urgently implement EU and international biodiversity and restoration targets.**
- **Member States must ensure coherence between national restoration plans under the Nature Restoration Law (NRL), the implementation of the EU Biodiversity Strategy, and the mapping obligations under the revised Renewable Energy Directive (RED).**
- **Offshore renewable installations and the infrastructure connecting them to the grid must not be built within Natura 2000 sites or other national and international marine protected areas (MPAs).**
- **Member States must not make use of the derogations granted to renewable energy under the NRL when deploying offshore renewable energy.**
- **Member States must implement the Marine Strategy Framework Directive (MSFD) and strengthen the link with the RED by ensuring that the development of offshore renewable energy respects the good environmental status (GES) targets and the thresholds of the MSFD.**

Member States must ensure coherence between the implementation of the RED, the objectives of the EU Biodiversity Strategy, the Kunming-Montreal Protocol, and the NRL as their effective implementation is instrumental to achieving the EU’s climate and biodiversity targets. Before designating suitable and acceleration areas, Member States must identify areas to be included under their national restoration plans and areas to achieve the targets of the EU Biodiversity Strategy, protecting a minimum of 30% of EU seas, with at least 10% being strictly protected by 2030.

In implementing the Biodiversity Strategy, Member States must identify a coherent network of MPAs based on scientific evidence and implement effective management measures to ensure that no harmful activities are carried out within those areas. In line with this, Member States must ensure that offshore renewable energy plants and the related infrastructure

to connect them to the grid are not built within Natura 2000 sites and other national and international MPAs. Offshore renewable energy installations are large-scale industrial projects, and with the projected growth of this technology, the size and number of installations is expected to increase even further. As such, offshore renewable energy is fundamentally incompatible with effective nature protection. While the RED clearly states that RAAs must exclude Natura 2000 sites and areas designated under national protection schemes, no such restrictions are imposed for suitable areas. Therefore, it is up to Member States to prevent offshore renewable projects from being developed in all types of protected areas.

Similarly, coherence must be ensured between the mapping exercise under the RED and the national restoration plans under the NRL. While the deadline for mapping under the RED is earlier than the deadline for submitting national restoration plans, the two processes must be aligned to avoid conflicts and trade-offs. The NRL itself mentions the importance of coordination between the RED and NRL mapping obligations.

Furthermore, Member States must not make use of the loopholes granted to renewable energy under the NRL for reasons of overriding public interest, nor to similar derogations from provisions in the Birds and Habitats and Water Framework Directives as granted by the RED. This must be complemented by the effective implementation of other relevant pieces of legislation such as the Birds and Habitats Directives and the MSFD. The MSFD was adopted with the main goal of achieving GES for all European waters by 2020. The Directive sets out 11 qualitative descriptors that guide Member States in developing ecosystem-based strategies to achieve GES and requires them to establish a coherent network of MPAs. However, Member States failed to reach the objective of GES for European waters by 2020⁷ and overexploitation is still a reality in most European seas. It is therefore vital that Member States apply the MSFD effectively and ensure that the deployment of offshore renewable energy does not negatively affect MSFD descriptors such as biological diversity, the introduction of energy and underwater noise, and seafloor integrity.

2. Implement the RED through effective maritime spatial planning and ensure that offshore renewable energy and related infrastructure is not built in MPAs

- Member States must not designate renewable acceleration areas for offshore renewable energy. Instead, offshore renewables must be planned in suitable areas.
- Member States must integrate their offshore renewable plans in their maritime spatial plans. If they fail to do so, they must at least ensure that such plans undergo a strategic environmental assessment (SEA) in line with the SEA Directive.
- Each project in the identified area must undergo an environmental impact assessment (EIA) in line with the EIA Directive, and an appropriate assessment, if needed, in line with the Habitats Directive.
- Member States must use sensitivity mapping to identify areas for the deployment of offshore renewable energy and no-go areas, where such infrastructure cannot be built.
- Member States must not make use of the derogations granted by the RED for reasons of overriding public interest.

As a first step, Member States must not establish renewable acceleration areas for offshore renewable energy, as these installations are large scale projects, and their building and operation will by default have a significant environmental impact. Waiving EIAs for offshore energy projects would undermine the precautionary principle and remove important provisions for public participation, which facilitate the crucial involvement of stakeholders, communities and citizens in the process. Instead, effective spatial planning and impact assessments must be carried out ahead of each offshore renewable project. EIAs can be a strategic tool to minimise environmental impacts, while also reducing the potential risk of future administrative and judicial disputes.

While RAAs must not be established for offshore renewable energy projects, these projects should be

planned in the so-called suitable areas, which include areas with existing installations. Offshore renewable development in these areas must be integrated in national maritime spatial plans, as specified by the RED. The planning process must take an ecosystem-based approach that recognises nature as the basis of any social and economic activity and must ensure that sufficient space is allocated for nature protection and restoration, in line with EU targets.

The EU deadline to establish national maritime spatial plans was March 2021, earlier than the sea-basin pledges for offshore renewables, which were adopted in January 2023 for all EU sea basins and further increased in April 2023 for the North Sea. As a result, most Member States adopted their maritime spatial plans before they set their offshore renewable targets. In addition, the speed at which maritime spatial planning was developed across the EU varies greatly, with some countries, such as the Netherlands, having adopted maritime spatial plans long before the 2021 deadline, and others, such as Italy, only adopting their first plan in 2024. This discrepancy must urgently be addressed, as maritime spatial planning is a critical tool to ensure that offshore renewables are developed sustainably.

Maritime spatial plans must always undergo an SEA in line with the SEA Directive. This requires Member States to consider the cumulative impacts of activities at sea and assess alternative plans, including alternative locations. If Member States are not able to revise their maritime spatial plans to include offshore renewable energy ahead of the RED deadline for



suitable areas, they must at least ensure their plans undergo an SEA. This is required by the SEA Directive itself, which mandates an SEA for all plans and programmes that are prepared for energy.

To identify suitable areas, Member States must use sensitivity mapping, a tool that allows authorities to develop maps identifying areas where the impact of offshore installations is expected to be higher or lower. If done effectively, this mapping exercise saves time and costs, and can help identify data gaps. This process must be carried out in a participatory way, taking the perspective of citizens, affected stakeholders and local communities into account to minimise the risk of future conflicts.

Based on sensitivity mapping, Member States must also identify no-go areas. While the revised RED specifies that identifying suitable areas does not automatically classify other areas as unsuitable for the deployment of renewable energy, we argue that sensitivity mapping must be used to identify areas where such installations and the related infrastructure cannot be built. These include, but are not limited to, Natura 2000 sites and other national or international MPAs. In addition, when offshore renewable infrastructure is built close to MPAs or other sensitive areas, buffer zones must be established.

Once this process is concluded, an EIA must be carried out for each installation and for the related infrastructure, in line with the EIA Directive. This assessment will allow authorities and developers to better understand the environmental impacts of the project by taking the area's specific characteristics into account. The EIA Directive also requires the development of a monitoring plan to ensure improvements in management and help close knowledge gaps.

3. Strengthen cross-border cooperation on maritime spatial planning and cumulative impacts

- Member States must strengthen cross-border cooperation in maritime spatial planning to ensure coherence in their measures on protection, restoration and the management of human activities.

- Under the coordination of the regional sea conventions, Member States must establish a regional maritime spatial plan for each sea basin and submit it for an SEA.
- Member States and the EU must strengthen research on cumulative impacts and coordinate the ongoing work on this issue in different fora.

Marine biodiversity transcends national borders, making cross-border cooperation essential to ensure effective protection and restoration. The Maritime Spatial Planning (MSP) Directive requires Member States to cooperate to ensure that national maritime spatial plans are coherent and coordinated across each sea basin. The RED also recognises the importance of cross-border cooperation, introducing requirements for joint offshore renewable energy projects. However, as highlighted by the European Court of Auditors,

“Coastal member states consult each other, but rarely cooperate on common offshore renewable energy projects.”

To enhance the coherence and effectiveness of protection and restoration measures while minimising the negative impact of human activities, cross-border cooperation in maritime spatial planning must therefore be strengthened. This includes the adoption of a regional maritime spatial plan for each sea basin, with the regional sea conventions being given the mandate to coordinate the implementation of the plans. Like national maritime spatial plans, sea basin maritime spatial plans must undergo an SEA.

International cooperation will also be critical for addressing one of the largest knowledge gaps on the environmental impact of offshore renewable energy: cumulative impacts. Cumulative impacts include all past, foreseeable, and future impacts resulting from pressures on marine ecosystems. In the context of

offshore renewable energy, these include the combined impacts of multiple offshore wind farms and the impacts of offshore wind farms in combination with those of other human activities.

The assessment of cumulative effects is required by the Habitats Directive, the SEA Directive, the EIA Directive and the MSFD. Maritime spatial planning provides a particularly relevant framework for assessing cumulative impacts of offshore renewable energy, as it should comprise an overview of all activities at sea.

While many international fora and institutions are working on this issue, including the European Commission, OSPAR and the GNSBI, current knowledge remains limited, and the rapid scaling of renewables is not being matched by adequate efforts to develop common assessment methods. Further international coordination is therefore needed to harmonise and streamline existing efforts.

4. Reduce energy demand and phase out fossil fuels

- **The EU and Member States must swiftly phase out fossil fuels, transition to 100% renewables, and halve energy demand by 2040 compared to 2020 to reach climate neutrality by 2040.**
- **The Energy Efficiency Directive target must be revised to introduce a binding target of at least 20% energy savings by 2030 compared to 2020.**
- **The EU must propose a ban on offshore oil and gas exploration and extraction by 2025.**
- **Offshore renewable energy must always be used exclusively to replace fossil fuel use and not to power extraction.**

The goal of limiting global warming to 1.5°C by 2100 will not be reached simply by switching to renewable energy. Reducing energy demand and phasing out fossil fuels, which still occupy significant portions of our seas and drive the climate and biodiversity crises,

will be critical to achieving climate neutrality.

According to the [Paris Agreement-Compatible \(PAC\) scenario 2.0](#) developed by Climate Action Network Europe and the European Environmental Bureau, the EU could reach climate neutrality by 2040, ten years ahead of current EU objectives. The PAC scenario explains how this can be achieved, namely by transitioning to 100% renewable energy by 2040, phasing out fossil fuels and nuclear energy, and halving energy demand by 2040 compared to 2020.⁸

In 2023, the EU adopted the revised Energy Efficiency Directive, setting a target of at least an 11.7% reduction in energy consumption. However, this is not enough to meet the 2030 target and the ambitions of the Paris Agreement. Instead, the EU must introduce a binding target for energy savings of at least 20% by 2030 compared to 2020.⁹ This must be complemented by enforcing the “energy efficiency first” principle, which requires Member States to consider energy efficiency in all relevant policy and major investment decisions.

As part of these efforts, and by 2025, the EU must ban all new offshore oil and gas exploration and extraction and propose a strategy to phase out offshore oil and gas drilling. In addition, offshore renewable energy must always replace fossil fuels, and in no circumstances be used to power fossil fuel extraction. A worrying example of this is a [floating offshore wind pilot project](#) in the UK which aims to supply renewable electricity to an offshore oil and gas platform in the North Sea.

5. Reduce the material footprint of renewable energy through circularity and effective resource reduction

- **The EU and Member States must swiftly adopt a regulatory framework on resource reduction that includes binding objectives to reach sustainable levels of resource consumption to reduce the social, environmental and human rights impacts of offshore renewable energy.**
- **The EU and Member States must guarantee the application of the waste hierarchy and promote circularity, including through non-price criteria.**
- **Member States must be ambitious in their implementation of the Critical Raw Materials**

Act (CRMA) and the Corporate Sustainability Due Diligence Directive (CSDDD) to reduce the demand for critical raw materials (CRMs), mitigate their social and environmental impact, and ensure that supply chains adhere to strict environmental and social standards.

- **The EU and Member States must support a moratorium on deep-sea mining at the International Seabed Authority (ISA) and impose a ban on deep-sea mining in European waters.**

The extraction of CRMs needed to produce wind turbines has significant environmental impacts, such as air pollution from CO₂ emissions and other harmful substances, as well as soil and water contamination. Critical raw material extraction can also have considerable social impacts, including the displacement of indigenous peoples and local communities, severe health issues, and forced labour.

To mitigate these impacts, the EU must swiftly implement strategies to reduce demand for CRMs, prioritise circular economy principles, reduce inequalities, and protect workers’ rights. While the recently adopted [CRMA](#) takes steps in the right direction, it has significant shortcomings. These include a lack of ambitious targets for reducing demand for CRMs, insufficient recognition of indigenous peoples’ rights, heavy reliance on certification schemes, and the introduction of concerning derogations in the name of overriding public interest. Member States must therefore work to limit these shortcomings when implementing the legislation.

In parallel, the EU has adopted the [CSDDD](#) which mandates large companies to carry out environmental and human rights due diligence throughout their supply chains. While this is a positive step, and the first EU legislation of its kind, the CSDDD must be seen as a minimum baseline and implemented ambitiously by Member States, especially as the final text would only apply to 0.05% of EU companies.¹⁰

To address these shortcomings, the EU must urgently adopt a directive that sets binding EU material footprint reduction targets, requires the adoption of strategies for high-consumption sectors and supports



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the just transition, in line with International Labour Organization guidelines and workers' rights.¹¹

Efforts to reduce resource consumption must be complemented by applying the waste hierarchy as defined by the Waste Framework Directive, namely prevention, reuse, recycling, recovery and disposal. This approach will help to prevent and reduce the use of resources, including raw materials, and the environmental impacts resulting from the extraction, manufacturing and end-of-life stages. Member States can also incentivise circularity through the adoption of non-price criteria (more on this in section 9).

To further ensure that the most harmful CRMs are not sourced for the offshore renewable sector, the EU and its Member States must support a moratorium on deep-sea mining at the International Seabed Authority, introduce a ban on deep-sea mining in EU waters, and ban the import of deep seabed minerals in the single market. In recent years, some companies have portrayed deep-sea mining as part of the solution to the climate crisis, arguing that it could provide the metals needed for the energy transition. However, research has shown that this argument is flawed.¹² Deep-sea mining poses significant risks in terms of irreversible biodiversity loss and, consequently, exacerbation of the climate crisis.

By implementing circular economy strategies, the latest battery technologies, and improved recycling structures while simultaneously reducing overall demand, the EU can achieve its climate protection targets without irreversibly damaging deep-sea ecosystems. Instead of looking for new ways to exploit our planet's precious and limited resources, with the related impacts on ecosystems and the climate, attention and resources should be devoted to rethinking our economy around principles of sufficiency to reduce resource consumption and promote circularity.

6. Make nature-inclusive design mandatory and promote active restoration

- **Member States must make nature-inclusive design mandatory for developers, ensuring that measures are tailored to the specific characteristics of local habitats.**

- **Active restoration within offshore wind farms must be mandatory and incentivised through non-price criteria but cannot count towards national and EU restoration targets under the NRL.**
- **Compensation measures must only serve to complement avoidance and mitigation measures and cannot be used to simply offset environmental impacts.**
- **The EU must develop common minimum standards for mitigation and compensation measures.**

Once the planning process has been completed with the intention of avoiding and minimising the impacts of a specific installation on the environment, developers must follow the same approach in the design and operation phases. To facilitate this, Member States must enforce the adoption of mitigation measures, also known as nature-inclusive design, for all offshore wind installations and further incentivise their use through non-price criteria (more on this in section 9).

Promoting active restoration within wind farms can also be a successful mitigation measure. Several projects have explored marine restoration in offshore wind farms.

Best Practice #1

Enhancing nature in North Sea wind farms

The [Rich North Sea Programme](#), a project seeking to restore reef habitat in the Dutch North Sea by placing artificial reefs and releasing oysters to help marine life flourish.

The project also developed a [toolbox](#) to inspire nature enhancement projects in wind farms worldwide.

For such projects to have a positive impact, it is crucial to consider the characteristics of existing or native habitats, as habitat conversion can bring about negative environmental effects, such as the introduction of alien species. Active restoration is intended as another form of mitigation to avoid

and minimise the impact of offshore wind on the environment. While expanding this practice carefully could help minimise the environmental impact of offshore energy, under no circumstances should offshore renewable energy projects count towards restoration targets, since the construction, operation, maintenance and decommissioning of such projects will always have negative impacts on marine ecosystems.

Mitigation measures can also be accompanied by compensation measures aimed at offsetting the negative environmental impact of offshore renewable energy. These measures can contribute to the restoration of important coastal areas when offshore wind farms are built far offshore. However, they must be complementary to efforts to avoid and mitigate environmental impacts and must not be used to substitute prevention and mitigation with offsetting.

The adoption of nature-inclusive design features must also be incentivised by public authorities, including through the inclusion of non-price criteria related to the environmental impact of installations in offshore renewable auctions (more on this in section 9).

As mitigation measures vary considerably among Member States and between individual offshore wind farms, the EU could strengthen their effectiveness by providing minimum standards to the benefit of both marine ecosystems and developers. These standards must take into account legal requirements from the relevant EU directives, such as the Birds and Habitats Directives, while allowing sufficient flexibility to consider the unique characteristics of local habitats.



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Mitigating the environmental impacts of offshore wind farms



Underwater noise: Some countries have set noise thresholds for impulsive noise, prompting companies to explore the development of noise reduction measures such as bubble curtains and alternative construction methods.¹⁷ Depending on the specific site, other measures can include the use of suction buckets, gravity-based structures, or floating structures. Reducing vessel noise in offshore wind farms can also be achieved by measures such as reduced speed; however, this has not yet been adequately assessed or regulated in any Member State.



Collision risks: The risks of collision for certain species can be limited by temporarily halting turbine operation during migratory periods or painting blades with specific patterns to make them more visible to birds.¹⁸



Artificial reefs: Researchers have explored the use of artificial reefs to provide attractive habitats for certain species, including specific foundation features that can act as shelter for reef-forming species.¹⁹ Similarly, design options exist for scour and cable protection that mimic natural habitats and prevent erosion.²⁰ However, artificial reefs must only be introduced in areas that previously had natural reefs, as habitat conversion can bring about significant negative impacts, such as the introduction of invasive alien species.

7. Strengthen and harmonise data collection, EIAs and SEAs, and improve accessibility

- The EU and Member States must address existing knowledge gaps by advancing research on the environmental impacts of offshore renewable energy, including cumulative impacts.
- Data collection must be centralised in relevant sea basin databases and made accessible, including through the mandatory publication of monitoring data.
- The EU must develop standards to harmonise EIAs and SEAs across Member States and integrate the assessment of cumulative impacts into both EIAs and SEAs.

As highlighted by several studies and as recognised by the European Commission in its recent guidance document on renewable acceleration areas,¹⁷ gaps in scientific knowledge and a lack of data availability and accessibility constitute significant barriers to the sustainable deployment of offshore renewable energy. The European Court of Auditors echoed this in a recent report, finding that “numerous environmental aspects linked to planned [offshore renewable energy] deployment are still to be recognised.”

Robust data is fundamental to sound sensitivity mapping and effective EIAs and therefore plays a critical role in avoiding negative environmental impacts and informing the development of effective nature-inclusive design.

To bridge this gap, the EU and Member States must strengthen data collection on the environmental impact of offshore renewable energy, including cumulative impacts. In addition, as offshore renewable energy projects are currently much more developed in the northern part of the EU, with the North Sea being the highest number of turbines, most available data on the environmental impact of offshore wind comes from this area. However, the context of the North Sea differs greatly from other basins, leaving substantial knowledge gaps regarding other ecosystems such as the Mediterranean and the Black Sea. This is confirmed by the European Court of Auditors report, which found that “there is insufficient empirical data,

as well as limited knowledge about non-northern species and marine environments since most of the existing studies are based on the North Sea offshore installations.” As a result, more research is needed to close the knowledge gap on environmental impacts in all sea basins.

Data must also be made publicly accessible, harmonised and centralised in relevant sea basin databases or by the European Environment Agency. Accessibility must also be improved by making the publication of monitoring data compulsory.

Standardisation of EIAs is another critical point as there is currently huge variation across the EU. While some differences can be attributed to the habitat type, many other differences could be avoided through harmonisation, benefitting developers and biodiversity alike. The EU must therefore provide minimum standards to harmonise EIAs and SEAs, and Member States must ensure that cumulative impact assessments are integrated into the respective assessments as required by the EIA and SEA Directives.

8. Ensure early and effective public consultation and facilitate the participation of local communities in offshore renewable energy projects

- When deploying offshore renewables, Member States must fully comply with public consultation requirements under European and international law to ensure early, accessible and inclusive public participation.
- Member States must implement the permitting provisions of the RED and equip national, regional and local authorities with sufficient financial and human resources to ensure the participation of citizens and energy communities in offshore renewable energy projects. Similarly, they must support energy community projects and increase their capacity to engage in offshore renewable energy projects.
- Member States must eliminate practical, legal and financial barriers to facilitate the participation of energy communities in offshore renewable energy projects, including joint cross-border projects.

Public participation is essential for a just transition to renewable energy, starting from the planning and decision-making processes. The right to participate in decision-making processes related to environmental matters is enshrined in various international instruments, including the [UN Aarhus Convention](#) and the [Espoo Convention](#), and in different pieces of European environmental legislation relevant to the deployment of offshore renewable energy, including the EIA Directive, the SEA Directive, the Birds and Habitats Directives, the MSFD and the MSP Directive. Not only is this a democratic right, but it can also make planning more effective as it reduces the risks of judicial and administrative appeals at a later stage.

Early and effective public participation must be ensured at all stages of the planning process, from the strategic environmental assessment to the environmental impact assessment for each project, in line with the requirements of the relevant directives.

The SEA Directive requires Member States to give the public an early, effective opportunity to express their opinion of a draft plan or programme likely to have a significant impact on the environment. The public must be identified as those likely to be affected by, or having an interest in the decision-making process, including environmental NGOs. Similarly, for any project that is likely to have an impact on the environment, the EIA Directive requires Member States to inform the public electronically and by public notices of relevant information concerning the project, including procedural details, early in the environmental decision-making process. Both Directives also include provisions for transboundary consultations when the implementation of a plan or programme is likely to have an impact on another Member State. These consultations must ensure that the public likely to be affected in all concerned Member States has the opportunity to provide their opinion. When a plan or programme is adopted, the public must be informed of how environmental considerations and the results of the consultations have been taken into account.

The revised RED introduces new permitting provisions aimed at shortening and simplifying permitting procedures, set to be implemented by

Member States as of July 2024. However, with the exception of Denmark, all Member States have thus far [failed in their implementation](#). Local, regional and national authorities will be central to ensuring that public participation rights are safeguarded with the implementation of these provisions, and must therefore be equipped with adequate resources, training and staff.

Public participation also means allowing citizens, energy communities and local communities to participate in, invest in, and benefit from renewable energy projects. Through energy communities, citizens can produce and consume their own energy at a lower, stable price, with revenues from renewable projects being re-invested in public services such as transport or social services.¹³ When energy communities are part owners of offshore renewable projects, the generated renewable energy can be distributed locally to members, giving them control over energy pricing.

Recently updated EU legislation, including the revised RED, requires Member States to facilitate the development of energy communities,¹⁴ including by removing any practical or regulatory barriers. These provisions also highlight the need for a level playing field for energy communities at the national level to allow equal participation in the market alongside other actors. Direct support, including financial support and capacity building, will also be critical to allow energy communities to acquire ownership of renewable energy projects.

As recognised by the RED, enhancing public participation and energy community involvement is vital for increasing the social acceptance of renewable energy. Similar to nature-inclusive design, public participation must be enabled by national and local authorities, including through non-price criteria (more on this in section 9).



Best Practice #2 Citizen-centred planning in Denmark

In Denmark, community ownership has played a pivotal role in offshore renewable energy development. The Middlegrunden offshore wind farm, built in Copenhagen in 2000, exemplifies this community-centred approach. Citizens were involved from the early stages of the project and were able to participate in the ownership of the wind farm by purchasing shares in the Middlegrunden energy cooperative. As a result, 8500 Danish citizens raised the capital to finance half of the project.

9. Introduce mandatory non-price criteria on the environmental and social performance of offshore renewable energy projects

- **In the implementing act on renewables auction design under the Net-Zero Industry Act, the European Commission must include criteria aimed at minimising the environmental impact of offshore renewable energy, reducing its environmental footprint, and facilitating the participation of citizens and energy communities in these projects.**
- **The EU must make the use of environmental and social non-price criteria mandatory.**
- **Member States must increase the share of non-price criteria in their auctions by introducing mandatory selection and award criteria focused on the environmental and social performance of offshore renewable projects.**

Member States must use non-price criteria in their tenders and auctions for renewable energy so that projects are evaluated not only based on price, but

also on other dimensions such as their efforts to mitigate and reduce the impact of wind farms on the environment and involve local communities. Non-price criteria can be categorised as selection criteria (also called pre-qualification or qualification criteria), which set minimum social and environmental standards to determine which companies are eligible to participate in the tender procedure, and award criteria, which are used to determine who wins the tender.

The European Commission must propose criteria related to the environmental impact of installations, nature-inclusive design, circularity, public participation, and responsible business conduct in the upcoming implementing act under the Net-Zero Industry Act. These criteria should represent a substantial share of the tender or auction points and include both selection and award criteria. While selection criteria ensure minimum standards for projects to enter the competition, award criteria incentivise developers to go beyond those minimum standards.

Although the implementing act will outline the type of criteria to be considered by Member States, it will

not make the introduction of such criteria mandatory. In addition, social criteria may not be part of the implementing act. To address this gap, the European Commission must present a proposal to make non-price criteria related to the environmental and social dimension of offshore renewables mandatory.

Environment and nature-inclusive design

These criteria are related to the carbon and environmental footprint of a project, and should evaluate whether the project seeks to minimise the negative impacts on biodiversity and ecosystems and incorporates effective nature-inclusive design. Measures aimed at minimising impact on the environment may relate to the spatial dimension of the project, such as its distance from marine protected areas and natural corridors, the avoidance of sensitive areas, and its distance from coastal areas, which are often sensitive and already heavily pressured ecosystems. Other relevant criteria may consider the environmental management plans of a project and evaluate whether projects include continuous environmental monitoring with publicly accessible data, transparent reporting on the environmental performance of the project, adaptive management plans that allow corrective action to be taken when needed, and flexibility in the project design to respond to new information and emerging best practices.

Best practice #3

Nature-first permitting in the Netherlands

In June 2024, the Dutch government granted the permit for the [IJmuiden Ver Wind Farm Site Alpha](#) to Noordezeker, which won the tender because of its plan to introduce measures for the protection of birds, reduce disturbance to marine mammals during construction and operation, and install artificial reefs on most of the turbines.

Circularity and material footprint

These criteria evaluate the project's commitment to circular economy principles, such as the use of recycled material, the circular design of components, and the project's plan for decommissioning with a focus on reusing and recycling components. The responsible sourcing of metals is another important criteria, and must exclude metals obtained through deep-sea mining and only consider terrestrially mined metals sourced that comply with the Initiative for Responsible Mining Assurance (IRMA) mining code.

Best practice #4

France's Energy Code

In France, the [Energy Code](#) requires administrative authorities to consider the environmental impact of manufacturing the materials required for the project when awarding a renewable energy project. While price still accounts for 50% of the points awarded, this is a step in the right direction.

Public participation and citizen involvement

These criteria must evaluate the projects' efforts to involve citizens in the decision-making process and in the planning and management of the project, as well as to provide benefits to local communities. They should assess whether a specific project actively engages with local communities and encourages the development of community-driven biodiversity and circular initiatives. Furthermore, the criteria must evaluate whether a project promotes, with specific targets, the ownership by citizens and local communities, such as through financial participation. Finally, such criteria should also evaluate a project's contribution in terms of local benefits, such as through the creation of local jobs and the co-location of other economic activities.

Best practice #5

Citizen participation in Belgian offshore wind farms

In Belgium, 34 renewable energy cooperatives joined forces to form [SeaCoop](#), which promotes citizen participation in offshore wind projects, in particular in the upcoming tender for the Princess Elisabeth zone, an offshore wind farm in the Belgian North Sea.

SeaCoop's visionary "20-20 approach" aims to achieve a 20% stake in new offshore wind farms in Belgium and to supply 20% of the generated electricity to Belgian households, municipalities and small and medium-sized enterprises (SMEs) through cooperative suppliers. SeaCoop's efforts led the Belgian government to adopt a Royal Decree requiring a minimum percentage for citizen participation in the tender for the Princess Elisabeth zone. Additional points are given for increased citizen participation, and cooperatives with direct participation in the equity have access to the offshore energy at a stable price. This has a cascading effect, as stable, long-term tariffs accelerate adoption of heat pumps and electric vehicles, allowing citizens to take greater ownership of the energy transition.



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10. Implement co-location strategies to improve the state of marine ecosystems and support local communities and low-impact sectors

- **Industrial fisheries, including bottom trawling, and industrial aquaculture must not be allowed in offshore wind farms. Only low-impact activities can be considered for co-location within wind farms.**
- **Co-locating different low-impact activities with offshore wind farms must contribute to the achievement of the EU marine protection and restoration targets and ultimately improve the state of marine ecosystems.**
- **Multi-use must improve the well-being of affected communities and low-impact sectors.**
- **Multi-use strategies must always be integrated in maritime spatial plans to ensure coherence with nature protection and restoration, as well as with other human activities.**
- **The European Commission must issue further guidance on the co-location of offshore wind farms and low-impact activities.**
- **Data collection on the co-location of low-impact activities and offshore wind farms must be strengthened, with a focus on the environmental and social impacts.**

The co-location of activities at sea is gaining attention as a tool to optimise the use of space, potentially reducing both the environmental and socio-economic impact of activities and the growing conflict between biodiversity and climate objectives and human activities in European seas.

In the context of offshore wind, co-location is mainly being explored in conjunction with aquaculture and fisheries, but there are few commercially viable projects.¹⁵ The potential space optimisation from co-location could offer numerous benefits. For example, more space could be available for nature protection and restoration, as well as for activities currently facing spatial restrictions due to the expansion of offshore wind, such as low-impact fisheries. Furthermore, activities within offshore wind farms would be more closely monitored and controlled, which could improve

management and provide useful data.

However, combining activities that impact the marine environment could lead to the deterioration of marine habitats, and trade-offs need to be carefully considered. To minimise the environmental impact, Member States must only consider low-impact activities when implementing co-location strategies. Co-location must not be allowed between offshore wind farms and industrial fisheries, harmful fishing techniques, such as the use of bottom-contacting gear, and industrial aquaculture. Ultimately, the co-location of low-impact activities and offshore wind farms must always contribute to the restoration and protection of marine ecosystems, in line with national and EU targets.

The co-location of low-impact fishing and offshore wind farms faces significant barriers that need to be tackled, notably the lack of data on the ecological impact of such activities and issues related to safety. A specific safety issue is the lack of clarity on whether existing insurance schemes cover fishing in offshore wind farms.¹⁶

Current national and European policy frameworks to address the co-location of offshore wind farms with other activities are lacking, with a few exceptions. Any future policies must prioritise ecological considerations in co-location strategies. Only effective spatial planning and careful environmental assessments can ensure the lowest possible impact on marine ecosystems. In addition, a case-by-case evaluation will be needed to ensure that the co-location is tailored to the specific conditions and characteristics of the area in question, including, for example the type of species that could be fished or farmed.

To support this, co-location must be explored in the context of robust maritime spatial planning processes involving an SEA, EIAs and early and meaningful stakeholder engagement. Strengthening data collection will also be critical in minimising the social and environmental impact of multi-use strategies.

While some guidance on the topic of co-location is available, the European Commission must publish further guidelines setting basic principles for the sustainable development of the co-location of offshore wind farms and low-impact activities.

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