

North Seas Energy Cooperation (NSEC)

Work Programme 2025 – 2027



Introduction

The participating countries and the European Commission acknowledge the progress and deliverables made by the four Support Groups of the North Seas Energy Cooperation (NSEC) since the adoption of the last work programme in 2019 and hereby reaffirm the objective of the North Seas Energy Cooperation.

The participating countries and the European Commission note “The Esbjerg Declaration on The North Sea as Green Power Plant of Europe”¹ signed at the North Sea Summit in 2022 by Denmark, Germany, Belgium and the Netherlands, which sets ambitious combined targets for the development of offshore renewable energy in the region. The ambitions since the Esbjerg Declaration have been developed further at the second North Sea Summit with participation of Belgium, Denmark, France, Germany, Ireland, Luxembourg, Norway, the Netherlands, the European Commission and the United Kingdom in Belgium in 2023 and as reflected in the “Ostend Declaration on The North Seas as Europe’s Green Power Plant delivering cross-border projects and anchoring the renewable offshore industry in Europe”². NSEC should serve to deliver on the ambitions set, as stated in the NSEC Action Agenda 2023 – 2024 on Implementing the Offshore Ambitions in the North Seas, and, where relevant, contribute to the preparation of future North Sea Summits.

Moreover, on 13 January 2023, the participating EU countries reached a non-binding agreement on goals for offshore renewable generation by 2050 with intermediate steps set for 2040 and 2030 for the priority offshore grid corridor Northern Seas offshore grids (NSOG), pursuant to Article 14(1) of the TEN-E Regulation (EU)2022/869. The agreed offshore goals are up to 60.3 GW, 158.3 GW and 218 GW, by 2030, 2040 and 2050 respectively³. Norway announced its ambition, in 2022, to award areas suitable for 30 GW of offshore wind production by 2040.

The participating countries and the European Commission call for taking forward the successful work carried out so far and further developing it in order to deliver on the offshore ambitions in the North Seas. This requires continuing with concrete actions to develop offshore renewables and the necessary offshore grids, including hybrid interconnectors, joint renewable projects as well as hydrogen production and transmission, and further shape energy system integration within the framework of the cooperation.

In addition, the participating countries and the European Commission recognise the growing potential of renewable hydrogen in the energy system on the path to net-zero, both in decarbonising hard-to-abate sectors, in providing flexibility to our energy systems and ultimately in strengthening the overall case for renewable energy deployment in the North Seas. Therefore, a new Support Group (Support Group 5) on offshore renewable hydrogen aims to support a timely and effective integration of hydrogen-specific perspectives within the work of NSEC.

The participating countries and the European Commission acknowledge that the experiences and deliverables from the North Seas Energy Cooperation are of universal interest and that the solutions and results can be replicated in other regions. The participating countries call for the sharing of knowledge and best practice beyond the North Seas across the different regions and sea basins, e.g. through joint meetings with other High-Level Groups such as BEMIP, CESEC and SWE⁴.

¹ [https://www.kefm.dk/Media/637884617580584404/The%20Esbjerg%20Declaration%20\(002\).pdf](https://www.kefm.dk/Media/637884617580584404/The%20Esbjerg%20Declaration%20(002).pdf)

² <https://www.premier.be/en/north-sea-summit-23-declaration>

³ https://energy.ec.europa.eu/document/download/8ece221b-98d9-4db0-8940-8455e1f971ba_en?filename=NSOG_non-binding_offshore_goals_final.pdf

⁴ The Baltic Energy Market Interconnection Plan (BEMIP), Central and South-Eastern European Energy Connectivity (CE-SEC) Initiative and the High-Level Group on Interconnections for South-West Europe (SWE).

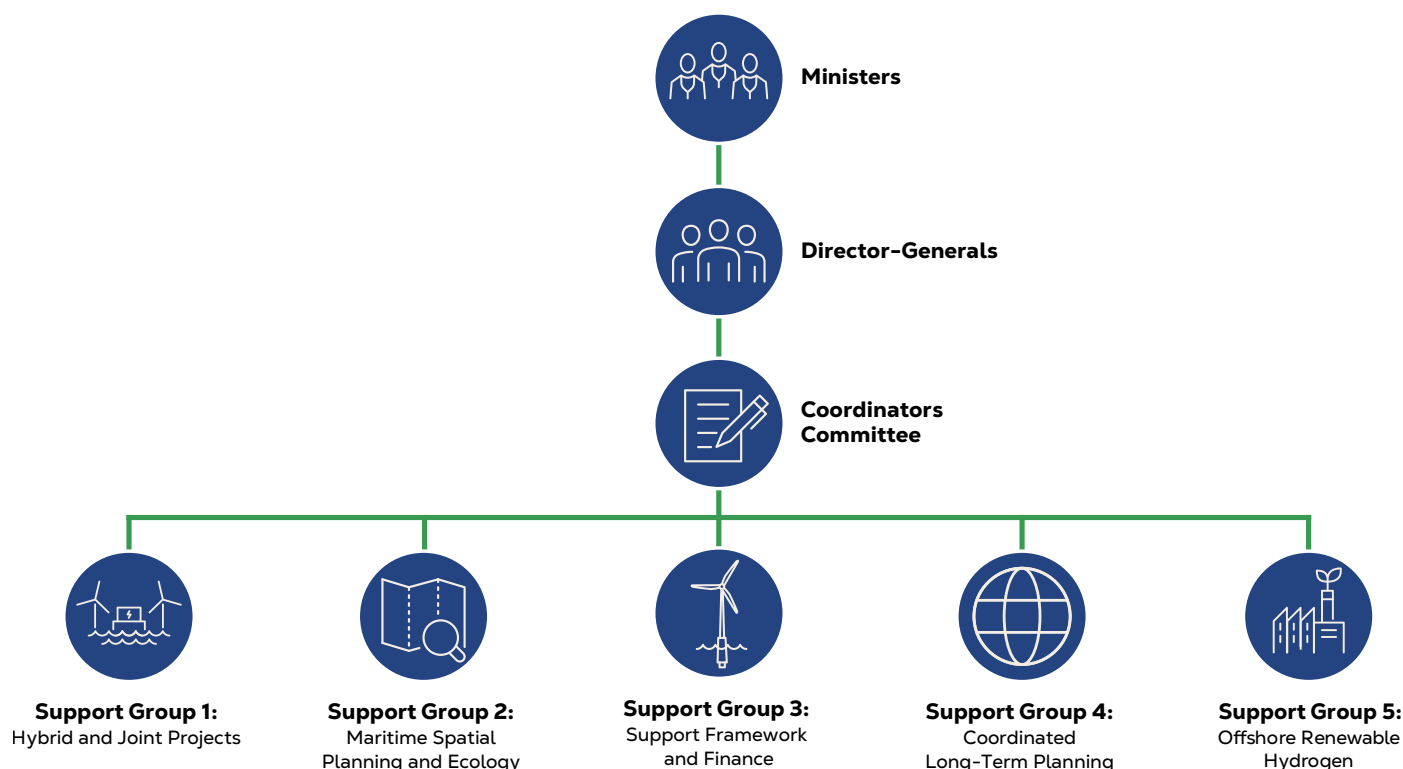
The participating countries and the European Commission endeavour to cooperate in five Support Groups. These groups are intended to reflect the challenges in the years ahead for the North Seas countries in realising the potential for offshore renewable energy in the region, developing the necessary infrastructure to transport it, and facilitating investments at an unprecedented speed and scale. With due consideration to the topics of cross-sectoral character and with the aim of increasing synergies across the different support groups, joint meetings and topic specific cooperation across Support Groups are strongly encouraged.

Furthermore, the five Support Groups endeavour to reach out to relevant stakeholders, whenever relevant, as coordination with key stakeholders and interested parties will be instrumental in realising the vision for a meshed grid in the North Seas.

Coordinators Committee

Building on the role of the Coordinators Committee as stated in the governance and support structure of NSEC⁵, the Committee will also take the leading role within NSEC in preparing decisions of Ministerial Meetings and supporting the preparations of future North Sea Summits. In addition, the Coordinators Committee intends to continue to follow up on cross-cutting topics relevant for the High-Level Group and ministers, including by regular dedicated exchanges on such topics. Building on the stakeholder sessions organised in 2023 – 2024, the Coordinators Committee will continue to organise stakeholder involvement at relevant meetings and/or conferences.

Redefined NSEC Support Group Structure



Support Group 1: Hybrid and joint projects

With the establishment of the project-oriented Support Group 1 for offshore hybrid assets and joint projects, NSEC provides a platform for the relevant countries participating in an offshore hybrid and/or joint project to bring forward joint solutions and thereby deliver results that can benefit all North Seas countries.

Building upon the work accomplished under the previous work programme, Support Group 1 is intended to focus on tackling barriers to the development of hybrid and joint projects in the North Seas. In the participating countries, an increasing number of concrete projects have been initiated, as reflected in the first Union list of Projects of Common Interest (PCIs) and Projects of Mutual Interest (PMIs)⁵ and ENTSO-E's Ten-Year Network Development Plan (TYNDP).

Hybrid and joint projects will be an integral part of a meshed grid in the North Seas. At the same time, moving from technical concepts to concrete projects and a well-functioning integrated offshore energy system is challenging. This requires a regional approach. Support Group 1 should work towards concrete recommendations and proposed solutions, also in cooperation with other Support Groups, to address the barriers related to hybrid and joint projects, such as determining offshore bidding zone configurations, balancing and system operation in an offshore bidding zone, reduced incentives for private investments due to lower electricity market revenues, and suitable risk allocation in an offshore bidding zone, permitting procedures, cost and benefit sharing and other regulatory aspects such as transitioning from radial to hybrid connections for existing offshore wind farms.

Support Group 1 is open to all NSEC members, irrespective of whether the country is currently developing a hybrid or joint project.

⁵ <https://circabc.europa.eu/ui/group/9198696f-e42c-4a88-b4f1-7a1788eb9b7c/library/bda39f53-7759-40ae-a81e-07cc9d0526fb/details>

Support Group 1 should work on:

- Assessing project-specific challenges related to the regulatory framework and market arrangements, considering also the forward and balancing markets, and identifying options for overcoming them in order to advance project development;
- Addressing risks regarding lack of transmission access related to hybrid projects and off shore bidding zones and investigate the need for further development of the existing framework to support the effective integration in existing market settings;
- Developing a regional approach to the build-out of offshore renewable energy in the North Seas, in particular by advancing approaches to cost and benefit sharing among others, building on the Commission guidance on a collaborative investment framework for offshore renewable energy projects⁶;
- Developing further concepts on the financing of hybrid and joint projects by considering market based solutions as well as existing funding mechanisms such as the Connecting Europe Facility and the Renewable Energy Financing Mechanism in close cooperation with Support Group 3;
- Assessing project-specific permitting procedures in view of identifying common barriers that could be tackled through increased regional cooperation, sharing of best practices or joint recommendations for adjusted regulation;
- Regular monitoring and exchange of best practices regarding concrete offshore hybrid and joint project developments in the North Seas;
- Providing as much clarity and certainty as possible on the regulatory framework and electricity market arrangements ahead of tenders to developers, with the aim of limiting the associated risks for market actors as much as possible;
- Assessing and discussing options for further developing the regulatory framework and electricity market arrangements.

⁶ https://energy.ec.europa.eu/publications/guidance-collaborative-investment-frameworks-offshore-energy-projects_en

Support Group 2: Maritime Spatial Planning and Ecology

In order to achieve the offshore ambitions agreed upon by the NSEC countries, the necessary areas for offshore renewable energies need to be designated in the North Seas. However, the space in the North Seas is finite, and the demands of different uses of the sea are increasing. Maritime Spatial Planning and effective management processes provide the tools to balance the spatial needs of different sectors, while at the same time protecting the environment and biodiversity.

Offshore wind energy has, over the last decades, evolved into a mature industry. Scaling up wind energy contributes to reducing greenhouse gases as an obligation to protect the marine environment against its adverse impacts. This increased use needs to be in balance with the European ambitions to protect, restore and enhance biodiversity.

Further work is needed on maritime spatial planning, environmental assessments and effective management processes to fully utilise the energy potential of the North Seas, including in the context of permitting procedures and to ensure a balanced co-existence. One of the tools within the MSP process is a cumulative impact assessment. In earlier work, Support Group 2 has assessed potential cumulative impacts on the species most affected by these impacts on a regional sea level.

Within a more coordinated maritime spatial planning framework across borders, a more coordinated planning of offshore grid projects is needed in order to facilitate the increased deployment of offshore wind generation capacities by 2050 in the North Sea region, as reflected in the first Offshore Network Development Plan (ONDP) for the Northern Seas¹.

A balanced co-existence of offshore renewable energy requires a collective approach in coordination with relevant regional fora such as the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) and the International Council for the Exploration of the Sea (ICES) as well as the Greater North Sea Basin Initiative (GNSBI).

Within this context, Support Group 2 will endeavour to engage with the relevant bodies to support offshore renewable energy development by addressing spatial and ecological barriers and opportunities for this development while respecting the differences in perspectives, national needs for coordination and planning, and ensuring complementarities and synergies. The collaborative approach will be regularly reviewed and agreed with the Coordinators Committee.

¹ ENTSO-E: TYNDP 2024 Sea-Basin ONDP Report TEN-E Offshore Priority Corridor: Northern Seas Offshore Grids January 2024.
https://eepublicdownloads.blob.core.windows.net/public-cdn-container/tyndp-documents/ONDP2024/web_en-tso-e_ONDP_NS_240226.pdf

Support Group 2 should work on:

- Developing a concrete Action Plan to address, in coordination with the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) and the International Council for the Exploration of the Sea (ICES), the issues that are most pressing for promoting a balanced co-existence of renewable energy and nature, to respond appropriately and timely to these environmental risks by applying best practice measures and to contribute to the Renewable Energy Directive implementation. This should include:
 - An overview of the issues that are most pressing for promoting a balanced co-existence of renewable energy with respect to the marine environment;
 - An overview of best practices and mitigating measures to address environmental risks in an appropriate manner, considering the phases of planning, development, exploitation and decommissioning of wind farms;
 - An overview, including a map, of the current phase of wind farm planning in the North Seas;
- Cooperating with Support Group 1 in identifying persisting barriers and challenges for more effective permitting procedures of offshore generation and infrastructure assets and assessing options to accelerate permitting procedures, while ensuring co-existence with nature and preserving biodiversity;
- Providing input on spatial and ecological subjects to Support Group 4 and ENTSO-E to contribute to more synchronised and coordinated maritime spatial planning (and effective management processes) and offshore grid planning processes, in particular within the context of the ONDP, in order to facilitate the increased deployment of offshore wind generation capacities by 2050;
- Contributing to the planning and licensing processes of projects and preventing potential delays in the realisation of offshore renewables due to unwanted spatial/ecological impacts;
- Exchanging and discussing technical information regarding offshore wind energy development and maritime spatial planning (and effective management processes), including sharing relevant data and knowledge;
- Improving data collection and sharing by streamlining ecological monitoring requirements;
- Collaborating with the GNSBI, OSPAR, and ICES in applying cumulative impact assessment tools and identifying best available measures to minimise impacts;
- Assessing and sharing, in collaboration with GNSBI, concepts for multi-use in wind farms that can contribute to the resilience of the North Seas' ecosystem.

Support Group 3: Support framework and finance

For the offshore wind sector, it is vital to offer long-term prospects in order to facilitate long-term investments and further cost reductions. To this end, existing barriers must be removed, and investment security must be created. Support Group 3 is intended to make an important contribution to achieving these goals through a regular exchange of experts on the topics of financing and support frameworks.

The aim of this group is also to jointly develop and discuss ideas for the medium-term future of the offshore energy system in terms of installed capacity. The group should continue coordinating offshore tenders by means of sharing information regarding the national tender schedules to provide better visibility to the supply chain. It should also exchange best practices on tender design and support design elements to foster system and sector integration, as well as the implementation of the relevant legislative and regulatory framework.

Joint projects are also becoming more and more important. For this reason, the group should also address joint cross-border offshore renewable projects, in cooperation with Support Group 1 when necessary, with a special focus on financing opportunities, including under the new Connecting Europe Facility and the Union Renewable Energy Financing mechanism. Finally, Power Purchase Agreements (PPAs) will play an increasingly important role in the future in connection with the financing of offshore projects. For this reason, the group should address the issues, barriers, and solutions related to PPAs.

Close collaboration with Support Groups 1, 4 and 5 is intended on a number of these topics (e.g. joint projects, supply chain, sector integration/hydrogen).

Support Group 3 should work on:

- Updating and improving the NSEC tender planning tool to achieve better coordination of the supply chain in cooperation with Support Group 4. Support Group 3 may also explore stronger coordination of timing to avoid unnecessary peaks for the supply chain;
- Exchanging best practices on tender design and the implementation of the revised electricity market design, in particular as regards Contracts for Difference (CfDs) or instruments with similar effects, Power Purchase Agreements (PPAs), as well as the Net-Zero Industry Act (NZIA), especially concerning non-price criteria;
- Assessing PPA design options, such as the combination of CfDs and PPAs, PPA aggregator models, PPA and optimal behaviour in a power market;
- Discussing joint and mutual tenders, including related risk and cost sharing considerations (such as administrative cost of such tenders, Strategic Environmental Assessments (SEAs), preliminary investigations, grid connection regimes, etc.);
- Discussing sector integration / joint hydrogen production / Power-to-X (PtX) in tender design, including experiences with combined offshore wind farm (OWF) and PtX tenders, in collaboration with Support Group 5 when necessary;
- Discussing electrification and the Renewable Energy Directive RFNBO industry target, including with regard to regulatory aspects related to public support scheme needs for off-shore wind farms in hybrid projects;
- Continuously following existing EU instruments for cooperation (the Connecting Europe Facility and the window for cross-border projects in the field of renewable energy, the Renewable Energy Financing Mechanism and the InvestEU programme), as well as analysing and developing additional options for financing for hybrid and joint projects, including under the next Multiannual Financial Framework (MFFs) in close cooperation with Support Group 1 and relevant stakeholders, such as the EIB, where applicable;
- Discussing appropriate frameworks for decommissioning, repowering and lifetime extension of offshore wind farms.

Support Group 4: Coordinated long-term planning

Support Group 4 is intended to focus on coordinated long-term planning, in order to provide for a clear framework to deliver on the renewable offshore goals by 2050.

Building on the first Offshore Network Development Plan (ONDP) for the Northern Seas¹, the group should assess options to further refine long-term infrastructure planning considering both offshore and onshore needs as well as energy sector integration. In addition to enhanced collaboration with Support Group 2 to further integrate MSP matters into offshore planning tools and coordinate and synchronise both processes, Support Group 4 should also endeavour to contribute, when appropriate, to the GNSBI, for instance, in view of supporting the work on a regional cumulative impact assessment.

Support Group 4 is also intended to complement the other Support Groups by addressing challenges related and directly impacting long-term planning. In this context, Support Group 4 should address challenges in offshore renewable energy supply chains by advancing work in close cooperation with other Support Groups, and with a view to developing a solid transparency framework for supply chain stakeholders. Support Group 4 should also support the Coordinators Committee in engaging stakeholders in NSEC, in particular through communicating the added value of NSEC's work to expand infrastructure, with a view to improving the acceptability of offshore renewable projects in the North Sea region. Lastly, Support Group 4 should explore and discuss how security concerns may impact, shape, or be integrated into long-term infrastructure planning.

¹ ENTSO-E: TYNDP 2024 Sea-Basin ONDP Report TEN-E Offshore Priority Corridor: Northern Seas Offshore Grids January 2024.
https://eepublicdownloads.blob.core.windows.net/public-cdn-container/tyndp-documents/ONDP2024/web_en-tso-e_ONDP_NS_240226.pdf

Support Group 4 should work on:

- Integrated infrastructure planning to achieve the participating countries' offshore objectives by 2050 by ensuring close cooperation and coordination of national and sea-basin objectives and relevant planning tools e.g. Ten-Year Network Development Plans (TYNDP), Offshore Network Development Plans (ONDP), national Network Development Plans (NDP), with regard to offshore wind, offshore renewable hydrogen and related infrastructure, as well as related onshore grid reinforcements;
- Collecting the data and input necessary for the ONDP exercise, including with regards to hydrogen, in close collaboration with Support Group 3 and Support Group 5, and continuing to collaborate closely with ENTSO-E in this regard. Support Group 4 should also collaborate closely with Support Group 2 to ensure that MSP matters are well reflected in the ONDP exercise;
- In the context of the ONDP, discussing and concretising optimal infrastructure planning (e.g. hub-and-spoke concepts, power-to-x, alongside other potential (offshore) technologies like gas-to-wire);
- In close cooperation with Support Group 5, mapping of hydrogen demand centers and countries' hydrogen plans to feed into the infrastructure development discussions;
- Supporting the sea-basin cost-benefit analysis (CBA) and cross-border cost sharing (CBCS) exercise that will be performed by ENTSO-E, based on the ONDPs, and discussing results and implications for infrastructure planning in the North Sea;
- Assessing supply chain challenges as regards standardization (technical standards), ports and skills complementing the work of Support Group 3 on supply chains in relation to auction design and financing;
- Taking steps towards developing a Transparency Framework aimed at providing increased transparency in the renewable energy supply chains. This framework should build on existing work in Support Group 3 on the NSEC tender planning and include additional relevant elements.
- Communicating the societal value of grid expansion by involving external stakeholders, including under the Pact for Engagement, with a view to improving the acceptability of off shore renewables in the North Seas Region. For this purpose, Support Group 4 should support the Coordinators Committee in stakeholder engagement activities and work on initiatives dedicated to the acceptability of long-term infrastructure plans in the North Seas.
- Exploring the topic of security, e.g. in the context of tender design with Support Group 3 and discuss possible implications for long-term infrastructure planning.

Support Group 5: Offshore renewable hydrogen

Offshore renewable hydrogen has the potential to play an important role in the European energy system post-2030, including in decarbonising hard-to-abate sectors and providing flexibility to our energy systems.

The Support Group should strengthen the work on offshore renewable hydrogen in NSEC. As the energy system in the North Seas becomes increasingly more intertwined, both in terms of improved system integration and interconnectivity between Member States, coordination on all relevant elements of an integrated energy system becomes crucial. These topics could include common metrics of national renewable hydrogen targets, cross-border comparison of market and technical requirements and the establishment of guiding principles for cooperation to facilitate bi- or multilateral agreements.

To ensure a proper scope and function of the Support Group, the work will be developed based on a gradual approach. The extensive evaluation of ongoing efforts already carried out by the ad hoc working group¹ will be used as a basis for further scoping. This should ensure complementarity with the other Support Groups as well as other relevant fora to avoid creating parallel structures.

Close coordination and collaboration with all relevant Support Groups, in particular Support Group 1 and 4, are required on matters of system integration to foster potential synergies but also to ensure a comprehensive approach across energy vectors.

¹ Ad hoc working group on ways to strengthen the NSEC's work on offshore renewable hydrogen.

Support Group 5 should work on:

- Prioritising the topics to be included within the scope of the Support Group based on the list of relevant topics identified by the ad hoc working group;
- Conducting a thorough stakeholder analysis to ensure necessary coordination and mitigate the risk of overlapping efforts;
- In parallel, and building on existing work, initiating a study to assess the outlook of offshore and near-coast onshore hydrogen development in the NSEC region, aiming to better understand the current main challenges;
- Following the initial scoping phase, address challenges related to hydrogen infrastructure planning, investment, financing, regulation and permitting, while considering the work of other Support Groups as recommended by the ad hoc working group;
- Closely monitoring the implementation of hydrogen PCIs and PMIs in the NSOG corridor and discuss any specific challenges encountered;
- Monitoring and coordinating hydrogen issues discussed in or relevant to other Support Groups.

Final note

The redefined Support Groups are to commence their activities at the beginning of 2025.

As foreseen in the NSEC governance structure, Support Groups should report regularly to the Coordinators Committee to guide the work and ensure a coordinated approach to deliver on the objectives agreed upon at the NSEC ministerial meetings.

All work under this Work Programme will be undertaken in line with existing obligations under international law, EU and domestic law and the EEA Agreement. The Work Programme is not intended to create rights or obligations under international or domestic law.

All work under this Work Programme is subject to the available resources of each NSEC member, which are to bear their respective expenses. It does not constitute an obligation to allocate funds. NSEC members should regularly assess whether the allocated resources are sufficient to achieve all results within the Work Programme.

As part of their participation in the Support Groups, countries are encouraged to actively contribute to them and free to focus on the work areas of their interest.





