



Scoping Study INTERREG NSR 2021-2027

Final Report with Addendum

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Summary

The purpose of the scoping study, commissioned by the Joint Secretariat (JS) and the Programme Preparation Group (PPG), is to provide analytical support for the programming of the Interreg North Sea Region Programme for the period 2021-2027. This includes an analysis of how the achievements and lessons learned during the current programme period and the recommendations for future thematic concentration made by the EU Commission fit with national and regional policies in the NSR. The scoping study will thereby contribute to the process of finalising the focus of policy objectives in the NSR Programme 2021-2027. The scoping study has been carried out using a combination of desk research, qualitative interviews and quantitative (geographic information system, GIS) mapping. The research has been conducted in close dialogue with the JS.

Based on the recommendations by the Commission, PO3, a more connected Europe and PO4, a more social Europe was not in focus as part of the initial data collection. However, transport and mobility, which are themes under PO3, were included as part of the research design, exploring potentials under PO1 and PO2. In August 2020, PO3 and PO4 were added to the analysis, and another round of data collection was carried out and incorporated into the analysis (finalised in September 2020).

Overall, the study demonstrates a strong stakeholder support as well as a solid foundation to further develop transnational collaboration focusing on PO1: A smarter Europe and PO2: A greener, low-carbon Europe. There is a wish among stakeholders to focus the programme on few policy objectives, where some point to the possibility of focusing the NSR Programme only on PO1 and PO2. However, it is significant to continue efforts in the area of sustainable transport/mobility. As a point of departure, most stakeholders would like to see this incorporated under PO1 and PO2. Hence, only Germany explicitly wishes to include PO3: A more connected Europe in the NSR Programme. Stakeholders do not find there is added value in including PO4: A more social Europe in the NSR Programme. For PO5: A Europe closer to citizens, there is some uncertainty to the added value of including it as a separate PO in the NSR Programme. Stakeholders point to possibilities to incorporate elements such as citizens involvement under PO1 and PO2.

In the following, the main conclusions and recommendations for each of the policy objectives are summarised.

Policy Objective 1: A smarter Europe

PO1: A smarter Europe will promote innovation, digitalisation, economic transformation and support to small and medium-sized enterprises (SMEs). PO1 is supported by the European Green Deal, the new growth strategy for the EU. The European Green Deal has two pillars: a dedicated strategy for SMEs and a new industrial policy. The first recognises that SMEs play a key role in every sector of the economy, and particularly welcomes their ability to bring innovative solutions to promoting energy efficiency and address challenges linked to climate change. In the industrial strategy, the broader area of digitalisation is one of three priorities, dubbed like the European Green Deal's 'twin strategy': Shaping Europe's Digital Future. Both strategies recognise the role of innovation as central to growth: Research and innovation drive, enable and accelerate the shift towards green and digital transitions of our societies. Smart specialisation is the basis for research and innovation investment and key for helping regions to tap into their innovation potential and strengthen their competitiveness.¹

¹ European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth, 2017, https://ec.europa.eu/regional_policy/sources/docoffic/2014/com_2017_376_2_en.pdf

Overall, according to the regional innovation scoreboard, the NSR is performing well regarding innovation performance. The predominantly urban regions (where more than 80% of the population live in urban clusters) as well as the intermediate regions (where more than 50% and less than 80% of the population live in urban clusters) of the NSR have a strong innovative capacity. Some of them are among the most innovative in Europe. Predominantly rural regions (where less than 50% of the population live in urban clusters) in the NSR tend to have a more limited innovation capacity, just as elsewhere across Europe, which is partially explained by a smaller share of the population with a tertiary education attainment and rather limited collaboration between innovate SMEs. This can be seen in their values below both the NSR and EU-27 averages for the mentioned indicators.

National and regional stakeholders prioritise PO1 and call for a broad approach. Smart specialisation strategies are developed by regions in all member states, identifying positions of strength and focus areas for implementing regional innovation policy. The European Commission has recommended that the coming programme should promote smart specialisation by supporting sets of projects in shared specialisation priority areas. An attention point for the design of the NSR Programme 2021-2027 is that generally the tools/policy mix to support innovation of SMEs as facilitated by smart specialisation strategies are considered relevant by stakeholders. However, the need for a flexible programme that is not locked to shared specialisation priority areas is underlined by stakeholders.

- This is of relevance especially for specific objective 3: Enhancing growth and competitiveness of SMEs and specific objective 4: Developing skills for smart specialisation, industrial transition and entrepreneurship. The promotion of innovation, digitalisation and internationalisation of SMEs are focus areas, which stakeholders generally wish to continue in the coming programme period. Cluster development is also highlighted as a tool in the smart specialisation policy mix, which can be incorporated into the NSR Programme 2021-2027.

Digitalisation is a strategic priority for the NSR Programme 2021-2027. Digitalisation is a strategic priority nationally/regionally in the NSR. Some stakeholders refer to it as a potential specific policy objective for the NSR Programme, but it is also proposed by some stakeholders that digitalisation is included as a horizontal criterion for all projects, e.g. requiring that up-to-date digital technologies are used as part of NSR projects. This proposal aligns with the European Commission's regard of digital technologies as critical enablers for the European Green Deal, and that as such, digital solutions can advance the circular economy, support the decarbonisation of all sectors and reduce the environmental and social footprint of products placed on the EU market.

- The digitalisation focus requested for the NSR Programme has direct links to specific objective 2: Reaping the benefits of digitalisation for citizens, companies and governments. In the development of the programme, the JS and PPG can consider highlighting digitalisation in the framing of the NSR Programme, i.e. as a horizontal criterion for projects in all the POs covered by the programme. This will raise the ambitions and promote the digital agenda outlined at EU, national and regional level.

Thematic overlaps exist between smart specialisation strategies of the NSR. These can be highlighted and developed in the NSR Programme 2021-2027. As part of the scoping study, we have identified focus areas of strategies across the NSR, demonstrating that environmental and energy technology is the most recurrent focus area of smart specialisation, found in 20 out of a total of 28 strategies. Industrial modernisation and agri-food are other focus areas included in several smart specialisation strategies across the NSR. They are also the focal point of smart specialisation thematic platforms that comprise European-wide innovation and research partnerships, also including partners in NSR regions. The strategic focus areas of environmental and energy technology, industrial modernisation and agri-food, which are promoted also through other EU programmes, can hold potential for the NSR Programme 2021-2027 allowing for possible synergy opportunities with other EU-funded initiatives.

- With respect for the priority of national and regional stakeholders to maintain a broad approach to PO1, not highlighting certain sectors, the smart specialisation strategic focus areas that are shared among several regions may hold potential for transnational cooperation. Especially the recurrent strategic focus of regions on environmental and energy technology can be of relevance to highlight in the NSR Programme 2021-2027, which also holds direct links to PO2.

Broad strategic backing for directing Research, Development and Innovation (RDI) activities towards PO2-related themes. The European Commission has also recommended that RDI activities in the coming programme period will be targeting challenge-driven fields related to PO2. This is a recommendation which most stakeholders are in favour of. Energy is one area in which there is a shared strategic focus across the NSR, and other specific areas of interest for transnational cooperation include sustainable transport linked to smart city and maritime industries, waste management and circular economy. Stakeholders generally underline that the programme should prioritise RDI activities that are implemented as demonstration/pilot projects.

- The RDI activities focus is linked mainly to specific objective 1: Enhancing research and innovation capacities and the uptake of advanced technologies.

Policy Objective 2: A greener, low-carbon Europe

PO2: A Greener, low-carbon Europe, is focused on investing in energy transition, renewables and the fight against climate change and is closely linked to the European Green Deal. The European Green Deal sets out the direction for the EU to become climate-neutral by 2050. Some of the key measures relate to energy, buildings, climate adaptation, water, circular economy, transport, nature and transport. The EU Biodiversity Strategy for 2030 is also of relevance for PO2. It puts emphasis on cooperation across borders among Member States, including through European Territorial Cooperation, on green and blue infrastructure. The European Green Deal's 'twin policy', the Shaping Europe's Digital Future policy, aims to ensure that digital technology transformations reach their full and fair potential for people and businesses, while helping to achieve the climate-neutrality target of 2050.

National and regional stakeholders prioritise PO2 and call for a broad approach. The Commission recommends that the predominant focus of the NSR Programme 2021-2027 is placed on PO2, which is in line with the perspectives of national and regional stakeholders. Like the position on PO1, stakeholders are generally in favour of a broad approach to PO2, allowing for a broad variety of projects. Pilot and demonstration projects are highlighted by stakeholders as a priority for PO2.

Greenhouse gas reduction targets as a driver for energy efficiency measures, circular economy, renewable energy, smart energy systems and sustainable multimodal urban mobility. One of the challenges linked to climate and environment involves population exposure to air pollution, which has been mapped as part of the scoping study. The map illustrates that the air quality is better in the north than in the south of the North Sea Region. The populations in the south are exposed to a PM2.5 concentration level that exceeds WHO's long-term guideline value, indicating that air pollution may have effects on their health and well-being.

National/regional strategies and policies in the NSR are in place outlining ambitious targets for the reduction of greenhouse gas emissions. Most also have in place specific policies/strategies for e.g. sustainable transport and circular economy. These are examples of themes that stakeholders highlight as relevant for the NSR Programme. Especially circular economy is highlighted by most stakeholders to hold potential for transnational cooperation.

Stakeholders also highlight the relevance of building on experiences and continue efforts in areas such as sustainable transport and logistics, and waste management related to harbours and in the sea. An example of new developments with potential impact across the NSR is the establishing by the Danish state of an

energy island in the North Sea during the coming years. Cooperation on Power-to-X technology development has been established between the states of Denmark and the Netherlands. There may be potentials to implement transnational cooperation projects also in the context of the NSR Programme regarding technology development and/or maritime spatial planning related to the planned energy island.

- The broad focus requested by stakeholders and the interlinked nature of the climate challenges to be addressed and the possible measures to be taken entail that several specific objectives (in this case no. 1, 2, 3, 6 and 8²) under PO2 are of relevance for the development of the programme. It may be considered whether it is an advantage to include all specific objectives in the programme, or whether broad project opportunities are possible to comprise within fewer specific objectives.
- In the development of the programme, the JS and PPG can consider whether specific attention should be placed on the establishing of an energy island in the North Sea. This could include plans for a separate call for applications to carry out an NSR flagship project focused on technology development and/or maritime spatial planning. A potential initiative also opens potential for coordination with the BSR Programme.

Differences in regional strengths on circular economy offers potential for transnational cooperation. Employment in the circular economy has been mapped as part of the scoping study, illustrating an overall solid foundation for the region to realise the transition towards a circular economy. Thus, the prevalence of employment by so-called circular economy material providers is above the European average in the NSR, centred on rural regions in the Nordic part of the region. High employment numbers are also found with circular economy technology providers in several regions with urban centres in the NSR. However, several regions in Germany, Belgium and the Netherlands are below European average in employment by circular economy technology providers. Regional differences across the NSR can be perceived to indicate learning potentials through exchange of knowledge and practice in transnational projects on the realisation of the circular economy.

- An attention point in the development of the NSR Programme is that projects focused on circular economy have been limited in the current programme period. A way in which to approach this in the development of the coming programme is to operationalise the concept of circular economy further, exemplifying types of initiatives and partnerships it might entail. The transition to a low carbon and circular economy has clear links to PO1, innovation and technology development, and notably the strategic focus area shared by most regions on environmental and energy technology.

Climate change challenges call for continued transnational cooperation on climate adaptation and integrated water management. Seasonal extremes in precipitation and weather patterns are increasing substantially in the NSR. As such, they are stressing hydrological systems and the aquatic environment in the programme area. As part of the scoping study we have mapped implications of climate change in the NSR. The adaptive capacity of regions to climate change across the NSR is generally at medium or above medium level as compared to the European average. However, several regions in the NSR are also assessed to have high adaptive capacity. The aggregate potential impact and the potential vulnerability to climate change is found to be most severe in coastal regions, especially the Netherlands, of the NSR and in mountainous areas of Norway. This calls for a continued focus on transnational cooperation on climate change adaptation and integrated water management, with the aim of improving resilience, safe guarding quality and quantity of water resources as well as eco-systems and biodiversity connected to the aquatic environment. This is a focus which is backed by national/regional policy. This also aligns with the North Sea Commission's North Sea Region Strategy 2030, i.e. its Energy and Climate Change Working

² Aligned with a 'compromise agreement' on the legislative package, sustainable urban mobility is placed under policy objective 2, as its specific objective 8 (see the Annex's chapter 2). It should be noted that, even though provisional partial agreement has been reached, the principle "nothing is agreed until everything is agreed" applies.

Group's endorsed Paper on Climate Change Adaptation and the North Sea Commission.³ There may also be synergies and learning potentials between the development of climate adaptation solutions in coastal and mountainous areas.

- There is a long track record for transnational cooperation on climate change adaptation and water management in the NSR, which should be followed up and continued. The same is highlighted for transnational cooperation on ecosystem services. This entails that the inclusion of specific objectives 4, 5 and 7 are also of relevance for the NSR Programme 2021-2027.

Policy Objective 3: A more connected Europe

PO3: A more connected Europe will support strategic transport and digital networks. In order to provide context for PO3 in the NSR, two indicators have been mapped. The first is on the rail connection of port and airport included in the TEN Transport corridors, and the second on public transport in cities within the NSR.

The connection to rail is lower for core airports than for maritime ports in the NSR. Most (91%) of maritime ports in the North Sea Region are connected to rail. The compliance of the connection of core airports to rail is lower corresponding to 56% of the core airports, which is below the EU-average.

Across the NSR, there is a divide between access to public transport in capital cities and smaller urban centres. Highest access to public transport is observed in the capital cities. Other cities functioning as regional centres also have a relatively high access to public transport. In smaller urban centres, a low share of the population has access to a high service level of public transport.

National/regional stakeholders generally prioritise including the topic of sustainable transport/mobility in the NSR Programme, but as part of PO1 and PO2. Only from the side of Germany, it is a priority to include PO3 as a separate policy objective in the programme. There is a wish to continue efforts such as the development of alternative fuels and more efficient transport solutions in terms of modal shifts and for urban transport. At the time of writing, there is some uncertainty whether the specific objective 'Promoting sustainable multimodal urban mobility' will be removed as an option under PO2. This will be an attention point in the development of the NSR Programme 2021-2027. In case it is changed and becomes possible to support only under PO3, more national/regional stakeholders will be in favour of including it as a separate policy objective in the NSR Programme.

- If the regulation/guidance from the Commission does not change, there is potential to support projects related to sustainable transport/mobility under PO1 and PO2. Since this is a topic prioritised by most stakeholders it will be relevant to point towards challenges to be addressed and the opportunities to develop projects under PO1/PO2. The link to several smart specialisation strategies in the NSR can be highlighted in this regard.

In general, national/regional stakeholders state that investments in transport and ICT infrastructure is outside the scope of the NSR Programme. This is better supported with national funds and through other European programmes. This view aligns with the North Sea Commission's North Sea Region Strategy 2030. It states that, overall, the NSR is well embedded in the TEN-T network and many sea ports, air ports and urban nodes are included in the core layer and corridors. However, not all parts of the NSR, especially peripheral areas in the Northern and Western part of the region, are sufficiently integrated in the TEN-T network. To be competitive, the North Sea Commission's North Sea Region Strategy

³ CPMR-North Sea Commission, Energy and Climate Change Working Group, Paper on Climate Change Adaptation and the North Sea Commission (prepared jointly by 8 current NSR Programme projects), 20/03/2020

2030 holds that the NSR needs to be well connected to the TEN-T and capable of benefiting from the Connecting Europe Facility (CEF) funding instrument.

Policy Objective 4: A more social Europe

PO4: a more social Europe involves delivering on the European Pillar of Social Rights and supporting quality employment, education, skills, social inclusion and equal access to healthcare. In order to provide context for PO4 in the NSR, the population at risk of poverty or social exclusion and the share of population with tertiary education degree have been mapped.

The share of people at risk of poverty or social exclusion is lower in the NSR compared to the EU average. However, some regions in Germany and Sweden have higher shares of people at risk, which is partly explained by the ongoing integration process of migrants from outside Europe.

The percentage of individuals aged 25-64 with tertiary education as the highest attainment level is higher than the EU-27-average. The highest shares of working age population with tertiary education were found in predominantly urban regions.

National/regional stakeholders do not prioritise the inclusion of PO4 in the NSR Programme. The topics incorporated under PO4 are prioritised as part of national/regional policy and addressed through domestic programmes and EU programmes such as the ESF+. Stakeholders also point towards the relevance of potentially including PO4 in cross-border Interreg Programmes. However, they do not find added value for prioritising PO4 as part of the NSR Programme.

- In the development of the NSR Programme, the PPG and JS can consider the suggested incorporation of PO4 specific objectives under PO1 and PO2 (and possibly PO5), e.g. the proposal to elaborate on social aspects of the concept of innovation and the inclusion of culture and tourism.

Policy Objective 5: A Europe closer to citizens

PO5: A Europe closer to citizens, is focused on fostering the sustainable and integrated development of urban, rural and coastal areas and local initiatives. Unlike PO1-4, PO5 is not a sectoral policy objective under which a transnational programme can finance projects. Instead, under PO5 the programme can fund territories, by way of inviting stakeholders in the programme area to develop and implement territorial strategies. The data collection for the scoping study has been impacted by the initially somewhat unclearly defined guidelines for PO5 in transnational cooperation. Most stakeholders, however, are interested in a focus on more citizen involvement in NSR projects, which can be an attention point in the development of the NSR programme 2021-2027, whether under PO5 or as an element incorporated under other policy objectives.

According to the most recent guidance by the Commission, PO5 aims to give greater prominence to territorial strategies, aside from emphasising action by local players. Based on this guidance by the European Commission (in cooperation with Interact), the starting point for the NSR is to define relevant functional area(s) which through PO5 would be able to implement their territorial strategies in an integrated way. Potential functional areas for the NSR could be:

- The NSR sea basin, where issues like integrated coastal zone management, maritime spatial planning or 'maritime parks' could be implemented in an integrated way under PO5. It is worthwhile noting that sea basin governance is a complex multi-level system, comprising EU, national and regional dynamics (the OSPAR Convention, the regional sea convention that covers the North Sea; Regional Advisory Councils, stakeholder forums in the fisheries sector; North Seas Energy Cooperation).

- The Wadden Sea, with its UNESCO World Heritage Site status and Trilateral Wadden Sea Cooperation governance.
- The North Sea Region as a European macro-region, in case market failure(s) are present and establishing a macro-regional strategy would be a means to tackle such failure(s). It is worthwhile noting that this would encompass several regions and several countries and those networks and partnerships which facilitate cooperation in the context of the North Sea, like the Nordic Council of Ministers, EU programmes (e.g., Interreg or Leader), KIMO (Kommunenenes Internasjonale Miljøorganisasjon, also known as Local Authorities International Environmental Organization), policy communities with a more integrated role in the European Commission decision-making process (such as the Committee of the Regions (CoR)), the Conference for Peripheral Maritime Regions (CPMR), the North Sea Commission (NSC), and the North Sea Regional Advisory Council for Fisheries.⁴

From a technical point of view, if the NSR programme would like to work with PO5 and functional areas, it is necessary to describe and support, with evidence, the areas that form the functional area. If the functional areas to be supported under PO5 have not yet been identified, it is enough to state in the Operational Programme that these will be identified at a later stage.

Interreg Specific Objective 1: Better Interreg governance

Under ISO1 a European Territorial Cooperation programme can fund governance related activities, ranging from ones that are more tailored to cross-border programmes to more specific transnational ISO1 actions. Specific transnational actions are related to supporting the governance (in implementation) of macro regional strategies, sea basin strategies and/ or other territorial strategies. The support targets key implementers (of the strategies' programme bodies) and assists them in coordinating their strategies with EU programmes and raising awareness about the strategies amongst stakeholders (enhancing their capacity). Cooperation amongst European Territorial Cooperation programmes can also be targeted, if this involves capitalisation amongst beneficiaries and projects of the programmes (as the Technical Assistance budget of programmes targets the same aim, but then for authorities of the programme). All in all, actions in ISO1 should facilitate the considering of local needs in the regions in the programme.

Overall, although the points that have been highlighted by national/regional stakeholders for better Interreg governance differ somewhat, they imply a role for coordination between the secretariats of Interreg programmes and nationally between contact points of Interreg programmes in individual countries. Such coordination is in place already today. However, exploring whether further initiatives are required or whether existing initiatives to ensure synergy should be further elaborated in the development of the NSR Programme can be relevant to consider.

According to most recent guidance by the Commission on ISO1, the governance targeted under ISO1 should go beyond cooperation between authorities of Interreg programmes. Such activities are covered by programmes' Technical Assistance budgets. Based on the advice of the Commission into how this might be operationalised, activities in ISO1 could focus on:

- Developing and/or managing a macro regional strategy, sea basin strategies and/or other territorial strategies (e.g. the North Sea Commission's North Sea Region Strategy 2030); examples of respective relevant functional areas are mentioned under PO5.
- Supporting the governance-relation between the NSR Programme 2021-2027 and the adjacent macro-regional area, i.e. with the EU Strategy for the Baltic Sea Region (EUSBSR).
- Cooperation with other European Territorial Cooperation programmes, like the BSR Programme, with the aim of capitalisation amongst beneficiaries and projects of the programmes.

⁴ Mike Danson, The rationale of MRS, market failures and institutional misalignment: the case of North Sea Region. In Interact Study, Making the most of macro-regions: Trends. Analysis. Recommendations, December 2017

The topic of offshore renewable energy and the planned establishing of two energy islands, one in the North Sea and one in the Baltic Sea, could lend itself for this purpose.

1 Introduction

Nordregio, Oxford Research and Reeleaf (the NORth consortium), commissioned by the Joint Secretariat (JS) and the Programme Preparation Group (PPG) for the North Sea Region (NSR) Programme, have carried out a scoping study for the preparation of the Interreg North Sea Region Programme 2021-2027.

The purpose of the scoping study is to provide analytical support for the programming of the Interreg North Sea Region Programme for the period 2021-2027. This includes an analysis of how the achievements and lessons learned during the current programme period and the recommendations for future thematic concentration made by the EU Commission fit with national and regional policies in the NSR. The scoping study will thereby contribute to the process of finalising the focus of policy objectives in the future NSR Programme.

The scoping study has a two-fold focus, centred on the following:

- Analysis of EU, national and regional policies and strategies
- Collection and synthesis of regional socio-economic and territorial development statistics/data (additional to what is available to the JS)

The two tasks are interlinked - it is significant to consider both the political and strategic ambitions for national and regional development as well as the match of policy objectives with socio-economic and territorial development statistics across the NSR geography. Thus, the findings of the two interlinked tasks are brought together in a cross-cutting analysis structured according to the policy objectives.

The scoping study has been carried out using a combination of desk research, qualitative interviews and quantitative (GIS) mapping. The research has been conducted in close dialogue with the JS. The research has been carried out in stages, starting with desk research on the EU policy framework (the results of which are available in the Annex, chapter 2), the Commission's Orientation Paper which has provided recommendations for the coming programme period and the JS VB Achievements Report, which highlights outcome and learning points from the current programme period. This fed into the interview guide for the national/regional policy and strategy analysis (the results of which are available in the Annex, chapter 3). Each national PPG member and a second stakeholder (appointed by the PPG member) were interviewed for each of the NSR countries. Finally, the findings of the analysis were brought together in this final report.

The report is structured as follows. Chapter 2 introduces overall socio-economic and territorial characteristics, challenges and potentials, of the regions comprised by NSR programme area 2021-2027. Chapter 3 presents the cross-cutting analysis, which synthesises the findings from the policy/strategy analysis and socio-economic data linked to the coming policy objectives. The analysis is structured according to policy objectives, each of them comprising conclusions regarding policy trends, regional potentials and challenges and attention points for the PPG and JS in the design of the NSR Programme 2021-2027.

2 Territorial overview

The area covered by the 2021-2027 North Sea Region Programme corresponds to a different area of those for the previous programming periods. It now covers parts or the whole territory of five Member States as well as parts of Norway.⁵ Previously, it covered parts or the whole territory of six Member States and the whole of Norway. The reduction in the number of Member States is the result of the United Kingdom's decision of not participating in the 2021-2027 programme. Furthermore, the northern regions of Norway (Troms og Finnmark and Nordland) are not included in the upcoming programming period.

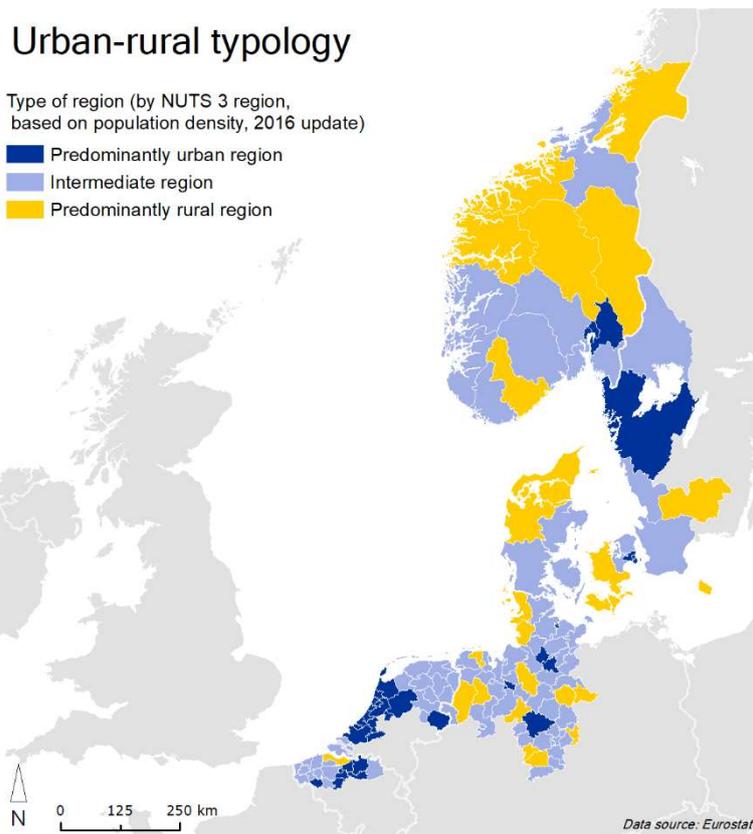
Belgium: Antwerpen, Oost-Vlaanderen, West-Vlaanderen
 Denmark: Entire territory
 Germany: Bremen, Hamburg, Braunschweig, Hannover, Lüneburg, Weser-Ems, Schleswig-Holstein
 Netherlands: Groningen, Friesland, Drenthe, Overijssel, Flevoland, Noord-Holland, Zuid-Holland, Zeeland
 Norway: Oslo, Viken, Innlandet, Vestfold og Telemark, Agder, Rogaland, Vestland, Møre og Romsdal and Trøndelag
 Sweden: Sydsverige (Skåne län), Norra Mellansverige (Värmlands län), Småland med öarna (Kronobergs län), Västsverige

Urban-rural typology

The land area of the 2021-2027 NSR Programme area covers approximately 480,000 km from Trøndelag in Norway to Flanders in Belgium. It includes a variety of regions, ranging from predominantly urban to predominantly rural regions according to the 2016 version of the urban-rural typology. It has been developed by Eurostat and classifies European NUTS 3 regions into three classes based on the share of population living in urban clusters. The classes correspond to:

- Predominantly urban region: a region where more than 80% of the population live in urban clusters. They mainly correspond to the capital city regions in Denmark and Norway and large urban areas in Belgium, Germany and the Netherlands.
- Intermediate region: a region where more than 50% and less than 80% of the population live in urban clusters. Approximately half of the regions making the NSR correspond to intermediate regions. They can be found within each domestic context and they usually correspond to a region dominated by a medium to large urban area (e.g. Malmö in Skåne, Sweden).
- Predominantly rural region: a region where less than 50% of the population live in urban clusters. They can be found within each domestic context, except for the Netherlands.

⁵ The geography of the 2021-2027 NSR Programme is still under discussion in several Member States during the timeframe of this scoping study.



Population change

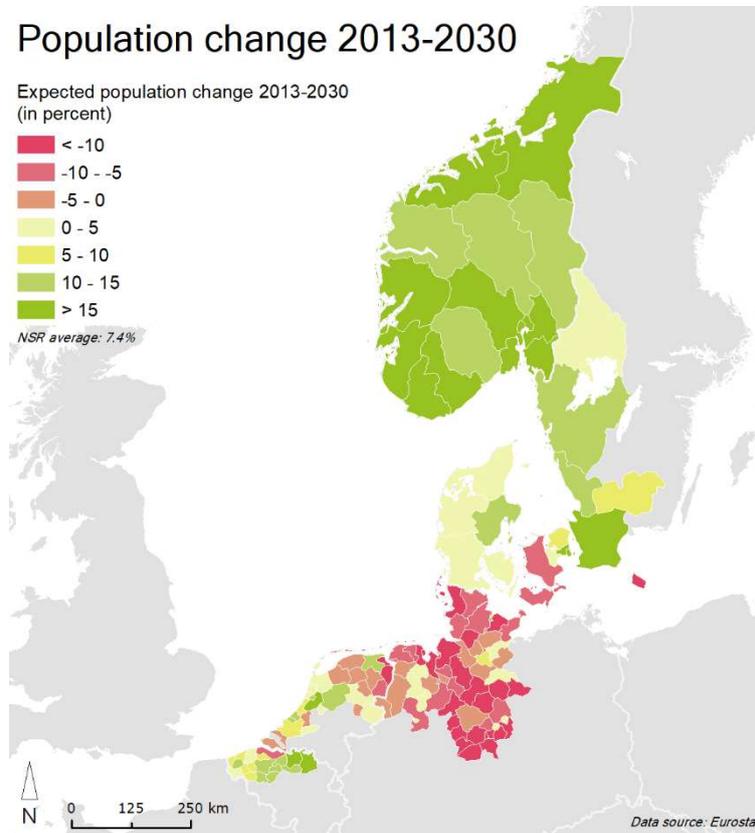
The population of the NSR in 2020 is approximately 43 million inhabitants, corresponding to 9,6% of the EU-27 population. This share increased over time; it was for instance 9,4% in 2013 and population projections indicate that this share is expected to continue increasing in the future. Approximately 45 million inhabitants are expected to live in the NSR by 2030, corresponding to 10,0% of the EU-27 population, thus highlighting the dynamism of the NSR as a whole within the EU-27 context.

The population of the NSR is expected to increase by 7,4% between 2013 and 2030.⁶ However, population developments greatly vary from one region to another. The largest demographic growths are expected to take place in regions located in Norway; the region of Oslo being the region with the highest expected population growth within the NSR. Other notable demographic growth, i.e. above 15% of population increase, are expected to take place in parts of Belgium, Denmark and Sweden. It mainly corresponds to predominantly urban regions and intermediate regions such as parts of Flanders (Belgium), the Greater Copenhagen Region (parts of Denmark and Sweden). Norway is the only country of the NSR in which important population growth is expected in predominantly rural regions. This is the case in the NUTS 3 regions of Aust-Agder and Møre og Romsdal. This reflects the general demographic trends of regions in Norway, where population increases and is expected to continue increasing in all regions across the country.

There is no clear pattern between population shrinkage and the urban-rural typology in the NSR. For instance, all regions in Norway and Sweden part of the NSR are expected to have a population increase, whereas various types of regions in Germany part of the NSR are expected to have a population shrinkage. The largest population decrease, i.e. beyond -10% of population shrinkage, are expected to take place in intermediate and predominantly rural regions in Germany as well as two intermediate regions located in the northern parts of The Netherlands and the insular predominantly rural region of Bornholm in Denmark.

⁶ Based on regional population projections published by Eurostat, using 2013 as a reference year.

Furthermore, five predominantly urban regions would also face demographic shrinkages: four are located in Germany (Bremen, Pinneberg, Hannover and Delmenhorst) and one in the Netherlands (Oost-Zuid-Holland).



Gross regional product

Gross regional product (GRP) measures the total value of final goods and services produced in a region. It is the most stable and commonly used indicator for measuring and comparing the size of economies. Although GRP does not take economic sustainability into account, it does highlight economic cycles such as recessions, recoveries and booms, and therefore provides an overview of the state of an economy. The regional NSR average in GRP per capita⁷, based on EU-27 average⁸, was 118 in 2018, indicating an economic performance above the European average. Similar to the demographic context, the NSR includes regions with a variety of economic contexts. The predominantly urban regions have the highest GRP per capita in the NSR, mirroring the pattern elsewhere in Europe. The main reasons for this are the diverse range of economic activities in the big cities along with urban growth. The highest value is found in the region of Hamburg (197), which has a GRP/capita twice as large as the EU-27 average. Other regions within the NSR with a notable GRP/capita, i.e. above 150, are Noord-Holland (the Netherlands), Oslo og Akershus (Norway), Hovedstaden (Denmark) and Bremen (Germany). Eight NUTS 2 regions have a GRP/capita below the EU-27 average in 2018. They are located in Denmark (Sjælland), Germany (Lüneberg), Norway (Hedmark og Oppland and Sør-Østlandet), Sweden (Norra Mellansverige where Värmland is located) and the Netherlands (Flevoland, Friesland and Drenthe).

⁷ Expressed in purchasing power parity (PPP) for comparison between countries by eliminating differences in price levels.

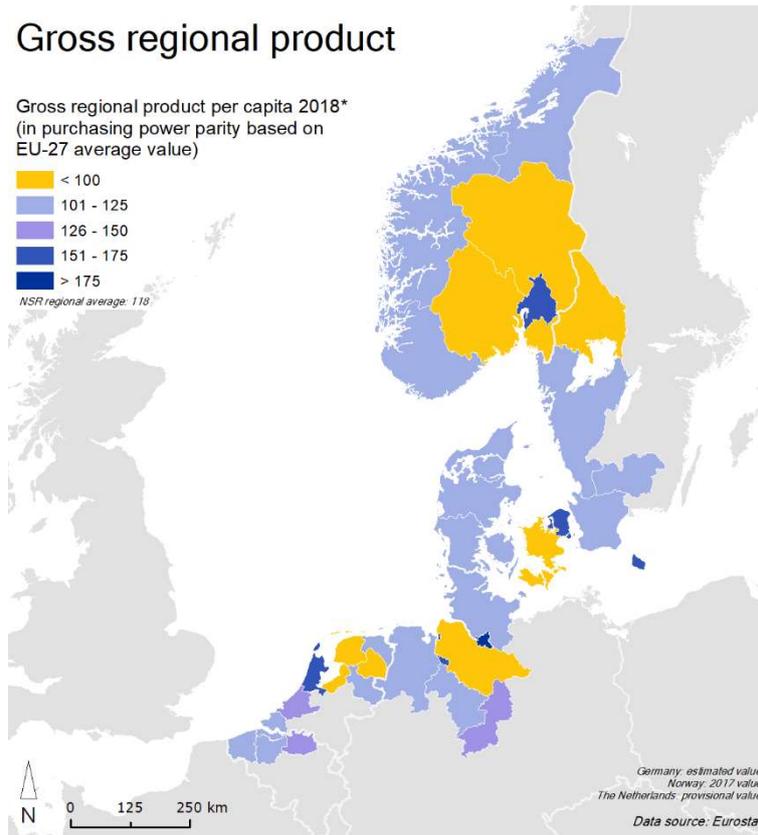
⁸ The actual value of the EU-27 average is 30,200€/inhabitant; and the corresponding NSR-average is 35,636€/inhabitant.

Gross regional product

Gross regional product per capita 2018*
(in purchasing power parity based on
EU-27 average value)

- < 100
- 101 - 125
- 126 - 150
- 151 - 175
- > 175

NSR regional average: 118



3 Policy Objectives for the NSR Programme 2021-2027

This chapter provides the cross-cutting analysis. It builds on recommendations by the Commission for the coming programme period and lessons learned from the current programme period and brings together the findings of the national/regional policy and strategy analysis and the socio-economic analysis. The analysis is centred on the four policy objectives (POs) and the Interreg specific objective 1 (ISO1) which have been recommended to the NSR Programme by the Commission. An overview of the recommendations of the Commission is listed in the table below.

EU Commission Recommendations for the Orientation of the NSR Programme 2021-2027
<p>PO1, a smarter Europe</p> <ul style="list-style-type: none"> • Develop further the NSR work on smart specialisation building on work of the regional strengths • Promote Research, Development and Innovation (RDI) activities in the challenge driven fields related to PO2
<p>PO2, a greener, low-carbon Europe (strongest focus)</p> <ul style="list-style-type: none"> • Development of low-emission/green solutions and circular economy • Continue with eco-system approach to environmental management • Promote climate change and adaptation related investments
<p>PO3, a more connected Europe <i>The Commission does not recommend this PO for the NSR Programme</i></p>
<p>PO4, a more social Europe <i>The Commission does not recommend this PO for the NSR Programme</i></p>
<p>PO5, a Europe closer to citizens</p> <ul style="list-style-type: none"> • Support knowledge sharing and exchange from innovative approaches to planning, sustainable urban development and local-led development and develop these initiatives at a transnational scale, as well as pollution reduction and information exchange for authorities and citizens
<p>ISO1, Interreg specific objective of better governance</p> <ul style="list-style-type: none"> • Foster cooperation between regions and programmes

Based on the recommendations by the Commission, PO3, a more connected Europe and PO4, a more social Europe was not in focus as part of the initial data collection. However, transport and mobility, which are themes under PO3, were included as part of the research design, exploring potentials under PO1 and PO2. In August 2020, PO3 and PO4 were added to the analysis, and another round of data collection was carried out and incorporated into the analysis (finalised in September 2020).

The cross-cutting analysis includes links to, and highlights experiences from, the current programme period. Interviews have fed into providing this link, along with the VB Achievements Report of the JS. The priority areas (thematic objectives) of the current NSR Programme are listed in the table below.

The priority areas (thematic objectives) of the NSR Programme 2014-2020 (allocation in brackets)
1. Thinking growth: Supporting growth in the North Sea Region economies (27%)
2. Eco-Innovation: Stimulating the green economy (25%)

3. Sustainable North Sea Region: Protecting against climate change and preserving the environment (26%)
4. Green Transport and Mobility (16%)
5. Technical Assistance (6%)

In the following, an analysis of each of the POs is presented. For each PO, the Commission recommendations and the links to the priority areas/thematic objectives of the current programme period is introduced. This is followed by an introduction to socio-economic and territorial characteristics of the NSR and a cross-cutting national/regional policy and strategy analysis, which synthesises findings from the national/regional sections (in the Annex, chapter 3).

3.1 Policy Objective 1: A smarter Europe

PO1: Smarter Europe will promote innovation, digitalisation, economic transformation and support to small and medium-sized enterprises (SMEs). Overall, four specific objectives have been defined for PO1:

1. Enhancing research and innovation capacities and the uptake of advanced technologies
2. Reaping the benefits of digitalisation for citizens, companies and governments
3. Enhancing growth and competitiveness of SMEs
4. Developing skills for smart specialisation, industrial transition and entrepreneurship

PO1 continues the focus on innovation-driven competitiveness from the 2014-2020 programme period. It is supported by the European Green Deal, the new growth strategy for the EU. The European Green Deal has two pillars: a dedicated strategy for SMEs and a new industrial policy. The first recognises that SMEs play a key role in every sector of the economy, and particularly welcomes their ability to bring innovative solutions to promoting energy efficiency and address challenges linked to climate change. In the industrial strategy, the broader area of digitalisation is one of three key priorities, dubbed like the European Green Deal's 'twin strategy': Shaping Europe's Digital Future. Both strategies recognise the role of innovation as central to growth: Research and innovation drive, enable and accelerate the shift towards green and digital transitions of our societies. Smart specialisation is the basis for research and innovation investment and key for helping regions to tap into their innovation potential and strengthen their competitiveness.⁹

In its Orientation Paper to the NSR Programme, the Commission highlights that the regions of the NSR have similarities in business structures linked to the sea and the coast and a potential for exchanging experiences and practices based on their smart specialisation strategies. The recommendations to the NSR Programme are also linked to utilising strengths as prioritised in smart specialisation strategies.

In the following, contextual elements of smart specialisation are introduced, setting the scene for the development in the NSR, followed by a mapping of smart specialisation strategies, and the analysis of national/regional perspectives on the interlinked Commission recommendations. The Commission's recommendations have been guiding for the analysis.

3.1.1 Setting the scene for PO1 in the NSR

This section provides a mapping of the regional innovation capacity in the NSR. It then goes on to map the participation of regions in thematic smart specialisation platforms and it provides an overview of smart specialisation strategic focus areas across the NSR. The selected indicators mostly provide relevant background information for the specific objectives enhancing research and innovation capacities and the uptake

⁹ European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth, 2017, https://ec.europa.eu/regional_policy/sources/docoffic/2014/com_2017_376_2_en.pdf

of advanced technologies, enhancing growth and competitiveness of SMEs and developing skills for smart specialisation, industrial transition and entrepreneurship.

Regional innovation capacity

Two indicators have been selected to illustrate the context at regional level for Policy objective 1 “a smarter Europe by promoting innovative and smart economic transformation”: The Regional Innovation Scoreboard (RIS) and the share of the population with tertiary education level. The former is built upon 17 indicators and classifies regions into four main innovation performance groups providing a comparative assessment of regional innovation, whereas the latter illustrates a major driver of economic competitiveness of a knowledge-based economy. Methodological elements are found in the Annex, chapter 4.

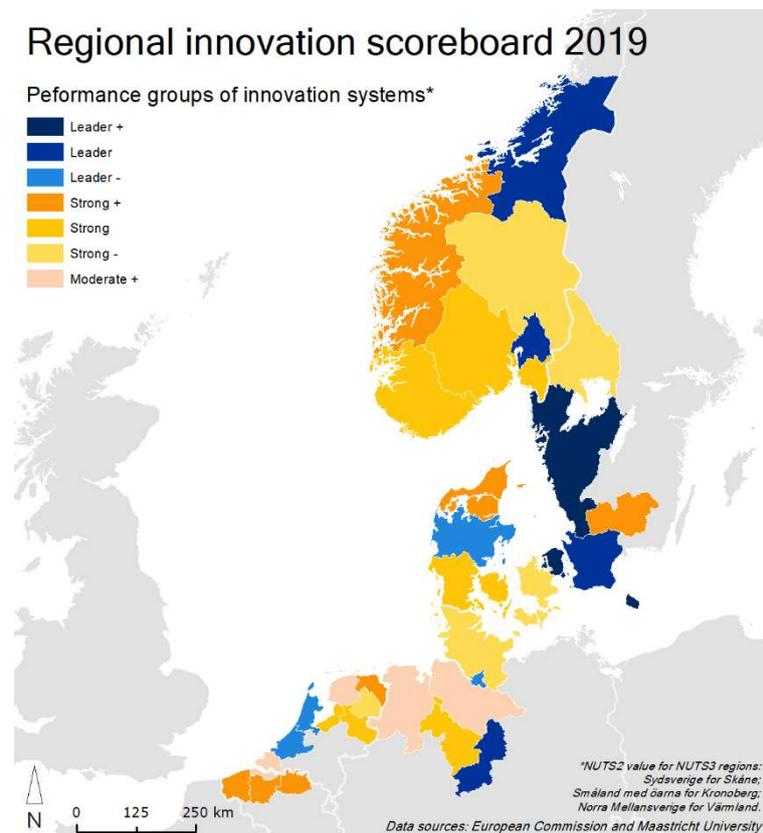
The map below shows the Regional Innovation Scoreboard (RIS) in the regions of the North Sea Region in 2019. The index shows the performance of innovation systems, classified into four main performance groups (Leader, Strong, Moderate and Modest), of which only the first three groups are represented across the North Sea Region. Regions of the NSR are performing rather well in an overall RIS comparison regarding innovation performance. The regions with the strongest performance (i.e. Leader+, Leader and Leader-) are found in at least one region in each of the countries part of the NSR, except in Belgium. Overall, the capital and metropolitan regions have higher levels of innovation performance than more rural and peripheral regions, according to RIS 2019. This is often due to the critical mass of companies and the spatial significance of the proximity of firms and entrepreneurs, enabling knowledge-sharing and spill-over effects. It is also because headquarters tend to locate in metropolitan regions, whereas some of their activities might occur in other parts of the country. The region of the NSR with the highest performance is the capital region of Denmark (Hovedstaden) with a relative index score to the EU2019 of 151,1 in 2019, making it a Leader+ region. It is due to high share of the population having a tertiary education, relative high participation in lifelong learning, important number of scientific publications, important Research and Development (R&D) expenditure in both the public and business sectors, among others. The capital region of Denmark is followed by another Leader+ region, namely Västsverige in Sweden and four Leader regions (Sydsverige in Sweden, Trøndelag and Oslo og Akershus in Norway and Braunschweig in Germany). The regions with the lowest innovation performance are found in the regions of Zeeland (NL), Lüneburg (DE), Friesland (NL) and Weser-Ems (DE). They all have a relative index score to the EU2019 below 90, which cluster these four regions into the Moderate+ group. This is partially explained by very low R&D expenditure in the public sector in Friesland and Zeeland, the lack of public-private co-publications in Weser-Ems and the lack of collaboration between innovative SMEs in Lüneburg.

Four among the 17 indicators making up the RIS deserve a special interest in this investigation of the innovation capacity of the regions. They are related to R&D expenditures as well as innovative SMEs, of which both represent key drivers of economic growth in a knowledge-based economy. The general patterns are that regions of the NSR have, on average, higher scores than the EU-average for these four indicators, with the predominantly urban and intermediate regions performing better than rural regions. Furthermore, as for other European regions, the innovative SMEs across the NSR have some limitations for collaborating with other innovative SMEs, as highlighted by the score of this indicator, which is, on average, lower than for the three other indicators.

- R&D expenditures in the public sector as a percentage of GDP: The NSR regional average of 0,588 is above the EU-27 regional average of 0,480. The highest shares are found in intermediate and predominantly urban regions with the highest values in Braunschweig and Bremen in Germany and Trøndelag and Oslo og Akershus in Norway. The lowest shares are mostly found in intermediate and predominantly rural regions with the lowest values in Friesland, Drenthe and Zeeland in the Netherlands and Lüneburg in Germany.
- R&D expenditures in the business sector as a percentage of GDP: The NSR regional average of 0,564 is above the EU27 regional average of 0,427. The highest shares are found in intermediate and predominantly urban regions with the highest values in Braunschweig in Germany, Hovedstaden in Denmark, Trøndelag in Norway and Västsverige in Sweden. The lowest shares

are mostly found in intermediate and predominantly rural regions with the lowest values in Grönningen and Drenthe in the Netherlands, Sjælland in Denmark and Hedmark og Oppland in Norway.

- SMEs innovating in-house as a percentage of SMEs: The NSR regional average of 0,560 is above the EU-27 regional average of 0,451. The highest shares are found in various types of regions with the highest values in Braunschweig in Germany and Hedmark og Oppland and Oslo og Akershus in Norway. The lowest shares are mostly found in predominantly rural regions with the lowest value in Weser-Ems in Germany.
- Innovative SMEs collaborating with others as a percentage of SMEs: The NSR regional average of 0,464 is above the EU-27 regional average of 0,325. The highest shares are found in Flanders in Belgium and Trøndelag in Norway. The lowest shares are mainly found in all German regions.



Participation in smart specialisation thematic platforms

Smart specialisation is a bottom-up policy approach promoted by the EU Commission as the basis for the programming period 2014–2020 and characterised by the identification of strategic focus areas. It assists European regions to identify and develop their competitive advantages by unlocking the specific assets and competencies of their economic structure and knowledge base. This approach brings together a variety of local and regional actors from different spheres such as authorities, academics and business actors.

A Smart Specialisation Platform¹⁰ has been developed to support the collaboration of actors in developing a smart specialisation strategy. The platform mainly aims at providing advices to EU countries and regions for the design and implementation of their smart specialisation strategy (e.g. to facilitate mutual learning and provide good practice examples). In 2015, three thematic smart specialisation platforms were launched by the European Commission services in the areas of agri-food, energy and industrial modernisation to

¹⁰ <https://s3platform.jrc.ec.europa.eu/s3-platform>

“provide an interactive and participatory environment supporting interregional cooperation” in regions and countries with similar or complementary smart specialisation strategy priorities.¹¹ The objective of the thematic platforms is to accelerate the development of joint investment projects in European regions.

The following three maps of the North Sea Region indicate the thematic platform(s) for which each of the 33 regions¹² has flagged its interest (status as of June 2020). The agri-food and industrial modernisation are strategic areas found in most regions within the NSR. Each of these two areas have 18 registered regions within the transnational cooperation area.

The agri-food platform gather interest in all regions that are part of the NSR located in Belgium and Norway as well as most regions in the Netherlands. For instance, the agri-food area includes the partnership “S3 High Technology Farming” which aims at developing joint activities for accelerating the adoption of high and new technologies that can improve the performance of farming practices and farm management.¹³ This partnership, led by a region outside of the NSR, includes Flanders in Belgium, Weser-Ems in Germany as well as most regions in the Netherlands and Norway.



The industrial modernisation focus is found in all regions part of the NSR located in Belgium as well as most regions in Sweden and the Netherlands. For instance, the industrial modernisation area includes the partnership “Bioeconomy - Innovative use of non-food biomass” which aims at developing new integral bio-based value chains and new connections between sectors (e.g. chemistry, cosmetics, etc.).¹⁴ This

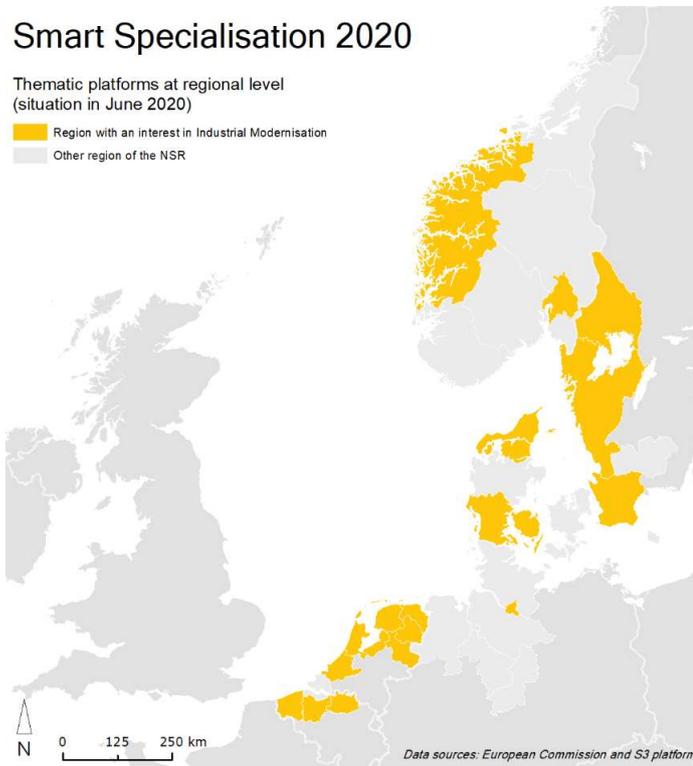
¹¹ European Commission (2017) Thematic Smart Specialisation – Interregional cooperation to increase innovation investment across EU borders. ISBN 978-92-79-68858-4, doi:10.2776/713494. Available online at: https://ec.europa.eu/regional_policy/sources/docgener/in-fographic/thematic_smart_specialisation_en.pdf

¹² Total number of regions in the 2021-2027 programming period (i.e. excl. the UK and northern Norway)

¹³ <https://s3platform.jrc.ec.europa.eu/high-tech-farming>

¹⁴ <https://s3platform.jrc.ec.europa.eu/bio-economy>

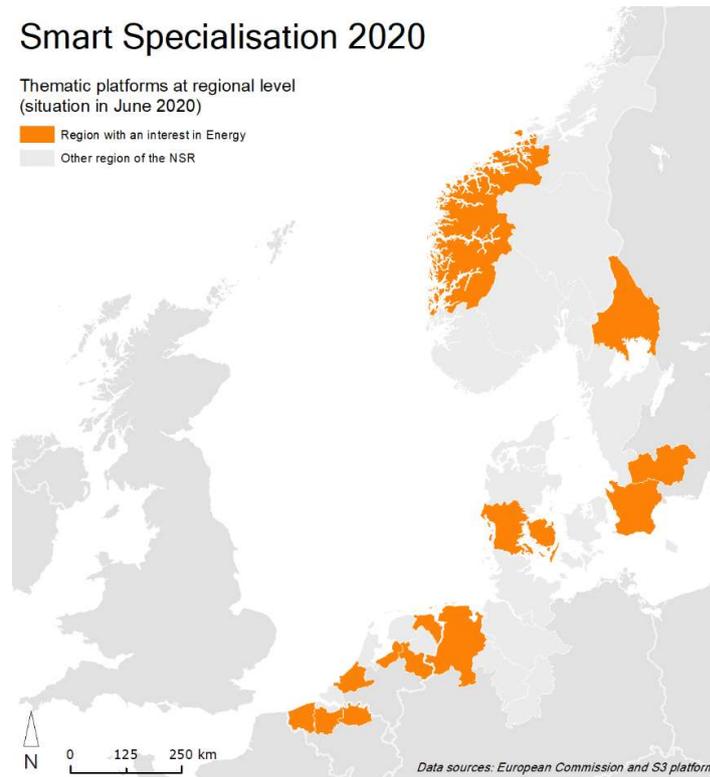
partnership is co-led by Noord-Holland and includes two other regions in the Netherlands (Noord Nederland and Zuid Nederland), Flanders in Belgium and Värmland in Sweden.



The energy thematic platform has 13 registered regions in the NSR, including all NSR regions located in Belgium as well as a couple of regions in Denmark,¹⁵ Germany, Norway, Sweden and the Netherlands. For instance, the energy area includes the partnership “Marine Renewable Energy” which aims at pooling “regional resources and expertise in order to create new business opportunities and increased growth for the Marine Renewable Energy sector.”¹⁶ This partnership is led by a region outside of the NSR and includes Flanders in Belgium, Southern Denmark in Denmark, Dalarna and Skåne in Sweden and Sogn og Fjordane in Norway.

¹⁵ In the case of Denmark, a reform of the business support system abolished the role of regions in business development from 1 January 2019. This has entailed that the smart specialisation strategy today covers the entire country, yet regional positions of strength can still be identified. Nation-wide cluster initiatives are in place for all focus areas of the strategy, which are anchored locally.

¹⁶ <https://s3platform.jrc.ec.europa.eu/marine-renewable-energy>



Smart specialisation strategies in the NSR

Each of the regions has a smart specialisation strategy,¹⁷ which outlines the strategic focus areas for the coming years. The aim of smart specialisation is to boost growth and jobs through focusing development and innovation measures on areas where the regions have strengths/competitive advantages. As evident from the country/region reports in the Annex's chapter 3, the number of focus areas of strategies vary from two (Kronoberg) to 13 (DK). In some regions, updated strategies have been launched recently, whereas other regions are currently in the process of drafting new strategies.¹⁸ Some continuity between strategy periods is however to be expected, and the overview of focus areas is thereby consistent with the priorities of the individual regions.

For the purposes of analysis, we have identified overlapping focus areas across the NSR, which have been clustered under six umbrella categories: maritime industries; energy and environmental technology; mobility and logistics; industrial modernisation; life sciences and health tech; food, agriculture and bio-based economy. An overview of the six smart specialisations focus areas are listed in the table below, highlighting which regions have included which focus areas. This does not include a full overview of focus areas, but the areas found to the highest extent to include commonalities across the region thereby involving potential and strengths for several regions.

¹⁷ There is a total of 28 smart specialisation strategies for the 33 NSR regions. The strategies cover administrative regions that correspond to statistical regions ranging from NUTS1 (e.g. Flanders and Denmark, since a reform of the business development system in January 2019) to NUTS3 (e.g. Värmland).

¹⁸ In the case of Norway, there is not a requirement to develop smart specialization strategies. Most of the strategies are regional development plans, and due to a recent regional reform, several counties are in the process of developing new strategies.

Overlapping Focus Areas in Smart Specialisation Strategies						
	Maritime industries	Mobility and logistics	Life sciences and health tech	Industrial modernisation	Food, agri, bioeconomy	Energy and environmental technology
Flanders (BE)		x	x	x	x	x
Denmark (DK)	x		x	x	x	x
Lower Saxony (DE)	x	x	x	x	x	x
Bremen (DE)	x	x	x	x	x	x
Hamburg (DE)		x	x	x		x
Schleswig Holstein (DE)	x		x		x	x
Region North (NL)			x	x	x	x
Region South (NL)			x	x	x	x
Region West (NL)	x	x	x	x	x	x
Region East (NL)				x	x	
Agder county (NO)	x					
Møre og Romsdal county (NO)	x					
Buskerud (Merged into Viken county) (NO)						x
Telemark county-(Merged into Vestfold & Telemark county) (NO)						x
Vestfold county – (Merged into Vestfold & Telemark county) (NO)				x		x
Østfold county (Merged into Viken county) (NO)						x
Hedmark (Merged with Oppland to form Innlandet county) (NO)					x	x
Oppland (Merged with Hedmark to form Innlandet county) (NO)					x	x
Trøndelag county (NO)	x				x	x
Rogaland county (NO)						x
Hordaland county (NO)						x
More og Romsdal county (NO)	x					
Oslo and Akershus counties (NO)						
Skåne (SE)		x	x	x	x	x
Värmland (SE)				x	x	
Kronoberg (SE)				x		
Halland (SE)			x			x
Västra Götaland (SE)	x	x	x	x		

As illustrated in the table, the strategic focus on energy, agri-food and industrial modernisation is consistent with the map above, which provides an overview of regional participation/expression of interest in the three thematic platforms established to accelerate the development of joint investment projects in European regions - with some exceptions, e.g. regions in Germany have strategic focus areas which are not reflected on the thematic platforms. Further, the table illustrates that:

- Energy and environmental technology are the most recurrent strategic focus area across the NSR (in a total of 20 regions)

- The areas of food, agriculture and/or bioeconomy, industrial modernisation, life sciences and/or health tech are also prominent across the NSR in smart specialisation strategies, yet to a minor extent in Norway
- Maritime industries are a focus area especially in regions along the coastline
- Mobility and logistics are a focus area mainly in urban regions

Digitalisation is another focus area which is included in most smart specialisation strategies as well as in national-level strategies. In some cases, in smart specialisation strategies, it is a separate focus area and - in most cases - it is included as a cross-cutting theme, which is of relevance for all the strategic focus areas.

3.1.2 Recommendation: Develop further the NSR work on smart specialisation, building on work of the regional strengths

The Commission recommends that the North Sea Region should develop smart specialisation further, building on the competitive strengths and linking their strengths to new innovation-focussed value chain opportunities of the region, like sustainable resources, state of the art research and competence in human resources, effective and digital production technologies and world-leading design. The focus should be on supporting sets of projects to develop, connect or make complementary use of testing and demonstration facilities to accelerate market uptake and scale up of innovation solutions in shared specialisation priority areas.¹⁹

The recommendation to work on smart specialisation has links to Priority 1: thinking growth of the current programme, specifically objective 1.2: enhancing regional innovation support capacity. At the end of 2019, nine projects have been initiated under this priority. However, few of them are focused on supporting smart specialisation strategies, rather they work with business support/policy tools related to smart specialisation. Only a minor share of these projects has actively connected to the Smart Specialisation Platform and relevant policy stakeholders during project implementation.

The main distinctions between the focus of priority 1 of the current programme and PO1 of the coming programme period involve that the NSR is recommended to focus more explicitly on the realisation of smart specialisation strategies of states/regions.

National/regional perspectives on smart specialisation focus

The stakeholders interviewed for the scoping study across the NSR all prioritise the inclusion of PO1 in the programme. Further, they all wish to have a broad thematic approach to PO1, which entails that focusing the programme on certain smart specialisation strategic focus areas is not highlighted as a priority. Stakeholders generally prioritise that projects are demand-driven and support innovation. The innovation capacity of SMEs and the building of strong public private partnerships are highlighted as key outcomes and learning points from projects in the current programme period. Strengthening the international competitiveness and promoting a resource-efficient society are also highlighted as important outcomes of priority 1 projects. Stakeholders underline the need to continue knowledge exchange and cooperation on the promotion of innovation capacity, e.g. through supporting the internationalisation, digitalisation and green transition of SMEs. Cooperation with other SMEs, universities and public sector organisations within the NSR geography gives access to collaboration partners that SMEs would not otherwise have and knowledge of specialisation areas within other countries, increasing the skills and knowledge of SMEs.

Although there is not a wish among the national/regional stakeholders to restrict NSR cooperation to certain thematic areas, the positions of strength, which are shared across the NSR are highlighted to have potential. Especially digitalisation of SMEs and digitalisation as a cross-cutting focus is highlighted by

¹⁹ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, P.10

stakeholders as an important focus in the coming NSR Programme. Digitalisation is also a topic which has been brought up in interviews in relation to the Covid-19 crisis which has further pushed for the need for agility of SMEs to adapt to changing market conditions. In addition to the positions of strength highlighted in the table, also tourism is mentioned by some stakeholders to have potential for transnational cooperation in the coming period.

The national/regional perspectives, although not in direct opposition, somewhat differ from the recommendation of the Commission in the Orientation Paper to the NSR Programme to focus on supporting sets of projects in shared specialisation priority areas. Some ideas and issues are raised by stakeholders that can be taken into consideration in the coming NSR Programme:

- In many NSR regions, the focus areas of smart specialisation strategies are built around cluster development. Flanders, for example, highlights potentials for promoting bottom-up, demand-driven projects on cluster cooperation, where potentials for cross-cutting cooperation between specialisation domains are pursued.
- From the side of Germany and the Netherlands, a broad approach to innovation and stakeholder involvement is highlighted as important. Stakeholders call for a broad approach to the concept of innovation, which implies that cultural and NGO actors should also be encouraged to take part in activities under PO1.
- Some of the stakeholders interviewed suggest that smart specialisation has not been sufficiently operationalised to project applicants and that therefore only few projects have focused on the implementation of smart specialisation in the current period.
- In the current period there have been issues concerning state aid rules which have been challenging for some Priority 1 projects. Conditions and opportunities for including SMEs in projects should therefore be made clear for potential applicants, i.e. whether they can be included as partners or rather as participants.

Overall, the tools/policy mix to support innovation of SMEs as facilitated by smart specialisation strategies are considered relevant. This includes e.g. cluster development initiatives. The common perspective from the side of all NSR stakeholders is that the focus of the coming NSR Programme should be placed on the promotion of innovation, digitalisation and internationalisation of SMEs.

3.1.3 Recommendation: Promote RDI activities in the challenge-driven fields related to PO2

Many places in the North Sea Region have a strong RDI profile and RDI is certainly an important element of the economy in the North Sea Region. In order to avoid an unnecessary duplication of funding, PO1 in the future NSR should be targeted very carefully to areas that benefit especially from transnational cooperation in their smart specialisation priority niche areas. This way regions can complement their assets and potentials of business and research, reach critical mass and scope to compete together at the global scale. RDI investments to limited, carefully chosen, challenge driven topics that are in line with the main priorities of the programme should be promoted (i.e. related to PO2).

The Commission recommends that linked to regional strengths in R&D, innovation and experimentation the NSR should continue to develop new responses to major issues such as clean and sustainable transport, marine plastics/litter, flood risks, opportunities in the circular economy and carbon capture, utilization and storage, that can be pursued in a unique way drawing on transnational and cross-sectoral stakeholders.

The states and regions in the NSR are in the process of developing and rolling out alternative fuels and low-carbon vehicle technologies. The NSR is also well-equipped with renewable energy and spear head technologies – such as wind, hydro and biomass aiming at respecting all relevant environmental provisions

– to facilitate a transfer to a low-emission and eventually fossil-free transport system. These investments need to continue.²⁰

In the current programme period, priority 1: thinking growth, objective 1.1. knowledge partnerships have supported partnerships between businesses and knowledge institutions in order to promote innovation, new products and services. The public sector has played an important role as broker in these partnerships. These experiences will be of relevance for the coming period, where the recommendation is to focus initiatives on PO2, greener, low carbon challenge-driven areas mutual for NSR states/regions. Notably, the Commission also points to opportunities to continue RDI efforts that in the current programme have been carried out within the framework of priority 2: eco-innovation and priority 4: Green transport and mobility.

National/regional perspectives on PO2-focused RDI activities

Most national/regional stakeholders welcome the recommendation to focus RDI activities on challenge-driven fields related to PO2. However, they also highlight that it is significant not to focus too much on R&D, but to support pilot and demonstration projects that provide a stronger foundation for projects to result in investment and development (DE, DK, NL, NO). The position of Flanders is that RDI activities should not be restricted to PO2 but should be open to demand-driven projects also in other fields.

As evident from the review of smart specialisation strategies in section 3.2.1 areas such as mobility and maritime economy, energy and environmental technology are linked to PO2. Certain challenge-driven fields are highlighted by stakeholders as having potential for transnational RDI cooperation in the NSR:

- Sustainable transport linked to smart city and maritime transport, e.g. the introduction of new technologies, social innovations in the mobility sector, electrification of the transport sector (DE, NO, SE)
- Waste management and circular economy as areas where RDI activity can benefit from added value of working with countries with similar challenges that have other positions of strength (SE)

Overall, except for Flanders that calls for a broader approach, there is interest in directing RDI funds towards PO2 challenge-driven fields with a focus on demonstration/pilot projects.

3.1.4 Conclusions and attention points for PO1 in the NSR Programme 2021-2027

PO1: Smarter Europe will promote innovation, digitalisation, economic transformation and support to SMEs. The scoping study has placed focus on two indicators of the innovative capacity of regions across the NSR and the policy and perspectives on PO1 among national and regional stakeholders. In the following, key conclusions and attention point for the development of the NSR Programme are presented.

Overall, compared to the European average, the NSR is performing well regarding innovation performance. The predominantly urban regions as well as the intermediate regions of the NSR have a strong innovative capacity. Some of them (i.e. Leader+) are among the most innovative in Europe. Predominantly rural regions in the NSR tend to have a more limited innovation capacity, just as elsewhere across Europe, which is partially explained by a smaller share of the population with a tertiary education attainment and rather limited collaboration between innovate SMEs. This can be seen in their values below both the NSR and EU-27 averages for the mentioned indicators. The exception being the region of Braunschweig that performs high in R&D expenditures from both the public and business sectors.

National and regional stakeholders call for a broad approach to PO1. Smart specialisation strategies are developed by regions in all member states, identifying positions of strength and focus areas for implementing regional innovation policy. The Commission has recommended that the coming programme should promote smart specialisation by supporting sets of projects in shared specialisation priority areas. An

²⁰ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, P.10

attention point for the design of the NSR Programme 2021-2027 is that generally the tools/policy mix to support innovation of SMEs as facilitated by smart specialisation strategies are considered relevant by stakeholders. However, the need for a flexible programme that is not locked to shared specialisation priority areas is underlined by stakeholders.

- This is of relevance especially for specific objective 3: Enhancing growth and competitiveness of SMEs and specific objective 4: Developing skills for smart specialisation, industrial transition and entrepreneurship. The promotion of innovation, digitalisation and internationalisation of SMEs are focus areas, which stakeholders generally wish to continue in the coming programme period. Cluster development is also highlighted as a tool in the smart specialisation policy mix, which can be incorporated into the NSR Programme 2021-2027.

Digitalisation is a strategic priority for the NSR Programme 2021-2027. Digitalisation is a strategic priority nationally/regionally in the NSR. Some stakeholders refer to it as a potential specific policy objective for the NSR Programme, but it is also proposed by some stakeholders that digitalisation is included as a horizontal criterion for all projects, e.g. requiring that up-to-date digital technologies are used as part of NSR projects. This proposal aligns with the European Commission's regard of digital technologies as critical enablers for the European Green Deal, and that as such, digital solutions can advance the circular economy, support the decarbonisation of all sectors and reduce the environmental and social footprint of products placed on the EU market.

- The digitalisation focus requested for the NSR Programme has direct links to specific objective 2: Reaping the benefits of digitalisation for citizens, companies and governments. In the development of the programme, the JS and PPG can consider highlighting digitalisation in the framing of the NSR Programme, i.e. as a horizontal criterion for projects in all the POs covered by the programme. This will raise the ambitions and promote the digital agenda outlined at EU, national and regional level.

Thematic overlaps exist between smart specialisation strategies of the NSR. These can be highlighted and developed in the NSR Programme 2021-2027. As part of the scoping study, we have identified focus areas of strategies across the NSR, demonstrating that environmental and energy technology is the most recurrent focus area of smart specialisation, found in 20 out of a total of 28 strategies. Industrial modernisation and agri-food are other focus areas included in several smart specialisation strategies across the NSR. They are also the focal point of smart specialisation thematic platforms that comprise European-wide innovation and research partnerships, also including partners in NSR regions. The strategic focus areas of environmental and energy technology, industrial modernisation and agri-food, which are promoted also through other EU programmes, can hold potential for the NSR Programme 2021-2027 allowing for possible synergy opportunities with other EU-funded initiatives.

- With respect for the priority of national and regional stakeholders to maintain a broad approach to PO1, not highlighting certain sectors, the smart specialisation strategic focus areas that are shared among several regions may hold potential for transnational cooperation. Especially the recurrent strategic focus of regions on environmental and energy technology can be of relevance to highlight in the NSR Programme 2021-2027, which also holds direct links to PO2.

Broad strategic backing for directing RDI activities towards PO2-related themes. The Commission has also recommended that RDI activities in the coming programme period will be targeting challenge-driven fields related to PO2. This is a recommendation which most stakeholders are in favour of. Energy is one area in which there is a shared strategic focus across the NSR, and other specific areas of interest for transnational cooperation include sustainable transport linked to smart city and maritime industries, waste management and circular economy. Stakeholders generally underline that the programme should prioritise RDI activities that are implemented as demonstration/pilot projects.

- The RDI activities focus is linked mainly to specific objective 1: Enhancing research and innovation capacities and the uptake of advanced technologies.

3.2 Policy Objective 2: A greener, low-carbon Europe

PO2: A Greener, low-carbon Europe, is closely linked to the European Green Deal focused on investing in energy transition, renewables and the fight against climate change. The following eight specific objectives have been defined for the design and implementation of PO2.

1. Promoting energy efficiency measures and reducing green-house gas emissions
2. Promoting renewable energy
3. Developing smart energy systems, grids and storage outside TEN-E
4. Promoting climate change adaptation, risk prevention and disaster resilience
5. Promoting sustainable water management
6. Promoting the transition to a circular economy
7. Enhancing nature protection and biodiversity, green infrastructure in particular in the urban environment, and reducing pollution
8. Promoting sustainable multimodal urban mobility²¹

The European Green Deal sets out the direction for the EU to become climate-neutral by 2050. Some of the key measures relate to energy, buildings, climate adaptation, water, circular economy, transport, nature and transport. The EU Biodiversity Strategy for 2030 is also of relevance for PO2. It puts emphasis on cooperation across borders among Member States, including through European Territorial Cooperation, on green and blue infrastructure. The European Green Deal's 'twin policy', the Shaping Europe's Digital Future policy, aims to ensure that digital technology transformations reach their full and fair potential for people and businesses, while helping to achieve the climate-neutrality target of 2050.

The Commission in its Orientation Paper to the NSR Programme highlights recognised areas of programme strength and potential of the NSR to include: marine environment protection and maritime sectors, blue and green growth, innovative energy and low emission solutions, circular economy, life and biosciences and tackling marine emissions and litter. The Commission recommendations cover a range of interlinked topics, which also touch upon the eight specific objectives. In the following, for the sake of analysis, the recommendations have been grouped under "development of low-emission/green solutions and circular economy" and "continue ecosystem approach to environmental management and the work on maritime spatial planning".

3.2.1 Setting the scene for PO2 in the NSR

This section provides a mapping on aspects related to pollution, circular economy and climate change across the NSR. The selected indicators mostly provide relevant background information for the specific objectives promoting climate change adaptation, risk prevention and disaster resilience, promoting the transition to a circular economy, promoting sustainable water management and enhancing nature protection and biodiversity, green infrastructure in particular in the urban environment, and reducing pollution.

Air pollution

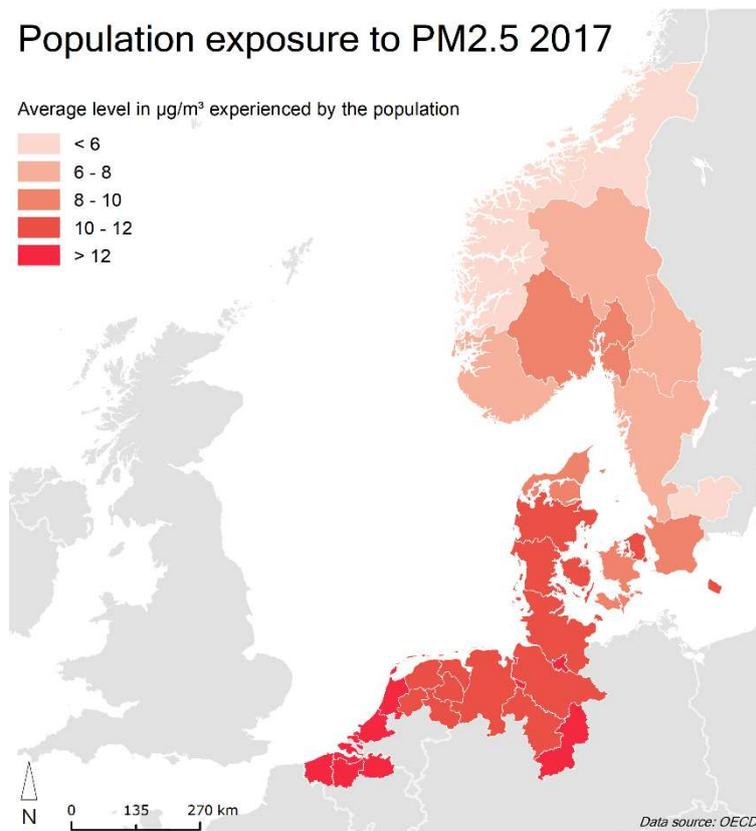
Air pollution is one of the most pressing environmental and health issues worldwide. Fine particulate matter (PM_{2.5})²² is the air pollutant that poses the greatest risk to health globally. The main source of PM_{2.5} are human-made activities, of which road vehicles is the major contributor. Therefore, high levels of PM_{2.5} are usually found along roads and are higher in urban contexts. Furthermore, chronic exposure to PM_{2.5} considerably increases the risk of respiratory and cardiovascular diseases in particular (WHO, 2018). For these

²¹ Aligned with a 'compromise agreement' on the legislative package, sustainable urban mobility is placed under policy objective 2, as its specific objective 8 (see the Annex's chapter 2). It should be noted that, even though provisional partial agreement has been reached, the principle "nothing is agreed until everything is agreed" applies.

²² PM_{2.5} stands for particulate matter 2.5 and are air polluting particles with a diameter less or equal to 2.5 micrometers.

reasons, population exposure to (outdoor or ambient) PM2.5 was selected to illustrate where such type of air pollution can be found within the NSR.

The map shows the mean annual outdoor PM2.5 concentration that a typical resident living in an area is exposed to throughout 2017. The concentration level experienced by the population is expressed in micrograms per cubic meter air ($\mu\text{g}/\text{m}^3$). The spatial pattern is clear in the North Sea Region, with the northern part significantly less exposed to PM2.5 compared to the southern part. An annual average concentration of $10 \mu\text{g}/\text{m}^3$ was chosen by WHO as the long-term guideline value for PM2.5, which represents the lower end of the range over which significant effects on survival were observed in the American Cancer Society's (ACS) study. While clean air is in general secured in the North Sea Region, two-thirds of the 33 regions have a concentration level above this threshold. These regions are geographically located to the south of the Nordjylland region in Denmark, and the highest exposure to PM2.5 is measured in Antwerpen in Belgium ($13,8 \mu\text{g}/\text{m}^3$). The best air quality is witnessed in Kronoberg ($5,6 \mu\text{g}/\text{m}^3$) in Sweden and Vestland ($5,7 \mu\text{g}/\text{m}^3$) and Trøndelag ($5,8 \mu\text{g}/\text{m}^3$) in Norway.



Circular economy

The ESPON CIRCTER project defined circular material providers and circular technology providers as two pillars of a circular economy which are associated with the supply-side.²³ They constitute core activities which provide and enable the transition towards a circular economy. Circular material providers represent provision of sustainable resources and secondary raw material, including economic activities such as market segments forestry, sustainable agriculture, and renewable energy along with the production of high-quality secondary raw materials from waste. Circular technology providers enable a circular economy through

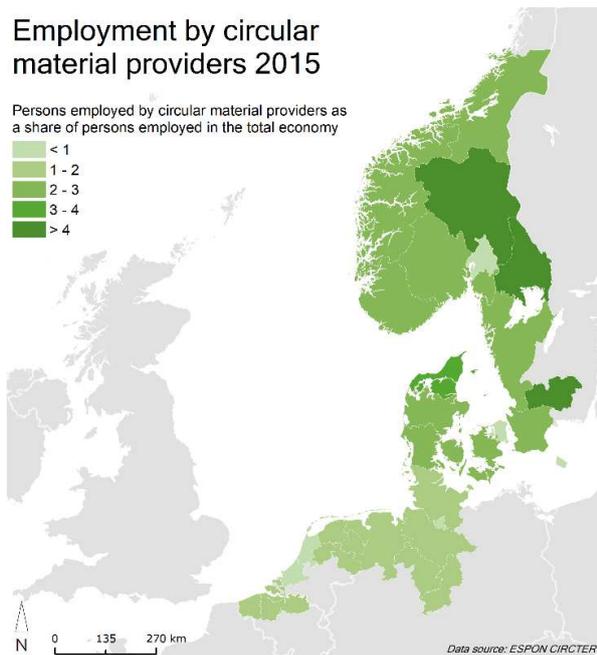
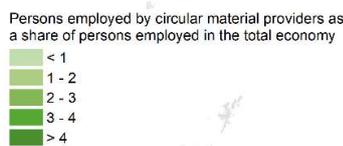
²³ ESPON CIRCTER: https://www.espon.eu/sites/default/files/attachments/CIRCTER%20FR%20Annex%204%20Sectoral%20characterization%20of%20regional%20CE_0.pdf

innovative technologies and resource-saving services. They also provide intermediate products representing the technological cycle.

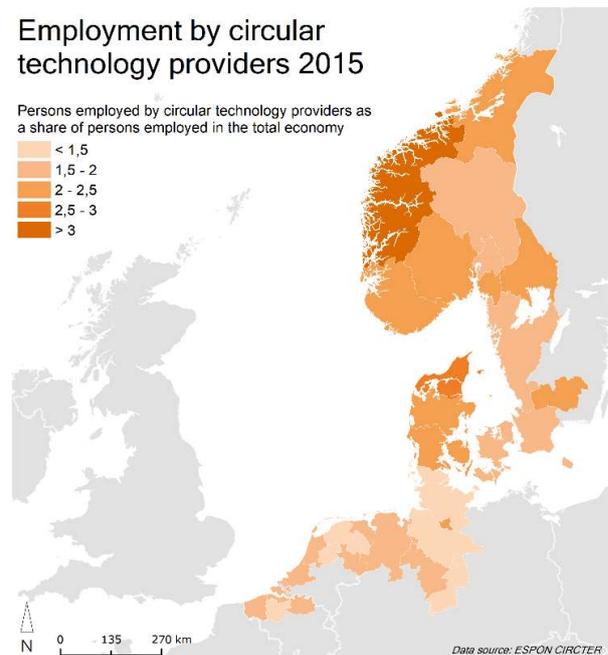
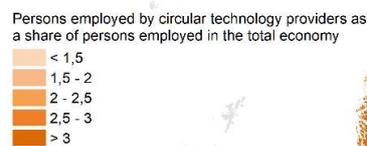
The following two maps show the territorial distribution of employment by circular material providers (left) and circular technology providers (right) in the 33 regions of the North Sea Region in 2015. Across Europe, material providers and technology providers represent 2,2% and 1,6% of the total economy respectively. Circular material providers have a more predominate role in the regional economy of the North Sea Region compared with European average, especially in northern part of the Region. Within the Region, the map highlights that circular material providers are more present in rural regions, e.g., Värmland (7,4%) and Kronoberg (6,3%) in Sweden. There, regions have large areas covered in forests, and sustainable agricultural and forestry activities have a dominant role in the regional economy. The least shares of people employed by circular material providers below 1% are witnessed in predominantly urban regions, including Noord-Holland, Zuid-Holland, Hamburg, as well as the capital regions Hovedstaden and Oslo, where material providing do not have a prevailing role in regional economic activities.

Circular technology providers are more present in urban regions and appear to cluster near industrial centres, e.g., Hamburg (2,4%). Regions in western Norway and Denmark stand out for high shares of people employed by circular technology providers. Vestland in Norway has the highest technology provider share (3.2%) in the North Sea Region, with considerable amount of people employed in material and energy efficiency and renewable energy technology sectors. Within the North Sea Region, below European average share of employment by circular technology providers can be found in the vast majority of German, Dutch and Belgian regions.

Employment by circular material providers 2015



Employment by circular technology providers 2015



Vulnerability to climate change

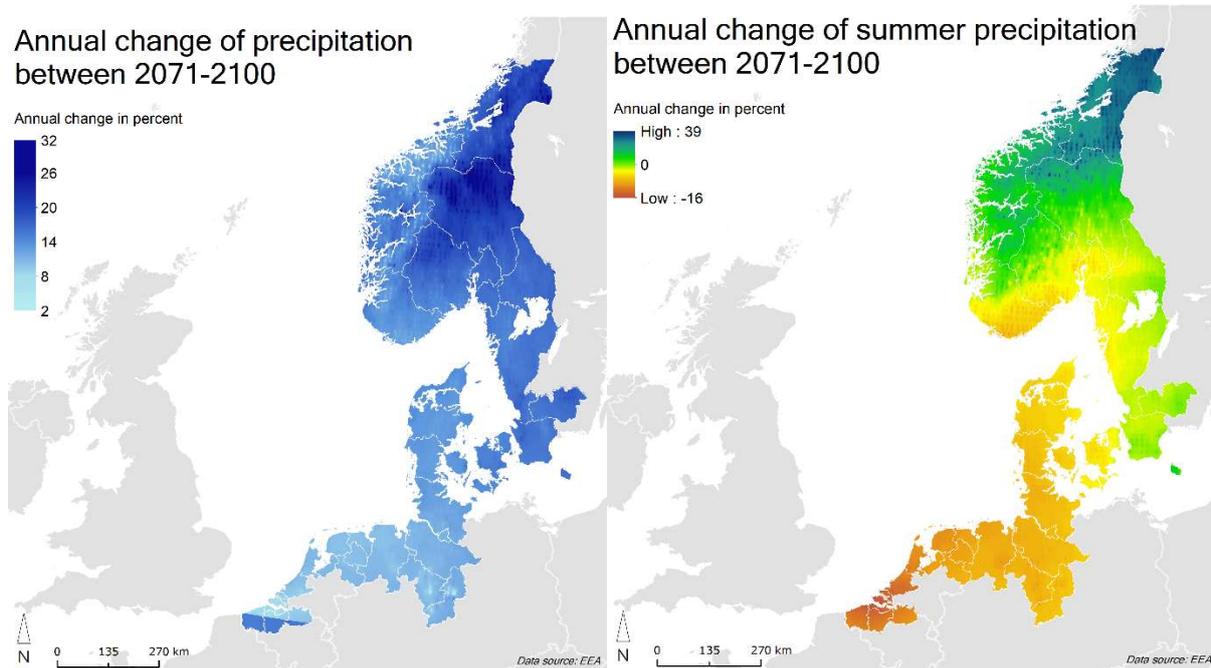
The geography of the NSR makes the region relatively vulnerable to the change in precipitation that varies regionally and seasonally. Projected changes in annual and summer precipitation published by the European Environment Agency were selected as first indicators to map vulnerability to climate change.²⁴ The two maps illustrate the projected change in annual (left) and summer (right) precipitation for the period 2071-

²⁴ Projected changes in annual (left) and summer (right) precipitation (%) in the period 2071-2100 compared to the baseline period 1971-2000 for the forcing scenario RCP 8.5. Additional methodological elements can be found in the Annex's chapter 4.

2100 in comparison with the baseline defined for the period 1971-2000. The data are processed and presented at 1km*1km grid level in the North Sea Region. An increase of annual precipitation toward the end of the 21st century is projected across the entire North Sea Region. Whereas trends are less clear in continental Europe, with agreement in increase in Northern Europe and decrease in Southern Europe. The increase rate of annual precipitation varies within the North Sea Region, with the southern part expecting an increase less than 5% versus a projected increase over 20% in the northern part. Trøndelag and Hedmark og Oppland in Norway are the regions expecting the largest increase in annual precipitation for the period 2071-2100, and the increase can reach 30% in some parts of these two regions.

With regards to summer precipitation, a more prevailing South-North division is observed in the North Sea Region toward the end of the century. Precipitation is projected to increase in the summer months (June, July and August) in the northern part and decrease in the southern part. The increase of summer precipitation can reach nearly 40% for some parts of Trøndelag in Norway. Whereas the decrease is projected to be around 15% for the regions in Belgium and the Netherlands, e.g. West-Vlaanderen and Oost-Vlaanderen, Zeeland and Zuid-Holland.

The changes in precipitation may result in changes in the frequency and intensity of climate extremes in the Region, in particular in droughts and heavy precipitation events. Heavy precipitation events are likely to become more frequent in most parts of Europe. The changes are strongest in Scandinavia in winter and in northern and eastern central Europe in summer. These precipitation extremes can have considerable impacts on society, including the built environment, agriculture, industry and ecosystem services.



To further assess impacts and vulnerability to climate change in an integrated manner, three indicators selected from the ESPON Climate project are mapped for the North Sea Region²⁵, which are potential impacts of climate change for the period 2071-2100, adaptive capacity to climate change for 2005-2011 and potential vulnerability to climate change for 2071-2100.²⁶ The potential impacts are presented as the

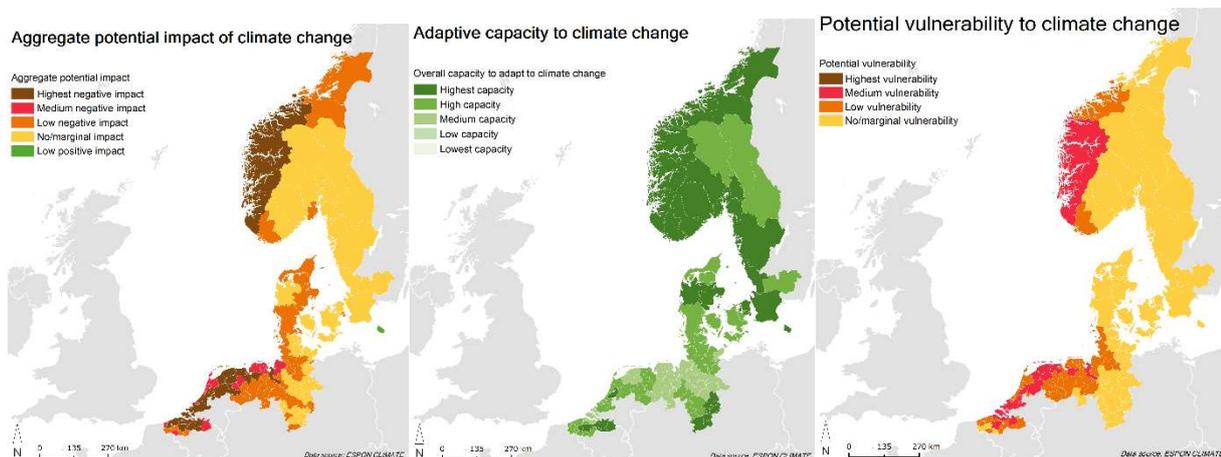
²⁵ Data from ESPON Climate have been adjusted from NUTS 2006 to NUTS 2013.

²⁶ Overall impacts derived from 26 impact indicators, overall adaptive capacity from 15 individual indicators, and overall vulnerability from a combination of overall impacts and adaptive capacity.

aggregation of sectoral impacts derived from 26 impact indicators related to physical, environmental, social, economic and cultural impacts of climate change. For instance, a potential social impact of flash floods²⁷ on population and a potential economic impact of climate change on the energy sector. In the North Sea Region, the following general patterns can be observed: coastal regions (e.g. densely populated Dutch coastline and Belgium) are projected to be negatively affected due to the increasing flood hazards faced by their high concentrations of physical, economic, social and cultural assets. Mountain regions (e.g. in Norway) that are dependent on agriculture, forestry and winter and/or summer tourism would also be negatively affected. For other parts of the North Sea Region, low or marginal potential impact of climate change is projected toward the end of 21st century.

The adaptive capacity was defined by 15 indicators on knowledge and awareness, economic resources as well as technological, infrastructural and institutional capacity to adapt to climate change. The overall capacity presents almost an inverted pattern compared to the impact map: Most regions for which climate change impacts are expected to be the most severe (mainly in the southern part of the North Sea Region) are the least capable of adapting to these impacts. The North Sea Region in general is more capable of adapting to climate change impacts compared to its counterparts in southern and eastern Europe. All the regions in the North Sea Region have at least a medium adaptive capacity. For the Scandinavian regions, their adaptive capacity is generally higher regardless of the potential impact of climate change they would experience. For example, the regions in Norway expected to be exposed to severe climate changes are in fact exhibiting high adaptive capacity.

Combining aggregate impacts and adaptive capacity results in the potential vulnerability for 2071-2100. The vulnerability map is almost mirroring the territorial pattern of potential impacts. The high adaptive capacity in the Scandinavian regions and medium capacity in the western regions partly compensates for the potential negative impacts projected for these regions. No part of the North Sea Region is deemed of highest vulnerability to climate change. The overall most vulnerable types of regions in the North Sea Region are densely populated coastal regions and mountain regions.



²⁷ See the final report of the project ESPON Bridges for maps on flash flood-storm in coastal areas (maps 7-1 and 7-2), <https://www.espon.eu/sites/default/files/attachments/BRIDGES%20-%20Final%20Report.pdf>

3.2.2 Recommendation: Development of low-emission/green solutions and circular economy

The NSR should continue to build on strength that can be drawn from capacity and experience of working across sectors and territories. Initiatives for circular economy, greener and low-carbon Europe need to be included in the future NSR. Low carbon/green solutions, clean tech and environmental protection is, and should continue to be, a theme cutting across all these areas of intervention. The North Sea region has capacity to advance its competitive position by leading on minimising environmental costs. In addition, sharing information and best practices between the participating regions on methods such as Carbon Capture, Utilization, and Storage (CCUS) and restoring biodiversity and natural carbon sinks could be considered.²⁸

Projects in this field are implemented under the current NSR Programme, especially as part of Priority 2: eco-innovation, objective 2.1 to promote the development and adoption of products, services and processes to accelerate greening of the NSR economy. This has involved efforts to support traditionally green sectors like renewables as well as improving environmental performance in all sectors. Circular economy has been a new priority for the NSR Programme, which involved that there was a rather late uptake of allocation of funds. In the VB Achievements Report, it is highlighted that there are ample opportunities for businesses to introduce zero waste production and consumption methods ('use and re-use'), encourage high quality waste management, and increase recycling efforts (incineration of non-recyclable waste only and phase out of landfills). In the current programme, project applications have focused solely on activities in one of these areas, and not on creating entire circular economy systems. Priority 4 projects are also of relevance for low carbon/green solutions. They have focused on alternative fuels and the development of more efficient transport solutions both in terms of modal shifts and for urban transport.

National/regional perspectives on green transition and circular economy

All the national governments of the NSR have launched ambitious targets for reduction of greenhouse gas emissions as part of their climate strategies/agreements. Greening transport/mobility is another policy focus which NSR countries/regions have in common. Thus, sustainable transport linked to smart city and maritime transport, e.g. the introduction of new technologies, social innovations in the mobility sector, electrification of the transport sector are examples of topics for transnational cooperation. Further, all countries/regions have a strategic focus on promoting the transition to a circular economy, which is cross-cutting in nature and is a part of overall climate strategies, waste management policy, business development policy, etc. All stakeholders interviewed are therefore also interested in including circular economy in the coming NSR Programme. Especially from the side of Flanders, the Netherlands and Norway the potential of promoting circular economy through transnational cooperation in the NSR is highlighted. However, from the side of Denmark it is suggested that further investigation may need to be done into whether the support of circular economy systems has added value in a transnational context. Stakeholders from the Netherlands have the following ideas for the NSR Programme and the potentials for concrete projects:

- The new programme should provide the opportunity of phasing out current conventional technologies and implement new technologies that fit into circular economy systems.
- The pillars Smarter and Greener Europe provide opportunities for nature and agriculture to initiate demonstration projects on a transnational level, both in rural areas and urban areas. Examples of these are the greening of new residential areas and business parks. The Netherlands will search for solutions in combination with other important themes, e.g. water, energy, and to address social challenges. In doing so, the keywords in circular economy transition include multiple solutions, integral use of space and nature-based solutions.
- It is also proposed to further develop circular economy (CE)-concepts. Social innovation is an important factor in these. Further, new CO₂ standards can be established through applying new instrument such as the "CO₂ performance ladder" and the "environmental barometer".

²⁸ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, Pp.12-13

- From the side of the Netherlands it is also suggested to meet the needs of society and validate/implement developed solutions in pilot and demonstration projects of the current programme period. Although the NSR Programme is not specifically meant for large upscaling and implementation, there is an opportunity to relate this with policy contexts and stimulate these with financial incentives. This would leave more room for creative and experimental initiatives, e.g. joint tendering, sustainable procurement policies, and CO2 pricing.

Due to the involvement of industry and innovation in the green transition and transition to a circular economy, there are natural synergy opportunities with PO1 on this topic. Further, there are direct links to the focus areas of smart specialisation strategies on energy and environmental technology.

3.2.3 Recommendation: Continue with eco-system approach to environmental management and the work on maritime spatial planning

Environmental protection and biodiversity are complex and interrelated. The North Sea Region Programme should continue to engage in a flexible, innovative way in this field, enabling it to respond to new challenges, niche/specific concerns in new ways, which has been a strength of the programme in the past. The programme's focus on an eco-system approach to environmental management remains relevant and a good basis to build better integrated actions, and potentially a basis for synergies with other policy initiatives and actions.

Climate change adaptation and resilience has resonance in coastal and low-lying areas subject to flooding and extreme weather. Developing, piloting, testing, and transferring territorially adapted solutions e.g. in clean renewable energy, flood protection, circular economy, marine environment protection and climate change adaptation (deployment of innovation results).²⁹

The current programme has addressed the development of new methods for the long-term sustainable management of the North Sea ecosystems through Priority 3: Sustainable North Sea Region. Activities have included:

- New methods and technologies for tackling environmental problems
- Mainstreamed successful methods and approaches into public policies and management
- Promoted long-term strategies, such as supporting integrated maritime spatial planning approaches, for sustainable management of North Sea landscapes and the North Sea itself
- Implemented participatory processes winning stakeholder support for environmental measures and understanding of ecosystem services
[Ecosystem services involve the benefits that flow from nature to people. They can be provisioning, regulating or cultural services. Current projects are working with methods to adapt food supply systems stressed by climate change, nature-based water management and coastal protection, increase of carbon storage in agricultural soils and peat areas and to counteract decreases in pollination.]
- Flood defence construction techniques targeting especially 'build with nature' methods
- Improving environmental and catchment management to pre-empt flood risk and other negative impacts such as drought and increased nutrient leaching
- Demonstrating new urban planning and infrastructure approaches to improve resilience of cities and towns and mobilise stakeholder support for adaptation measures
- Integrating adaptation perspectives in regional planning and development

²⁹ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, Pp.12-13

The VB Achievements Report highlights that projects under priority 3 have been successful in reaching citizens, supporting the concept of bringing 'science to people'.

National/regional stakeholder perspectives

Stakeholders generally point to the importance of continuing the transnational cooperation on long-term maritime spatial planning in the NSR. The NSR countries/regions have in place climate adaptation strategies. Climate change and adaptation related investments are highlighted as relevant by all stakeholders, especially from the side of Germany and the Netherlands it is highlighted as a priority area.

Green harbours, e.g. with a focus on sustainable transport and logistics and waste management, is another topic for transnational cooperation that is highlighted by interviewees. This focus is also in line with national/regional strategies and plans for greening transport and managing waste, including marine littering and plastic in the sea. In addition, it is in line with the EU Circular Economy Action Plan that focuses on sectors that use the most resources but where the potential for circularity is high, like plastics.

Offshore renewable energy is also a topic for cooperation. In Denmark, it has been decided that two energy islands will be established before 2030, one in the North Sea and one in the Baltic Sea. They will not only produce power, but also in time use technologies which can store or convert green power to green fuels (so-called "Power-to-X"). Funds will be allocated to support the development of solutions to capture CO₂. State funding has also been allocated to establish a Power-to-X large-scale facility. This initiative is co-financed by the Netherlands. From the side of Denmark an idea for a concrete project (and potentially a flagship project) during the programme period is presented:

- Once the expected planning of the energy island in the North Sea progresses, it is proposed to develop a call for proposals for projects to work on transnational aspects of the energy island. Parallel processes might be initiated in the context of the BSR Programme and/or the Interreg cross-border programme for Øresund-Kattegat. This proposal aligns with North Seas Energy Cooperation's joint statement on exploring collaboration and synergies between developers of nearby wind farm in terms of planning and grid development.

Overall, for PO2 the national/regional stakeholders interviewed for the scoping study are interested in taking a broad approach that encompasses project proposals within a range of topics that can demonstrate clear added value of transnational cooperation.

- A general remark concerning PO2 involves that it is significant to operationalise the added value of transnational cooperation. In many countries there is a range of national funding opportunities, which entail that potential applicants do not always consider the opportunities under the NSR Programme. A concrete idea in this regard it to make it possible to reduce the requirement for co-financing from the 50 percent requirement in place today.

3.2.4 Conclusions and attention points for PO2 in the NSR Programme 2021-2027

PO2: A Greener, low-carbon Europe, is closely linked to the European Green Deal focused on investing in energy transition, renewables and the fight against climate change. The scoping study has placed focus on indicators of both environment and climate and the status of regions in the NSR and the national/regional policy and perspectives on PO2 among national and regional stakeholders. In the following, key conclusions and attention points for the development of the NSR Programme are presented.

National and regional stakeholders prioritise PO2 and call for a broad approach. The Commission recommends that the predominant focus of the NSR Programme 2021-2027 is placed on PO2, which is in line with the perspectives of national and regional stakeholders. Like the position on PO1, stakeholders are generally in favour of a broad approach to PO2, allowing for a broad variety of projects. Pilot and demonstration projects are highlighted by stakeholders as a priority for PO2.

Greenhouse gas reduction targets as a driver for energy efficiency measures, circular economy, renewable energy, smart energy systems and sustainable multimodal urban mobility. One of the challenges linked to climate and environment involves population exposure to air pollution, which has been mapped as part of the scoping study. The map illustrates that the air quality is better in the north than in the south of the North Sea Region. The populations in the south are exposed to a PM2.5 concentration level that exceeds WHO's long-term guideline value, indicating that air pollution may have effects on their health and well-being.

National/regional strategies and policies in the NSR are in place outlining ambitious targets for the reduction of greenhouse gas emissions. Most also have in place specific policies/strategies for e.g. sustainable transport and circular economy. These are examples of themes that stakeholders highlight as relevant for the NSR Programme. Especially circular economy is highlighted by most stakeholders to hold potential for transnational cooperation.

Stakeholders also highlight the relevance of building on experiences and continue efforts in areas such as sustainable transport and logistics, and waste management related to harbours and in the sea. An example of new developments with potential impact across the NSR is the establishing by the Danish state of an energy island in the North Sea during the coming years. Cooperation on Power-to-X technology development has been established between the states of Denmark and the Netherlands. There may be potentials to implement transnational cooperation projects also in the context of the NSR Programme regarding technology development and/or maritime spatial planning related to the planned energy island.

- The broad focus requested by stakeholders and the interlinked nature of the climate challenges to be addressed and the possible measures to be taken entail that several specific objectives (in this case no. 1, 2, 3, 6 and 8) under PO2 are of relevance for the development of the programme. It may be considered whether it is an advantage to include all specific objectives in the programme, or whether broad project opportunities are possible to comprise within fewer specific objectives.
- In the development of the programme, the JS and PPG can consider whether specific attention should be placed on the establishing of an energy island in the North Sea. This could include plans for a separate call for applications to carry out an NSR flagship project focused on technology development and/or maritime spatial planning. A potential initiative also opens potential for coordination with the BSR Programme.

Differences in regional strengths on circular economy offers potential for transnational cooperation. Employment in the circular economy has been mapped as part of the scoping study, illustrating an overall solid foundation for the region to realise the transition towards a circular economy. Thus, the prevalence of employment by so-called circular economy material providers is above the European average in the NSR, centred on rural regions in the Nordic part of the region. High employment numbers are also found with circular economy technology providers in several regions with urban centres in the NSR. However, several regions in Germany, Belgium and the Netherlands are below European average in employment by circular economy technology providers. Regional differences across the NSR can be perceived to indicate learning potentials through exchange of knowledge and practice in transnational projects on the realisation of the circular economy.

- An attention point in the development of the NSR Programme is that projects focused on circular economy have been limited in the current programme period. A way in which to approach this in the development of the coming programme is to operationalise the concept of circular economy further, exemplifying types of initiatives and partnerships it might entail. The transition to a low carbon and circular economy has clear links to PO1, innovation and technology development, and notably the strategic focus area shared by most regions on environmental and energy technology.

Climate change challenges call for continued transnational cooperation on climate adaptation and integrated water management. Seasonal extremes in precipitation and weather patterns are increasing substantially in the NSR. As such, they are stressing hydrological systems and the aquatic environment in the programme area. As part of the scoping study we have mapped implications of climate change in the NSR. The adaptive capacity of regions to climate change across the NSR is generally at medium or above medium level as compared to the European average. However, several regions in the NSR are also assessed to have high adaptive capacity. The aggregate potential impact and the potential vulnerability to climate change is found to be most severe in coastal regions, especially the Netherlands, of the NSR and in mountainous areas of Norway. This calls for a continued focus on transnational cooperation on climate change adaptation and integrated water management, with the aim of improving resilience, safe guarding quality and quantity of water resources as well as eco-systems and biodiversity connected to the aquatic environment. This is a focus which is backed by national/regional policy. This also aligns with the North Sea Commission's North Sea Region Strategy 2030 (see Annex's chapter 2), in particular with its Energy and Climate Change Working Group's endorsed Paper on Climate Change Adaptation and the North Sea Commission³⁰. There may also be synergies and learning potentials between the development of climate adaptation solutions in coastal and mountainous areas.

- There is a long track record for transnational cooperation on climate change adaptation and water management in the NSR, which should be followed up and continued. The same is highlighted for transnational cooperation on ecosystem services. This entails that the inclusion of specific objectives 4, 5 and 7 are also of relevance for the NSR Programme 2021-2027.

3.3 Policy Objective 3: A more connected Europe

PO3: A more connected Europe will support strategic transport and digital networks. Specific objectives include:

1. Enhancing digital connectivity
2. Developing a sustainable, climate resilient, intelligent, secure and intermodal TEN-T
3. Developing and enhancing a sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility

The Commission does not recommend PO3 as a thematic focus for the future NSR Programme. Transport interventions are mainly addressed through TEN-T investments and national transport policies, it is proposed that transport investments should target the CEF and EIB instruments. A North Sea Programme will not have the resources to make substantial impacts on key transport development concerns.³¹

According to the VB Achievements Report, projects in priority 4 have not contributed to the development of transport infrastructure as such, but rather have focused on alternative fuels and the development of more efficient transport solutions both in terms of modal shifts but also for urban transport. The thematic areas covered by projects in priority 4 would fit well under either PO1 or PO2 in an upcoming programme. This has been the point of departure for the initial data collection of the scoping study. In August 2020 additional work was done to incorporate national/regional stakeholder perspectives on including PO3 in the NSR Programme.

³⁰ CPMR-North Sea Commission, Energy and Climate Change Working Group, Paper on Climate Change Adaptation and the North Sea Commission (prepared jointly by 8 current NSR Programme projects), 20/03/2020

³¹ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, P.13

3.3.1 Setting the scene for PO3 in the NSR

This section provides inputs on two aspects related to transport in the NSR. The first is on the rail connection of port and airport included in the Trans-European Transport Network (TEN-T) corridors; the second is on public transport in cities within the NSR. These two indicators mostly provide relevant background information for the specific objectives developing a sustainable, climate resilient, intelligent, secure and intermodal TEN-T; and, developing and enhancing a sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility.

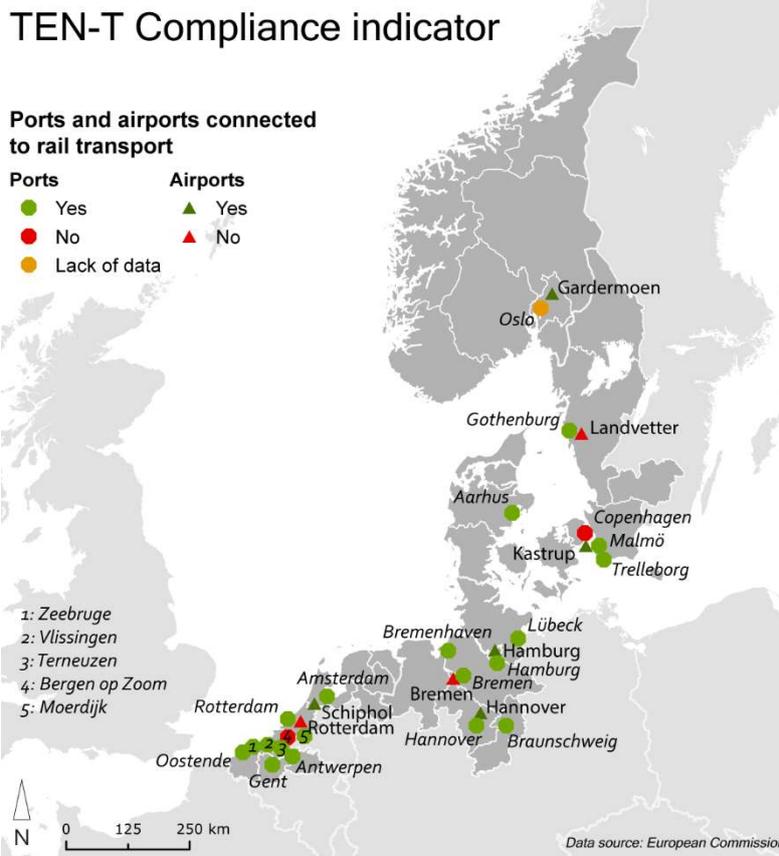
Core transport infrastructure connection to rail

The implementation of the objectives and standards set in the guidelines for the development of the Trans-European Transport Network (TEN-T) is a key for a more sustainable, seamless and smarter European transport network. The TEN-T policy paves the way for the future of the transport system, notably through facilities that stimulate low-emission solutions, new-generation service concepts and other fields of technological innovation.

The compliance of the connection of maritime ports to rail in Europe reached 89% per 2017 data.³² That percentage is very similar with the one of the North Sea Region. Indeed, 20 out of 22 (or 91%) of maritime ports in the NSR are connected to rail, such as Oostende in Belgium and Aarhus in Denmark. The two maritime ports in the NSR that are not connected to rail are Bergen Op Zoom in the Netherlands and Copenhagen in Denmark (note that no data is available for the maritime port of Oslo).³³ The compliance of the connection of core airports to rail in Europe is lower than for maritime ports, i.e. 67% per 2017 data. 5 out of the 9 core airports in the NSR are connected to rail, corresponding to 56% of the core airports, which is lower than the EU-average. The four core airports in the NSR that are not connected to rail are Rotterdam Zestienhoven (the Netherlands), Bremen (Germany) and Malmö and Gothenburg-Landvetter (Sweden).

³² COM(2020)433, Progress report on implementation of the TEN-T network in 2016-2017, 28 August 2020

³³ The data does not state anything about the quality of such rail connection, which could be improved such as the last mile connection of a port.



Typology of urban transport

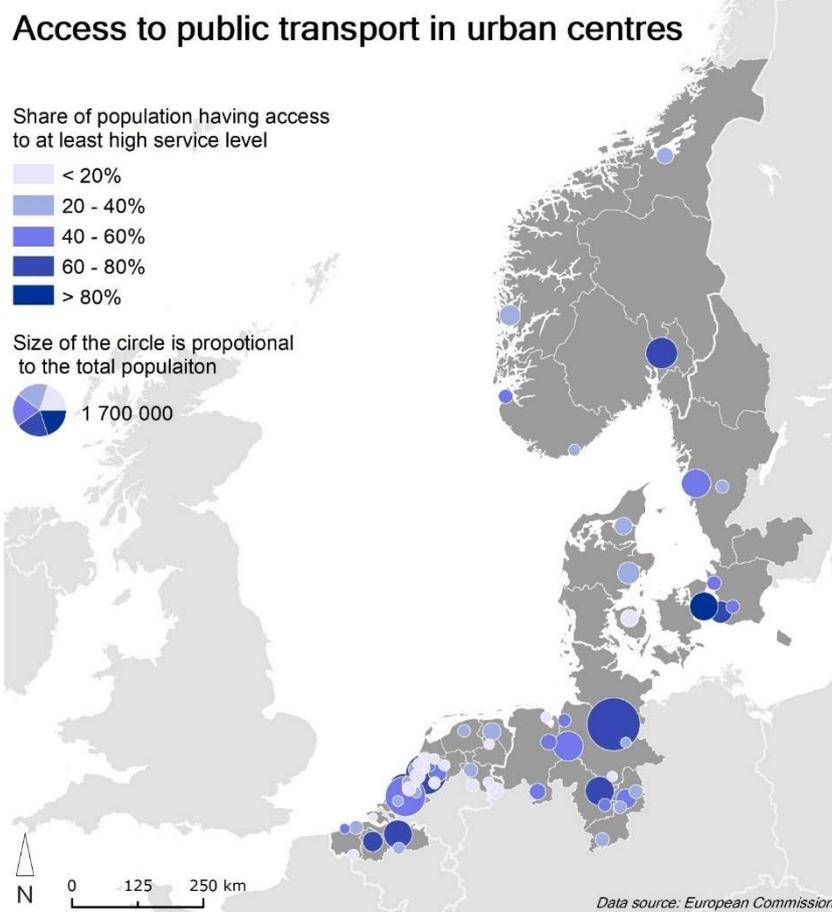
The map shows the access to the public transport in cities³⁴ and visualises the share of population with access to (very) high service level of public transport in the North Sea Region.³⁵ On average, access levels are higher in larger cities and more densely populated cities, due to (1) larger number of stops, (2) clustering population closer to stops and (3) denser street network. In the NSR, the highest access to public transport is observed in the capital cities (e.g., Copenhagen, Oslo, Amsterdam), and in Copenhagen nearly 90% of the population (89,0%) have a (very) high access to public transport. Other cities functioning as regional centres (e.g., Malmö, Hannover, Hamburg, Antwerpen) also have a relatively high access to public transport.

On the other hand, the low share of population having access to (very) high service level of public transport is observed in small and medium-sized cities, due to the characteristics of their urban fabric and the absence of intra-municipal rail network, among others.³⁶ For those with less than 10% of the population a (very) high access to public transport, most of them are Dutch cities with less than 10 000 inhabitants. The share of population with access to at least high public transport service level in Odense, a Danish city with a population of nearly 190 000, is also below 10% (8,3%).

³⁴ Definition of a city in European Commission, Regional Focus, Cities in Europe: The new OECD-EC Definition, 2012

³⁵ High access: people can easily walk to a bus or tram stop with more than 10 departures an hour or people can easily walk to a metro or train station with more than 10 departures an hour (but not both). Very high access: people can easily walk to a bus or tram stop with more than 10 departures an hour AND a metro or train station with more than 10 departures an hour.

³⁶ European Commission, Regional Working Paper, Measuring access to public transport in European cities, 2015



National/regional stakeholder perspectives

Most national/regional stakeholders agree with the recommendation of the Commission that the topic of sustainable transport/mobility fit well under PO1 and/or PO2 (BE, DK, NL, NO and SE). From the side of Germany, it is however a strong priority to include PO3 in the NSR programme 2021-2027. In Norway, there is an openness to including PO3 in the Programme, but there is concern that this can conflict with the Norwegian ambition to maintain focus on a limited number of policy objectives. Therefore, Norwegian stakeholders have also suggested that sustainable transport is incorporated under PO1/PO2. Similarly, from the side of Flanders, it is stressed that in case the specific objective on promoting sustainable multimodal urban mobility is moved from PO2 to PO3 (which there is some uncertainty of at the time of writing), they will also be in favour of including PO3 in the NSR Programme.

The policy and strategy documents highlighted by national/regional stakeholders to be of relevance for PO3 are largely the same as those introduced under PO1 and PO2, e.g. sustainable transport/mobility is included in several smart specialisation strategies. Stakeholders underline the relevance of focusing on greening transport and the reduction of CO2 emissions.

From the side of Sweden, the STRING 2030 Strategy is highlighted as relevant to consider in the development of the NSR Programme 2021-2027. The strategy provides an example of transnational cooperation in the NSR to ensure sustainable transport connectivity and the development of the green-tech sector (which also link to the dominant focus on environmental and energy technologies in smart specialisation strategies).

STRING 2030 Strategy (STRING network, 2019)	
Focus areas relevant for the NSR	<p>STRING (which began as an NSR Programme-funded project) is cross-border initiative that stretches from the Free and Hanseatic City of Hamburg and Schleswig-Holstein in Germany, Region Zealand, the Capital Region and City of Copenhagen in Denmark, Region Skåne, Region Halland, Västra Götalandsregionen and City of Malmö in Sweden, City of Oslo, and the Viken County in Norway. STRING's focus is to develop the entire corridor from Hamburg to the Øresund area and sets and promotes a mutual political agenda on infrastructure and green development.</p> <p>The STRING 2030 Strategy sets out two strategic priorities, which are to be translated into concrete actions and initiatives by STRING in cooperation with its cities and regions, they are:</p> <ol style="list-style-type: none"> 1. Clean, Green Economy: To become a globally acknowledged Green Investment Hub 2. Transport and infrastructure connectivity: To assure high-quality sustainable transport connectivity from Hamburg to Oslo <p>Initiatives include:</p> <ul style="list-style-type: none"> - The construction of the Fixed Link across the Fehmarn Belt - An improved and sustainable railway connection between Gothenburg and Oslo - Fixed links across the Öresund - Removal of bottlenecks

Stakeholders from Germany have identified the following thematic challenges for the NSR Programme:

- Development of climate-friendly logistics, especially in the area of ports and port-hinterland connectivity, but also in industrial parks and large shopping centres, including promoting the use of inland/urban waterways and better linkage with rail transport to reduce freight transport on road and increasing the efficiency of freight transport on road through intelligent route planning and fuel-efficient driving.
- Solutions for a sustainable connection of peripheral areas.
- Exchange of experience on socially just and environmentally friendly mobility in metropolitan regions, considering its connections to other rural and urban areas.
- Actions for sustainable multimodal urban mobility, application of advanced technologies and digitisation, development of behaviour-related innovations, such as shared mobility and co-creation
- Governance of emission-free and climate-neutral drive systems.
- Transfer of knowledge on a strategy-based (sustainable urban mobility plan, SUMP) socially just and ecological transport transformation in cities including strategies and applications of autonomous systems.
- The increasing volume of e-commerce deliveries, also as a result of the Covid-19 crisis, requires extended sustainable urban logistics concepts, including promotion of automated freight vehicles /e-mobility/cargo bikes for the last mile.
- Rethinking urban design and land use planning in order to promote space efficient transport, especially in dense neighbourhoods.
- Enhancing the cooperation and communication between key players (urban planners, architects, land-use planners, politicians, citizens) at the different planning levels to improve sustainable modes of transport and traffic infrastructure and cross-border public transport and to improve the safety of pedestrians, bikers and e-bikers along heavy transport routes and main crossroads.
- Improving the conditions for e-mobility users.

Enhancing digital connectivity/ICT infrastructure is one of the specific objectives under PO3. Germany highlights that, especially in remote and rural places, there is a need to support the digitisation of services, e.g. the digitalisation of mobility services, and the ability to access them, validating the prioritisation of access to ICT infrastructure in the Programme. The German stakeholders prefer the Programme to continue to help in finding solutions which can be taken up in infrastructure plans. Most of the national/regional stakeholders highlight that there is not enough funding to prioritise the development of ICT infrastructure under the NSR Programme. There is however an interest in giving priority to projects that develop digital services in general, including in the area of sustainable transport. This can be incorporated as part of PO1 and PO2 (BE, DK, NO, SE).

Access to TEN-T and sustainable cross-border/transnational mobility is a priority for several stakeholders (mainly DE, NL, NO, SE). From the side of Germany, it is highlighted that prioritising access to TEN-T under the NSR Programme should concern preparations of future investments in infrastructure and not direct investment in infrastructure. Other stakeholders highlight that other national and EU programmes are in place to fund the development of physical infrastructure. The current NSR Programme has supported projects to promote urban mobility, the last mile to reach public transport, as well as smart transport options such as shared electric vehicles for rural areas. These are areas that can be further developed in the coming programme period. Most national/regional stakeholders, except for Germany, are interested in the inclusion of this type of projects under PO1 and PO2 instead of linking them to the specific objective of TEN-T/PO3.

3.3.2 Conclusions and attention points for PO3 in the NSR Programme 2021-2027

PO3: A more connected Europe will support strategic transport and digital networks. In order to provide context for PO3 in the NSR, two indicators have been mapped. The first is on the rail connection of port and airport included in the TEN Transport corridors, and the second on public transport in cities within the NSR. In the following, the key conclusions and attention points for the development of the NSR Programme are presented, including the national/regional stakeholder perspectives on PO3.

The connection to rail is lower for core airports than for maritime ports in the NSR. Most (91%) of maritime ports in the North Sea Region are connected to rail. The compliance of the connection of core airports to rail is lower corresponding to 56% of the core airports, which is below the EU-average.

Across the NSR, there is a divide between access to public transport in capital cities and smaller urban centres. Highest access to public transport is observed in the capital cities. Other cities functioning as regional centres also have a relatively high access to public transport. In smaller urban centres, a low share of the population has access to a high service level of public transport.

National/regional stakeholders generally prioritise including the topic of sustainable transport/mobility in the NSR Programme, but as part of PO1 and PO2. Only from the side of Germany, it is a priority to include PO3 as a separate policy objective in the programme. There is a wish to continue efforts such as the development of alternative fuels and more efficient transport solutions in terms of modal shifts and for urban transport. At the time of writing, there is some uncertainty whether the specific objective 'Promoting sustainable multimodal urban mobility' will be removed as an option under PO2. This will be an attention point in the development of the NSR Programme 2021-2027. In case it is changed and becomes possible to support only under PO3, more national/regional stakeholders will be in favour of including it as a separate policy objective in the NSR Programme.

- If the regulation/guidance from the Commission does not change, there is potential to support projects related to sustainable transport/mobility under PO1 and PO2. Since this is a topic prioritised by most stakeholders it will be relevant to point towards challenges to be addressed and the opportunities to develop projects under PO1/PO2. The link to several smart specialisation strategies in the NSR can be highlighted in this regard.

In general, national/regional stakeholders state that investments in transport and ICT infrastructure is outside the scope of the NSR Programme. This is better supported with national funds and through other European programmes. This view aligns with the North Sea Commission's North Sea Region Strategy 2030. It states that, overall, the NSR is well embedded in the TEN-T network and many sea ports, air ports and urban nodes are included in the core layer and corridors. However, not all parts of the NSR, especially peripheral areas in the Northern and Western part of the region, are sufficiently integrated in the TEN-T network. To be competitive, the North Sea Commission's North Sea Region Strategy 2030 holds that the NSR needs to be well connected to the TEN-T and capable of benefiting from the Connecting Europe Facility (CEF) funding instrument.

3.4 Policy Objective 4: A more social Europe

PO4: a more social Europe involves delivering on the European Pillar of Social Rights and supporting quality employment, education, skills, social inclusion and equal access to healthcare. Specific objectives include:

1. Enhancing the effectiveness of labour markets and access to quality employment through developing social innovation and infrastructure
2. Improving equal access to inclusive and quality services in education, training and lifelong learning through developing accessible infrastructure, including by fostering resilience for distance and on-line education and training
3. Increasing the socio-economic integration of marginalised communities, migrants and disadvantaged groups, through integrated measures including housing and social services
4. Ensuring equal access to health care and fostering resilience of health systems, including primary care and promoting the transition from institutional to family- and community-based care
5. Enhancing the role of culture and tourism in economic development, social inclusion and social innovation³⁷

*The Commission does not recommend PO3 as a thematic focus for the future NSR Programme. Challenges in relation to population dynamics and social issues are best tackled by ESF+ funding, within the national and regional programmes under PO4.*³⁸

PO4 has not been in focus as part of the initial data collection. It will be included in the final version of the scoping study. In August 2020, additional work was done to incorporate national/regional stakeholder perspectives on including PO4 in the NSR Programme.

3.4.1 Setting the scene for PO4 in the NSR

This section provides inputs on two aspects related to social indicators in the NSR. The first shows population at risk of poverty or social exclusion at NUTS 2 level across the North Sea Region. The second indicates the share of population with tertiary education degree. These two indicators mostly provide relevant background information for the specific objectives increasing the socio-economic integration of marginalised communities, migrants and disadvantaged groups, through integrated measures including housing and social services and improving access to inclusive and quality services in education, training and lifelong learning through developing infrastructure.

At risk of poverty or social exclusion

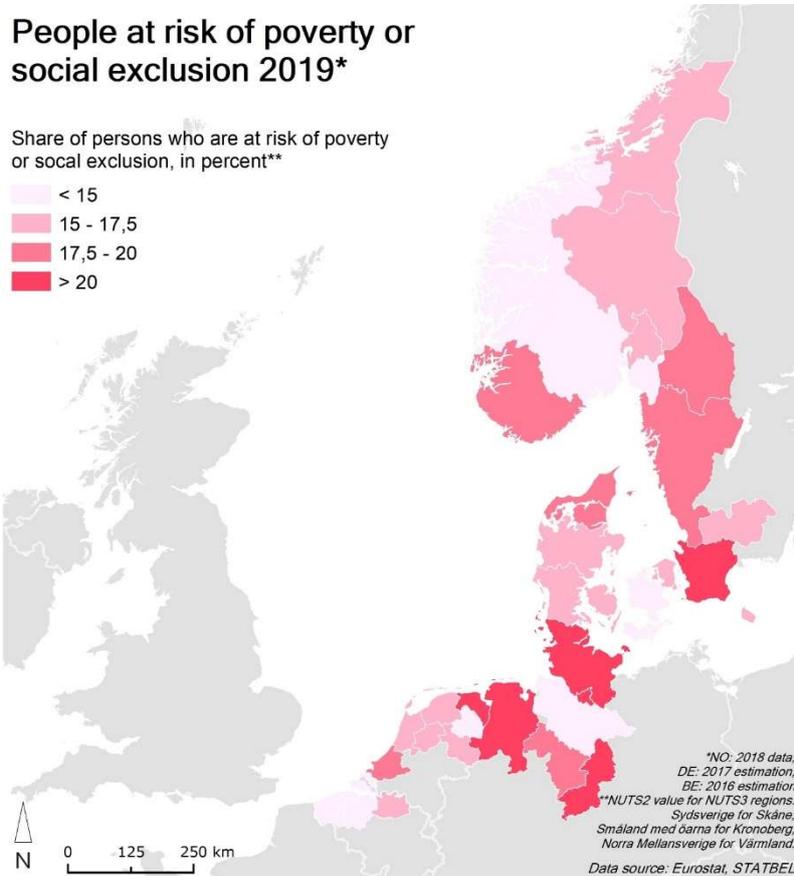
The map shows the people who are at risk of poverty or social exclusion at NUTS 2 level. In the North Sea Region, it can be observed that Norway, Belgium, Denmark and Netherlands have relatively low share of people at risk of poverty or social exclusion (AROPE). Whereas Sweden and Germany have high AROPE rates, which can be partly explained by the on-going integration process of migrants from outside Europe.

The Europe 2020 strategy promotes social inclusion, and the EU average AROPE rate in 2018 is 21,6. With this regard, the North Sea Region is performing better than the EU on average. The majority of the NUTS 2 regions have the share of persons at risk of poverty or social exclusion below 21,6. Exceptions can be found in Bremen (28,5%), Sydsverige (25,4%), Mellersta Norrland (23,6%), Groningen (22,0%). The best performers are Sjælland (12,3%) in Denmark, Zeeland (13,6%) in the Netherlands and Sør-Østlandet

³⁷ Measures aimed at tackling the socio-economic fallout of the Covid-19 outbreak, have recently been introduced in the legislative package. The Council's position endorses the role of culture and tourism in economic development, social inclusion and social innovation (under policy objective 4). General Secretariat of the Council - ERDF and Cohesion Fund Regulation (amended proposal) - partial mandate for negotiations with the European Parliament, 17 July 2020, <https://data.consilium.europa.eu/doc/document/ST-9430-2020-INIT/en/pdf>.

³⁸ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, P.14

(13,8%) in Norway. It is worth noting that the data for Germany and Belgium are estimations from previous years.

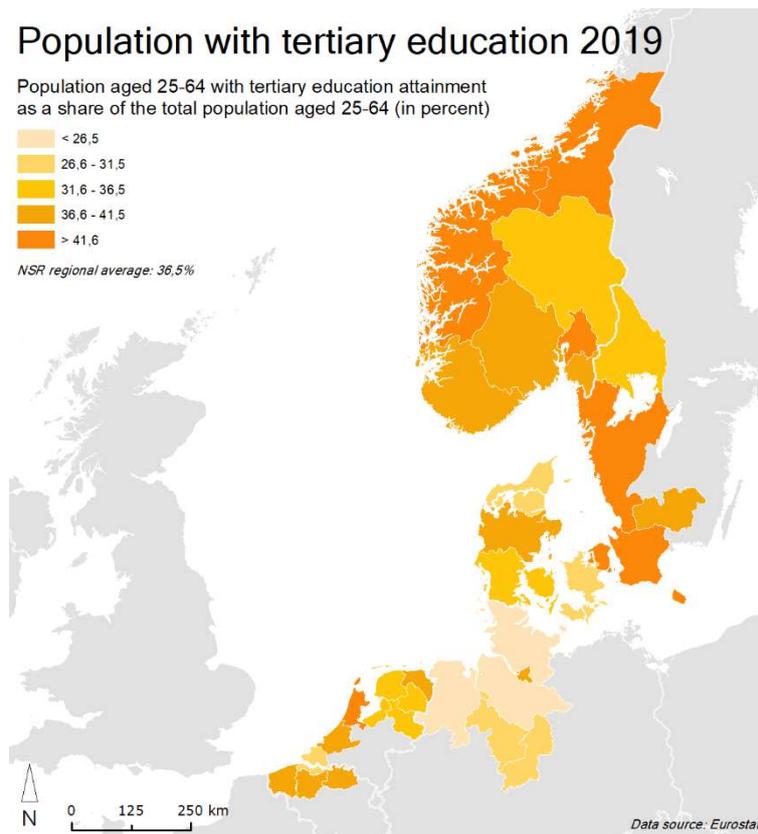


Tertiary education

High levels of tertiary education among a population is a driver of economic competitiveness in a knowledge-based economy. Tertiary education corresponds to International Standard Classification of Education (ISCED) 2011 levels 5-8, which represent bachelor or equivalent and all higher attainment levels.

The map shows the percentage of individuals aged 25-64 with tertiary education as the highest attainment level in the regions of the North Sea Region in 2019. 36,5% of the population aged 25-64 in the NSR has attained tertiary education in 2019, which is higher than the EU-27-average of 31,6%. The two darkest orange tones show regions above the NSR regional average, whereas the three lighter yellow tones show regions below the NSR regional average.

The highest shares of working age population with tertiary education were found in predominantly urban regions such as the region of Oslo in Norway and Copenhagen in Denmark. The former has the highest share with 53,8% of the working aged population having a tertiary education. The lowest shares are found in three German regions, namely Schleswig-Holstein, Lüneburg and Weser-Ems. They each have shares below 26,5%.



National/regional stakeholder perspectives

Most national/regional stakeholders do not find added value in including PO4 in the NSR Programme (BE, DK, NL, NO, SE). Overall, the topics to be covered under PO4 are addressed through national and European programmes, not least through the ESF programmes. Stakeholders refer to some of the specific objectives as being of relevance for cross-border cooperation programmes, but less for transnational cooperation. Further, elements from the specific objectives are highlighted as being of relevance as part of other POs. These are summarised in the following:

- “Softer” sectors that focus on people’s social well-being, e.g. care, general well-being, life-long learning, should be incorporated under PO1 where focus should remain on the innovative, more structural/longer term character of measures taken. Flanders advocates an integrated approach of innovation in which societal considerations are also considered for PO1 and PO2 projects (BE).
- Development of services and tools for innovation for the issues under PO4 can also be covered by PO1 and possibly by PO2 (NO).
- Issues involving the improvement of equal access to inclusive and quality services can be of relevance as part of PO5, in case this PO is included in the Programme (DK).
- Enhancing the role of culture and tourism is also seen to have potential for transnational cooperation in the NSR, as part of PO1 or PO5 (DK, NL).

The German Committee highlights the need to consider culture and tourism and the resilience of health service (e.g. improving medical value and waste chains and the (working) situation of (medical) personnel dealing with pandemics) to help overcome the impacts of the current pandemic and to be better prepared for the future. They also see the necessity to improve the situation for people, migrating to the North Sea region, e.g. establishing and networking of counselling services aimed at that target group. The German Committee wish to discuss whether this validates including PO4 in the Programme or, alternatively, whether these issues can be incorporated under other POs.

3.4.2 Conclusions and attention points for PO4 in the NSR Programme 2021-2027

PO4: a more social Europe involves delivering on the European Pillar of Social Rights and supporting quality employment, education, skills, social inclusion and equal access to healthcare. In order to provide context for PO4 in the NSR, the population at risk of poverty or social exclusion and the share of population with tertiary education degree have been mapped. In the following, the key conclusions and attention points for the development of the NSR Programme are presented, including the national/regional stakeholder perspectives on PO4.

The share of people at risk of poverty or social exclusion is lower in the NSR compared to the EU average. However, some regions in Germany and Sweden have higher shares of people at risk, which is partly explained by the ongoing integration process of migrants from outside Europe.

The percentage of individuals aged 25-64 with tertiary education as the highest attainment level is higher than the EU-27-average. The highest shares of working age population with tertiary education were found in predominantly urban regions.

National/regional stakeholders do not prioritise the inclusion of PO4 in the NSR Programme. The topics incorporated under PO4 are prioritised as part of national/regional policy and addressed through domestic programmes and EU programmes such as the ESF+. Stakeholders also point towards the relevance of potentially including PO4 in cross-border Interreg Programmes. However, they do not find added value for prioritising PO4 as part of the NSR Programme.

- In the development of the NSR Programme, the PPG and JS can consider the suggested incorporation of PO4 specific objectives under PO1 and PO2 (and possibly PO5), e.g. the proposal to elaborate on social aspects of the concept of innovation and the inclusion of culture and tourism.

3.5 Policy Objective 5: A Europe closer to citizens

PO5: A Europe closer to citizens, is focused on fostering the sustainable and integrated development of urban, rural and coastal areas and local initiatives. Specific objectives include:

1. Fostering the integrated social, economic and environmental development, cultural heritage and security in urban areas
2. Fostering the integrated social, economic and environmental local development, cultural heritage and security, including for rural and coastal areas also through community-led local development

3.5.1 Recommendation: Consider how PO5 might be implemented in the NSR

While it has been suggested that PO5 is addressed primarily within the context of cross-border cooperation programmes, the Commission recommends that it should be considered how PO5 might be implemented in the NSR, particularly through projects that share learning and promote exchange in relation to urban, sparsely populated areas or islands cooperation. This can involve supporting knowledge sharing and exchange from innovative approaches to planning, sustainable urban development and local-led development and develop these initiatives at a transnational scale, as well as pollution reduction and information exchange for authorities and citizens.³⁹

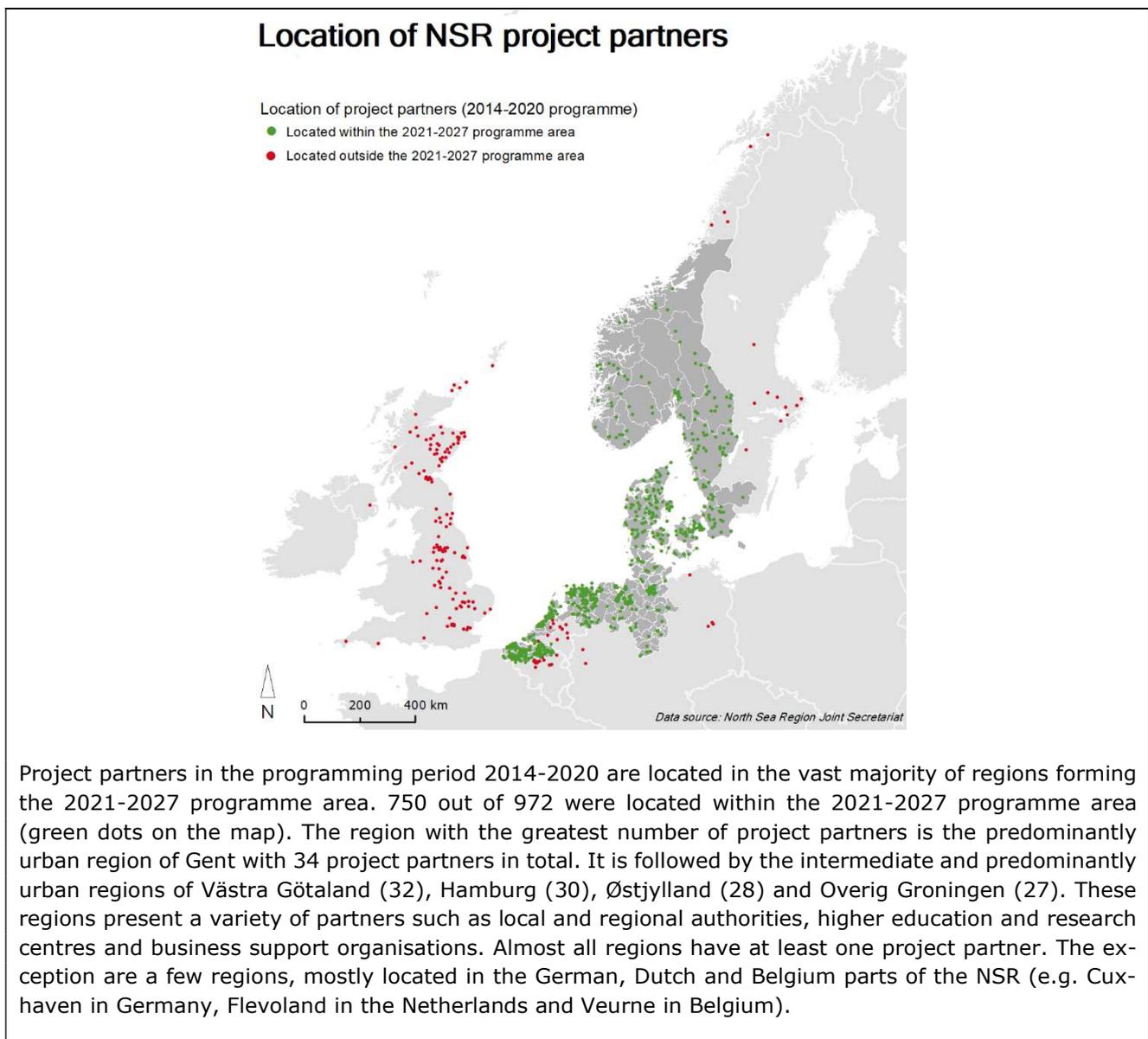
Unlike PO1-4, PO5 is not a sectoral policy objective under which a transnational programme can finance projects. Instead, under PO5 the programme can fund territories, by way of inviting stakeholders in the programme area to develop and implement territorial strategies. These are local and regional territorial

³⁹ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, P.14

strategies – and should involve a participatory, bottom-up and multi-sectoral approach (for instance on themes like tourism, culture). Tools like Integrated Territorial Investments (ITI) and Community-led Local Development (CLLD) could be used.

During the work on the scoping study, after the interviews with national/regional stakeholders were completed, the European Commission (in cooperation with Interact) has provided guidance on PO5. The Commission has clarified that PO5 projects should build upon existing territorial and local development strategies that have been developed for specific smaller areas within a transnational programme's cooperation geography.

There is no equivalent to PO5 in the current programme. The JS, however, notes in the VB Achievements Report that some of the currently funded projects deal with citizen involvement and/or exchange of knowledge in urban areas and between urban and rural areas, with examples of pilots and demonstrations also in island communities. Below, an overview of the location of project partners in the current programme period is inserted.



212 out of 962 project partners are located outside the 2021-2027 programme area. More than 2/3 are located in regions that belonged to the 2014-2020 programme area of the NSR, i.e. parts of the UK and northern Norway, whereas the remaining third were located in other parts of the countries included in the NSR (e.g. Berlin, Brussels and Stockholm).

National/regional stakeholder perspectives

Most national/regional stakeholders welcome a participatory approach that involves citizens, with Belgium pointing to the involvement of SMEs as well. Stakeholders from Norway, however, do not find there is added value in citizen-led projects, as they run the risk of being ineffective both regarding time and efficient spending of project funding. As for suitable tools, the Netherlands refer to the CLLD as possibly being of added value (as citizens' initiatives may have an important contribution to different transitions, e.g. energy, raw materials, agriculture and for people taking responsibility for their own region, already in place in rural areas, on small scale initiatives), whereas the use of the ITI tool is not considered to be a useful tool from the side of Denmark. Potential themes for PO5 cooperation mentioned by stakeholders range from tourism (DE and DK) to cultural heritage (DE) and spatial planning (including transport issues) in rural-urban societies and water and waste management in coastal societies (SE). Overall, most national/ regional stakeholders propose PO5 to be incorporated in PO1 and PO2 in an upcoming programme, and, for example Germany proposes that PO5 can act as an umbrella for the other POs.

3.5.2 Conclusions and attention points for PO5 in the NSR programme 2021-2027

The data collection for the scoping study has been impacted by the somewhat unclearly defined guidelines for PO5 in transnational cooperation. This is also reflected in the stakeholder perspectives gathered on the potentials of PO5. Most stakeholders, however, are interested in a focus on more citizen involvement in NSR projects, which can be an attention point in the development of the NSR programme 2021-2027, whether under PO5 or as an element incorporated under other POs.

According to the most recent guidance by the Commission, PO5 aims to give greater prominence to territorial strategies, aside from emphasising action by local players. Based on this guidance by the European Commission (in cooperation with Interact), the starting point for the NSR is to define relevant functional area(s) which through PO5 would be able to implement their territorial strategies in an integrated way. Potential functional areas for the NSR could be:

- the NSR sea basin, where issues like integrated coastal zone management, maritime spatial planning or 'maritime parks' could be implemented in an integrated way under PO5. It is worthwhile noting that sea basin governance is a complex multi-level system, comprising EU, national and regional dynamics (the OSPAR Convention, the regional sea convention that covers the North Sea; Regional Advisory Councils, stakeholder forums in the fisheries sector; North Seas Energy Cooperation)
- the Wadden Sea, with its UNESCO World Heritage Site status and Trilateral Wadden Sea Cooperation governance
- the North Sea Region as a European macro-region, in case market failure(s) are present and establishing a macro-regional strategy would be a means to tackle such failure(s). It is worthwhile noting that this would encompass several regions and several countries and those networks and partnerships which facilitate cooperation in the context of the North Sea, like the Nordic Council of Ministers, EU programmes (e.g., Interreg or Leader), KIMO (Kommunenenes Internasjonale Miljøorganisasjon, also known as Local Authorities International Environmental Organization), policy communities with a more integrated role in the European Commission decision-making process (such

as the Committee of the Regions (CoR)), the Conference for Peripheral Maritime Regions (CPMR), the North Sea Commission (NSC), and the North Sea Regional Advisory Council for Fisheries⁴⁰

From a technical point of view, if the NSR programme would like to work with PO5 and functional areas, it is necessary to describe and support, with evidence, the areas that form the functional area. If the functional areas to be supported under PO5 have not yet been identified, it is sufficient to state in the Operational Programme that these will be identified at a later stage.

3.6 Interreg Specific Objective 1: Better Interreg governance

Under ISO1: A better Interreg governance, actions include:

1. Under component 1 and 2B Interreg programmes
 - a. enhance the institutional capacity of public authorities, in particular those mandated to manage a specific territory, and of stakeholders;
 - b. enhance efficient public administration by promoting legal and administrative cooperation and cooperation between citizens and institutions, in particular, with a view to resolving legal and other obstacles in border regions;
2. Under component 1, 2 and 3 Interreg programmes: enhance institutional capacity of public authorities and stakeholders to implement macro-regional strategies and sea-basin strategies
3. Under external cross-border and component 2 and 3 Interreg programmes supported by the Interreg funds, in addition to points (a) and (b): building up mutual trust, in particular by encouraging people-to-people actions, by enhancing sustainable democracy and by supporting civil society actors and their role in reforming processes and democratic transitions

3.6.1 Recommendation: Develop synergies and coordination with other transnational programmes

The Commission underlines that developing synergies and better coordination between programmes (e.g. mainstream EU, national and cross-border cooperation) in the region should be addressed. The NSR incorporates Member States that are involved in the Baltic Sea Macro-Regional Strategy, notably Denmark and Sweden (+Norway). There are several common thematic links between the NSR Programme and this strategy. However, these are coincidental rather than planned interactions. Looking to the future there could be some value in monitoring developments, with a view to linking relevant projects into wider networks.⁴¹

During the work on the scoping study, after the interviews with national/regional stakeholders were completed, the Commission (in cooperation with Interact) has provided guidance on the two Interreg Specific Objectives. The one known as 'Better Interreg governance' is now referred to as ISO1 'Better cooperation governance'. Under ISO1 a European Territorial Cooperation programme can fund governance related activities, ranging from ones that are more tailored to cross-border programmes to more specific transnational ISO1 actions.

Specific transnational actions are related to supporting the governance (in implementation) of macro regional strategies, sea basin strategies and/or other territorial strategies. The support targets key implementers (of the strategies' programme bodies) and assists them in coordinating their strategies with EU programmes and raising awareness about the strategies amongst stakeholders (enhancing their capacity). Cooperation amongst European Territorial Cooperation programmes can also be targeted, as long as this

⁴⁰ Mike Danson, The rationale of MRS, market failures and institutional misalignment: the case of North Sea Region. In Interact Study, Making the most of macro-regions: Trends. Analysis. Recommendations, December 2017

⁴¹ European Commission's Orientation Paper: Transnational Cooperation Programme North Sea Region Programme 2021-2027, January 2020, P.15

involves capitalisation amongst beneficiaries and projects of the programmes (as the Technical Assistance budget of programmes targets the same aim, but then for authorities of the programme). All in all, actions in ISO1 should facilitate the taking into account of local needs in the regions in the programme.

There is no equivalent to ISO1 in the current NSR Programme. The JS, however, notes in the VB Achievements Report that the programme would benefit from working more closely with other programmes as a tool for more efficient programme management. In terms of synergies between projects, the JS highlights that, while the projects generally do a good job engaging with policymakers, there appears to be scope for stronger alignment and synergies between projects and a wide range of European policies.

National/regional stakeholder perspectives

Stakeholders generally find there are overlaps with and connections between the different Interreg programmes, i.e. cross-border programmes (generally in Belgium and the Netherlands, Öresund-Kattegat-Skagerrak and Sweden-Norway) and transnational programmes (NWE, BSR, Central Europe). Stakeholders have proposed the following synergy opportunities:

- In Flanders, plans are underway, when relevant, to encourage projects developed in a cross-border programme to have the objective to subsequently scale up to further develop the results under a transnational programme. This can also work in the opposite direction, starting with an NSR project that is subsequently developed as part of a cross-border programme. From the side of Germany, there is also interest in finding approaches to support scaling up cross-border projects to transnational projects, and vice versa.
- The secretariats of the transnational programmes have already strengthened cooperation and exchange of knowledge in the current programme period. From the Denmark this cooperation is highlighted as important for ensuring continued synergy opportunities with other programmes.
- From the side of Germany, it is suggested that approaches to promote synergies between programmes can be developed for project consortia in different programmes/geographies to develop common methodologies for projects. It might also involve using the methodology or results of projects implemented under other programmes in the NSR. A concrete idea for the development of parallel/common projects of programmes involve the plans of the Danish state of establishing an energy island in both the NSR and BSR, which have implications for maritime spatial planning and potentials for technology development across the regions.
- In order to promote synergies and/or to make the NSR Programme more attractive to applicants, aligning the co-financing requirements of programmes has also been suggested (DK, NO).
- A deepening of the knowledge between projects in transnational and cross-border programmes via joint events of programmes (including LIFE) has been suggested by stakeholders in the Netherlands.
- In Norway, the government through sub-committees aims to reduce the number of projects that focus on the same issue across programmes, i.e. efforts are made not to fund the same types of projects twice.
- From the side of Sweden, the current national coordination on selection of projects, methods, evaluation and the future of the programmes is highlighted as an important approach to ensuring synergies.

3.6.2 Conclusions and attention points for ISO1 in the NSR Programme 2021-2027

Overall, although the points that have been highlighted by national/regional stakeholders for better Interreg governance differ somewhat, they imply a role for coordination between the secretariats of Interreg programmes and nationally between contact points of Interreg programmes in individual countries. Such coordination is in place already today. However, exploring whether further initiatives are required or whether existing initiatives to ensure synergy should be further elaborated in the development of the NSR Programme can be relevant to consider.

According to most recent guidance by the Commission on ISO1, the governance targeted under ISO1 should go beyond cooperation between authorities of Interreg programmes, as such activities are covered by programmes' Technical Assistance budgets. Based on Commission's advice into how this might be operationalised, activities in ISO1 could focus on:

- Developing and/or managing a macro regional strategy, sea basin strategies and/or other territorial strategies (e.g. the North Sea Commission's North Sea Region Strategy 2030); examples of respective relevant functional areas are mentioned under PO5.
- Supporting the governance-relation between the NSR Programme 2021-2027 and the adjacent macro-regional area, i.e. with the EU Strategy for the Baltic Sea Region (EUSBSR).
- Cooperation with other European Territorial Cooperation programmes, like the BSR Programme, with the aim of capitalisation amongst beneficiaries and projects of the programmes. The aforementioned topic of offshore renewable energy and the planned establishing of two energy islands, one in the North Sea and one in the Baltic Sea, could lend itself for this purpose.