Energistyrelsen

Scoping opinion for Plan for Bornholm Energy Island Programme

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Contents

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1. About the scoping opinion

Pursuant to section 11 of Danish Act no. 1976 of 27 October 2021 on Environmental Assessment of Plans and Programmes and of Specific Projects (EIA) ('the Environmental Assessment Act' (*Miljøvurderingsloven*)), a scoping must be done of the contents of the strategic environmental assessment (SEA) report for plans and programmes prior to the preparation thereof.

The purpose of a scoping opinion is to specify the key factors that must be described, analysed and assessed in the SEA report. The scoping opinion also sets the scope and states how detailed the environmental report must be, so that the authorities can assess the environmental impacts of a plan or programme and decide whether to approve it on an informed basis, including whether special measures should be implemented in relation to monitoring environmental impacts or the like.

This scoping opinion represents the Danish Energy Agency's proposal for the contents and level of detail of the environmental report which Energinet is preparing for Plan for Bornholm Energy Island Programme in accordance with the *'Order to conduct preliminary studies for energy islands' (Pålæg om gennemførelse af forundersøgelser for energiøer)* (30 November 2020), subsequently updated in *'Amended order to conduct preliminary studies for Bornholm Energy Island' (Samlet revideret pålæg om gennemførelse af forundersøgelser for Energiø Bornholm)* (13 October 2021). The scoping opinion thus forms the basis for the contents of the SEA report to be prepared for Plan for Bornholm Energy Island Programme.

2. Background for Plan on Bornholm Energy Island Programme

In the Climate Agreement of 22 June 2020, the Danish Government (the Social Democratic Party in Denmark), the Liberal Party of Denmark, the Danish People's Party, the Danish Social Liberal Party, Green Left, the Red-Green Alliance, the Danish Conservative People's Party, Liberal Alliance and The Alternative agreed to build an energy island on Bornholm with 2 GW of offshore wind power connected.

In November 2020, the parties to the energy agreement decided on the location of Bornholm Energy Island[1] in the Baltic Sea, approx. 20 km south/southwest of Bornholm, and simultaneously initiated preliminary studies of the area for Bornholm Energy Island.

[1] 'Bornholm Energy Island' refers to the complete project, consisting of offshore and onshore facilities and installations, including grid expansions

The decision on location and initiation of preliminary studies in the Baltic Sea is based on a fine screening of possible sites for offshore wind farms in Danish waters conducted for the Danish Energy Agency in spring 2020[2], and an addendum to the fine screening prepared in late summer 2020[3].

In October 2021, the Danish Minister for Climate, Energy and Utilities ordered the expansion of the preliminary study area for Bornholm Energy Island[4]. This decision has resulted in the *'Amended order to conduct preliminary studies for Bornholm Energy Island'* (*Samlet revideret pålæg om gennemførelse af forundersøgelser for Energiø Bornholm*) of 13 October 2021 for Energinet. The foundation for Plan for Bornholm Energy Island Programme has thus been extended to cover the expanded preliminary study area. However, it has not been decided whether more than 2 GW of offshore wind power should be installed, or whether offshore wind turbines should be installed in the expanded part of the area of Bornholm Energy Island up to 15 km from the coast. The installation of offshore wind turbines closer than 20 km from the coast will require a new political decision to this effect.

The offshore wind farms are currently expected to be tendered in 2024/2025. The tender conditions have not yet been specified. Under the Danish Renewable Energy Act, the Danish Energy Agency is the authority responsible for planning large-scale offshore wind farms. Plan for Bornholm Energy Island Programme sets the framework for establishing the energy island, and thus for the coming offshore wind power tenders. Prior to the final tender conditions being set, Energinet will conduct a number of preliminary and environmental studies as ordered by the Danish Energy Agency, including an environmental impact assessment of Plan for Bornholm Energy Island Programme, pursuant to Section 8(1) of the Danish Environmental Assessment Act.

[2] COWI 2020 (May), 'Miljø- og planmæssige forhold for Bornholm I + II, Nordsøen II + III og området vest for Nordsø II + III'.
[3] COWI 2020 (September), 'Tillæg til finscreening af havarealer til etablering af nye havmølleparker med forbindelse til energiø/hub'
[4] This was decided because the area designated for offshore wind power in connection with Bornholm Energy Island is relatively small. Experience from Hesselø Offshore Wind Farm has shown that a small area increases the risk that offshore wind power cannot be realised if the preliminary studies identify less suitable sub-areas, as there may be insufficient room to manoeuvre and place the offshore wind power elsewhere within the designated area. The expansion also makes it possible for Bornholm Energy Island to potentially serve as an alternative to Hesselø Offshore Wind Farm, where the occurrence of a soft seabed may result in the wind farm being placed elsewhere. Alternative locations are therefore being sought. One possibility is to place additional offshore wind power near Bornholm Energy Island, which will require a larger maritime area and larger onshore facilities and installations. No political decision has been made as to whether Bornholm Energy Island should serve as the alternative to Hesselø Offshore Wind Farm.

3. Plan for Bornholm Energy Island Programme

The Danish Energy Agency is responsible for the preparation of Plan for Bornholm Energy Island Programme. The plan is being prepared in cooperation with Energinet, in consultation with the general public, affected authorities and neighbouring countries.

The plan has been preliminarily described in the memorandum '*Framework for the coming proposed plan for Bornholm Energy Island to be used for environmental impact assessment'* of 6 November 2021. The final draft for the plan will be available in mid-2023. The final draft plan will designate specific areas in the Baltic Sea, on Bornholm and on Zealand for establishing the Bornholm Energy Island, and will specify the general elements of which the energy island will consist.

The plan thus creates a general planning framework under which invitations to tender can be issued for the projects and under which the relevant authorities can issue permits or adopt plans.

The purpose of the plan is to make it possible to construct Bornholm Energy Island, and thereby increase the share of renewable energy from offshore wind power in the Danish and European power grids.

If finally adopted, the plan will make it possible to invite tenders for specific offshore wind farms, submarine cables and onshore facilities and installations etc. for Bornholm Energy Island.

The plan comprises the following areas (see Figure 1):

- Areas for offshore wind turbines
- Areas for offshore submarine cables
- Areas on Bornholm for high-voltage installations and land cables
- Areas on Bornholm for land cables
- Areas on Bornholm for bringing submarine cables ashore
- Areas on Zealand for high-voltage installations and land cables
- Areas on Zealand for land cables
- Areas on Zealand for bringing submarine cables ashore

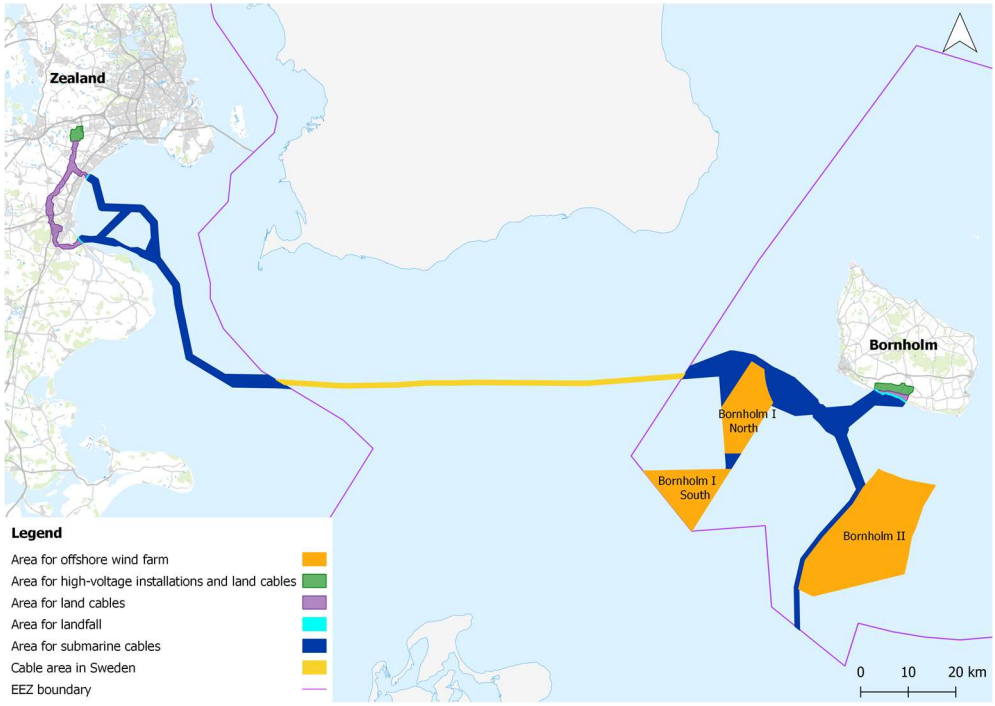

Figure 1 Overview of planning areas in Draft Plan for Bornholm Energy Island Programme as well as offshore areas for the cable corridor through Swedish waters.

4. Process for environmental impact assessment of Plan for Bornholm Energy Island Programme

Plan for Bornholm Energy Island Programme is subject to environmental assessment requirements in accordance with Section 8(1) of the Danish Environmental Assessment Act. This means that an environmental impact assessment must be performed for the plan and that an SEA report must be prepared, to be published together with the proposed Plan for Bornholm Energy Island Programme.

The environmental impact assessment process consists of the following steps:

- The Danish Energy Agency prepares a draft scoping opinion.
- The Danish Energy Agency consults the affected authorities, the general public and neighbouring countries regarding delimitation of the contents of the environmental impact report.
- The Danish Energy Agency prepares a final scoping opinion based on the draft scoping opinion and the consultation opinions received from the ideas

consultation procedure and the supplementary ideas consultation procedure.

- Energinet prepares an environmental impact report assessing the likely environmental impacts of the plan based on the scoping opinion.
- The Danish Energy Agency submits the draft Plan for Bornholm Energy Island Programme for a public consultation procedure together with the environmental impact report. At the same time, neighbouring countries are consulted on cross-border environmental impacts.
- The Danish Energy Agency approves the plan, which is then published together with a summary statement describing how the environmental impact assessment and the consultation opinions have been taken into consideration
- There is a four-week complaints period for Plan for Bornholm Energy Island Programme.
- The Danish Energy Agency performs any monitoring of the environmental impacts of the plan

4.1 Consultations

4.1.1 First public consultation phase – phase for ideas for environmental impact assessment of the plan

In the period from 8 November to 13 December 2021, a public consultation procedure was held regarding the framework of the plan with a view to making a final delimitation of the SEA report on the plan. In the same period, the neighbouring states were consulted about any possible cross-border impacts (Espoo consultation). A public online briefing meeting was held during the consultation period.

This final scoping opinion has been prepared based on the draft and the consultation opinions received.

4.1.2 Supplementary consultation on the delimitation of the environmental impact assessment of Plan for Bornholm Energy Island Programme – overplanting

From 4 April to 9 May 2022, a supplementary public consultation procedure was held on the delimitation of the SEA report on Plan for Bornholm Energy Island Programme – overplanting with a view to making a final delimitation of the environmental impact assessment of Plan for Bornholm Energy Island Programme. In parallel, the neighbouring states were consulted about any possible cross-border impacts in the period from 4 April to 16 May 2022 (Espoo consultation).

The results of the consultation procedure will be presented in a consultation memo published on the Danish Energy Agency's website[5].

4.1.3 Summary of the importance of the consultation opinions to the process

This section includes a brief summary of the adjustments made to the scoping opinion, based on the consultation opinions received under the above consultation procedures. In addition to the adjustments made on the basis of consultation opinions, further delimitation specifications have been made.

Description of draft for Plan for Bornholm Energy Island Programme

It has been specified in the section on an outline of the contents of the plan that this concerns the areas for the technical facilities and installations for which the plan lays down the framework.

Alternatives

It has been specified that the navigation corridors must be stated in the overall criteria for selection of the gross area for offshore wind power for Bornholm Energy Island Programme.

Environmental protection goals

It has been specified in the section on relevant international, national or local environmental protection goals and obligations that the SEA report must also include: HELCOM, the United Nations Convention on the Law of the Sea, Designated development zones in Denmark's Marine Spatial Plan.

It has been specified that the SEA report must document whether an offshore wind farm can be expected to be established in accordance with national and international protection obligations in relation to the marine environment, including in the Marine Area Plan and the Marine Strategy.

Biological diversity – Natura 2000 (land and sea)

It has been specified that the SEA report will contain a materiality assessment (screening) of the impacts on the terrestrial Natura 2000 sites that may be affected by the plan. It has also been specified that a Natura 2000 impact assessment must be prepared if the conclusion of the materiality assessment is that there may be a material impact on Natura 2000 sites.

It has been specified that preventive measures may be laid down as specific terms for the exercise of a construction/establishment permit.

[5] https://ens.dk/ansvarsomraader/vindenergi/udbud-paa-havvindmoelleomraadet/danmarks-energioeer-1

Biological diversity – Annex IV species (land and sea)
It has been specified that especially the protected species entered in Annex IV to the Habitats Directive may potentially be affected by removal or disturbance of habitats.

Biological diversity – Other flora and fauna (country)
It is specified in the section which outlines the statement of the existing overall natural conditions in the area that the SEA report must account for the birds in the area which are covered by the general protection provided in the Birds Directive.

Population and human health – Recreational use of coastal waters (sea)
A new section has been added concerning recreational use of coastal waters.

Hydrography, coastal morphology and water quality (sea)
It has been specified that the physical and biological conditions may be affected due to potential changes in water quality, current conditions and sediment deposit conditions in connection with Plan for Bornholm Energy Island Programme.

Material assets, including marine infrastructure (sea)
A general section on material assets at sea has been added.

Landscape and visual impact (sea)
It has been specified that the example visualisation must also be made from relevant vantage points on Bornholm. It has also been added and specified that the light impacts from the offshore wind farms must also be examined.

Preventive measures and monitoring
It has been specified that preventive measures may be laid down as specific terms for the exercise of a construction/establishment permit.

5. Statutory requirements for the SEA report

Section 12 of the Danish Environmental Assessment Act lays down the requirements for the SEA report. The SEA report must be prepared based on the following information, stated in Schedule 4 to the Act:

a) an outline of the plan or programme contents, main purpose and links with other relevant plans and programmes.

b) a description of the relevant aspects of the current environmental status and its probable future development if the plan or programme is not implemented.

c) a description of the environmental factors in areas which could be significantly affected.

d) a review of any existing environmental problems relevant to the plan or programme, including, in particular, problems in areas of special significance to the environment, such as those designated in Directives 79/409/EEC and 92/43/EEC

e) the environmental protection objectives set at an international, partnership or member state level which are relevant to the plan or programme, and how these objectives and other environmental considerations have been taken into account when preparing the plan or programme.

f) the likely significant impact on the environment, including on biological diversity, the population, human health, fauna, flora, soil, water, air, climatic factors, property and cultural heritage – including churches and their surroundings and architectural and archaeological heritage, landscapes and the mutual relationships between the above factors.

g) a description of the planned measures that can be implemented to avoid, limit and counteract, as far as possible, any significant negative environmental impact from implementation of the plan or programme.

h) a brief outline of the reasons for selecting the alternatives which have been reviewed, and a description of how the assessment has been carried out, including any difficulties (such as technical deficiencies or lack of know-how) which have arisen during collection of the required information.

i) a description of the monitoring measures envisaged pursuant to Section 14.

j) a non-technical summary of the information given under the above points.

Section 12 of the Danish Environmental Assessment Act also stipulates that the SEA report must contain any information that can be reasonably demanded, taking into account current knowledge and common assessment methods and how detailed the plan is, its contents, its stage in the overall decision-making process, and whether factors might be better assessed at another stage of the process.

6. Delimitation of the SEA report

This draft scoping opinion is based on Section 12 of and Schedule 4 to the Danish Environmental Assessment Act, including which environmental aspects and parameters are to be included.

6.1 Description of draft for Plan for Bornholm Energy Island Programme

Schedule 4(a) to the Danish Environmental Assessment Act stipulates that the SEA report must contain an outline of the plan contents, main purposes and links with other relevant plans and programmes. This includes:

- A general description of the process for Bornholm Energy Island, from the 2020 climate agreement to the addendum to the climate agreement in 2021, including the earlier fine screening of locations and selection of the specific study area, and including the reasons for selecting the area, the background for the plan, and the further process following environmental impact assessment of the plan.

- An outline of the areas for the technical facilities and installations for which the plan creates the framework. The legal impacts of the plan on use of the areas are also outlined.

- A description of the relation to other relevant plans and programmes, including the local authority planning in the affected municipalities (e.g. in relation to onshore RE expansion or other physical planning) and the Marine Spatial Plan, which is expected to enter into force at the end of 2022.

6.2 Alternatives

Schedule 4(h) to the Danish Environmental Assessment Act stipulates that the SEA report must include a description of possible alternatives and the reasons for choosing and rejecting technical solutions and the location of Bornholm Energy Island Programme. The description must account for the process involving the 10 GW screening in 2019, the subsequent fine screening of specific areas in 2020 and associated addendum and selection of the planned area for Bornholm Energy Island Programme. The description must specify the general criteria for selection of the preliminary investigation area for Bornholm Energy Island Programme in relation to the alternatives, including in relation to the Danish Armed Forces' exercise and shooting areas, navigation corridors, Natura 2000 sites and narrowing of the original general area for offshore wind power in the Baltic Sea. Finally, the SEA report must describe the basis for the expansion of Bornholm Energy Island to up to 3,2 GW as well as the possibility of 20% overplanting, a total of 3.8 GW. The two scenarios must be assessed as equal alternatives.

6.3 Environmental status, existing environmental conditions and reference scenario

Schedule 4(b) and (c) to the Danish Environmental Assessment Act stipulate that the SEA report must describe the current environmental status in the plan area and existing environmental conditions for the selected environmental factors from Schedule 4(f) to the Act stated in sections 6.6 and 6.7. The existing environmental conditions must be described based on existing knowledge.

The SEA report must focus on the environmental conditions that are expected to be affected by the establishment of the facilities and installations covered by the plan and described overall in the memorandum 'Framework for the coming proposed plan for Bornholm Energy Island to be used for environmental impact assessment'. The framework for the plan will be specified during the process until the publication of draft Plan for Bornholm Energy Island Programme and the related SEA report. In the SEA report, there must be special focus on relevant existing environmental conditions, including environmental targets, threshold values etc., which may be affected by the establishment of Bornholm Energy Island. There must also be special focus on the areas or species protected under the Birds Directive and the Habitats Directive which may potentially be impacted.

In addition to reporting on existing environmental conditions, the SEA report must contain a description of the likely future development in the area if the facilities and installations covered by the plan (i.e. offshore wind farms with onshore facilities and installations on Bornholm, a cable to Zealand with onshore facilities and installations, and cable connections to other countries) are not established – the 0 alternative or the reference scenario. This scenario must both consider 'local' environmental impacts from the plan, and the environmental impacts from the expansion of the facilities and installations that follow from the plan which will not take place if the plan is not implemented.

6.4 Environmental protection goals

In relation to the current environmental status and existing environmental conditions (section 6.3) and assessment of the impact on the environment (section 6.5), Schedule 4(e) to the Danish Environmental Assessment Act stipulates that the report must include relevant international, national and local environmental protection objectives and obligations, and describe how the plan takes these into account.

The environmental protection objectives and obligations to be included for relevant environmental issues in the SEA report must comprise:

- The UN Sustainable Development Goals
- HELCOM

- The United Nations Convention on the Law of the Sea
- The Habitats Directive (92/43/EEC), with national Natura 2000 plans and special protection of species (Annex IV)
- The Birds Directive (2009/147/EC) with national Natura 2000 plans, general protection of birds
- The Water Framework Directive (2000/60/EC), which has been implemented in the Danish Act on Water Planning with National Water Plans (*Lov om vandplanlægning med nationale vandplaner*).
- The Marine Strategy Directive (2008/56/EC) with the national marine strategy (Denmark's Marine Strategy)
- Designated development zones in Denmark's Marine Spatial Plan prepared in accordance with the Danish Marine Physical Planning Act (*Lov om maritim fysisk planlægning*)
- The Danish Nature Conservation Act (*Naturbeskyttelsesloven*) (Section 3 protection, protected areas, building and protection lines)
- The Danish Marine Environment Act (*Havmiljøloven*) (discharges, disposal and dumping)
- The Danish Raw Materials Act (*Råstofloven*) (extraction and utilisation of raw materials)
- The Danish Fisheries Act (*Fiskeriloven*) (exploitation of marine food resources)
- The Danish Museum Act (*Museumsloven*) (protected dikes, etc.)
- The Danish Soil Contamination Act (*Jordforureningsloven*)
- The Danish Watercourse Act (*Vandløbsloven*)
- Designated area interests in the regions' raw materials planning (raw materials areas)
- Designated area interests in municipal planning (areas of special landscape value, map of Green Denmark, cultural heritage areas, areas with special drinking water interests, etc.)

6.5 Environmental impacts – general

Schedule 4(f) to the Danish Environmental Assessment Act stipulates that the SEA report must contain assessments of the plan's likely significant environmental impacts. A detailed description of the required contents for the various environmental conditions covered by the Danish Environmental Assessment Act is given below.

The impacts to be described and assessed must cover, as necessary, direct, and any secondary, cumulative, cross-border, short, medium and long-term, permanent or temporary, and positive or negative impacts.

In relation to cumulative impacts, this concerns the result of combined impacts from the plan compared with other applied and permitted schedules/programmes and projects. The focus is particularly on potential cumulative impacts with other existing offshore wind farms, offshore wind farms that have been zoned in the Marine Spatial Plan, planned, and/or under construction and other utilisation of the marine area. Adopted plans and projects for which permits have been granted or applications submitted will also be included in the cumulative assessments in German, Swedish and Polish waters. In addition, cumulative impacts on onshore planning as a result of municipal and local planning must be included in the assessment.

For each environmental factor, the plan's impact on the environment must be assessed at the level of detail that is possible in light of the contents of the plan. The plan's impact on the environment should not be assessed for a specific project, but at a general level in relation to the potential environmental impacts that may result from the plan. The assessment of temporary impacts from the construction phase must be described at an overall level, corresponding to the level of details in the plan, but can only be assessed quantitatively in connection with the specific project. The environmental impact assessment must primarily focus on the permanent impacts from Plan for Bornholm Energy Island Programme, which are then quantified as far as possible.

Schedule 4(g) to the Danish Environmental Assessment Act stipulates that the SEA report must, in as far as relevant and possible, describe and assess measures to limit the most significant environmental impacts of the plan, e.g. through the location and design of the facilities and installations or the choice of construction methods and times.

The SEA report must include an assessment of the likely significant impacts on the environmental conditions, at the level of detail described in sections 6.6 and 6.7.
The SEA report must contain separate chapters on cumulative assessments and cross-border impacts, respectively.

6.6 Impacts on the environment from onshore facilities and installations

The various environmental factors listed in Schedule 4(f) to the Danish Environmental Assessment Act are reviewed below. An assessment is made as to whether Plan for Bornholm Energy Island Programme could result in a likely significant impact from onshore facilities and installations on the various environmental factors, and whether each factor should be included in the SEA report.

6.6.1 Biodiversity

6.6.1.1 Natura 2000

Description of potential environmental impacts

Facilities and installations covered by the plan may potentially impact Natura 2000 sites in or near the planning area, including natural habitats and species in the designation basis and removal or disturbance of habitats.

However, the environmental impacts and possibilities for preventive measures are deemed to be completely dependent on the specific project, construction methods and location of facilities and installations, which are not known at present. However, at planning level, the SEA report must include a materiality assessment of the impact on the terrestrial Natura 2000 sites that may be affected by the plan. If a material impact on the designation basis cannot be ruled out on the basis of the materiality assessment, a Natura 2000 impact assessment will have to be prepared.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an account of existing Natura 2000 sites in and near the plan area. The report must focus on the presence and nature of existing protected natural habitats and species in the designation basis, which can be expected in and near the plan area. The report is expected to be completed on the basis of existing available monitoring and habitat data.

Assessment of impacts

A materiality assessment must be carried out and an impact assessment must subsequently be prepared if it cannot be shown that it will be possible to implement the plan without significant impact on the designation basis.

The materiality assessment must clearly state whether a significant impact on Natura 2000 sites can be ruled out. If a significant impact cannot be ruled out, the SEA report must contain an impact assessment that meets the requirements in Article 6(3) of the Habitats Directive.

The Natura 2000 materiality assessment and the impact assessment (where relevant) must be clearly presented as an independent sections in the SEA report.

If the affected Natura 2000 site(s) also extend(s) out to sea, the assessment must include the offshore part, so that a total assessment is made of the full site(s).

6.6.1.2 Annex IV species

Description of potential environmental impacts

Facilities and installations covered by the plan may potentially impact species covered by Annex IV to the Habitats Directive.

However, the environmental impacts and possibilities for preventive measures are deemed to be completely dependent on the specific project, construction methods and location of facilities and installations. Since these are not known at present, the SEA report must therefore only deal with the potential environmental impacts at a general level.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must include an account of the presence of Annex IV species that can be expected in and near the plan area. The report is expected to be completed on the basis of existing available monitoring and habitat data.

Assessment of impacts

The SEA report must contain an assessment of the expected potential impacts on Annex IV species from the onshore facilities included in the plan. The assessment must be conducted in relation to Annex IV species and impacts on breeding and resting areas, with the aim of maintaining the ecological functionality for the protected species.

6.6.1.3 Other flora and fauna

Description of potential environmental impacts

Facilities and installations covered by the plan may potentially impact protected habitats and protected flora and fauna, including birds covered by the general protection provisions in the Birds Directive, through removal or disturbance of habitats.

However, the environmental impacts and possibilities for preventive measures are deemed to be completely dependent on the specific project, construction methods and location of facilities and installations. Since these are not known at present, the SEA report must therefore only deal with the potential environmental impacts at a general level.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an account of the existing general environmental conditions in the area where the plan is intended to be implemented. The report must focus on the presence and nature of existing protected natural habitats and species, including protected and red-listed species, and birds covered by the general protection provisions of the Birds Directive, which can be expected in and near the plan area. The report is expected to be completed on the basis of existing available monitoring and habitat data.

Assessment of impacts
The SEA report must contain an assessment of the expected potential impacts on species and natural habitats from the onshore facilities and installations included in the plan.

6.6.2 Population and human health

6.6.2.1 Noise and dust

Description of potential environmental impacts
The onshore facilities and installations in the plan may have impacts during the construction phase resulting from the noise and dust-generating work of laying underground land cables and construction work to establish and expand substations.

The specific project design and location are not defined in the plan. No assessment of noise and dust impacts in the construction phase can therefore be made in the SEA report.

During the operational phase, there will be noise from high-voltage substations which may result in disturbance and the applicable noise limits being exceeded.

Contents and level of detail in SEA report
Existing conditions and environmental status
The SEA report must give an account of the existing conditions in relation to noise during the operational phase, i.e. a mapping of the residential and recreational areas that may be affected by facilities and installations covered by the plan. As potential environmental problems and local vulnerability to the impacts, e.g. proximity to residential areas, cannot be assessed until in connection with an environmental impact assessment (EIA) of the specific project, this must be done at an overall level.

Assessment of impacts
The SEA report must contain a general assessment of the noise impact that can be expected during the operational phase for the type of onshore facilities and installations that will have to be constructed in connection with the establishment of Bornholm Energy Island. The assessment must be based on experience from comparable existing facilities, including experience in relation to noise disturbances and distances to residential areas etc.

6.6.2.2 Magnetic fields

Description of potential environmental impacts
The plan allows for the construction of energised installations, such as underground cables, converter substations and high-voltage installations. All energised installations generate magnetic fields when current flows through them. These magnetic

fields quickly decrease in intensity in proportion to the distance from the installation. Outside the fence around a high-voltage substation, the magnetic field will have dropped to an insignificant level. The magnetic field around an underground cable will have fallen to a very low value just a few metres from the cable. Given the scientific uncertainty regarding the possible health impacts from long-term exposure, the Danish Health Authority recommends a precautionary approach to the location of new high-voltage installations in proximity to residential properties etc. and vice versa.

It is normal practice to place energised onshore installations at a certain distance from sensitive settlement, and this is also assumed in the plan. It is therefore deemed that the plan will not result in environmental impacts from magnetic fields on the population and human health.

Contents and level of detail in SEA report
This issue is not discussed in the SEA report.

6.6.2.3 Recreational interests

Description of potential impacts
The plan's designation of land areas for substations and land cables will result in restrictions to public access to these areas and potentially to temporary closures of access roads and paths. This may affect public access to recreational experiences, including impact on tourism.

The permanent substations may affect the recreational experience of the landscape due to visual impacts and noise. If the noise level (see section 6.6.2.1 above) or the visual impact (see section 6.6.7) is deemed to be significant, this will be included in the assessment of the recreational impact for the areas affected.

Contents and level of detail in SEA report
At an overall level, the SEA report must describe the recreational importance of the areas that may be affected by the facilities and installations covered by Plan for Bornholm Energy Island Programme. The SEA report must state whether the location or visual and noise impacts from facilities and installations will impact recreational interests.

6.6.3 Land and soil areas

Description of potential impacts
The plan's areas for onshore facilities and installations will entail that construction works and operating activities may be performed that may impact the soil. This applies, for example, to cable laying and the allocation of land for the establishment of new and expansion of existing high-voltage substations. It is expected that normal

agricultural operations can be maintained, under certain conditions, in connection with the operation of future cable installations. Experience from similar projects shows that there may primarily be impacts on land areas and soil from the establishment of substations, while the impacts from cable routing are not expected to be significant.

A detailed assessment can only be made in connection with the municipal planning associated with the permit application for the specific project.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain an overall account of the land use in the areas zoned for onshore facilities and installations covered by the plan. At the overall level, this account must describe soil types, soil conditions and any soil contamination.

Assessment of impacts

The SEA report must contain a general assessment of the potential impact of the plan on the soil in the zoned areas.

6.6.4 Water

Description of potential impacts

During the construction phase, facilities and installations covered by the play may impact, for example, groundwater, watercourses or lakes and thus the aquatic environment, which may potentially be of importance in relation to meeting water planning objectives.

The potential impacts will be completely dependent on the specific project and the specific location, including, for example, whether watercourses are cut through or drilled under in connection with cabling. It is therefore not regarded as possible to quantify a potential impact in connection with the SEA report, and potential impacts from onshore facilities and installations on water and water quality are therefore only dealt with in general terms.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain an overall account of types of surface water (lakes and watercourses) within or near the areas that may be affected by facilities and installations covered by Plan for Bornholm Energy Island Programme as well as their condition. The report must contain an overall groundwater assessment if there is a possibility that facilities and installations covered by the plan may have an impact on the groundwater.

Assessment of impacts

The SEA report must contain an overall assessment of the impacts that onshore facilities and installations covered by the plan could have on surface water and groundwater, based on Energinet's knowledge and experience from other projects.

6.6.5 Air and climatic factors

Description of potential impacts

Production of components to be used when establishing facilities and installations on Bornholm and connecting them to the existing high-voltage grid on Zealand will involve the consumption of raw materials and energy, and machinery will also have to be used during the construction phase which emits particles and greenhouse gases to the air. This impact is deemed to be entirely dependent on the specific project, and there is not regarded to be a sufficient basis for making an assessment thereof in the SEA report.

There will be no air emissions from cables during the operational phase, but components for the high-voltage substation could contain greenhouse gases.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain an overall account of existing air and climate conditions and an assessment of the impact on these from onshore facilities and installations. A report on the significance of the plan in relation to objectives for the reduction of greenhouse gases and the green transition will be provided in the section of the SEA report covering possible impacts on the marine environment (see later in this scoping opinion).

Assessment of impacts

The SEA report must contain an assessment of potential greenhouse gas emissions from the components in onshore facilities and installations that can be expected to be used for facilities and installations covered by the plan if these can be expected to contain powerful greenhouse gases. The description must be based in part on Energinet's experience from similar types of facilities, including the risk of unintended emissions.

The SEA report will not contain an assessment of the impact on air and climatic factors in general.

6.6.6 Material assets

Description of potential impacts

Facilities and installations covered by Plan for Bornholm Energy Island Programme may impact material assets, including existing land use.

Impacts on material assets may occur through impacts on the possibilities for utilising land for, for example, extraction of raw materials, agriculture, infrastructure or residential properties. The potential impacts will be entirely dependent on the specific facilities and installations covered by the plan, including the location of, for example, noise-generating components and distances to residential areas etc., and the extent to which agricultural operations can continue above underground cables.

The plan allows the establishment of onshore facilities and installations which are themselves material assets that benefit society. The location of coastal facilities and installations may potentially lead to an increased risk of the loss of material assets, due to the risk of coastal erosion and flooding. The impacts are deemed to be entirely dependent on the specific project and location, and therefore cannot be quantified in the SEA report.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain an overall account of existing conditions in relation to material assets and their utilisation.

Assessment of impacts

The SEA report must contain an overall account of the potential impact of the onshore facilities and installations on other land utilisation in the onshore area covered by Plan for Bornholm Energy Island Programme. The SEA report must give an overall account of the extent to which existing land utilisation will continue to be possible, including whether potential raw material extraction areas, agricultural interests, residential areas etc. or infrastructure could be affected.

The account of the potential impacts on material assets given in the SEA report is not to include any economic valuation, e.g. value impairment of properties subject to noise exposure or compensation in relation to loss of agricultural operations, as these factors fall outside the scope of an environmental impact assessment of a plan.

6.6.7 Landscape and visual factors

Description of potential impacts

The plan allows for onshore facilities and installations which, depending on the location and design, may be visible to varying degrees in the existing landscape. The visual impact, i.e. the visibility, of, for example, a high-voltage substation, may be of importance to the population, as technical facilities and installations can disturb the experience of a landscape (visual impact) and affect geological areas of special interest.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain a general description of existing visual factors and landscape interests in the areas designated for onshore facilities and installations in the plan.

Assessment of impacts
The SEA report must contain a general assessment of the visual impact from the types of technical facilities and installations that are expected to be established in the designated areas in the plan. As far as possible, this assessment must be based on e.g. example illustrations, images of existing, comparable facilities and installations or representative visualisations from similar projects.

The assessment should not be specific in relation to the visual impact for given locations, as the plan does not state the specific placement and design of onshore facilities and installations. The assessment should only be a general assessment of the expected scope and nature of the visual impacts.

The assessment should also not include any visual disturbances from the construction phase, as the elements of the construction phase are not defined in the plan and an assessment therefore cannot be made.

6.6.8 Cultural heritage, including churches and their surroundings, and architectural and archaeological heritage

Description of potential impacts
Onshore facilities and installations covered by Plan for Bornholm Energy Island Programme could potentially have impacts on cultural heritage, including churches and their surroundings, and architectural and archaeological heritage, due to the location of new high-voltage substations and expansion of an existing high-voltage substation. The impacts could affect the value of the landscape and the experience of the landscape and cultural heritage.

Construction work could potentially affect archaeological assets. The specific impacts can only be assessed in connection with the environmental impact assessment (EIA) for a specific project, but the general nature of the onshore facilities and installations is known and the SEA report can therefore give an idea of the potential environmental impact.

Contents and level of detail in SEA report
Existing conditions and environmental status
The SEA report must give an overall account of existing relevant cultural heritage in the designated areas, i.e. whether the areas contain special cultural heritage assets.

Assessment of impacts

The SEA report must contain a general assessment of the potential impacts of future facilities and installations on cultural heritage, including churches and their surroundings, and architectural and archaeological heritage. The assessment must be based on existing knowledge.

The SEA report should not contain an assessment of the potential impact on cultural heritage from the construction phase of a future specific project.

6.7 Impacts on the environment from offshore facilities

This section contains a description of the environmental factors to be included in the SEA report with regard to possible impacts that facilities and installations covered by Plan for Bornholm Energy Island Programme could have on environmental factors at sea, including impacts on other users of the marine area.

6.7.1 Biodiversity

6.7.1.1 Natura 2000

Description of potential impacts

Facilities and installations covered by Plan for Bornholm Energy Island Programme could potentially impact natural habitats and species in the designation basis for Natura 2000 sites in both the construction and operational phases.

The designation basis could potentially be affected by the utilisation of seabed areas, construction work or the permanent facilities and installations.

The SEA report must include a materiality assessment of the impact on the marine Natura 2000 sites that may be affected by the plan. If a material impact on the designation basis cannot be ruled out on the basis of the materiality assessment, a Natura 2000 impact assessment will have to be prepared in the SEA report.

Contents and level of detail in SEA report

Existing conditions

The SEA report must first and foremost contain a Natura 2000 materiality assessment (screening) which evaluates whether it will be possible to implement Plan for Bornholm Energy Island Programme without significant impact on Natura 2000 sites.

Assessment of impacts

The materiality assessment must cover all species and natural habitats in the designation basis for the Natura 2000 sites. The assessment must show whether the species or natural habitat has a favourable conservation status within the area. If the

conclusion of the materiality assessment is that it cannot be ruled out that the plan may materially impact the conservation objective of a Natura 2000 site, an impact assessment must then be performed.

In relation to the potential impact, the materiality assessment must incorporate the current known conditions and factors in connection with facilities and installations covered by the plan which could lead to material impacts on the protected species or natural habitats.

The materiality assessment must, in as far as possible, contain an overall evaluation of whether facilities and installations covered by Plan for Bornholm Energy Island Programme can be expected to be implemented in accordance with the relevant protection provisions and objectives for species and natural habitats in the designation basis for Natura 2000 sites.

The materiality assessment must also describe the extent to which offshore facilities and installations covered by the plan could have positive or negative impacts on other species or natural habitats covered by the Birds Directive or the Habitats Directive.

The materiality assessment must clearly state whether facilities and installations covered by the plan could have a material impact on the designation basis for Natura 2000 sites. If a material impact cannot be ruled out, the SEA report must contain an impact assessment in accordance with Article 6(3) of the Habitats Directive.

The conditions may be incorporated as terms in connection with the implementation of the plan and subsequent performance and environmental impact assessment of the specific projects where preventive measures could be laid down as specific terms for the use of a facility/an installation/a construction permit.

The Natura 2000 materiality assessment and the impact assessment (where relevant) must be clearly presented as independent sections in the SEA report.
If the affected Natura 2000 site also extends onto land, the assessment must include the onshore part, so that a total assessment is made of the entire site.

6.7.1.2 Annex IV species

Description of potential impacts

Facilities and installations covered by Plan for Bornholm Energy Island Programme could potentially affect species covered by Annex IV of the Habitats Directive (Annex IV species) in or near the planning area in connection with removal of or disruption to habitats or breeding or resting areas.

The marine construction work could impact marine mammals if noisy methods are used during the construction phase, such as driving monopiles or pin piles for wind turbine foundations, which can cause temporary or permanent hearing damage and significant behavioural disruptions. As the construction method is determined in connection with the specific project, a worst-case scenario approach must be used in connection with the assessment. The offshore wind farms could potentially disrupt marine mammal migration, which occurs annually between foraging and resting areas and breeding areas. A reduced seabed area could also mean less fish and other marine fauna for marine mammals to eat.

Marine mammals may also be affected by noise from ship traffic, sediment dispersion in connection with excavation activities on the seabed and with resulting impacts on the species' food supply, as well as a number of other impact factors. However, this is not to be discussed in detail in the SEA report.

All bat species are covered by Annex IV of the Habitats Directive. Wind turbines can also affect bats during the operational phase due to differences in air pressure from rotating turbine blades. The location of a future offshore wind farm in relation to foraging areas and migration routes for bats would thus also be relevant to examine in the report.

However, the environmental impacts and possibilities for preventive measures are deemed to be completely dependent on the specific project, construction methods and plant locations. Since these are not known at present, the SEA report must therefore only deal with the potential environmental impacts at a general level.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must include an account of the presence of Annex IV species that can be expected in or near the area where the subsequent specific project is to be implemented.

The report is expected to be completed on the basis of existing available monitoring and habitat data.

Assessment of impacts

The SEA report must contain an assessment of the expected potential impacts on Annex IV species from implementation of the plan.

The assessment must be conducted in relation to impacts on breeding and resting areas, with the aim of maintaining the ecological functionality for the protected species.

If it is assessed that detailed conditions in relation to the project design, location, construction methods etc. will be necessary in order to implement the plan and the subsequent projects without degrading the ecological functionality of Annex IV species, this must be clearly stated.
In this case, the conditions and their expected impact in relation to preserving the ecological functionality must be clearly explained, so that they can be stipulated when implementing the plan, and in connection with subsequent implementation and environmental assessment of the specific projects.

6.7.1.3 Birds (which are not in the Natura 2000 designation basis)

Description of potential impacts

Offshore wind farms may affect birds, including birds covered by the general protection provisions of the Birds Directive. Impacts during the construction phase are expected to be short-lived, in the form of disruptions from maritime traffic and construction work.

However, potential impacts on birds during the operational phase may be of a more long-term duration in the form of displacement of birds from the area, barrier effects for migrating birds or the risk of collision for certain bird species that fly through the offshore wind farm. Impacts from offshore wind farms can thus lead to the direct loss of birds, while the indirect results of barrier effects and displacement may be increased energy consumption during migration and displacement from important resting or foraging areas.

Contents and level of detail in SEA report

Existing conditions and environmental status

Based on available knowledge – both general and specific to the area covered by the plan – the SEA report must give an account of the occurrence of relevant bird species in the area that are not protected by the Habitats Directive, including the importance of the area as a foraging and resting area, and in relation to migration routes for both seasonal and foraging migration.

Assessment of impacts

The SEA report must assess the potential disturbance to birds in the area covered by the plan during both the construction and operational phases. The assessment must focus on the possible impacts from displacement, barrier effects and collisions with offshore wind turbines.
The assessments may draw on knowledge and experience from existing offshore wind farms as well as national and international studies.

In as far as possible, the SEA report must contain recommendations for minimising environmental impacts, for example through location, design of facilities and installations or choice of construction methods and times.

6.7.1.4 Other marine flora and fauna

Description of potential impacts

Facilities and installations covered by Plan for Bornholm Energy Island Programme may have impacts on the other marine flora and fauna (including fish and species of seals which are not protected by the Habitats Directive) through loss of area or change of habitat.

Excavation works or cable trenching during the construction phase will result in a greater concentration of suspended sediment in the water column and thus greater sediment depositing. This can lead to the release of nutrients and xenobiotic substances, and reduce visibility for animals or cause shadow effects.

Earlier offshore wind farms have generally not resulted in significant impacts on marine flora and fauna during the operational phase, but some experience has shown that energised submarine cables may lead to local impacts on animals that are particularly sensitive to electromagnetic fields. Experience also shows that favourable conditions can sometimes arise around wind turbine foundations, in the form of artificial reef formation, for several animal and plant species, and that the foundations may therefore potentially contribute to greater biodiversity in an area.

The expected impacts will depend entirely on the specific project, the number and types of wind turbines, wind turbine locations, foundation methods etc., and the SEA report will therefore only discuss the potential impacts at a general level.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an account of the existing conditions for marine flora and fauna and natural habitats, including whether particularly vulnerable and threatened species and natural habitats are likely to be found in the marine area that may be impacted by Plan for Bornholm Energy Island Programme. The SEA report must also give an account of whether the area or parts of it are deemed to have high biological diversity and be important spawning, feeding, migration or growth areas for fish.

Assessment of impacts

The SEA report must contain a general assessment of the impact that Plan for Bornholm Energy Island Programme can be expected to have on marine flora and fauna, natural habitats and biological diversity, and show whether it is feasible for an off-

shore wind farm to be constructed in accordance with national and international marine environment protection obligations. The assessment must also report on any expected effects of offshore wind farms in relation to biodiversity, for example from reef effects. The assessment must also discuss whether the offshore wind turbine foundations can be expected to attract species or give rise to natural habitats that do not naturally occur on a soft bottom, and possible derived effects. The assessments can draw on knowledge and experience from existing offshore wind farms.

6.7.2 Population and human health

6.7.2.1 Aviation safety

Description of potential impacts

Offshore wind farms may impact aviation safety in the area. During the construction phase, cranes with a height of more than 150 metres are often used, which is normally the lower altitude limit for civil air traffic, while, for example, military planes may fly lower. In the operational phase, there will probably be specific requirements for air traffic marker lights.

The specific project and choice of construction methods are not currently known, and impacts on aviation safety must therefore be discussed at an overall level in the SEA report.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an account of existing airports, airfields and the scope of air traffic relevant to the plan for establishment of Bornholm Energy Island. This information must be obtained from relevant participants and aviation authorities.

Assessment of impacts

The SEA report must contain a general assessment of the impact on aviation safety and air traffic during construction and operation of Bornholm Energy Island within the plan area, and report on the relevant rules and requirements for marking and approval by the aviation authorities. The SEA report must clearly state that the risk to air traffic cannot be fully assessed at present, and that additional assessments must be made in connection with the specific projects.

6.7.2.2 Navigation conditions and safety

Description of potential impacts

Offshore wind farms may impact navigation conditions (such as the need to adjust ferry routes) and navigation safety. A large number of vessels will be used during the construction phase, and there will periodically be a lot of traffic between the departure port and construction area. However, the specific impacts of the construction work

on navigation conditions and safety will depend entirely on the specific project. It is therefore not possible to qualify these in the SEA report.

The operational phase may impact navigation conditions and safety in the area, in the form of an increased risk of collisions and running aground at the offshore wind farms. Given that the final location and design of the offshore wind farms are not known at present, navigation safety should only be discussed at a general level in the SEA report.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an account of existing navigation conditions in the area and describe identified shipping routes, transit routes or other conditions that could be problematic in connection with facilities and installations covered by Plan for Bornholm Energy Island Programme, or which will require special attention in connection with the design of the specific project.

Assessment of impacts

The SEA report must contain an overall assessment of the consequences for navigation safety in connection with the location of facilities and installations covered by Plan for Bornholm Energy Island Programme. The assessment is not to consider specific navigation risks and impacts on navigation conditions, as the specific location and design of the offshore wind farms are not known. The assessment should therefore generally evaluate the potential impacts on navigation safety and conditions. The SEA report must also assess whether there are special parts of the area designated for Bornholm Energy Island where the proximity to shipping routes is likely to increase navigation risk.

In connection with navigation conditions, the SEA report must also include a general assessment of the impact of the offshore wind farm on potential rescue operations and marine environment emergency response.

6.7.2.3 Noise (airborne)

Description of potential impacts

Offshore wind farms may lead to different types of noise, which could potentially impact the general public and people's health.

Construction works in connection with an offshore wind farm will normally result in noise, e.g. from driving pile foundations.

Given that the specific project and hence the specific construction methods are not yet known, it is not regarded as possible to make a qualified assessment of the impact.

Offshore wind turbines emit noise during the operational phase, including low-frequency noise. The noise may have potential health consequences and impact human health.

Denmark has threshold values for wind turbine noise which must be observed in connection with a specific project.
Given that wind turbine noise is often a focal point for neighbours to wind turbines and for the general public, the issue must be considered at a general level in the SEA report.

Contents and level of detail in SEA report
Existing conditions and environmental status
The SEA report must contain a brief, general account of noise-sensitive onshore land that may be impacted by noisy offshore activities covered by plan and a description of the noise limit values.

Assessment of impacts
The SEA report is not to include an assessment of the potential noise impact of construction works at sea due to the nature of the impact and the distance to shore. The SEA report must contain a general assessment of the noise that can be expected from Bornholm Energy Island and whether noise limit guidelines are likely to be met. The report must be based on noise calculations and experience from existing offshore wind farms, e.g. by using noise calculations or measurements from other projects and, in as far as possible, by including the latest information about source noise from wind turbines of the size that could potentially be erected for Bornholm Energy Island.

6.7.2.4 Recreational use of coastal waters

Description of potential impacts
In connection with facilities and installations covered by Plan for Bornholm Energy Island Programme, the possibility of recreational use of the coastal waters could potentially be affected.

Contents and level of detail in SEA report
Existing conditions and environmental status
The SEA report must contain a brief, overall account of the use of the affected coastal waters for recreational navigation and fishing, including tourism impacts.

Assessment of impacts

The impact on the recreational use of the coastal waters as a result of facilities and installations covered by Plan for Bornholm Energy Island Programme must be assessed.

6.7.3 Seabed and topography

Description of potential impacts

Facilities and installations covered by Plan for Bornholm Energy Island Programme impact the seabed and result in a change. The degree of impact will depend on the existing conditions, the construction methods chosen and the raw materials used for the offshore wind farms.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an overall account of a existing geological and geomorphological conditions in the area.

Assessment of impacts

The SEA report must generally assess whether impacts on the seabed in the area are likely in connection with Plan for Bornholm Energy Island Programme, including on topography and composition, which could further impact hydrography and coastal morphology in the area. Where possible, the assessment must include experience from similar projects.

6.7.4 Hydrography, coastal morphology and water quality

Description of potential impacts

The topographic changes resulting from facilities and installations covered by Plan for Bornholm Energy Island Programme may affect local power conditions and transport of sediment. This may affect the water quality in the area. The impacts will depend on the existing conditions and the construction methods and materials chosen for the offshore wind farms.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain a general report on existing coast morphology and hydrological conditions in the area, including water quality. The SEA report must also give an overall account of the state of the coastal waters. The account must consider action plans, requirements and objectives pursuant to the Danish Marine Strategy and the water plans.

Assessment of impacts

The SEA report must contain an overall assessment of whether impacts on the area's water quality, currents and sediment deposition conditions are likely in connection

with Plan for Bornholm Energy Island Programme, which may, in turn, impact physical and biological conditions. Where possible, the assessment must include experience from similar projects.

The SEA report must also generally assess the extent to which xenobiotic substances are likely to be spread in connection with sediment dispersion.

6.7.5 Air and climatic factors

Description of potential impacts

Production of the components used in connection with facilities and installations covered by Plan for Bornholm Energy Island Programme entails the consumption of raw materials and energy. A number of vessels will also be used during both the construction and operational phases which emit particles etc. to the air during the operational phase. This impact is deemed to be entirely dependent on the specific project. It is therefore not relevant to assess this in the SEA report.

There will be no significant air emissions from an offshore wind farm during the operational phase, but the offshore wind farm will reduce greenhouse gases when renewable energy replaces fossil fuels. Offshore wind farms will therefore have an effect in relation to reducing the use of and dependence on fossil fuels and counteracting anthropogenic climate change.

Recent research indicates that the construction of offshore wind farms in large areas may affect weather conditions locally and regionally.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain an account of national and international objectives and obligations in relation to reducing greenhouse gas emissions. The SEA report should therefore not contain an account of existing conditions in relation to air quality.

Assessment of impacts

The SEA report must assess the expected effect of Bornholm Energy Island in relation to the displacement of fossil fuels and Denmark's objectives for the green transition and reduction of greenhouse gas emissions and international targets.

The SEA report must also contain an overall assessment of whether the establishment of the offshore wind farms can be expected to affect weather conditions locally and regionally to the extent to which this is possible to assess.

6.7.6 Material assets, including marine infrastructure

Facilities and installations covered by Plan for Bornholm Energy Island Programme may impact material assets, including existing land use.

Impacts on material assets may result from effects on the possibilities for utilising land for, for example, radio chains and radar, extraction of raw materials, fisheries, military areas, marine infrastructure etc.

The delimitation for radio chains and radar, extraction of raw materials and fisheries is specified below.

6.7.6.1 Radio chains and radar

Description of potential impacts

The location of offshore wind farms may affect radar coverage in the area, which may have a significant impact on, for example, military/defence conditions and civil radar and communications systems. Offshore wind farms and other structures at sea may also affect military and civil radio communication, including radio chains, if they are located within the coverage area or slight line of the radios, resulting in signal attenuation.

The potential impacts of the offshore wind farms on radar and radio communication/radio chains should be further analysed early in the project, as measures to address any disruptions caused by the offshore wind farm can be expensive and require a long time for preparation and establishment.

In relation to the potential impact on military radar and radio communications systems, the Danish Armed Forces require that the analysis work be carried out by a contractor approved by the Danish Armed Forces. The Danish Energy Agency therefore assesses that the analysis work should be carried out in parallel with – but separate from – the preparation of the SEA report.

However, in relation to the potential impacts on other (civil) radar and radio communication systems, the Danish Energy Agency finds it expedient to incorporate these in the SEA report, as there are applications and territorial waters and air space considerations which could have a significant impact on the feasibility of siting facilities and installations covered by Plan for Bornholm Energy Island Programme.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must contain an account of existing civil radar systems and radio chains in the area, for both the Danish and foreign parts of the Baltic Sea. The Danish military radar and radio communications systems will be handled in a separate, parallel analysis. Regarding foreign military radar and radio communications systems,

statements on the possible cross-border impacts of the offshore wind farms will be obtained from the relevant authorities.

Assessment of impacts
The SEA report must generally assess whether facilities and installations covered by Plan for Bornholm Energy Island Programme are likely to affect civil radars and radio chains in the area.

Regarding the assessment of the impact on Danish military radar and radio communications systems and the need for any preventive measures, a statement on this will be obtained from the Danish Armed Force once the results of the separate analysis work are available.

6.7.6.2 Raw materials and extraction of raw materials

Description of potential impacts
The location of an offshore wind farm could have an impact on the possibility of extracting raw materials at sea, e.g. if the offshore wind farm is located in existing or potential future areas for extraction of raw materials, thereby having a potential impact on the future acquisition of raw materials. The area for Bornholm Energy Island Programme and landing cables is expected to be located so as to avoid existing areas for extraction of raw materials to the greatest possible extent. It is therefore only relevant to discuss the possible impact on deposits and extraction of raw materials at an overall level in the SEA report.

Contents and level of detail in SEA report
Description of existing conditions
In as far as possible, the SEA report must give an account of existing and any future raw material areas and extraction in the area.

Assessment of impacts
The SEA report must contain an overall assessment of the impact on raw material areas.

6.7.6.3 Fisheries

Description of potential impacts
The location of offshore wind farms may have impacts on fish resources, such as impacts on important spawning areas etc., and on commercial fishing if the offshore wind farms lead to restrictions in access to key fishing areas. Fisheries must be considered at a general level in the SEA report, as the impacts will depend on the specific project location and design, which will not be known at the time of the environmental impact assessment of the plan. The assessment should not consider the value of the

material assets and the potential impact on these, such as estimates of the value of lost fisheries due to a future offshore wind farm, as economic aspects of this nature should not be included in an environmental impact assessment.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must give an account of the general fish resources in the area in terms of their condition and importance to commercial fisheries, including whether the area encompasses significant fishing areas, spawning grounds etc.

Assessment of impacts

The SEA report must comprise an assessment of the expected impact on fisheries in connection with the construction phase of a project, including a worst-case scenario in which a requirement is made for a ban on fisheries during a construction phase and the consequences thereof.

The assessment may be based on experience from similar projects.

The SEA report must assess the impacts of the offshore wind farm on fisheries in the area, and the possibility of fishing within or around the offshore wind farm during the operational phase. The assessment may be based on experience from similar projects.

6.7.7 Landscape and visual impact

Description of potential impacts

Offshore wind farms can potentially be seen at a great distance and may thus have a visual impact. The coming offshore wind farms are expected to be visible from the coast. Even though the specific visual impact will depend on the specific location, choice of wind turbines and final layout, the visual impact must be included in the SEA report in order to give a realistic impression, in as far as possible, of how visible an offshore wind farm can be expected to be.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must include a description of the existing landscape conditions as well as example visualisations from relevant photo points of view on the south coast of Bornholm, illustrating the existing situation. If relevant, photo views from foreign coasts will also be included.

Assessment of impacts

The SEA report must give an account of the expected visual impact of offshore wind turbines based on a visibility analysis of the given offshore turbine, combined with visualisations based on a number of wind farm layout scenarios. The visibility analysis must illustrate the visibility of the given wind turbine from the coast relative to the

distance from the coast; while the example visualisations can give a realistic impression of how visible an offshore wind farm in the installation area can be expected to be from the coast and from relevant vantage points on Bornholm. Example visualisations must show the visibility of the wind turbines during the day and at night. The impact in relation to light marking on the wind turbines must also be assessed. The SEA report must clearly state that the visual impact cannot be fully assessed at present, as the specific projects are not known, and that visualisations must be expected to be made in connection with the specific projects and environmental impact assessments (EIAs).

6.7.8 Marine archaeology

Description of potential impacts

Construction of an offshore wind farm may affect wrecks, previous settlements etc. of cultural and marine archaeological significance. The specific impact depends entirely on the given installation pattern, foundation method, the distance to the object etc., as protection interests are often very location specific. It is therefore only relevant to discuss marine archaeology at a very general level in the SEA report.

Contents and level of detail in SEA report

Existing conditions and environmental status

The SEA report must, in as far as possible, given an account of any wrecks in the area or other factors of archaeological or cultural significance.

Assessment of impacts

Given that the impacts are often very location specific, a specific assessment cannot be made at plan level of the impacts of the offshore wind farms on archaeological and cultural assets. The SEA report should therefore simply draw attention to any protection considerations that should be taken into account in the later environmental assessment for the specific project.

6.7.9 Conventional munitions and Chemical Ammunition Agents (CWA)

Description of potential impacts

During the construction phase, the establishment of the facilities and installations covered by the plan may impact the surrounding environment if there is a need for blasting of conventional munitions.

Moreover, risk situations may arise during the construction phase if CWA are encountered.

Assessment of impact from construction phase

The impact depends on the location of the specific project, as the occurrence of conventional munitions and CWA varies. Such an impact can therefore only be assessed in connection with the specific project. It is therefore only relevant to assess conventional munitions and CWA at a very general level in the SEA report.

6.8 Lack of knowledge and uncertainties

The SEA report must identify any lack of knowledge in relation to assessment of the impact of the plan on the environment and any deficiencies in the knowledge basis and significant uncertainties associated with the assessments. Uncertainties that have key significance to the conclusions of the SEA report or the validity of the assessments must be clearly described for the relevant environmental issues, so these can be taken into account in the decision of the authorities.

6.9 Preventive measures and monitoring

The SEA report and any Natura 2000 impact assessment must describe measures that should be taken to avoid, prevent, mitigate, or, if possible, neutralise likely significant harmful impacts on the environment resulting from the plan.

Any remediation measures must be described under each environmental issue and gathered in a summary section of the SEA report, so that it is clear whether adjustments have been made to the plan in connection with the environmental impact assessment in order to reduce potential significant environmental impacts. The expected effect of the measures/adjustments, including any significant uncertainties, must also be clearly stated.

If possible measures are identified which can be best implemented at a specific project level, i.e. in connection with an environmental impact assessment (EIA) for the specific project, which the concession holder/developer wants to establish, this must be clearly stated. Preventive measures may be laid down as specific terms for the exercise of a construction/establishment permit.

The SEA report must also describe any necessary schemes for monitoring material harmful effects of the plan, which are best undertaken at government level in connection with the preparation and planning of Bornholm Energy Island. If monitoring of significant environmental impacts is deemed to be most expedient at the specific project level, this must be stated.

6.10 Method description

The SEA report and any related background documents must contain a description of the method, the basis for the assessment and the parameters investigated. It must also contain a description of the assessment method used to assess the severity of

the environmental impacts. The SEA report must contain clear references to the background material used in connection with the assessment of impacts resulting from Plan for Bornholm Energy Island Programme.

The method used to assess the environmental impacts must be able to reach a clear conclusion on the extent to which the plan is expected to affect the environment for the given environmental parameters, whether the project is expected to be harmful to the environment and the consequences of these impacts. The method must also clearly support conclusions on necessary preventive measures and monitoring in connection with the plan.

The assessment of cross-border environmental impacts in potentially affected countries must be provided as an independent chapter in the SEA report.

6.11 Non-technical summary

The SEA report must contain a non-technical summary which communicates the main points of the report in a clear and easily understandable language. The non-technical summary is targeted at people without environmental, technical or legal expertise.