Reports of the Finnish Environment Institute 3en | 2022

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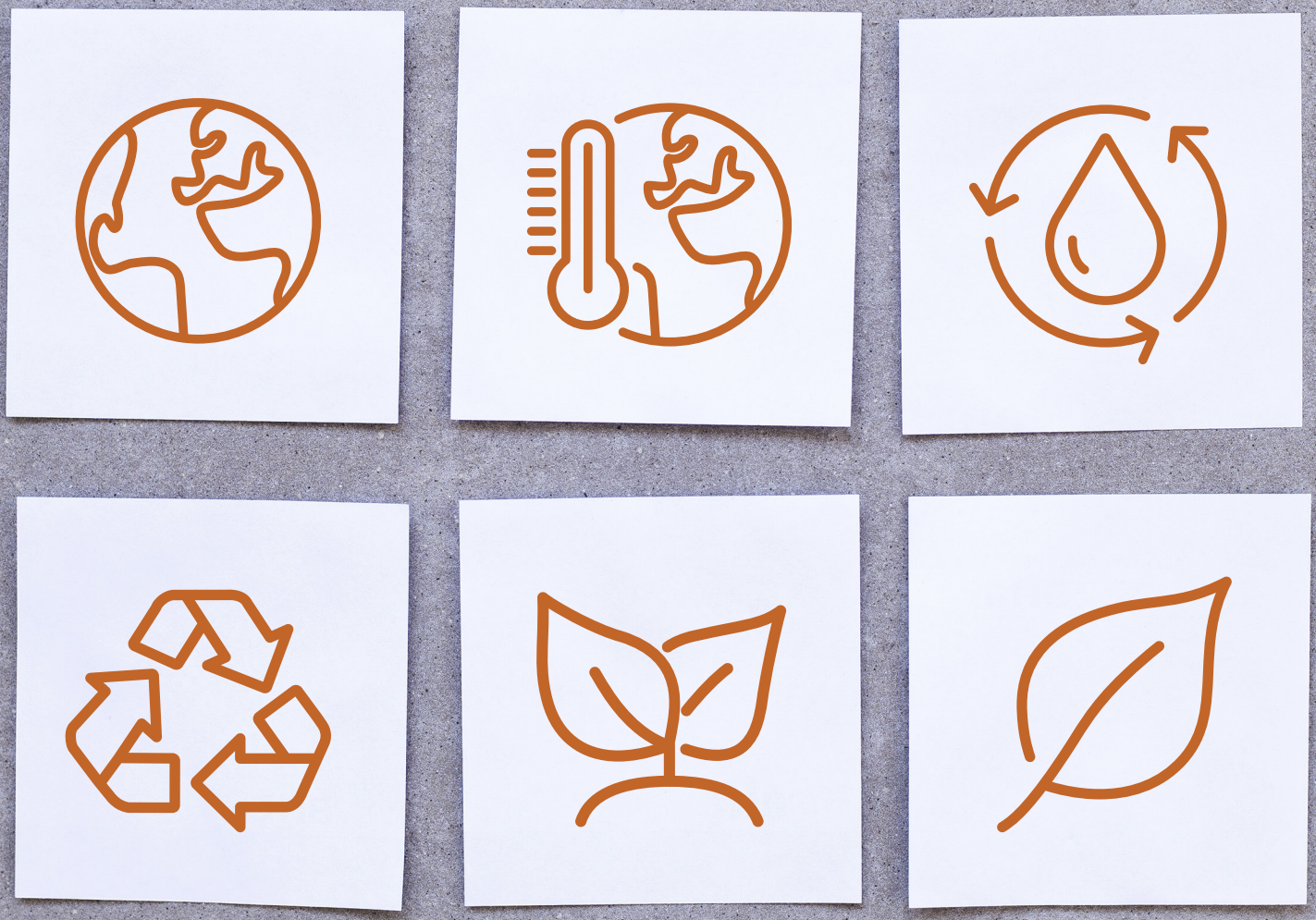

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The Finnish Environment Institute
Centre for Sustainable Consumption and Production

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Abstract

Implementation of the DNSH principle for measures in the Finnish recovery and resilience plan

This report presents approaches and guidance for the DNSH assessment of projects in the Finnish recovery and resilience plan and other projects possibly requiring a DNSH assessment.

Member States must provide a Do No Significant Harm (DNSH) assessment for each of the measures in their recovery and resilience plan. No action included in a recovery and resilience plan should cause significant harm to any of the six environmental objectives:

1. climate change mitigation
2. climate change adaptation
3. sustainable use and protection of water and marine resources
4. transition to a circular economy
5. prevention and control of air, water and soil pollution
6. protection and restoration of biodiversity and ecosystems.

The Finnish Environment Institute, Syke, has developed guidance and methodologies for the DNSH assessment of funding applications under the Finnish program for sustainable growth. The developed methods and approaches are designed particularly for investment projects as well as research, development and innovation projects. To a large extent, the developed methodology can also be applied in the DNSH assessment of other types of projects.

Users of the developed assessment methods are the bodies responsible for funding programs, especially, Business Finland, Academy of Finland, Ministry of the Environment, Ministry of Employment and the Economy, Centres for Economic Development, Transport and the Environment and those organizations applying for funding.

Keywords: DNSH, do no significant harm, environmental objectives, European Union, recovery and resilience plan, financing, sustainable growth, taxonomy

Tiivistelmä

Ei merkittävää haittaa -periaatteen (DNSH) soveltaminen Suomen elpymis- ja palautumissuunnitelman hankkeissa

Tämä raportti esittelee lähestymistavan ja ohjeita DNSH-arviointiin Suomen elpymis- ja palautumissuunnitelman hankkeissa ja mahdollisissa muissa DNSH-arviointeja edellyttävissä hankkeissa.

Euroopan unionin jäsenmaiden on laadittava jokaiselle elpymis- ja palautumissuunnitelman toimenpiteelle elvytystoimista mahdollisesti aiheutuvan haitan määrittelemiseksi ns. DNSH-arviointi (Do No Significant Harm). Elpymis- ja palautumissuunnitelmaan liittyy kestävän kasvun investointi- ja rahoitusohjelmia. DNSH-arvioinnissa rahoitusohjelmien vastuutahojen on varmistettava, että jokainen elpymis- ja palautumistukivälineestä rahoitettava hanke on DNSH-periaatteen mukainen kaikkien kuuden ympäristötavoitteen osalta:

1. ilmastonmuutoksen hillintä
2. ilmastonmuutokseen sopeutuminen
3. vesivarojen ja merten luonnonvarojen kestävä käyttö ja suojelu
4. siirtyminen kiertotalouteen
5. ympäristön pilaantumisen ehkäiseminen ja vähentäminen
6. biologisen monimuotoisuuden ja ekosysteemien suojelu ja ennallistaminen.

Suomen ympäristökeskus on kehittänyt DNSH-arviointien ohjeistusta ja arviointien toteutuskaavioita erilaisten kestävän kasvun investointi- ja rahoitusohjelmista rahoitettavien hankehakujen tueksi ja taustamateriaaliksi rahoitusohjelmien vastuutahoille. Arviointimenetelmien kehittämisessä on kiinnitetty huomiota erityisesti Suomen kestävän kasvun ohjelmassa tunnistettuihin teollisuuden investointihankkeisiin sekä tutkimus-, kehittämis- ja innovaatiohankkeisiin. Suomen elpymis- ja palautumissuunnitelman hankkeiden lisäksi kehitettyjä arviointimenetelmiä voidaan soveltaen käyttää myös muissa DNSH-arviointeja edellyttävissä hankkeissa.

Kehitettävien arviointimenetelmien käyttäjiä ovat rahoitusohjelmien vastuutahot, ensisijaisesti Business Finland, Suomen Akatemia, ympäristöministeriö ja työ- ja elinkeinoministeriö, ELY-keskukset sekä rahoitushakuja tekevien hankkeiden vastuutahot.

Asiasanat: DNSH, do no significant harm, ympäristötavoitteet, Euroopan unioni, elpymis- ja palautumissuunnitelma, rahoitus, kestävä kasvu, taksonomia

Sammandrag

Tillämpning av DNSH-principen för åtgärder i Finlands plan för återhämtning och resiliens

Denna rapport presenterar metoder och vägledning för utförandet av DNSH-bedömning (Do No Significant Harm) av åtgärder i Finlands plan för återhämtning och resiliens och andra projekt där DNSH bedömning kan krävas.

Medlemsstaterna inom EU måste utföra en DNSH-bedömning (Do No Significant Harm) för var och en av åtgärderna i sina planer för återhämtning och resiliens. I planen för återhämtning och resiliens ingår investerings- och finansieringsprogram för hållbar tillväxt. Ingen åtgärd som ingår i en återhämtnings- och resiliensplan bör åstadkomma betydande skada beträffande något av de sex miljömålen:

1. begränsning av klimatförändringar
2. anpassning till klimatförändringar
3. hållbar användning och skydd av vatten och marina resurser
4. den cirkulära ekonomin
5. förebyggande och begränsning av föroreningar till luft, vatten eller mark
6. skydd och återställande av biologisk mångfald och ekosystem.

Finlands miljöcentral, Syke, har utvecklat vägledning och metoder för utförandet av DNSH-bedömning som stöd till projektansökningar och bakgrundsmaterial för instanser ansvariga för finansieringsprogram. De utvecklade metoderna fokuserar speciellt på investeringsprojekt samt forsknings-, utvecklings- och innovationsprojekt inom programmet för hållbar tillväxt i Finlands återhämtnings- och resiliensplan.

Materialet kan även tillämpas för DNSH-bedömning inom andra finansieringsprogram.

Användare av de utvecklade bedömningsmetoderna är de instanser som är ansvariga för finansieringsprogram, speciellt Business Finland, Finlands Akademi, miljöministeriet, arbets- och näringslivsministeriet, närings-, trafik- och miljöcentralerna (NTM) samt de som ansöker finansiering.

Nyckelord: DNSH, do no significant harm, miljömål, Europeiska unionen, plan för återhämtning och resiliens, finansiering, hållbar tillväxt, taxonomi

Preface

The purpose of this work was to produce guidance for DNSH (Do no significant harm) assessment of potentially harmful environmental impacts to support funding applications for projects funded from investment and funding programmes for sustainable growth. The guidance is intended for the parties responsible for the funding programmes and applicants for funding. The impact assessment methods and approaches used are primarily based on the industrial investment projects and the research, development and innovation projects (RDI projects) identified in the Finnish programme for sustainable growth but the results of the work can also be applied to other similar assessments. The project results are intended for the parties responsible for the funding programmes, especially Business Finland, Academy of Finland, Ministry of the Environment, Ministry of Economic Affairs and Employment, ELY Centres and the parties applying for funding.

The project was funded by the Ministry of the Environment and the Finnish Environment Institute and it was steered by a group appointed by the Ministry of the Environment. The steering group met seven times during the project.

The steering group was chaired by Juho Korpi from the Ministry of the Environment. The members of the steering group were as follows: Eeva Alho (Project Coordinator), Riikka Malila, Tanja Suni and Timo Tähtinen from the Ministry of the Environment; Jyrki Alkio and Anu Heinonen from the Ministry of Economic Affairs and Employment; Emma Terämä from the Ministry of Finance; Joel Järvinen from the Ministry of Agriculture and Forestry; Jussi Vauhkonen from the Academy of Finland; Jarmo Heinonen from Business Finland; Eeva Primmer and Jyri Seppälä from the Finnish Environment Institute; Irina Simola from the ELY Centre for Pirkanmaa; and Pekka Pelkonen from the ELY Centre for South Savo.

The report was jointly compiled by the Finnish Environment Institute and its stakeholders (in particular Business Finland and the Academy of Finland) between June and December 2021. The research group comprised the following members: Kaj Forsius, Kimmo Silvo, Timo Jouttijärvi, Mika Marttunen, Jyri Mustajoki, Tiina K.M. Karppinen, Kirsi Kostamo, Pälvi Salo, Seita Romppanen, Petrus Kautto and Riina Toivanen (all from the Finnish Environment Institute).

In addition to the project steering group, the working group would also like to thank Merja Särkioja and Jukka Tanskanen from the Academy of Finland; Jussi Kivikoski and Tiina Rajamäki from Business Finland; and Sampo Soimakallio,
Susanna Horn, Kimmo Syrjänen, Tarja Häkkinen and Janne Pesu from the Finnish Environment Institute for valuable comments.

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Contents

1 Introduction

The recovery and resilience plan (RRP) is Finland's national plan for using the funding provided under the European Union (EU) Recovery and Resilience Facility (RRF) and it is also part of Finland's programme for sustainable growth.[1] Funding for the sustainable growth programme comes from the Recovery Instrument of the EU (NextGenerationEU). The plan was adopted by the Council of the European Union on 29 October 2021.[2] A total of 50 per cent of the programme funding will be used to support the green transition. The investments supporting the green transition concern the transformation of the energy system, reforms and investments supporting green and digital transition in industries, low-carbon solutions for communities and transport, reducing the climate and environmental impacts of buildings, and environmental sustainability and nature-based solutions. Research, development and innovation will also play a key role in the green transition measures.

Sectors and investments listed, identified and assessed as being in non-compliance of the DNSH (Do no significant harm) principle will not be supported from the programme, directly or indirectly. In its negotiations with the European Commission, Finland has ensured that the measures proposed in Finland's programme for sustainable growth are in accordance with the DNSH principle and the EU state aid rules.[3]

Member States must prepare a DNSH assessment for each measure set out in their recovery and resilience plans to determine the potentially harmful impacts caused by the recovery measures. In practice, the parties responsible for the funding programmes in Finland must ensure that the projects applying for funding are in compliance with the DNSH principle. The applicant must prepare a DNSH assessment for a project for which it plans to apply funding from the Recovery and Resilience Facility. None of the recovery measures may include activities that cause significant harm to any of the six environmental objectives specified in the EU Taxonomy Regulation.[4] The objectives are as follows:

1. climate change mitigation
2. climate change adaptation
3. sustainable use and protection of water and marine resources
4. transition to a circular economy
5. pollution prevention and control; and
6. the protection and restoration of biodiversity and ecosystems.

The Finnish Environment Institute has developed guidance and assessment methods for DNSH assessments to support applications for projects funded from sustainable growth investment and funding programmes and as background material for the parties responsible for the funding programmes and applicants for funding.

It should be noted that all activities have some impact on the environment. The focus of the DNSH assessment is on the distinction between 'harmful impact' and 'significantly harmful impact'. To support the assessment of the impacts, approaches to the issue are described for each of the environmental objectives in Appendix 3.

[1] European Commission, the European Green Deal, COM/2019/640 final.

[2] Finland's recovery and resilience plan and proposal for a Council Implementing Decision: https://ec.europa.eu/info/publications/proposal-council-implementing-decision-approval-assessment-recovery-and-resilience-plan-finland-and-annex_fi [Functioning of the weblinks/hyperlinks was tested on 7th March 2022].

[3] Article 107 of the Treaty on the Functioning of the European Union, OJ C 326, 26.10.2012, p. 47.

[4] EU Taxonomy Regulation https://eur-lex.europa.eu/legal-content/EN/TXT%20/PDF/?uri=CELEX:32020R0852&from=EN

In the determination and application of the assessment methods, particular attention is paid to Pillar 1 industrial investment projects and research, development and innovation projects identified in Finland's programme for sustainable growth. After discussions with the project stakeholders, Business Finland and the Academy of Finland, these projects were selected for more detailed examination due to the urgency of the funding programmes in question. However, the assessment methods developed in the work can also be used in other projects requiring DNSH assessments.

The European Commission may issue more detailed guidelines for the application of the DNSH assessment during 2022 and these should be taken into account when projects are reviewed.

2 Basis of the guidance for DNSH assessment

Key EU legislation relevant to the Recovery and Resilience Facility and guidance on DNSH assessment are presented in this section. Member States must prepare a DNSH assessment for each measure listed in their recovery and resilience plans so that the harm that may be caused by the recovery measures can be determined. Member States can use the classification system for sustainable funding prepared by the European Union (EU taxonomy) in their DNSH assessments.[5] See Appendix 2 for a more comprehensive overview of the European Union and national legislation on DNSH assessment.

Regulation (EU) 2021/241 of the European Parliament and of the Council establishing the Recovery and Resilience Facility (RRF Regulation)[6]

The Recovery and Resilience Facility Regulation provides that the RRF shall only support projects respecting the DNSH principle (Article 5 of the RRF Regulation). It must be ensured in the assessment of national recovery and resilience plans that each measure (reform or investment) listed in them complies with the DNSH principle. Under the RRF Regulation,[7] a Member State must explain in its recovery and resilience plan how the plan ensures that no measure for the implementation of reforms and investments included in the plan does significant harm to environmental objectives within the meaning of Article 17 of the EU Taxonomy Regulation (EU) 2020/852 (DNSH principle). The DNSH assessment must cover all measures. However, a general DNSH assessment can be carried out on measures that have no or an insignificant foreseeable impact on all or some of the six environmental objectives.

Annex VI to the RRF Regulation lists the coefficients for calculating support for climate change objectives granted to different projects. When a measure is deemed to contribute to the achievement of any of the six environmental objectives to such an extent that its coefficient is 100 per cent, it is considered to comply with the DNSH principle for that objective. In connection with the Recovery and Resilience Facility, a number of measures are considered to contribute to the achievement of the climate change objectives or other environmental objectives in the manner described in the Annex 'Methodology for climate tracking' to the RRF Regulation. If the measure contributes 100 per cent to the achievement of a climate change objective, it is considered to be in accordance with the DNSH principle for the objective in question (climate change mitigation or adaptation). If the measure contributes 100 per cent to the achievement of other than climate-related environmental objectives, it is considered that the principle has been observed for the environmental objective in question (such as water and marine resources, circular economy, pollution prevention and control, or biodiversity and ecosystems). However, the applicant must also demonstrate that the measure does not cause significant harm to any of the other environmental objectives. In practice, in Finland's recovery and recovery plan, 100 per cent coefficients for various measures have been verified only for the objective of mitigating climate change. Some measures that are tracked as supporting climate change mitigation with a coefficient of 100 per cent involve special conditions that may have an impact on the assessment of DNSH. The coefficients and special conditions for each project should be reviewed in the Commission Implementing Decision on the Finnish Recovery and Recovery Plan[2].

[5] Technical guidance of the European Commission on the application of 'Do no significant harm' under the Recovery and Resilience Facility Regulation (section 2.5).

[6] Regulation establishing the Recovery and Resilience Facility (RRF Regulation): https://eur-lex.europa.eu/legal-content/EN/TXT/%20PDF/?uri=CELEX:32021R0241&from=EN

[7] Paragraph 3(d) of Article 18

Commission Notice Technical guidance on the application of 'Do no significant harm' under the Recovery and Resilience Facility Regulation (2021/C 58/01)[8]

The purpose of the technical guidance of the Commission is to clarify what the DNSH principle means and how it should be applied in the context of the Recovery and Resilience Facility. It also explains how Member States can demonstrate that the measures proposed in their recovery and resilience plans are in accordance with the principle. Annex IV to the guidance contains practical examples of how compliance with the principle should be demonstrated in the recovery and resilience plans.

Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (EU Taxonomy Regulation) [9]

Article 3 of the EU Taxonomy Regulation lays down the criteria for environmentally sustainable economic activities. For the purposes of establishing the degree to which an investment is environmentally sustainable, an economic activity shall qualify as environmentally sustainable where that economic activity: (a) contributes substantially to one or more of the environmental objectives set out in Article 9 in accordance with Articles 10 to 16; (b) does not significantly harm any of the environmental objectives set out in Article 9 in accordance with Article 17; (c) is carried out in compliance with the minimum safeguards laid down in Article 18;[10] and (d) complies with technical screening criteria laid down in the Regulation.

The classification system contains the following six environmental objectives (Article 9 of the EU Taxonomy Regulation):

1. climate change mitigation
2. climate change adaptation
3. sustainable use and protection of water and marine resources
4. transition to a circular economy
5. pollution prevention and control
6. protection and restoration of biodiversity and ecosystems.

Commission Delegated Regulation on Technical Screening Criteria (EU 2021/2139) and supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council.[11]

The legally binding delegated regulation supplementing the EU Taxonomy Regulation lays down the technical screening criteria (Article 1 and the Annexes to the Regulation) for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes significant harm to any of the other environmental objectives laid down in Article 9 of the EU Taxonomy Regulation.

[8] Technical guidance of the Commission: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52021XC0218%2801%29

[9] EU Taxonomy Regulation: https://eur-lex.europa.eu/legal-content/EN/TXT%20/PDF/?uri=CELEX:32020R0852&from=EN

[10] The minimum safeguards laid down in Article 18 are procedures implemented by an undertaking that is carrying out an economic activity to ensure the alignment with specific operating guidelines.

[11] Commission Delegated Regulation on Technical Screening Criteria: https://eur-lex.europa.eu/legal-content/EN/TXT/?from=FI&uri=CELEX%3A32021R2139

Finland's sustainable growth programme[12] and recovery and resilience plan and the proposal for a Council Implementing Decision [13]

The recovery and resilience plan (RRP) is Finland's national plan for using the funding granted from the EU's Recovery and Resilience Facility (RRF). The plan is part of Finland's sustainable growth programme. Funding for the sustainable growth programme comes from the Recovery and Resilience Facility and the purpose of the programme is to coordinate the funding granted from different RRF programmes. The plan was officially adopted by the Council of the European Union on 29 October 2021. Compliance with the DNSH principle (DNSH Tables) for the programme measures are presented in Appendix 3 to Finland's sustainable growth programme.

For the latest information on Finland's sustainable growth programme and the RRF funding programme, see the website of the Ministry of Finance.[14]

Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage[15]

The purpose of this directive is to establish a framework of environmental liability based on the 'polluter-pays' principle to prevent and remedy environmental damage (Article 1). Environmental damage means: (a) damage to protected species and natural habitats, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species; (b) water damage, which is any damage that significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential; (c) land damage, which is any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms. The party causing the damage is primarily responsible for the rehabilitation of the polluted environment. In Finland, the Environmental Liability Directive has been implemented by means of a number of different acts and decrees, such as the Act on Compensation for Environmental Damage (737/1994), Environmental Damage Insurance Act (81/1998) and the Government Decree on the Remediation of Certain Environmental Damage (713/2009) as well as amendments to the Nature Conservation Act (1096/1996), the Environmental Protection Act (527/2014), the Water Act (587/2011) and the Gene Technology Act (377/1995).

[12] Finland's sustainable growth programme: https://julkaisut.valtioneuvosto.fi/handle/10024/163363

[13] Finland's recovery and resilience plan and the proposal for a Council Implementing Decision: https://ec.europa.eu/info/publications/proposal-council-implementing-decision-approval-assessment-recovery-and-resilience-plan-finland-and-annex_fi

[14] Ministry of Finance website on Finland's sustainable growth programme and the RRF funding programme: https://vm.fi/en/sustainable-growth-programme-for-finland

[15] Environmental Liability Directive: https://eur-lex.europa.eu/legal-content/EN/TXT/?fromTab=ALL&from=FI&uri=CELEX%3A32004L0035

3 Stages of DNSH assessment

3.1 General

This section describes the two-stage DNSH assessment of a project, using the assessment tables developed in the project. The general diagram presented here and the tables in section 4 are intended for research projects, but in modified form, they can also be used to assess other projects. Tables to assess investment projects are presented in section 5.

When the assessment is carried out, it must be ensured that each project for which funding from the Recovery and Resilience Facility is sought complies with the DNSH principle for all six environmental objectives:

1. climate change mitigation
2. climate change adaptation
3. sustainable use and protection of water and marine resources
4. transition to a circular economy
5. pollution prevention and control
6. protection and restoration of biodiversity and ecosystems.

The DNSH assessment is carried out in two stages (Figure 1). In the first stage, a general assessment is carried out to identify the environmental objectives for which a detailed DNSH assessment is required.

A detailed DNSH assessment with justifications is required for the environmental objectives that may be significantly affected by the project. The impacts at all stages of the project must be considered, including the direct and indirect environmental impacts of project implementation and project results on the achievement of the environmental objectives listed in the DNSH criteria.

The harmful impacts arising during the entire project life cycle must be addressed in the DNSH assessment. However, as a rule, a life cycle assessment is not required; it is sufficient to identify the most significant impacts occurring during the project life cycle.

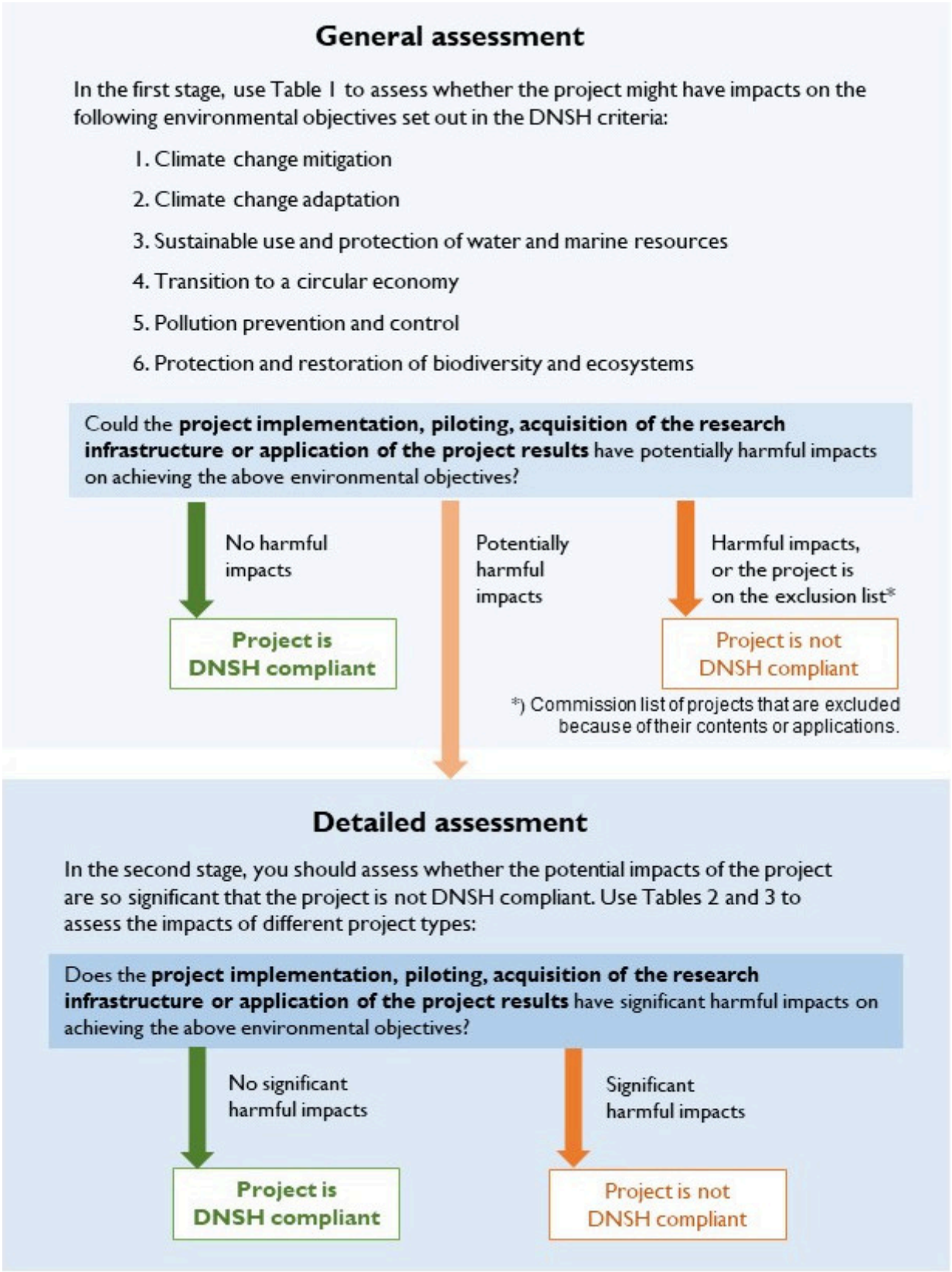

Figure 1. A DNSH assessment of a research project is carried out in two stages. In the first stage, a general assessment of the project's potentially harmful environmental impacts is carried out. In the second stage, the significance of the identified and potentially harmful impacts is assessed.

3.2 General assessment (research projects)

The general assessment is carried out as follows:

- In the first stage, the potentially harmful impacts of the project on the six environmental objectives listed in the DNSH criteria are assessed using the ratio described in Table 1 (see section 4.7):
    1. Climate change mitigation
    2. Climate change adaptation
    3. Sustainable use and protection of water and marine resources
    4. Transition to a circular economy
    5. Pollution prevention and control
    6. Protection and restoration of biodiversity and ecosystems.
- The purpose of the general assessment is to determine which impacts require a detailed DNSH assessment and for which impacts only a general assessment is required. The applicant must briefly describe the potentially harmful impacts or explain why a specific environment objective does not require a detailed DNSH assessment.
- The applicant should determine for each objective whether the implementation or piloting of the project or application of the project results could have potentially harmful environmental impacts (yes/no). It is not necessary to consider the impacts arising from ordinary research or development work carried out in the project (such as computer use, meetings or conventional paper waste). Potentially harmful impacts should be briefly described in the table.
- If it is concluded that the project does not have any foreseeable harmful impacts on the objective, a brief justification to support this view should be provided. If the conclusion is that the impact is insignificant, it can be considered that the project complies with the DNSH principle for the objective in question.
- A brief justification explaining why a specific environmental objective does not require a detailed DNSH assessment is also sufficient for each objective if one of the following criteria is met:
    - The measure is tracked as supporting a climate change or other environmental objective with a coefficient of 100 per cent (see Annex VI to the EU Regulation 2021/241 on establishing the Recovery and Resilience Facility16). In that case, the objective in question is deemed to comply with the DNSH principle.
    - The project meets the assessment criteria for ‘substantially contributing’ to an environmental objective set out in Articles 10 to15 of the EU Taxonomy Regulation (2020/852)17 and the related ‘Do no significant harm’ criteria. In that case, the objective in question is deemed to comply with the DNSH principle.18

    With regard to the two justifications referred to above, it should be noted that these justifications only concern the environmental objective in question. All other objectives must also be reviewed in the assessment.

[16] Regulation on establishing the Recovery and Resilience Facility: https://eur-lex.europa.eu/legal-content/EN/TXT/%20PDF/?uri=CELEX:32021R0241&from=EN

[17] Commission Delegated Regulation on Climate Change Mitigation and Adaptation and Annexes to it: https://eur-lex.europa.eu/legal-content/EN/TXT/?from=FI&uri=CELEX%3A32021R2139

[18] By the time of the publication of the report, delegated regulations had only been adopted for the objectives of climate change mitigation and adaptation.

- If the project may have potentially harmful impacts and does not meet the above criteria for substantially contributing to an environmental objective, a detailed assessment of this objective must be carried out in stage 2.
- In the first stage, the applicant must check whether the planned project is on the list of excluded projects (Commission's exclusion list). If the project is on the exclusion list, it is not DNSH compliant and no funding for the project can be granted. The following projects are on the exclusion list: projects that promote the use of fossil fuels (incl. downstream use), projects related to waste landfills, incinerators and mechanical biological treatment plants, and projects where the long-term disposal of waste may cause harm to the environment. Projects on the exclusion list are discussed in more detail in Appendix 2.

A project is DNSH compliant if, based on the assessment, it does not have harmful impacts on any of the objectives. Otherwise, you can move to stage 2 (detailed assessment).

3.3 Detailed assessment

A detailed assessment is carried out to determine the significance of the project impacts with regard to the DNSH environmental objectives for which potentially harmful impacts were identified in the general assessment. Depending on the project type, Table 2 or 3 is used as a basis for the detailed assessment (see section 4.7). The following matters should be considered in the assessment:

- For each harmful impact identified in the first stage, the following should be described in the assessment table of the detailed assessment:
  - Sensitivity of the impact area or target to changes.
  - Intensity, duration and extent of the impacts.
  - Based on the above, significance of the impacts using background material (significance assessment tables, Appendix 3).
- The project is DNSH compliant if none of the impacts assessed above is significant.
  - Otherwise, it should be assessed whether the impacts could be mitigated so that they are no longer significant. The change resulting from the mitigation must be described in the table.

If the project still has significant harmful impacts after mitigation, it does not meet the requirements set out in the DNSH criteria and no funding can be granted.

3.4 Applying DNSH assessment to projects of different types

Member States must prepare a DNSH assessment for each measure set out in their recovery and resilience plans to determine any potential harm caused by the recovery measures. However, there is a wide variety of different projects seeking RRF funding, both in terms of the activities set out in them and their size. In the smallest projects, about EUR 10,000 in funding is sought, whereas in the largest investment projects, funding totalling more than one million euros is applied for. Funding is also sought for projects with no environmental aspects that cannot be assumed to cause significant harm to any of the environmental objectives. In that case, it is sufficient to carry out a general assessment of the project using the general assessment method described in Appendix 1. The method can be tailored to the requirements of the funding programme.

Even though there are projects with measures that are unlikely to have significant harmful impacts on any of the environmental objectives, a general DNSH assessment must be carried out and the applicant must explain for each objective that no significant harm will arise. This is the only way to demonstrate that the programme meets the requirements for the DNSH assessment.

By the time of the publication of the report (28th of January 2022), no clear guidance had been received from the European Commission on the need for a DNSH assessment for projects without any environmental aspect. For this reason, it is proposed that a general assessment should also be carried out on projects in which such instruments as RRF funding is used to employ persons in social work carried out in municipal premises. If a confirmation is received from the Commission that such projects do not require a project-specific DNSH assessment, the need for a DNSH assessment can be reconsidered. The guidance for general DNSH assessment of such projects is described in Appendix 1.

Sections 4 and 5 contain examples of how and at what level DNSH assessments should be carried out on different projects. In determining the assessment methods, particular consideration has been given to industrial investment projects and research, development and innovation projects. After discussions with the project stakeholders, Business Finland and the Academy of Finland, these projects were selected for more detailed examination due to the urgency of the funding programmes in question. However, the assessment methods developed for investment and RDI projects can also be used for other projects requiring a DNSH assessment.

4 DNSH assessment of research, development and innovation projects

4.1 General

The two-stage DNSH assessment described in section 3 and related general guidance also apply to research, development and innovation (RDI) projects. This section examines in more detail at what level a DNSH assessment is required for research, development and innovation projects. Classification of projects in different categories is loosely based on the Technology Readiness Level (TRL) scale.[19] The level of DNSH assessment must be considered and defined separately for each programme and project.

The following conclusion contained in the Annex to the Proposal for a Council Implementing Decision on the approval of the assessment of Finland's recovery and resilience plan (2021/0317 (NLE))[20] should be considered in the DNSH assessment of RDI projects:

'The following RDI actions shall be considered compliant with the 'Do no significant harm' technical guidance (2021/C58/01): (i) those RDI actions resulting in technologically neutral outcomes at the level of their application; (ii) those RDI actions supporting alternatives with low environmental impacts for which these exist; or (iii) those RDI actions that are primarily focused on developing alternatives with the lowest possible environmental impacts in the sector for those activities for which no technologically and economically feasible low-impact alternative exists.'

4.2 Category A: Research/desk research

The project referred to here is 'desk research', which does not involve production or process development work, the results of which could have harmful impacts on a DNSH environmental objective. The applicant must check that the project is not on the Commission's list of excluded projects (exclusion list).

For projects in this category, a brief justification for each objective is sufficient if one of the following criteria is met:

- If under Annex VI to the RRF Regulation (2021/241), the project is tracked as contributing 100 per cent to an environmental objective, it can be considered to comply with the DNSH principle for this objective. In that case, only a short description of the project impacts and the reasons why it meets all DNSH criteria are required.
- Similarly, if the project meets the assessment criteria for 'substantially contributing' to an environmental objective set out in the EU Taxonomy Regulation (2020/852) and the related 'Do no significant harm' criteria, a brief description and justification of why the efficiency criterion is met is sufficient as the DNSH assessment.

With regard to the two justifications mentioned above, it should be remembered that these justifications only concern the environmental objective in question. All other objectives must also be reviewed in the assessment.

RDI projects in Technology Readiness Level TRL categories 1 and 2 are included in this group.

[19] Technology Readiness Level (TRL) scale: https://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-g-trl_en.pdf

[20] Proposal for a Council Implementing Decision on the approval of the assessment of Finland's recovery and resilience plan (2021/0317 (NLE): https://data.consilium.europa.eu/doc/document/ST-12513-2021-ADD-1/en/pdf

DNSH assessment level for category A projects

The applicant must check that the project is not on the Commission's list of excluded projects (For the exclusion list, see Appendix 2) A general assessment of the project's harmful environmental impacts is sufficient as a DNSH assessment (Complete Table 1).

4.3 Category B: Applied RDI projects

Category B projects are carried out to study, develop or offer innovations for technologies, products or other solutions, and the projects are related to or aimed at generating economic activities or applied solutions.

Projects in this category are not linked to any specific location. For this reason, in the impact assessment, the most significant harmful environmental impacts of the project over its entire life cycle must be identified and the mitigation of these impacts described.

Most of the RDI projects in this category are DNSH compliant unless any significant harmful environmental impacts are identified in the general assessment.

For projects in this category, a brief justification for each objective is sufficient if one of the following criteria is met:

- If under Annex VI to the RRF Regulation (2021/241), the project is tracked as contributing 100 per cent to an environmental objective, only a brief description and justification of why the efficiency criterion is met is required as the DNSH assessment.
- Similarly, if the project meets the assessment criteria for 'substantially contributing' to an environmental objective set out in the EU Taxonomy Regulation (2020/852) and the related 'Do no significant harm' criteria, a brief description and justification why the project is DNSH compliant is sufficient as the DNSH assessment.

Most of the RDI projects in TRL categories 3–4/5 are also included in this group.

DNSH assessment level for category B projects

A general assessment must be carried out on applied RDI projects (Complete Table 1). For each of the environmental objectives listed in Table 1, a brief description of the potentially harmful environmental impacts of the project must be given. The applicant must also ensure that the project is not on the Commission's list of excluded projects (For the exclusion list, see Appendix 2).

4.4 Category C: Piloting and demonstration projects

The purpose of piloting and demonstration projects is to carry out practical tests on a solution, method or technology. Both the direct and indirect environmental impacts of the target must be considered in the assessment.

Most of the RDI projects in TRL categories 5–6/8 are included in this group.

The projects are mainly divided into two types:

1. The purpose of the project is to pilot/demonstrate new activities (at a specific location) but production-scale application mainly takes place elsewhere.
2. The purpose of the project is to pilot and plan for application new production-scale activities at a specific location.

If the project has a valid environmental permit for pilot-scale activities, information on the piloting or demonstration stage can usually be found in the permit process documents and the information can be

used in the general impact assessment (Table 1). The documents probably contain sufficient information on the harmful environmental impacts arising during pilot-scale activities that concern objectives 3 (sustainable use and protection of water and marine resources), 5 (pollution prevention and control) and 6 (protection and restoration of biodiversity and ecosystems). Therefore, a project with a valid environmental permit meets the DNSH requirements for these environmental objectives and only a description of this is required.

The permit process documents of the pilot-scale activities can also be used in the general assessment of the indirect environmental impacts of the project (results). In this assessment, the magnitude of the harmful impacts can be 'scaled upwards', taking into account industrial-scale production and its emissions.

When the harmful impacts arising from the application of the project results are assessed, the most significant environmental risks resulting from the activities should be identified at general level. These depend on such factors as the properties of the raw materials and chemicals used in the production and the typical emissions generated by the activities.

If the pilot-scale activities are carried out in an existing installation and they concern the improvement of existing activities and/or the incorporation of new processes into the existing activities, existing information on the environmental permit process and EIA procedures can be extensively used in the assessment of the harmful environmental impacts. The information can be used in the assessment of the harmful impacts of the pilot-scale and industrial-scale activities, especially with regard to meeting the objectives 3, 5 and 6. In such cases, the impact of the change in the activities on emissions and the manner in which the change affects environmental impacts should be described in Table 1 and their significance assessed.

A detailed DNSH assessment is primarily needed for objectives 2 (climate change adaptation) and 4 (transition to a circular economy). It may also be required for objective 1 (climate change mitigation).

In the description of greenhouse gas emissions, emission levels can be compared with similar activities (BAT evaluation) or with municipal/regional/national carbon neutrality targets or sector-specific targets relevant to the measure.

For projects in this category, a brief justification for each objective is also sufficient if one of the following criteria is met:

- If under Annex VI to the RRF Regulation (2021/241), the project is tracked as contributing 100 per cent to an environmental objective, only a brief description and justification of why the DNSH criterion is met is required as a DNSH assessment.
- Similarly, if the project meets the assessment criteria for 'substantially contributing' to an environmental objective set out in the EU Taxonomy Regulation (2020/852) and the related 'Do no significant harm' criteria, a brief description and justification of why the project is DNSH compliant is sufficient as the DNSH assessment.

DNSH assessment level for category C projects

1. The purpose of the project is to pilot/demonstrate new activities (at a specific location) but production-scale application mainly takes place elsewhere.

The harmful environmental impacts arising from the pilot-scale activities and application should be identified for the project. As the target for the (production-scale) activities is not known, the focus in the DNSH assessment should be on identifying the emissions generated by the activities and their levels and on evaluating them in relation to reference values (such as the BREF documents referred to in the EU's Industrial Emissions Directive 2010/75/EU) and on identifying environmental risks for the entire life cycle. The risks and compliance of the chemicals used and the harmful impacts of the raw material purchases and those arising during the product life cycle must also be assessed. For this reason, the focus in the DNSH assessment should be on objectives 1 (greenhouse gas emissions of the activities)

and 5 (emissions and the chemicals used) and to some extent, objectives 4 and 6 (life-cycle impacts generated by the purchases of non-renewable raw materials). As a rule, a comprehensive assessment of the significance of harmful impacts is not required (Tables 1 and 2).

2. The purpose of the project is to pilot and plan for application new production-scale activities in a specific location.

The harmful environmental impacts arising from the pilot-scale activities and application should be identified for the project. As the location of the activities is known, local conditions (such as the sensitivity of the receiving waters) should be considered in the DNSH assessment. If the project involves a change in existing production, the assessment can usually draw on the information on harmful environmental impacts collected in the environmental permit process. As already stated above, a comprehensive assessment of the significance of harmful impacts is not usually required for piloting/demonstration projects, but emissions and the most important environmental risks must be identified for the entire life cycle of the production and the product (Tables 1 and 2).

4.5 Category D: Research infrastructure projects

Category D comprises research infrastructure projects in which equipment, technology or other infrastructure required for the research is purchased. Use Table 3 to produce a detailed DNSH assessment of a research infrastructure project.

For projects in this category, a brief justification for each objective is also sufficient if one of the following criteria is met:

- If under Annex VI to the RRF Regulation (2021/241), the project is tracked as contributing 100 per cent to an environmental objective, only a brief description and justification of why the DNSH criterion is met is required as a DNSH assessment.
- Similarly, if the project meets the assessment criteria for 'substantially contributing' to an environmental objective set out in the EU Taxonomy Regulation (2020/852) and the related 'Do no significant harm' criteria, a brief description and justification of why the project is DNSH compliant is sufficient as the DNSH assessment.

DNSH assessment level for category D projects

As a rule, a large-scale assessment of the significance of harmful impacts is not required for research infrastructure projects, but the emissions associated with the purchases and the most important environmental risks must be identified for the entire life cycle (Tables 1 and 3).

4.6 Category E: Industrial-scale investment projects (TRL category 9)

A detailed DNSH assessment is required for industrial-scale investment projects. DNSH assessment of investment projects is described in more detail in section 5.

4.7 Assessment model tables

DNSH assessment model tables are presented in Tables 1–3.

Table 1. General assessment of the impacts of an RDI project.

1. Climate change mitigation			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 2.** **If you answered No, give a brief justification in the field below.**
Will the project have potentially harmful impacts on climate change mitigation? • Will there be an increase in greenhouse gas emissions? • Will carbon sinks and/or carbon storages decrease? • Will there be any other harmful impacts?			
Instructions for assessment In the description of greenhouse gas emissions, emission levels can be compared with similar activities (BAT evaluation) or with municipal/regional/national carbon neutrality targets or sector-specific targets relevant to the measure. Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting climate change mitigation with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria.			
2. Climate change adaptation			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 2.** **If you answered No, give a brief justification in the field below.**
Will the project have potentially harmful impacts on climate change adaptation? • Will the project increase water consumption? • Will the project increase the risk of flooding or drought, or exposure to extreme weather? • Will the project only make a limited contribution to the combating of extreme weather? • Will there be any other harmful impacts?			
Instructions for assessment Describe here such factors as the impacts of water consumption on local water balance. Potential impacts of climate change must also be assessed; for example, will access to water required in the process be at risk during extreme weather. Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria.			

3. Sustainable use and protection of water and marine resources			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 2.** **If you answered No, give a brief justification in the field below.**
Will the project have potentially harmful impacts on the sustainable use and protection of water and marine resources? • Can the project cause degradation of surface water or groundwater quality (for example, increase nutrient, metal or suspended solids loading, weaken the living conditions of fish or spread non-native species)? • Will the project increase heat stress? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.)			
4. Transition to a circular economy			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 2.** **If you answered No, give a brief justification in the field below.**
Will the project have potentially harmful impacts on transition to a circular economy? • Will the project increase the use of natural resources? • Will the project make the reuse of products or materials more difficult or will it shorten the useful lives of products? • Will the project make recycling of materials more difficult? • Will the project increase the disposal or incineration of waste? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100% (paragraph 045a of Annex IV to the RRF Regulation: Use of recycled materials as raw materials compliant with the efficiency criteria makes a 100% contribution to the achievement of the circular economy objective) or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.)			

5. Pollution prevention and control			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 2.** **If you answered No, give a brief justification in the field below.**
Will the project cause environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use? • Will the project increase chemicalisation of the environment? • Will the project cause significant emissions of harmful or hazardous substances? • Is there a potential for higher environmental risks? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.)			
6. Protection and restoration of biodiversity and ecosystems			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 2.** **If you answered No, give a brief justification in the field below.**
Can the project adversely impact biodiversity or undermine the protection and/or restoration of ecosystems? • Will the project destroy occurrences of protected or threatened habitat types or adversely impact their quality? • Will the project reduce the size of occurrences or the geographic distribution of protected or threatened habitat types? • Will the project destroy or adversely impact the quality of habitats of threatened species or species protected by legislation? • Will the project reduce the population size or range of threatened species or species protected by legislation? • Will the project make the protection and restoration of ecosystems more difficult? • Will there be any other harmful impacts on biodiversity?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.) Protection and restoration of ecosystems becomes more difficult if, for example, the impacts of the activities extend to Natura 2000 sites or nature reserves.			

Table 2. Detailed DNSH assessment of pilot and demonstration projects
The objectives for which potentially harmful environmental impacts were identified in stage 1 must be addressed in this assessment.

1. Climate change mitigation			
Project impacts	**Yes**	**No**	**Describe here the most significant identified harmful impacts on the environment arising from the project and their intensity, extent and risks.** **Describe both direct and indirect harmful impacts (impacts of piloting and application of the results).** **Also describe how the harmful impacts can be mitigated.**
Will the piloting and application of the results have significant harmful impacts on climate change mitigation? • Will there be a substantial increase in greenhouse gas emissions? • Will carbon sinks and/or carbon storages decrease? • Will there be any other significant harmful impacts?			
Instructions for assessment You can use LCA principles, such as the guidelines contained in the GHG Protocol (https://ghgprotocol.org/), PEF method (2013/179/EU) or other appropriate methods to assess the climate impacts. In the description of greenhouse gas emissions, emission levels can be compared with similar activities (BAT evaluation) or with relevant municipal/regional/national carbon neutrality targets or sector-specific targets. For relevant legislation and national guidance, see Appendix 2.			
2. Climate change adaptation			
Project impacts	**Yes**	**No**	**Describe here the most significant identified harmful impacts on the environment arising from the project and their intensity, extent and risks.** **Describe both direct and indirect harmful impacts (impacts of piloting and application of the results).** **Also describe how the harmful impacts can be mitigated.**
Can the piloting and application of the results have potentially significant harmful impacts on climate change adaptation? • Will the project significantly increase water consumption? • Will the project increase the risk of flooding or drought, or exposure to extreme weather? • Will there be any other significant harmful impacts?			
Instructions for assessment Describe here such factors as the impacts of water consumption on local water balance. Potential impacts of climate change must also be assessed; for example, will access to water required in the process be at risk during extreme weather. For relevant legislation and national guidance, see Appendix 2.			

3. Sustainable use and protection of water and marine resources			
Project impacts	**Yes**	**No**	**Describe here the most significant identified harmful impacts on the environment arising from the project and their intensity, extent and risks.** **Describe both direct and indirect harmful impacts (impacts of piloting and application of the results).** **Also describe how the harmful impacts can be mitigated.**
Will the piloting and application of the results have potentially significant harmful impacts on the sustainable use and protection of water and marine resources? • Can the project cause degradation of surface water or groundwater quality? For example, could it increase the loading of nutrients, metals or other harmful and hazardous substances, significantly weaken the living conditions of fish or spread non-native species? • Will the project significantly increase heat stress? • Will there be any other significant harmful impacts?			

Instructions for assessment

If the project has a valid environmental permit for pilot-scale activities, permit process documents usually contain information on the impacts of piloting and this can be used to adequately describe the environmental objectives.

In existing installations, most of the potentially harmful impacts arising from the application of piloting are the result of higher emissions or emissions that are otherwise different from earlier emissions.

When the area for applying the results is not known, you are only required to identify the risks relevant to the objective and describe the potential for mitigating them.

Here you should identify and assess potential risks to achieving the good status of waters set out in the river basin management plans (do the emissions make it less likely that the good status can be achieved by the year 2027).

The list of variables contains a range of different ecological and chemical parameters that must not be weakened. There is more room within the classification range.

The DNSH description should identify the variables of the emissions generated in the process that may weaken the status of the receiving waters (BREF documents may not necessarily contain all significant variables for the target area).

For relevant legislation, national guidance and links, see Appendix 2.

4. Transition to a circular economy			
Project impacts	**Yes**	**No**	**Describe here the most significant identified harmful impacts on the environment arising from the project and their intensity, extent and risks.** **Describe both direct and indirect harmful impacts (impacts of piloting and application of the results).** **Also describe how the harmful impacts can be mitigated.**
Will the piloting and application of the results have potentially significant harmful impacts on transition to a circular economy?[21] • Will the project significantly increase the use of natural resources? (Special consideration should be given to critical raw materials, such as rare earth elements.) • Will the project make the reuse of products or materials significantly more difficult or will it shorten the useful lives of products? Has consideration been given to recyclability of products or materials? • Will the project significantly increase the disposal or incineration of waste? • Will there be any other significant harmful impacts?			
Instructions for assessment Describe here how the project is related to waste hierarchy. Under the RRF Regulation, no funding can be granted to projects that increase incineration of waste or disposal of waste in landfills. Describe the following: • reuse of the product/material generated in the production or recyclability of the material • impact of the chemicals contained in the product/waste on reuse/recycling • efficiency of the use of materials or natural resources in the activities. The project must also be in accordance with the National Waste Plan. For relevant legislation and national guidance, see Appendix 2.			

[21] According to the Technical guidance on the application of "do no significant harm" under the Recovery and Resilience Facility Regulation an activity is considered to do significant harm to the circular economy, including waste prevention and recycling, if it leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or if it significantly increases the generation, incineration or disposal of waste, or if the long-term disposal of waste may cause significant and long-term environmental harm.

5. Pollution prevention and control			
Project impacts	**Yes**	**No**	**Describe here the most significant identified harmful impacts on the environment arising from the project and their intensity, extent and risks.** **Describe both direct and indirect harmful impacts (impacts of piloting and application of the results).** **Also describe how the harmful impacts can be mitigated.**
Will the project piloting and demonstration stage or application of the results cause environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use? • Are BAT requirements (BREF documents for chemical industry and metal processing) considered in the production? • Will the project increase chemicalisation of the environment? For example, will there be more leaks or leaching of harmful substances into soil, groundwater or surface water? • Will the project cause a significant increase in the emissions of hazardous substances? • Will the project increase other environmental risks (such as the explosion hazard)? • Will there be any other significant harmful impacts?			

Instructions for assessment

If an environmental permit has already been granted to the pilot-scale activities, permit process documents usually contain information that can be adequately used in the impact assessment.

Describe here applicable BREF documents and how the activities comply with BAT requirements (BAT emission levels are binding). For more information on BAT and BREF, go to the BAT website of the Finnish Environment Institute.

If there are no applicable BREF documents/BAT conclusions, other BAT reports and regulation can be used as a reference for BAT evaluation. These include the reports produced under the auspices of the Nordic Council of Ministers, HELCOM Recommendations and other similar documents (see Appendix 2).

All chemicals used must be in compliance with the Chemicals Regulation (provisions and links):
Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006)

- Discharged waters must not contain hazardous substances referred to in Annex 1 A) or substances referred to in Annexes 1 C1) and 1 D) in concentrations that may cause environmental quality standards to be exceeded.
- Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (guide; in Finnish, with English abstract)

Management of environmental damage must be in accordance with all relevant provisions. A preparedness plan for disruptions and exceptional situations based on the risk analysis
referred to in section 15 of the Environmental Protection Act must be in place.

For relevant legislation, national guidance and links to them, see Appendix 2.

6. Protection and restoration of biodiversity and ecosystems			
Project impacts	**Yes**	**No**	**Describe here the most significant identified harmful impacts on the environment arising from the project and their intensity, extent and risks.** **Describe both direct and indirect harmful impacts (impacts of piloting and application of the results).** **Also describe how the harmful impacts can be mitigated.**
Can the pilot-scale activities and application of the results have significant harmful impacts on biodiversity or significantly undermine the protection and/or restoration of ecosystems? • Will the achievement or maintenance of the favourable conservation status of a species or a natural habitat type be adversely affected? • Will the project impacts extend to protected or otherwise valuable areas? • Will there be any other significant harmful impacts?			

Instructions for assessment

If the project has a valid environmental permit for pilot-scale activities, permit process documents usually contain information that can be used to adequately describe the environmental objective.
Describe here how the project impacts species and their habitats, occurrence of natural habitat types and protected or otherwise valuable areas.

In existing installations, most of the potentially harmful impacts will result from higher emissions or emissions that are otherwise different from earlier emissions. In other words, the impacts mainly affect the quality of habitats or natural habitat types.

In planned installations, the impacts of the construction (including indirect harmful impacts, such as traffic to and from the installation) must also be considered.

For relevant legislation and national guidance, see Appendix 2.

Table 3. Detailed assessment of the impacts of a research infrastructure project.
The objectives for which potentially harmful impacts were identified in stage 1 must be addressed in the assessment.

1. Climate change mitigation			
Project impacts	**Yes**	**No**	**Describe here the impact of the project. The assessment must cover the objectives for which potentially harmful impacts were identified in stage 1. Also describe how the impacts can be mitigated.**
Will the activities carried out as part of the research infrastructure project have significant impacts on climate change mitigation? • Will the project involve activities that will significantly increase greenhouse gas emissions? Will the equipment purchased for the project have a high level of energy efficiency? • Will there be a significant decrease in carbon sinks and/or carbon storages? • Will there be any other impacts?			
Instructions for assessment [You do not need to separately assess the extent of the impact or the sensitivity of the target for climate change mitigation; only the assessment of the increase in CO2 emissions is required] In the description of greenhouse gas emissions, emission levels can be compared with the functioning of similar equipment. It is unlikely that the use or manufacturing of the research infrastructure equipment would significantly interfere with the achievement of this objective.			
2. Climate change adaptation			
Project impacts	**Yes**	**No**	**Describe here the impact of the project. Also describe how the impacts can be mitigated.**
Will the research infrastructure project have impacts on climate change adaptation? • Has consideration been given to the impacts of climate change on the infrastructure to be purchased? • Will there be any other impacts?			
Instructions for assessment Describe here such factors as the impacts of water consumption on local water balance. Potential impacts of climate change on the activities must also be assessed; for example, will access to water required in the process be at risk if extreme weather occurs. It is unlikely that the use or manufacturing of the research infrastructure equipment would significantly interfere with the achievement of this objective.			

3. Sustainable use and protection of water and marine resources			
Project impacts	**Yes**	**No**	**Describe here the impact of the project. Also describe how the impacts can be mitigated.**
Will the activities carried out as part of the infrastructure project have significant impacts on the sustainable use and protection of water and marine resources? • Can the activities cause significant degradation of surface water or groundwater quality (for example, increase nutrient, metal or suspended solids loading, weaken the living conditions of fish or spread non-native species)? • Can the project cause a significant increase in heat stress? • Will there be any other impacts?			
Instructions for assessment It is unlikely that the use or manufacturing of the research infrastructure equipment would significantly interfere with the achievement of this objective.			
4. Transition to a circular economy			
Project impacts	**Yes**	**No**	**Describe here the impact of the project. Also describe how the impacts can be mitigated.**
Will the activities carried out as part of the research infrastructure project have significant impacts on transition to a circular economy? **Questions on the research equipment** • Has sustainability been a consideration in the manufacturing of the equipment? • Has recyclability of materials been a consideration in the manufacturing of the equipment? • Will the use of the equipment lead to increased landfill depositing or incineration of waste? **Questions on the building of the research infrastructure** • Has reuse of materials been a consideration in the building design, for example by allowing separation of materials during repairs and demolition? • Will it lead to more waste incineration or landfill waste? • Has consideration been given to the life cycle characteristics of the buildings (such as adaptability and useful life)? • Will there be any other significant impacts?			

4. Transition to a circular economy
Instructions for assessment Describe: • reusability of the equipment or recyclability of the materials • efficiency of the use of materials or natural resources in the manufacturing of the equipment. If the project involves the construction of research buildings, recycling of the construction and demolition waste must be properly organised.[22] Longevity of the equipment and the buildings must also be a consideration.

5. Pollution prevention and control			
Project impacts	**Yes**	**No**	**Describe here the impact of the project. Also describe how the impacts can be mitigated.**
Can the activities carried out as part of the research infrastructure project cause such impacts as higher emissions? • Are harmful reagents from which harmful substances can enter the environment used in the equipment to be purchased? • Are the chemicals used in compliance with the REACH and POP Regulations? • Will the activities cause other significant harmful emissions? • Will there be any other significant impacts?			
Instructions for assessment (for relevant legislation and links, see Appendix 2) The chemicals used must be in compliance with the Chemicals Regulation: • Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006) • Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (guide; in Finnish, with English abstract) Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation). Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (POP Regulation).			

[22] Example 1 of Annex IV to the technical guidance (2021/C 58/01) under the RRF Regulation establishing the Recovery and Resilience Facility: The measure requires the economic operators carrying out the building renovation to ensure that at least 70% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site will be prepared for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol.

The measure includes technical specifications for the renewable energy generation equipment that can be installed about their durability, reparability and recyclability as specified on page X of the RRP. In particular, operators will limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol. Building designs and construction techniques will support circularity and in particular demonstrate, with reference to ISO 20887 or other standards for assessing the disassemblability or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantlable to enable reuse and recycling.

6. Protection and restoration of biodiversity and ecosystems			
Project impacts	**Yes**	**No**	**Describe here the impact of the project. Also describe how the impacts can be mitigated.**
Can the activities carried out as part of the research infrastructure project have significant harmful impacts on biodiversity or significantly undermine the protection and/or restoration of ecosystems?			
Instructions for assessment It is unlikely that the use or manufacturing of the research infrastructure equipment would significantly interfere with the achievement of this objective.			

5 DNSH assessment of investment projects

5.1 General

The two-stage DNSH assessment described in section 3 and the related general guidance also apply to investment projects. This section describes in more detail how the information produced in the environmental permit and EIA procedures and in other administrative processes can be used in the DNSH assessment of investment projects.

DNSH assessment methods for investment projects have been developed in cooperation with Business Finland and they are primarily intended for battery cluster, recycling and reuse investment programmes. An example of a DNSH assessment for a commercial-scale bioproduct plant is described in Appendix 4. DNSH assessment methods developed for investment projects can also be used for other funding programmes, such as structural fund projects (ERDF).

5.2 Using information produced in environmental permit and/or environmental impact assessment (EIA) process in DNSH assessment

a) The project has been granted an environmental permit or the EIA has been completed

If the project has a valid environmental permit and/or the EIA has been completed, the permit or EIA process documents probably contain information that can be adequately used in the assessment of environmental objectives. However, the information contained in the permit reports or EIA documents can only be used in DNSH assessments on a case-by-case basis.

An environmental permit is required for activities that cause a risk of environmental pollution. For the purpose of the environmental impact assessment, environmental impacts mean the direct and indirect effects of a project or activities inside and outside Finnish territory (including impacts on climate). The environmental impact assessment procedure includes the proposal detailing the identified environmental impacts to be assessed (in the assessment programme) and the statement of the coordinating authority on the significant environmental impacts of the project. The environmental impact assessment procedure is applied to projects and changes in them that are likely to have significant environmental impacts.

The documents on environmental impacts produced during the environmental permit process probably contain sufficient information on the following objectives of DNSH assessment: objectives 3 (sustainable use and protection of water and marine resources), 5 (pollution prevention and control) and 6 (protection and restoration of biodiversity and ecosystems). Thus, a project with a valid environmental permit probably meets the DNSH requirements for these environmental objectives and only a reference to the environmental permit and a short description of the information on each of the objectives contained in the environmental permit are required. However, an environmental permit does not contain a comprehensive review of the raw material purchases (relevant to objective 6) and a more detailed assessment and description of this matter must be provided.

In addition to using information taken from the environmental permit documents, a more detailed DNSH assessment must also address objectives 2 (climate change adaptation) and 4 (transition to a circular economy). It may also be necessary to address objective 1 (climate change mitigation). The information on the generation and treatment of waste contained in the environmental permit can be used when the impacts of the project on the circular economy objective are assessed. However, matters such as the impacts of the products over their entire life cycle are not addressed in the environmental permit and these should be described separately.

Even if compliance with existing legislation indicates that a specific measure does not generate any harmful environmental impacts, it does not exhaustively prove that the measure is in accordance with DNSH requirements. Some the environmental objectives set out in the EU Taxonomy Regulation have not yet been comprehensively incorporated in the environmental legislation and such matters as the consideration of environmental permits is case-specific. DNSH assessment is carried out separately from other parts of the impact assessment and a DNSH assessment is required even if an EIA has already been carried out on the project. It is therefore possible that activities authorised under the Environmental Protection Act are considered to be in violation of the DNSH principle. However, all environment-related impact assessments carried out on the activities and the sustainability assessments of the measure must be taken into account in the DNSH assessment. The DNSH may thus overlap other procedures, but it is unclear whether the DNSH assessment may, for example, conflict with activities granted an environmental permit.

When the role of the EU law and existing impact assessments and the relationship between them are examined, the relationship between these procedures and Article 17 is highlighted; it is particularly important to assess the harmful impacts when the obligations and approach under Article 17 are not covered by legal obligations and sustainability assessments. In particular, this applies to such objectives as climate change mitigation, climate change adaptation and promotion of a circular economy.

b) Applying for a change to an existing permit or a new environmental permit

If, as part of the project, an existing process is changed or a parallel process is added to the site of the installation, the impact of the change on emissions, the manner in which the change affects environmental impacts and the significance of the impacts must be described in the DNSH assessment. Earlier administrative processes and documents produced in them can also be used in this case.

If an existing environmental permit is revised because of a change in the process, a parallel process is added or an entirely new plant planned, all permits applied for must be listed in the DNSH assessment. Relevant BREF documents must also be presented and the applicant must describe how it intends to meet the requirements laid down in them. The applicant should also describe which aspects are considered in the assessment of biodiversity and how it intends to prevent harmful impacts (for example, Natura assessment or the derogation granted under the Nature Conservation Act). There are activities for which BREF documents do not apply and in such cases other references must be used. No consideration is given to location in the BAT evaluation and for this reason, conditions on the target site (such as sensitivity to a specific variable) must be assessed.

5.3 Other matters to be considered in a DNSH assessment of an investment project

a) The project meets the RRF efficiency criteria or the criteria for 'substantially contributing' to the objective laid down in the EU Taxonomy Regulation

If the project contributes 100 per cent to an environmental objective under Annex VI to the RRF Regulation (2021/241), it can be considered to comply with the DNSH principle for this objective. In that case, only a short description of the impacts and the reasons why the efficiency criterion is met are needed.

Similarly, if the project meets the assessment criteria for 'substantially contributing' to an environmental objective set out in Articles 10 to 15 of the EU Taxonomy Regulation (2020/852) and the related 'Do no significant harm' criteria, the project can be considered to comply with the DNSH principle for this objective. In that case, only a short description of the project impacts and how it meets the criteria is needed.

With regard to the two justifications referred to above, it should be remembered that these justifications only concern the environmental objective in question. All other objectives must also be reviewed in the assessment.

b) The planned project must not be on the list of excluded projects

If the planned project is on the list of excluded projects (Commission's exclusion list), the activities are not DNSH compliant and no funding can be granted.

The following projects are on the exclusion list: projects that promote the use of fossil fuels (incl. downstream use),[23] projects related to waste landfills, incinerators[24] and mechanical biological treatment plants,[25] and projects where the long-term disposal of waste may cause harm to the environment. Projects on the exclusion list are discussed in more detail in Appendix 2.

c) Measures falling under the scope of the EU Emissions Trading System

In its funding decisions, Finland complies with all existing state aid rules and guidance and takes into account the technical guidance (C(2021) 1054 final) on the application of the DNSH principle. The following sectors fall under the scope of the EU Emissions Trading System: heat and power generation, air traffic and the energy-intensive industries specified in the Emissions Trading Directive (2003/87/EC, amendment entering into force on 8 April 2018), including oil refining and the production of steel, iron, aluminium, other metals, cement, glass, ceramics, paper, pulp, cardboard, acids and organic chemicals.

The estimated greenhouse gas emissions of the projects falling under the scope of the EU Emissions Trading System must be lower than the benchmark specified as a precondition for free allocation in the Commission Implementing Regulation (EU) 2021/447.[26]

The focus in an investment or RDI project must be on the development or utilisation of new technologies, such as carbon dioxide capture or storage, use of hydrogen in the manufacture of metals, electrification of processes (depending on how the electricity is generated) or the use of biomethane instead of natural gas in the production of fertilisers. Optimisation or other development of existing technologies typically does not meet DNSH criteria even if such impacts as energy savings could be verified.

[23] From a climate change mitigation perspective, limited exceptions for measures related to power and/or heat generation using natural gas, as well as related transmission and distribution infrastructure, can be made to this general rule, on a case-by-case basis. Those exceptions need to be compliant with the conditions set out in Annex III to the 'Do no significant harm' technical guidance (2021/C58/01).

[24] This exclusion does not apply to actions under this measure in plants exclusively dedicated to treating non-recyclable hazardous waste, and to existing plants, where the actions under this measure are for the purpose of increasing energy efficiency, capturing exhaust gases for storage or use or recovering materials from incineration ashes, provided such actions under this measure do not result in an increase of the plants' waste processing capacity or in an extension of the lifetime of the plants; for which evidence is provided at plant level.

[25] This exclusion does not apply to actions under this measure in existing mechanical biological treatment plants, where the actions under this measure are for the purpose of increasing energy efficiency or retrofitting to recycling operations of separated waste to compost bio-waste and anaerobic digestion of bio-waste, provided such actions under this measure do not result in an increase of the plants' waste processing capacity or in an extension of the lifetime of the plants; for which evidence is provided at plant level.

[26] If the greenhouse gas emissions achieved in supported activities are not significantly lower than the relevant benchmarks, an explanation of the reasons why this is not possible must be provided. Benchmarks established for free allocation for activities falling under the scope of the Emissions Trading System are set out in the Commission Implementing Regulation (EU) 2021/447.

Table 4. General assessment of the impacts of an investment project

1. Climate change mitigation			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 5.** **If you answered No, give a brief justification below.**
Will the project have potentially harmful impacts on climate change mitigation? • Will there be an increase in greenhouse gas emissions? (If the answer is Yes, will the increase be minor or larger? - You can also give the answer in the next table) (here you can also take into account cross-effects and substitution) • Will carbon sinks and/or carbon storages decrease? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting climate change mitigation with a coefficient of 100% (For coefficients, see Annex VI to the RRF Regulation 2021/241), or • the project meets the requirement for 'substantially contributing' to climate change mitigation laid down in the EU Taxonomy Regulation and the related 'Do no significant harm' criteria (Commission Delegated Regulation, C/2021/2800 final).			
2. Climate change adaptation			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 5.** **If you answered No, give a brief justification below.**
Will the project have potentially harmful impacts on climate change adaptation? • Will the project increase water consumption? • Will the project increase the risk of flooding or drought, or exposure to extreme weather? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting climate change mitigation with a coefficient of 100%, or • the project meets the requirement for 'substantially contributing' to climate change adaptation laid down in the EU Taxonomy Regulation and the related 'Do no significant harm' criteria (Commission Delegated Regulation, C/2021/2800 final).			

3. Sustainable use and protection of water and marine resources			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 5.** **If you answered No, give a brief justification below.**
Will the project have potentially harmful impacts on the sustainable use and protection of water and marine resources? • Can the project cause degradation of surface water or groundwater quality (for example, increase nutrient, metal or suspended solids loading, weaken the living conditions of fish or spread non-native species)? • Will the project increase heat stress? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.)			
4. Transition to a circular economy			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 5.** **If you answered No, give a brief justification below.**
Will the project have potentially harmful impacts on transition to a circular economy? • Will the project increase the use of natural resources? • Will the project make the reuse of products or materials more difficult or will it shorten the useful lives of products? • Will the project make recycling of materials more difficult? • Will the project increase the disposal or incineration of waste? • Will there be any other harmful impacts? Only a brief justification is required if the use of recycled materials in the project as raw materials in accordance with efficiency criteria makes a 100% contribution to the achievement of the circular economy objective (paragraph 045a of Annex IV to the RRF Regulation).			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.)			

5. Pollution prevention and control			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 5. If you answered No, give a brief justification below.**
Will the project cause environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use? • Will the project increase chemicalisation of the environment? • Will the project cause significant emissions of harmful or hazardous substances? • Is there a potential for higher environmental risks? • Will there be any other harmful impacts?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.)			
6. Protection and restoration of biodiversity and ecosystems			
Project impacts	**Yes**	**No**	**If you answered Yes, go to the detailed assessment in Table 5. If you answered No, give a brief justification below.**
Can the project adversely impact biodiversity or undermine the protection and/or restoration of ecosystems? • Will the project destroy occurrences of protected or threatened habitat types or adversely impact their quality? • Will the project reduce the size of occurrences or the geographic distribution of protected or threatened habitat types? • Will the project destroy or adversely impact the quality of habitats of threatened species or species protected by legislation? • Will the project reduce the population size or range of threatened species or species protected by legislation? • Will the project make the protection and restoration of ecosystems more difficult? • Will there be any other harmful impacts on biodiversity?			
Instructions for assessment Only a brief justification of the project impacts is required if: • under the RRF Regulation, the project is tracked as supporting this environmental objective with a coefficient of 100%, or • under the EU Taxonomy Regulation, the project 'contributes substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria. (A delegated regulation had not yet been adopted for this objective by the time this report was published.) Protection and restoration of ecosystems becomes more difficult if, for example, the impacts of the activities extend to a Natura 2000 site or a nature reserve.			

Table 5. Detailed DNSH assessment of investment projects
The objectives for which potentially harmful environmental impacts were identified in stage 1 must be addressed in the assessment.

1. Climate change mitigation			
Project impacts	**Yes**	**No**	**Describe here the intensity, duration and extent of the harmful environmental impacts of the project and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment). Also describe how the harmful impacts can be mitigated.**
Will the investment project have significant harmful impacts on climate change mitigation? • Will there be a substantial increase in greenhouse gas emissions? • Will carbon sinks and/or carbon storages decrease? • Will there be any other significant harmful impacts?			
Instructions for assessment You can use LCA principles, such as the guidelines contained in the GHG Protocol, PEF method (2013/179/EU) or any other appropriate method to assess the climate impacts. In the description of greenhouse gas emissions, emission levels can be compared with similar activities (BAT evaluation) or in relation to the carbon neutrality targets of municipalities or other similar parties. For relevant legislation, national guidance and links to them, see Appendix 2. Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3a.			
2. Climate change adaptation			
Project impacts	**Yes**	**No**	**Describe here the intensity, duration and extent of the harmful environmental impacts of the project and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment). Also describe how the harmful impacts can be mitigated.**
Will the investment project have potentially significant harmful impacts on climate change adaptation? • Will the project significantly increase water consumption? • Will the project increase the risk of flooding or drought, or exposure to extreme weather? • Will there be any other significant harmful impacts?			
Instructions for assessment Describe here such factors as the impacts of any water consumption on local water balance. Potential impacts of climate change must also be assessed; for example, will access to water required in the process be at risk during extreme weather. For relevant legislation and national guidance, see Appendix 2. Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3b.			

3. Sustainable use and protection of water and marine resources			
Project impacts	**Yes**	**No**	**Describe here the intensity, duration and extent of the harmful environmental impacts of the project and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment). Also describe how the harmful impacts can be mitigated.**
Will the investment project have potentially harmful impacts on the sustainable use and protection of water and marine resources? • Can the project cause degradation of surface water or groundwater quality? For example, could it increase the loading of nutrients, metals or other harmful or hazardous substances, or significantly weaken the living conditions of fish? • Will the project significantly increase heat stress? • Will there be any other significant harmful impacts?			

Instructions for assessment

If the project has a valid environmental permit and/or the EIA has been completed, the permit and EIA process documents usually contain information that can be adequately used in the assessment of impacts. If the project has a valid environmental permit, it can, as a rule, be considered that the project meets the DNSH requirements for this objective.

Here you should identify and assess potential risks to achieving the environmental objectives that are in accordance with river basin management plans: do the emissions or physical changes make it less likely that the good status or the good achievable status of heavily modified water bodies can be achieved (by the year 2027). If the ecological status classification is lowered because of emissions, the impacts of the project can be considered as significantly harmful.

The list of variables contains a range of different ecological and chemical parameters that must not be weakened. There is more room within the classification range (minor changes are acceptable).

The DNSH description should identify the variables of the emissions generated in the process that may weaken the status of the receiving waters (BREF documents may not necessarily contain all significant variables for the target area).

The characteristics of the receiving waters (for example, is it a large lake or a small river) have an impact on the assessment.

The duration of the harmful impacts should also be assessed (for example, the impacts arising during the construction may be temporary).

Matters concerning land-use planning and the location of the installation (for example, its location in relation to groundwater areas) must be addressed in the description.

For relevant legislation and national guidance, see Appendix 2.

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3c.

4. Transition to a circular economy			
Project impacts	**Yes**	**No**	**Describe here the intensity, duration and extent of the harmful environmental impacts of the project and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment). Also describe how the harmful impacts can be mitigated.**
Will the investment project have potentially significant harmful impacts on transition to a circular economy? • Will the project significantly increase the use of natural resources? (Special consideration should be given to critical raw materials, such as rare earth elements.) • Will the project make the reuse of products or materials significantly more difficult or will it shorten the useful lives of products? Has consideration been given to the recyclability of products or materials? • Will the project significantly increase the disposal or incineration of waste? • Will there be any other significant harmful impacts?			

Instructions for assessment

Describe here how the project is related to waste hierarchy. Under the RRF Regulation, no funding can be granted to projects that increase incineration of waste or disposal of waste in landfills.[27]

Describe how the following is considered in the project:

- use of non-renewable natural resources in the production
- potential reuse of the product/material generated in the production or recyclability of the material
- durability/useful life of the product
- amount of landfill waste generated in the production
- impact of the harmful substances contained in the product/waste on reuse/recycling (and how information on the harmful substances contained in the product is disseminated in the value chain).

The project must also be in accordance with the National Waste Plan.

For relevant legislation and national guidance, see Appendix 2.

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3d.

[27] According to the Technical guidance on the application of "do no significant harm" under the Recovery and Resilience Facility Regulation an activity is considered to do significant harm to the circular economy, including waste prevention and recycling, if it leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or if it significantly increases the generation, incineration or disposal of waste, or if the long-term disposal of waste may cause significant and long-term environmental harm.

5. Pollution prevention and control			
Project impacts	**Yes**	**No**	**Describe here the intensity, duration and extent of the harmful environmental impacts of the project and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).** **Also describe how the harmful impacts can be mitigated.**
Will the project piloting and demonstration stage, application of the results or the investment project cause environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use? • Are BAT requirements (BREF documents of chemical industry and metal processing) considered in the production? • Will the project increase chemicalisation of the environment? For example, will it cause more leaks or leaching of harmful substances into soil, groundwater or surface water? • Will the project cause a significant increase in the emissions of hazardous substances? • Will the project increase other environmental risks (such as the explosion hazard)? • Will there be any other significant harmful impacts?			

Instructions for assessment

If the project has a valid environmental permit and/or the EIA has been completed, relevant documents usually contain information that can be adequately used in the assessment.

If the project has a valid environmental permit, it can be considered that the project meets the DNSH requirements for this objective.

Here you should describe the applicable BREF documents and compliance of the activities with BAT requirements (BAT emissions levels are binding). For more information on BAT and to view the reference documents, go to the BAT website of the Finnish Environment Institute.

If there are no applicable BREF documents/BAT conclusions, other BAT reports and regulation can be used as a reference for BAT comparison. These include the reports produced under the auspices of the Nordic Council of Ministers, HELCOM Recommendations and other similar documents.

The chemicals used must comply with the Chemicals Regulation (provisions):
Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006)

- Discharged waters must not contain hazardous substances referred to in Annex 1 A) or substances referred to in Annexes 1 C1) or 1 D) in concentrations that may cause environmental quality standards to be exceeded.
- Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (guide; in Finnish, with English abstract)

Substances prohibited under the REACH and POP Regulations must not be used.

Management of environmental damage must be in accordance with all relevant provisions. A preparedness plan for disruptions and exceptional situations based on the risk analysis referred to in section 15 of the Environmental Protection Act must be in place.

Operations of the plant must not endanger the good status of groundwater.

Air quality standards must not be exceeded.

BAT compliance of the installation with the Industrial Emissions Directive (2010/75/EU) is one criterion for ensuring that the installation meets the DNSH requirements for this environmental objective. However, the location of the installation is not a BAT consideration and for this reason, sensitivity of the location may give rise to additional requirements (also in the environmental permit process).

For relevant legislation, national guidance and links to them, see Appendix 2.

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3e.

6. Protection and restoration of biodiversity and ecosystems			
Project impacts	**Yes**	**No**	**Describe here the intensity, duration and extent of the harmful environmental impacts of the project and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).** **Also describe how the harmful impacts can be mitigated.**
Can the project activities have significant harmful impacts on biodiversity or significantly undermine the protection and/or restoration of ecosystems? • Will the achievement or maintenance of the favourable conservation status of a species or a natural habitat type be adversely affected? • Will the project impacts extend to protected or otherwise valuable areas? • Will there be any other significant harmful impacts?			

Instructions for assessment

If the project has a valid environmental permit and/or the EIA has been completed, the permit or EIA process documents usually contain information that can be adequately used in the assessment of impacts. If the project has a valid environmental permit, it can be considered that the project meets the DNSH requirements for this objective.

In some cases, additional information is required on purchases of raw materials.

Describe here how the project impacts species and their habitats, occurrence of natural habitat types and protected or otherwise valuable areas.

In existing installations, most of the potentially harmful impacts will result from higher emissions or emissions that are otherwise different from earlier emissions. In other words, the impacts mainly affect the quality of habitats or natural habitat types.

In planned installations, the impacts of the construction (including indirect harmful impacts, such as traffic to and from the installation) must also be considered.

Under section 5 of the Nature Conservation Act (1096/1996), nature conservation shall focus on attaining and maintaining the favourable conservation status of natural habitats and of wild species of Finland. The conservation status of a natural habitat shall be taken as favourable when its natural range and the areas it covers within that range are stable enough to ensure the long-term maintenance of said habitat and of the structure and functions of its ecosystem, and when the conservation status of its typical species is deemed favourable. The conservation status of a species shall be taken as favourable when the species proves capable of maintaining itself on a long-term basis as a viable component of its natural habitat.

For more information on threatened habitat types and species of Finland, see assessment reports and online services.

Protected or otherwise valuable areas include:

- Natura 2000 sites
- nature reserves
- areas reserved for conservation (sites included in national conservation programmes that are not yet protected and other areas acquired by the state for conservation purposes)
- nationally valuable geological formations
- important breeding, feeding, moulting and resting sites and migration routes for birds.

Sites and species protected by legislation include:

- natural habitat types protected under the Nature Conservation Act, when the boundaries of the occurrence have been set by the ELY Centre
- certain aquatic habitat types protected under the Water Act
- habitats of special importance in terms of biodiversity under the Forest Act (applies to the management and utilisation of forests mainly in areas classified as forestry land)
- sites hosting a species under strict protection under the Nature Conservation Act, when the boundaries of the site have been set by the ELY Centre
- breeding sites and resting places of animal species referred to in Annex IV(a) of the Habitats Directive, the destruction and deterioration of which is prohibited
- natural monuments.

For relevant legislation, national guidance and links to them, see Appendix 2.
Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3f.

Appendices

Appendix 1:
DNSH assessment for projects for which only a general assessment is required

General

In some projects, it can be assumed that the measure will not have significant harmful impacts on any of the environmental objectives. However, a general DNSH assessment stating for each objective that no significant harm is caused, is required to demonstrate that the project meets the DNSH assessment criteria. By the time of the publication of the report, no clear guidance had been received from the Commission on the need for a DNSH assessment for projects without any environmental content. For this reason, it is proposed that a general assessment should also be carried out on projects in which such instruments as RRF funding is used to employ persons for social work carried out in the municipal office. If a confirmation is received from the Commission that such projects do not require a project-specific DNSH assessment, the need for a DNSH assessment can reconsidered.

Instructions for completion for RRF funding applicants:
assessing the six environmental objectives

Projects supported with RRF funding must be in compliance with the DNSH principle. The projects must not cause significant harm to the six environmental objectives specified in the EU Taxonomy Regulation:[28]

1. climate change mitigation
2. climate change adaptation
3. sustainable use and protection of water and marine resources
4. circular economy, including waste prevention and recycling
5. prevention and control of air, water and soil pollution
6. protection and restoration of biodiversity and ecosystems.

You should answer Yes or No to the six questions on the environmental objectives listed in the DNSH assessment. Determine for each objective whether the project might have harmful impacts. It is not necessary to consider the impacts arising from ordinary activities carried out in the project (such as computer use, meetings or conventional paper waste).

- If you answered No, give a brief justification why a detailed DNSH assessment is not required for this particular environmental objective. The justification may be based on the fact that the measure does not have a foreseeable impact on this environmental objective or that its impact is insignificant given the nature of the measure and its direct and primary indirect impacts over its life cycle. In that case, it is deemed to comply with the DNSH principle for this objective.
- If you answered Yes, give a more detailed description of the project impacts on the selected environmental objectives and how the impacts can be mitigated.

Ordinary office and customer service work is unlikely to have significant harmful impacts on any of the six environmental objectives. In that case, it is sufficient to state that the activities only involve ordinary office work. However, in the case of the circular economy objective, it must be ensured that the waste generated in the office and in the events held as part of the project is properly sorted.

[28] EU Taxonomy Regulation: https://eur-lex.europa.eu/legal-content/EN/TXT%20/PDF/?uri=CELEX:32020R0852&from=EN

Table A1.1. General DNSH assessment.
Which of the following environmental objectives require a detailed DNSH assessment of the measure?

Environmental objectives	Yes	No	Give justification if you answered No. Give a more detailed description of the impacts and measures mitigating them if you answered Yes.
1 Climate change mitigation Will the project have potentially harmful impacts on climate change mitigation? (For example, will there be an increase in greenhouse gas emissions? Use of ordinary computers and other equipment does not cause significant impacts)			
2 Climate change adaptation Will the project have potentially harmful impacts on climate change adaptation? (For example, will the project significantly increase water consumption? Will it increase the risk of flooding or drought, or exposure to extreme weather?)			
3 Sustainable use and protection of water and marine resources Will the project have potentially harmful impacts on the sustainable use and protection of water and marine resources? (For example, will the activities cause degradation of surface water or groundwater quality or significantly weaken the living conditions of fish?)			
4 Transition to a circular economy Will the activities have potentially harmful impacts on transition to a circular economy? (For example, will the activities generate significant amounts of waste that will be disposed in landfills or incinerated? Appropriate waste-sorting arrangements at the workplace and events and delivering materials for reuse or recycling will reduce harmful impacts. Will the activities increase single use of products or shorten their useful lives?)			
5 Pollution prevention and control Will the project cause such impacts as environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use?			
6 Protection and restoration of biodiversity and ecosystems Can the project adversely impact biodiversity or undermine the protection and/or restoration of ecosystems? (For example, will the project destroy occurrences of protected or threatened habitat types or adversely impact the quality? Will the project destroy or adversely impact the quality of habitats of threatened species or species protected by legislation? Will the project impacts extend to protected or otherwise valuable areas?)			

Appendix 2:
Legislation and guidance on the assessment of environmental impacts

General

This appendix lists key EU-level and national-level legislation relevant to DNSH assessment.

A2.1 Legislation and guidance on the Recovery and Resilience Facility

- **Regulation (EU) 2021/241 of the European Parliament and of the Council establishing the Recovery and Resilience Facility (RRF Regulation) and technical guidance**

The planned project must meet the requirements laid down in the RRF Regulation and the technical guidance on the application of the 'Do no significant harm' principle (2021/C 58/01).

If the project contributes to an environmental objective by a factor of 100 in accordance with Annex VI to the RRF Regulation,[29] it is deemed to comply with the DNSH principle for that objective.

The Commission's technical guidance (2021/C 58/01)[30] briefly outlines the importance of and the relationship between EU law and impact assessments (p. 4): Compliance with applicable EU law and national environmental legislation is considered an obligation separate from the impact assessment.

Even though all measures proposed in the recovery and resilience plans must comply with EU legislation, complying with existing legislation does not waive the need for a DNSH assessment. Even if compliance with existing EU legislation might indicate that a measure does not cause any harmful environmental impacts, it does not automatically mean that the measure in question is in accordance with the DNSH principle. This is primarily because some of the objectives falling under the scope of Article 17 are not yet fully considered in European Union environmental law (such as in permit procedures or environmental impact assessment).

However, all environment-related impact assessments and the sustainability assessments of the measure should be taken into account in the DNSH assessment. If a Member State has carried out the environmental impact assessment referred to in Directive 2011/92/EU, the strategic environmental assessment referred to in Directive 2001/42/EC or the environmental/climate sustainability assessment based on the sustainability assessment guidance in InvestEU Regulation for a measure contained in its recovery and resilience plan, this assessment can be used to support the arguments presented in the DNSH assessment of the Member State in question.

However, in some cases, the environmental impact assessment and the implementation of the required mitigation measures to protect the environment may (depending on the contents) serve as adequate proof that the measure is in compliance with the DNSH principle with regard to some of the environmental objectives. However, this does not exempt a Member State from preparing a DNSH assessment on the measure in question because the environmental impact assessment, strategic environmental assessment or the sustainability assessment does not necessarily address all aspects examined in the DNSH assessment. This is because the legal obligations laid down in the directives on the environmental assessment and the strategic environmental assessment, and the approach presented in the Commission's guidance on the sustainability assessment are not in accordance with the obligations and approach set out in Article 17 of the EU Taxonomy Directive.

[29] RRF Regulation: https://eur-lex.europa.eu/legal-content/EN/TXT/%20PDF/?uri=CELEX:32021R0241&from=EN

[30] Technical guidance: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52021XC0218%2801%29

- **Commission Delegated Regulation supplementing Taxonomy Regulation (EU) 2020/852 on establishing technical screening criteria**

Commission Delegated Regulation (EU C2021/2800) supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives.[31]

- **Projects and areas of application on the Commission's exclusion list[32]**

In accordance with the Commission guidelines, the following activities are excluded from the projects:

(i) activities related to fossil fuels, including downstream use[33]

(ii) activities under the EU Emission Trading System (ETS) achieving projected greenhouse gas emissions that are not lower than the relevant benchmarks[34] that are compliant with the conditions set out in Annex III to the 'Do no significant harm' technical guidance (2021/C58/01)

(iii) activities related to waste landfills, incinerators[35] and mechanical biological treatment plants[36]

(iv) activities where the long-term disposal of waste may cause harm to the environment.

[31] Commission Delegated Regulation supplementing Taxonomy Regulation (EU) 2020/852 on establishing technical screening criteria: https://eur-lex.europa.eu/legal-content/EN/TXT/DOC/?uri=PI_COM:C(2021)2800&from=EN

[32] Annex to the Council Implementing Decision on the approval of the assessment of Finland's recovery and resilience plan: https://data.consilium.europa.eu/doc/document/ST-12524-2021-ADD-1/en/pdf

[33] From a climate change mitigation perspective, limited exceptions for measures related to power and/or heat generation using natural gas, as well as related transmission and distribution infrastructure, can be made to this general rule, on a case-by-case basis.

[34] Where the activity supported achieves projected greenhouse gas emissions that are not significantly lower than the relevant benchmarks an explanation of the reasons why this is not possible should be provided. Benchmarks established for free allocation for activities falling within the scope of the Emissions Trading System, as set out in the Commission Implementing Regulation (EU) 2021/447.

[35] This exclusion does not apply to actions under this measure in plants exclusively dedicated to treating non-recyclable hazardous waste, and to existing plants, where the actions under this measure are for the purpose of increasing energy efficiency, capturing exhaust gases for storage or use or recovering materials from incineration ashes, provided such actions under this measure do not result in an increase of the plants' waste processing capacity or in an extension of the lifetime of the plants; for which evidence is provided at plant level.

[36] This exclusion does not apply to actions under this measure in existing mechanical biological treatment plants, where the actions under this measure are for the purpose of increasing energy efficiency or retrofitting to recycling operations of separated waste to compost bio-waste and anaerobic digestion of bio-waste, provided such actions under this measure do not result in an increase of the plants' waste processing capacity or in an extension of the lifetime of the plants; for which evidence is provided at plant level. Mechanical biological treatment refers to a waste treatment plant that includes the mechanical sorting and biological treatment of waste (composting or anaerobic digestion).

L2.2 Legislation and information sources on DNSH environmental objectives

a) Climate change mitigation

You can use LCA principles, such as the guidelines contained in the Greenhouse Gas Protocol (GHG Protocol),[37] the product environmental footprint (PEF) method (2013/179/EU)[38] or other appropriate methods to assess the climate impacts.

In the description of greenhouse gas emissions, emission levels can be compared with similar activities (BAT evaluation) or in relation to carbon neutrality targets set by such actors as municipalities.

Technical guidance on the application of the DNSH principle under the RRF Regulation (2021/C 58/01)[39] can be used in the assessment. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance.

Commission Recommendation on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations (PEF) 2013/179/EU[38].

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3a.

b) Climate change adaptation

Describe here such factors as the impacts of any water consumption on local water balance. Potential impacts of climate change must also be assessed; for example, will access to water required in the process be at risk during extreme weather.

Technical guidance on the application of the DNSH principle under the RRF Regulation can be used in the assessment (2021/C 58/01)[39]. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance.

Finland's National Climate Change Adaptation Plan 2022[40].

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3b.

c) Sustainable use and protection of water and marine resources

Here you should identify and assess potential risks to achieving the environmental objectives set out in river basin management plans: do the emissions or physical changes make it less likely that the good status or the good achievable status of heavily modified water bodies can be achieved (by the year 2027).

If the ecological status classification is lowered because of emissions or physical changes, the impacts of the project can be considered as significantly harmful.

The list of variables contains a range of different ecological and chemical parameters that must not be weakened. There is more room within the classification range.

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[37] Greenhouse Gas Protocol: https://ghgprotocol.org/

[38] Commission Recommendation on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations (PEF) 2013/179/EU: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013H0179

[39] Technical guidance on the application of the DNSH principle under the RRF Regulation: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01)

[40] Finland's National Climate Change Adaptation Plan 2022: https://mmm.fi/documents/1410837/5120838/MMM-_193086-v1-Finland_s_National_climate_Change_Adaptation_Plan_2022.pdf/582041ee-3518-4a63-bf60-7133aed95a9c/MMM-_193086-v1-Finland_s_National_climate_Change_Adaptation_Plan_2022.pdf.pdf

The DNSH description should identify the changes and variables arising from the project that may weaken the status of the receiving waters (BREF documents may not necessarily contain all significant variables for the target area).

The characteristics of the receiving waters (for example, is it a large lake or a small river) have an impact on the assessment.

The duration of the impacts should also be assessed (for example, the impacts arising during the construction may be temporary).

Matters concerning land-use planning and the location of the installation (for example, its location in relation to groundwater areas) must be addressed in the description.

Relevant legislation and guidance:

Technical guidance on the application of the DNSH principle under the RRF Regulation can be used in the assessment (2021/C 58/01).[39] Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance.

Water Act (587/2011)[41]

Chapter 2, sections 5 and 5a (Placing a structure, pipeline or cable in a water area belonging to another party)

Chapter 2, section 6 (Nuisance removal and the placing of dredged material)

Chapter 2, section 7 (General obligations for the use of water resources and water areas)

Chapter 2, section 9 (Maintenance and removal of a structure)

Chapter 2, section 10 (Diverting the flow of water in a streamlet and ditch)

Chapter 2, section 11 (Protection of certain aquatic habitat types)

Chapter 3, sections 2, 3 and 4 (General permit requirements, projects subject to a permit in all cases and general conditions for granting a permit)

Chapter 3, sections 6 and 7 (Assessment of benefits and losses)

Chapter 3, section 11 (Monitoring obligation)

Chapter 4 (Abstraction of water), should be considered in some respects

Chapter 5, section 3 (Ditch drainage)

[41] Water Act (587/2011): https://finlex.fi/en/laki/kaannokset/2011/en20110587.pdf

Environmental Protection Act (527/2014)[42]

Section 5 (Definitions – emission, environmental pollution, activity that poses a risk of environmental pollution, harm to health, emission limit value, environmental quality requirement, BAT)

Chapter 2 (General obligations, principles and prohibitions; applies to all activities)

Sections 27–29 (Permit requirement and changing a permit)

Section 36 (Referral of a permit decision)

Section 47 (Joint processing of an application under the Water Act and an environmental permit application)

Section 49 (Conditions for granting a permit)

Section 53 (Assessment of best available techniques)

Section 57 (Regulations pertaining to fisheries)

Section 58 (Waste and waste management regulations)

Section 62 (Monitoring and control regulations)

Section 115a (Obligation to provide a notification and the competent authority)

Chapter 12 (Non-recurring activities)

Chapter 14 (Treatment of contaminated soil and groundwater)

Chapter 15 (State of the environment)

Section 140 (Surface water quality)

Section 177 (Assessment of the significance of the pollution of a water body)

Section 211 (Transboundary impacts)

Act on the Organisation of River Basin Management and the Marine Strategy (1299/2004) [43]

Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006)[44]

Section 3 (Definitions)

Sections 4 and 4a (Emission prohibitions, substances referred to in paragraph A of Annex 1 must not be discharged into surface water or the sewer of a water supply and sewerage plant, excluding restrictions)

Section 5 (Emission limit values, limit values for substances referred to in paragraph B of Annex 1)

Sections 6 and 6b (Environmental quality standards, annexes and exceptions)

Sections 7–9 (Monitoring obligations)

[42] Environmental Protection Act (527/2014): https://www.finlex.fi/en/laki/kaannokset/2014/en20140527_20190049.pdf

[43] Act on the Organisation of River Basin Management and the Marine Strategy (1299/2004): https://www.finlex.fi/en/laki/kaannokset/2004/en20041299_20141263.pdf

[44] Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006): https://finlex.fi/en/laki/kaannokset/2006/en20061022.pdf

Ari Kangas (ed.), Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment: a description of good practices. Reports of the Ministry of the Environment 19/2018 [45]

Case law on assessing the significance of harmful impacts, see for example

- KHO: 2018:10: Local detailed plan decision on the construction of a bioproduct/softwood pulp mill
- KHO: 2018:121: Application for managed aquifer recharge at a Natura site
- KHO 2019:166: Case Finnpulp[46]
- Case Weser C-461/13 (CJEU)
- Case C-535/18 (groundwater)
- Schwarze Sulm, C-346/14 (hydropower, assessment of harmful impacts)
- Belinskij et al., Exemptions to the Environmental Objectives in River Basin Management – Grounds and procedure.[47]
- Kymenvaara et al., Variations on the same theme: Environmental objectives of the Water Framework Directive in environmental permitting in the Nordic countries.[48]

Protected or otherwise valuable areas include:

- Natura 2000 sites[49]
- nature reserves[50]

In some regions, such as Southern Ostrobothnia, the ELY Centres have ranked water bodies on the basis of their importance for fisheries and crayfish management.

Information on important groundwater areas.[51]
Information on bathing water: Finland has about 300 large public beaches (EU beaches),[52] report on bathing water quality[53] and the EEA report (summer 2020):[54]

Guidelines on assessing the quantitative and chemical status of groundwater[55]

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3c.

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[45] Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment: a description of good practices (guide; in Finnish, with English abstract): https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160990/YMra_19_2018_Vesiymparistolle_vaarallisiajahaitallisia.pdf.

[46] KHO decision on Finnpulp: see (in Finnish): https://www.kho.fi/fi/index/paatokset/vuosikirjapaatokset/1576670299837.html

[47] Exemptions to the Environmental Objectives in River Basin Management – Grounds and procedure (in Finnish, with English abstract): https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160921/42-2018-Vesienhoidon%20ymparistotavoitteista%20poikkeaminen.pdf

[48] Variations on the same theme: Environmental objectives of the Water Framework Directive in environmental permitting in the Nordic countries: https://onlinelibrary.wiley.com/doi/full/10.1111/reel.12273

[49] Natura 2000 sites in Finland: https://ym.fi/en/natura-2000-network; See SYKE map service for details of individual sites (in Finnish) http://syke.maps.arcgis.com/apps/webappviewer/index.html?id=831ac3d0ac444b78baf0eb1b68076e1a

[50] Nature reserves: https://ym.fi/en/nature-conservation-areas; spatial data sets

[51] Groundwater areas (in Finnish): https://www.ymparisto.fi/fi-FI/Vesi/Vesiensuojelu/Pohjaveden_suojelu

[52] Finnish beaches (in Finnish): https://www.valvira.fi/documents/14444/924032/Yleisten_uimarantojen_luettelo_2021.xlsx/a1b8e03f-9cfd-da51-a5c1-98a443983859?t=1623049135979

[53] Finnish bathing water quality in 2020: https://www.valvira.fi/documents/14444/250164/Bathing+water+report+2020_FI.pdf/1c0b83f7-8501-5718-ca39-05bf3835cce7?t=1623835331212

[54] State of bathing water: https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/assessments/state-of-bathing-water/state-of-bathing-water-4

[55] Guidelines on assessing the quantitative and chemical status of groundwater (in Finnish): https://www.ymparisto.fi/fi-fi/vesi/vesiensuojelu/vesienhoidon_suunnittelu_ja_yhteistyo/suunnitteluopas

d) Transition to a circular economy

For this objective, it should be described how the project activities relate to the waste hierarchy. According to the RRF Regulation, projects that increase the incineration or disposal of waste at landfills, for example, cannot be supported.

The following should be described:

- the use of non-renewable resources in production
- possible re-use of the product / production of waste or recyclability of the material
- durability / service life of the product
- the amount of waste going to landfill
- the impact of the harmful substances in the product / waste on re-use / recycling (and how to promote information on the harmful substances in the product throughout the value chain).

The project must also comply with the National Waste Plan.

Related sources and regulations:

Technical guidance on the application of the DNSH principle under the RRF Regulation (2021/C 58/01) can be used in the assessment. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01)

Strategic programme to promote a circular economy: objectives for the use of materials: https://ym.fi/en/strategic-programme-to-promote-a-circular-economy

National Waste Plan: https://ym.fi/en/national-waste-plan

Waste Act 646/2011: https://www.finlex.fi/en/laki/kaannokset/2011/en20110646_20140528.pdf,

Waste Decree 179/2012: https://www.finlex.fi/fi/laki/kaannokset/2012/en20120179.pdf

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation): https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32006R1907

Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (POP Regulation): https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32019R1021

Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment (SUP Directive): https://eur-lex.europa.eu/eli/dir/2019/904/oj

e) pollution prevention and control

For this objective, the emissions from the installation to the environment and their prevention and reduction should be described. The description should refer to the BAT reference documents (BREFs) / BAT conclusions applicable to the activity under the Industrial Emissions Directive and how the activity meets the BAT requirements (BAT emission levels are binding).

If there is no applicable BREF document / BAT conclusion for the activity, other BAT studies and regulations (eg BAT studies made under the Nordic Council of Ministers, HELCOM recommendations and the like) can be used as a reference for the BAT comparison of activities.

The chemicals used must comply with the applicable chemicals regulations. Substances restricted by REACH or POP regulation may not be used in the operation.

Environmental damage management must be in accordance with regulations. A precautionary plan based on risk analysis must be in place for incidents and emergencies according to Section 15 of the Environmental protection Act.

The operation of the plant must not endanger the good status of groundwater.

Air quality standards must not be exceeded.

Related sources and regulations:

BAT reference documents: https://eippcb.jrc.ec.europa.eu/reference/

If there are no BAT reference documents applicable to the activities, following BAT reports and regulation can be used for BAT evaluation:

- BAT reports produced under the auspices of the Nordic Council of Ministers,
- HELCOM Recommendations: www.helcom.fi

Environmental Protection Act:
https://www.finlex.fi/en/laki/kaannokset/2014/en20140527_20190049.pdf

- Chapter 7: Permit consideration for an installation covered by the directive
- Section 54 (Assessing best available technique)

Government Decree on Substances Dangerous and Harmful to the Aquatic Environment:
https://finlex.fi/en/laki/kaannokset/2006/en20061022.pdf

Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (guide; in Finnish, with English abstract):
https://julkaisut.valtioneuvosto.fi/handle/10024/160990

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation):
https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32006R1907

Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (POP Regulation):
https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32019R1021

Protected or otherwise valuable areas include:

- Natura 2000 sites[56]
- nature reserves[57]

Information on important groundwater areas (in Finnish): https://www.ymparisto.fi/fi-FI/Vesi/Vesiensuojelu/Pohjaveden_suojelu/Pohjavesialueet/Pohjavesialueet(26765)

f) protection and restoration of biodiversity and ecosystems

For this objective you should describe how the project will affect, for example, the species and their habitats, the occurrences of natural habitats, and protected or otherwise valuable areas. Both direct and indirect effects must be identified when assessing impacts. Adverse effects can be caused by, for example, construction on land and of waterways; quarrying and mining; emissions to air, land or water; dredging; drainage or other tilling of soil; the spread of alien species; reduction in the amount of dead wood in forests; changes in wetland water levels due to, for example, drainage, construction or diversion of stormwater; eutrophication and increasing water turbidity; noise, flicker effects, and other environmental disturbances affecting the behavior of animals; erection of structures that impede the movement of animals.

Under section 5 of the Nature Conservation Act (1096/1996), nature conservation shall focus on attaining and maintaining the **favourable conservation status** of natural habitats and of wild species of Finland.

The conservation status of a **natural habitat** shall be taken as favourable when its natural range and the areas it covers within that range are stable enough to ensure the long-term maintenance of said habitat and of the structure and functions of its ecosystem, and when the conservation status of its typical species is deemed favourable. Following Article 1, paragraph e) of the Habitats Directive (92/43/EEC),[58] these factors should be considered in such cases:

- range and distribution
- structure and function characteristic of the habitat type
- species typical of the habitat type.

The conservation status of a **species** shall be taken as favourable when the species proves capable of maintaining itself on a long-term basis as a viable component of its natural habitat. Following Article 1, paragraph i) of the Habitats Directive (92/43/EEC), these factors should be considered in such cases:

- range
- population size
- habitat.

[56] Natura 2000 sites in Finland: https://ym.fi/en/natura-2000-network; See SYKE map service for details of individual sites (in Finnish) http://syke.maps.arcgis.com/apps/webappviewer/index.html?id=831ac3d0ac444b78baf0eb1b68076e1a

[57] Nature reserves: https://ym.fi/en/nature-conservation-areas; spatial data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

[58] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive): http://data.europa.eu/eli/dir/1992/43/oj

The **status of Finland's threatened habitat types** was last assessed in 2018[59] and the **status of threatened species** in 2019.[60]

Protected or otherwise valuable areas include:

- Natura 2000 sites[61]
- nature reserves[62]
- areas reserved for conservation (sites included in national conservation programmes that are not yet protected and other areas acquired by the state for nature conservation purposes)[63]
- nationally valuable geological formations[64]
- important breeding, feeding, moulting and resting sites and migration routes for birds.[65]

Sites and species protected by legislation include:

- natural habitat types protected under the Nature Conservation Act, when the boundaries of the occurrence have been set by the ELY Centre [66]
- certain aquatic habitat types protected under the Water Act[67]
- habitats of special importance in terms of biodiversity under the Forest Act[68]
  (applies to the management and utilisation of forests mainly in areas classified as forestry land)
- sites hosting a species under strict protection under the Nature Conservation Act, when the boundaries of the site have been set by the ELY Centre[69]

[59] Kontula, T. & Raunio, A. (eds.). 2019. Threatened Habitat Types in Finland 2018. Red List of Habitats Results and Basis for Assessment. Finnish Environment Institute & Ministry of the Environment, Helsinki. The Finnish Environment 2/2019. 254 s. http://urn.fi/URN:ISBN:978-952-11-5110-1. Online service of the assessment of threatened habitat types in Finland (in Finnish): https://luontotyyppienuhanalaisuus.ymparisto.fi/

[60] Online service of the assessment of threatened species in Finland: https://punainenkirja.laji.fi/en

[61] Natura 2000 sites in Finland: https://ym.fi/en/natura-2000-network; See SYKE map service for details of individual sites (in Finnish) http://syke.maps.arcgis.com/apps/webappviewer/index.html?id=831ac3d0ac444b78baf0eb1b68076e1a

[62] Nature reserves: https://ym.fi/en/nature-conservation-areas; spatial data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

[63] Spatial data set Areas included in national conservation programmes (in Finnish): https://ckan.ymparisto.fi/dataset/%7B5A93FF5B-FB88-40C7-84E0-91FCC492A621%7D

[64] Nationally valuable geological formations: https://www.ymparisto.fi/en-US/Nature/Geological_formations; downloadable spatial data sets (in Finnish): https://www.syke.fi/fi-FI/Avoin_tieto/Paikkatietoaineistot/Ladattavat_paikkatietoaineistot#V

[65] Important bird areas (in Finnish): https://www.birdlife.fi/suojelu/alueet/

[66] Natural habitat types protected under the Nature Conservation Act, section 29: https://www.finlex.fi/fi/laki/kaannokset/1996/en19961096.pdf; spatial data of sites where the boundaries of the occurrence have been set by the ELY Centre is included in the data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

[67] Certain aquatic habitat types protected under the Water Act: https://finlex.fi/en/laki/kaannokset/2011/en20110587.pdf

[68] Habitats of special importance in terms of biodiversity under the Forest Act: https://www.finlex.fi/fi/laki/kaannokset/1996/en19961093_20140567.pdf; to view verified occurrences of such habitats on private land, visit the Forest Centre map service (in Finnish): https://www.metsakeskus.fi/fi/avoin-metsa-ja-luontotieto/luontotietoaineistot/erityisen-tarkeat-elinymparistot

[69] Species under strict protection under the Nature Conservation Act, section 47: https://www.finlex.fi/fi/laki/kaannokset/1996/en19961096.pdf; listed in Nature Conservation Decree, Appendix 4: https://www.finlex.fi/fi/laki/ajantasa/1997/19970160; spatial data on sites where the boundaries of the site have been set by the ELY Centre is included in the data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

- breeding sites and resting places of animal species referred to in Annex IV(a) of the Habitats Directive, the destruction and deterioration of which is prohibited[70]
- natural monuments.[71]

You can ask for advice and guidance from the municipal environmental protection authority or the regional ELY Centre.

Detailed instructions for ecological surveys in the target area and for ecological impact assessments can be found in this book (in Finnish): Mäkelä, K. & Salo, P. 2021. Luontoselvitykset ja luontovaikutusten arviointi – Opas tekijälle, tilaajalle ja viranomaiselle. Suomen ympäristökeskus, Helsinki. Suomen ympäristökeskuksen raportteja 47/2021. 346 s. http://urn.fi/URN:ISBN:978-952-11-5445-4

Forest product **responsibility certificate**: Forest Stewardship Council (FSC)[72]

The significance of the impact must be assessed following the assessment guidelines presented in Appendix 3f.

[70] Presentation of the species (except for bats) in Annex IV of the European Union's Habitats Directive (in Finnish): http://urn.fi/URN:ISBN:978-952-11-4638-1

[71] Natural monuments: https://ym.fi/en/natural-monuments; spatial data can be found for example in municipal map services

[72] Forest Stewardship Council (FSC): https://fi.fsc.org/fi-fi/fsc-in-english

Appendix 3:
Assessing the intensity and significance of the harmful impact for the six environmental objectives considered in the DNSH assessment

Appendices 3a–3f describe the assessment of the intensity and significance of the harmful impact for the six environmental objectives considered in the DNSH assessment.

Appendix 3a. Assessing the intensity and significance of harmful impact – Climate change mitigation

Table A3.1. Assessing the intensity and significance of harmful impact for objective 1: Climate change mitigation.

Intensity of harmful impact	Description	Assessing significance of the harmful impact
Minor	**The impact is minor if all of the following are realised:** • The activities do not cause any significant increase in greenhouse gas emissions over the entire life cycle (direct and indirect emissions). • Carbon sinks and/or carbon storages are not reduced as a result of the activities. • The activities do not contribute to the use of fossil fuels. • The measure is in line with the greenhouse gas emission reduction target set for 2030 and the climate neutrality target set for 2050. **The impact can also be considered minor in the following cases:** • Under the RRF Regulation, the coefficient for calculating the support granted to the climate change mitigation objective is 100 per cent. • Under the EU Taxonomy Regulation, the activities 'contribute substantially' to the climate change mitigation objective and meet the relevant 'Do no significant harm' criteria.	LCA principles, such as the guidelines contained in the GHG Protocol (https://ghgprotocol.org/), PEF method (2013/179/EU) or any other appropriate method should be used to assess the climate impacts. You only need to take life cycle aspects into account in the DNSH assessment (A full life cycle assessment is not required). The assessment should cover the production, operational and decommissioning stages, regardless of which of them is expected to generate the most significant harmful impacts. • The greenhouse gas emissions generated by the activities falling under the scope of the EU Emissions Trading System are below the benchmark[73] • In the description of greenhouse gas emissions, emission levels can be compared with similar activities (BAT description) or with relevant municipal/regional/national carbon neutrality targets or sector-specific targets.
Substantial	**The impact is substantial if any of the following is realised:** • The activities cause a significant increase in greenhouse gas emissions over their entire life cycle (direct and indirect emissions). • Carbon sinks and/or carbon storages are reduced as a result of the activities. • The activities contributes to the use of fossil fuels. • The measure is not in line with the greenhouse gas emission reduction target set for 2030 and the climate neutrality target set for 2050.	**A substantial impact is usually significant**
Sources		
Technical guidance on the application of the DNSH principle under the RRF Regulation (2021/C 58/01) can be used in the assessment. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01).		

[73] Where the activities supported achieve projected greenhouse gas emissions that are not significantly lower than the relevant benchmarks, an explanation of the reasons why this is not possible should be provided. Benchmarks established for free allocation for activities falling within the scope of the EU Emissions Trading System, as set out in the Commission Implementing Regulation (EU) 2021/447.

Appendix 3b Assessing the intensity and significance of harmful impacts – Climate change adaptation

Table A3.2. Assessing the intensity and significance of harmful impact for objective 2: Climate change adaptation.

Intensity of harmful impact	Description	Assessing significance of the harmful impact
Minor	**The impact is minor if all of the following are realised:** • The activities will not increase the harmful impacts of the current climate and expected future climatic conditions on the activities in question, or on humans, nature or property. • The activities will not increase the flood or drought risk arising from expected future climatic conditions. • Preparations have been made for extreme weather as part of the activities. **The impact can also be considered minor in the following cases:** • Under the RRF Regulation, the coefficient for calculating the support granted to the climate change mitigation objective is 100 per cent. • Under the EU Taxonomy Regulation, the activities 'contribute substantially' to the climate change mitigation objective and meet the relevant 'Do no significant harm' criteria.	A correctly balanced assessment of climate risks must be carried out on the activities. The assessment should address the key aspects of the physical impacts of the expected future climatic conditions on the activities for which funding is applied for during its expected life cycle. The assessment should include the adaptation solutions that can reduce the physical climate risk specified in the assessment. In Finland, the greatest risks usually arise from changes in hydrological conditions, such as an increase in heavy rainfall, floods and strong melting of snow.
Substantial	**The impact is substantial if any of the following is realised:** • The activities will cause an increase in the harmful impact of the current climate and expected future climatic conditions on the activities in question, or on humans, nature or property. • The activities will increase the flood or drought risk arising from expected future climate. • Preparations have not been made for extreme weather as part of the activities.	**A substantial impact is usually significant.**
Sources		
Technical guidance on the application of the DNSH principle under the RRF Regulation (2021/C 58/01) can be used in the assessment. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01) Finland's National Climate Change Adaptation Plan 2022.		

Appendix 3c. Assessing the intensity and significance of harmful impact – impacts on water bodies and groundwater.

Table A3.3. Assessing the intensity and significance of harmful impact for objective 3: Sustainable use and protection of water and marine resources.

Intensity of harmful impact	Description	Assessing significance of the harmful impact
Minor	**The impact is minor if all of the following are realised:** • The activities can only cause minor deterioration in water quality, aquatic biota, bottom conditions, flows, rate of flow, water levels or discharges into waters, but will not cause greater than negligible changes in any of the status factors or variables of the Water Framework Directive. • The activities will not cause greater than negligible changes in the amounts of hygienic indicator bacteria or organic carbon and iron loading in waters. • Changes in water quality or emissions are in compliance with the environmental quality standards or emission levels laid down in the Government Decree 1022/2006. • The impact will be of short duration and will only affect a small area. • The activities will not have any impact on the quantitative or chemical status of groundwater. • The impacts will not endanger the achievement of the environment objective for the water body in question.	**Minor or moderate impact is usually not significant but it can be significant if any of the following criteria is met:** • A large area is affected. • There are sites protected under the law or EU directives in the area (such as Natura 2000 sites and sites protected under the Water Act). • The area in question is of great significance for fisheries and crayfish management (valuable fish or crayfish populations, professional fishing, a regionally important recreational fishing or crayfish catching site, etc.). • An important groundwater area or an important surface water abstraction area will be affected. • The area is of great importance for recreational use or tourism. • An EU beach (more than 100 daily users) is located in the area.
Moderate	**The impact is moderate if any of the following is realised:** • The changes in water quality, aquatic biota, bottom conditions, flows, rates of flow, water level or discharges into waters arising from the activities may cause a weakening of a status factor or variable referred to in the Water Framework Directive but overall, there will not be any changes in the status of the water body under the Water Framework Directive. In this context, a water body means both surface water bodies (rivers, lakes and coasts) and groundwater bodies. • The activities will cause a moderate increase in the amounts of hygienic indicator bacteria or organic carbon and iron loading in a water body.	
Substantial	**The impact is substantial if any of the following is realised:** • The activities will cause a fall in at least one status classification category of a surface water body under the Water Framework Directive.	**A substantial impact is always significant**

	• The activities will weaken the quantitative or chemical status of a groundwater body. • The activities will prevent a surface water or groundwater body from achieving a good status/good achievable status (heavily modified water bodies). • Changes in water quality or emissions will exceed the provisions or limit values concerning the environmental quality standards or emission levels laid down in the Government Decree 1022/2006.	

Sources

Technical guidance on the application of the DNSH principle under the RRF Regulation (2021/C 58/01) can be used in the assessment. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01)

Water Act (587/2011)
https://finlex.fi/en/laki/kaannokset/2011/en20110587.pdf
Chapter 2, sections 5 and 5a (Placing a structure, pipeline or cable in a water area belonging to another party)
Chapter 2, section 6 (Nuisance removal and the placing of dredged material)
Chapter 2, section 7 (General obligations for the use of water resources and water areas)
Chapter 2, section 9 (Maintenance and removal of a structure)
Chapter 2, section 10 (Diverting the flow of water in a streamlet and ditch)
Chapter 2, section 11 (Protection of certain aquatic habitat types)
Chapter 3, sections 2, 3 and 4 (General permit requirements, projects subject to a permit in all cases and general conditions for granting a permit)
Chapter 3, sections 6 and 7 (Assessment of benefits and losses)
Chapter 3, section 11 (Monitoring obligation)
Chapter 4 (Abstraction of water), should be considered in some respects
Chapter 5, section 3 (Ditch drainage)

Environmental Protection Act (527/2014)
https://www.finlex.fi/en/laki/kaannokset/2014/en20140527_20190049.pdf
Section 5 (Definitions – emission, environmental pollution, activity that poses a risk of environmental pollution, harm to health, emission limit value, environmental quality requirement, BAT)
Chapter 2 (General obligations, principles and prohibitions; applies to all activities)
Sections 27–29 (Permit requirement and changing a permit)
Section 36 (Referral of a permit decision)
Section 47 (Joint processing of an application under the Water Act and an environmental permit application)
Section 49 (Conditions for granting a permit)
Section 53 (Assessment of best available techniques)
Section 57 (Regulations pertaining to fisheries)
Section 58 (Waste and waste management regulations)
Section 62 (Monitoring and control regulations)
Section 115a (Obligation to provide a notification and the competent authority)
Chapter 12 (Non-recurring activities)
Chapter 14 (Treatment of contaminated soil and groundwater)
Chapter 15 (State of the environment)
Section 140 (Surface water quality)
Section 177 (Assessment of the significance of the pollution of a water body)
Section 211 (Transboundary impacts)

Act on the Organisation of River Basin Management and the Marine Strategy (1299/2004)
https://www.finlex.fi/en/laki/kaannokset/2004/en20041299_20141263.pdf

Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006)
https://finlex.fi/en/laki/kaannokset/2006/en20061022.pdf
Section 3 (Definitions)
Sections 4 and 4a (Emission prohibitions, substances referred to in paragraph A of Annex 1 must not be discharged into surface water or the sewer of a water supply and sewerage plant, excluding restrictions)
Section 5 (Emission limit values, limit values for substances referred to in paragraph B of Annex 1)
Sections 6 and 6b (Environmental quality standards, annexes and exceptions)
Sections 7–9 (Monitoring obligations)

Ari Kangas (ed.), Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment: a description of good practices. Reports of the Ministry of the Environment 19/2018
https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160990/YMra_19_2018_Vesiymparistolle_vaarallisiajahaitallisia.pdf (in Finnish, with English abstract)

Case law on assessing the significance of harmful impacts, see for example
KHO: 2018:10: Local detailed plan decision on the construction of a bioproduct/softwood pulp mill
KHO: 2018:121: Application for managed aquifer recharge at a Natura site
KHO 2019:166: Case Finnpulp, see: https://www.kho.fi/fi/index/paatokset/vuosikirjapaatokset/1576670299837.html (in Finnish)
Case Weser C-461/13 (CJEU)
Case C-535/18 (groundwater)
Schwarze Sulm, C-346/14 (hydropower, assessment of harmful impacts)
Belinskij et al., Exemptions to the Environmental Objectives in River Basin Management – Grounds and procedure, see
https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160921/42-2018-Vesienhoidon%20ymparistotavoitteista%20poikkeaminen.pdf (in Finnish, with English abstract)
Kymenvaara et al., Variations on the same theme: Environmental objectives of the Water Framework Directive in environmental permitting in the Nordic countries, see:
https://onlinelibrary.wiley.com/doi/full/10.1111/reel.12273

Protected or otherwise valuable areas include
- Natura 2000 sites[74]
- nature reserves[75]

In some regions, such as Southern Ostrobothnia, the ELY Centres have ranked water bodies on the basis of their importance for fisheries and crayfish management.

Information on important groundwater areas (in Finnish): https://www.ymparisto.fi/fi-FI/Vesi/Vesiensuojelu/Pohjaveden_suojelu/Pohjavesialueet/Pohjavesialueet(26765)

Finland has about 300 large public beaches (EU beaches): https://www.valvira.fi/documents/14444/924032/Yleisten_uimarantojen_luettelo_2021.xlsx/a1b8e03f-9cfd-da51-a5c1-98a443983859?t=1623049135979

Link to the EEA report on bathing water quality (summer 2020):
https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/assessments/state-of-bathing-water/state-of-bathing-water-4

Instructions for assessing the quantitative and chemical status of groundwater (in Finnish)
https://www.ymparisto.fi/fi-fi/vesi/vesiensuojelu/vesienhoidon_suunnittelu_ja_yhteistyo/suunnitteluopas

[74] Natura 2000 sites in Finland: https://ym.fi/en/natura-2000-network; See SYKE map service for details of individual sites (in Finnish)
http://syke.maps.arcgis.com/apps/webappviewer/index.html?id=831ac3d0ac444b78baf0eb1b68076e1a

[75] Nature reserves: https://ym.fi/en/nature-conservation-areas; spatial data sets Nature reserves and wilderness areas (in Finnish):

Appendix 3d. Assessing the intensity and significance of harmful impact – Promotion of a circular economy

Table A3.4. Assessing the intensity and significance of harmful impact for objective 4: Promoting a circular economy.

Intensity of harmful impact	Description[76]	Assessing significance of the harmful impact
Minor	**The impact is minor if all of the following are realised:** • The activities will not increase the use of natural resources beyond sustainable levels (the activities will reduce the use of non-renewable energy sources and raw materials and/or the use of renewable materials is sustainable). • The activities will not cause inefficiency in the use of materials or natural resources.[77] • The activities will not interfere with reuse or recycling (this includes single use and harmful substances). • Source-separated fractions are sent for reuse or recycling. • The activities will not significantly increase waste generation or the harmful nature of the generated waste. • The activities are in accordance with the National Waste Plan. **The impact can also be considered minor in the following cases:** • Under the RRF Regulation, the coefficient for calculating the support granted to the objective is 100 per cent. • Under the EU Taxonomy Regulation, the activities 'contribute substantially' to the environmental objective and meets the relevant 'Do no significant harm' criteria.	**Minor impact is not usually significant but it can be significant if any of the following criteria is met:** • The activities will increase waste incineration even though at least some of the material could be channelled to reuse or recycling. • Not enough measures have been taken to prevent the accumulation of landfill waste.

[76] In the technical guidance on the application of 'Do no significant harm' principle under the Recovery and Resilience Facility Regulation (2021/C 58/01), the matter is described as follows: *The circular economy, including waste prevention and recycling* — The measure is in line with the relevant national or regional waste management plan and waste prevention programme, in accordance with Article 28 of Directive 2008/98/EC as amended by Directive 2018/851/EU and, where available, the relevant national, regional or local circular economy strategy. — The measure is in line with the principles of sustainable products and the waste hierarchy, with a priority on waste prevention. — The measure ensures resource efficiency for major resources used. Inefficiencies in the use of resources are addressed, including ensuring that products, buildings and assets are efficiently used and durable. — The measure ensures the effective and efficient separate collection of waste at source and that source-segregated fractions are sent for preparation for reuse or recycling.

[77] In an example given in the technical guidance (2021/C 58/01), the definition of inefficiency is described as follows: For instance, inefficiencies can be minimised by significantly increasing the durability, reparability, upgradability and reusability of products or by significantly reducing resources through the design and choice of materials, facilitating repurposing, disassembly and deconstruction, in particular to reduce the use of building materials and promote the reuse of building materials. Additionally, transitioning to 'product-as-a-service business models and circular value chains with the aim of keeping products, components and materials at their highest utility and value for as long as possible. This also comprises a significant reduction in the content of hazardous substance in materials and products, including by replacing them with safer alternatives. This further includes significantly reducing food waste in the production, processing, manufacturing or distribution of food.

Substantial	**The impact is substantial if any of the following is realised:** • The activities will increase the use of natural resources beyond sustainable levels (the activities will increase the use of non-renewable energy sources or raw materials or unsustainable use of renewable materials). • The activities will cause a significant increase in the generation, incineration or disposal of waste, such as in the direct or indirect use of non-renewable energy sources, raw materials, water and soil, during at least one stage of the product life cycle, also with regard to the durability, reparability, upgradability, reusability or recyclability of the products (for example by, increasing the harmful nature of the waste in question). • The activities will cause inefficiency in the use of materials or natural resources.1 • The activities will interfere with reuse or recycling (this includes single use and harmful substances). • The product contains harmful substances that prevent the reuse or recycling of the product.	**If the activities in question cause a significant increase in the generation, incineration or disposal of waste, the impact is usually substantial. However, the impact can be insignificant if:** • in terms of overall sustainability, the activities are an improvement on the current operating model or alternative (or: they will lead to a significantly better environmental performance than available alternatives)78 • non-recyclable or hazardous waste will be incinerated • waste the long-term disposal of which can cause significant long-term harmful environmental impacts will be incinerated • recyclability or reusability criteria can be applied on a flexible basis if this is essential for such reasons as the protection of health • the harmful substance contained in the product cannot be replaced with less harmful substances (replacement is not possible because of the essential characteristics of the product).

Sources

Technical guidance on the application of the DNSH principle under the RRF Regulation (2021/C 58/01) can be used in the assessment. Instructions on evidence supporting the assessment are for example given in Annex 2 to the guidance: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC0218(01)

Strategic programme to promote a circular economy: objectives for the use of materials: https://ym.fi/en/strategic-programme-to-promote-a-circular-economy

National Waste Plan: https://ym.fi/en/national-waste-plan

Waste Act 646/2011: https://www.finlex.fi/en/laki/kaannokset/2011/en20110646_20140528.pdf,
Waste Decree 179/2012: https://www.finlex.fi/fi/laki/kaannokset/2012/en20120179.pdf
(both are currently being updated)

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation): https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32006R1907

Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (POP Regulation): https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32019R1021

Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment (SUP Directive): https://eur-lex.europa.eu/eli/dir/2019/904/oj

[78] In the RRF technical guidance, it is stated as follows: For economic activities where there is no technologically and economically feasible alternative with low environmental impact, Member States may demonstrate that a measure does no significant harm by adopting the best available levels of environmental performance in the sector. In these cases, DNSH would be assessed compared to the best available levels of environmental performance in the sector. A number of conditions need to apply for this approach to hold, including the fact that the activity leads to a significantly better environmental performance than available alternatives, avoids environmentally harmful lock-in effects, and does not hamper the development and deployment of low-impact alternatives.

Appendix 3e: Assessing the intensity and significance of harmful impacts – Pollution prevention and control

Table A3.5. Assessing the intensity and significance of harmful impacts for objective 5: Pollution prevention and control.

Intensity of harmful impact	Description	Assessing significance of the harmful impact
Minor	**Installations covered by the directive (Annex 1 to the Environmental Protection Act 527/2014):** **The impact is minor if the installation has a valid environmental permit and all of the following are realised:** • The activities of the installation meet all relevant BAT requirements. • The emissions are in compliance with the BAT emission levels referred to in the BREF documents. • If there are no BAT reference documents applicable to the activities, compliance with BAT has been established on the basis of the criteria laid down in section 53 of the Environmental Protection Act. • The emissions are in compliance with the provisions on emission levels or limit values laid down in the Government Decree 1022/2006. • No substances prohibited under the REACH or POP Regulations are used in the installation. **Other installations (Annex 1 to the Environmental Protection Act 527/2014):** • The installation has a valid environmental permit. • If the installation does not have a valid environmental permit the activities should meet the requirements laid down in the Environmental Protection Act to prevent environmental pollution.	**Minor impact is not usually significant but it can be significant if any of the following criteria is met:** • The activities will cause a deterioration in water quality, aquatic biota, bottom conditions, flows, rate of flow, water level or discharges into waters and they will weaken a status factor or variables referred to in the Water Framework Directive. • The activities will cause a lowering of the ecological status classification or marine management plan status classification of a water body referred to in the Water Framework Directive. • A large area is affected. • There are sites protected under the law or EU directives in the area (such as Natura 2000 sites and sites protected under the Water Act). • The area in question is an important groundwater area or an important surface water abstraction area. • The activities will cause harm to people living in the vicinity (Neighbourhood Act 26/1920). • The activities will endanger the achievement of the air quality target and limit values laid down in the Government Decree on Air Quality (38/2011).
Substantial	**The impact is substantial if any of the following is realised:** • The activities are not in compliance with the BAT emission levels laid out in applicable BAT reference documents. • Changes in water quality or emissions will exceed the provisions or limit values concerning the environmental quality standards or emission levels contained in Government Decree 1022/2006. • Substances prohibited under the REACH or POP Regulations are used in the activities. • The activities will endanger the achievement of the air quality target and limit values laid down in the Government Decree on Air Quality (38/2011).	**A substantial impact is usually significant**

Sources

BAT reference documents: https://eippcb.jrc.ec.europa.eu/reference/

If there are no BAT reference documents applicable to the activities, following BAT reports and regulation can be used for BAT evaluation:

- BAT reports produced under the auspices of the Nordic Council of Ministers,
- HELCOM Recommendations: www.helcom.fi

Environmental Protection Act: https://www.finlex.fi/en/laki/kaannokset/2014/en20140527_20190049.pdf

- Chapter 7: Permit consideration for an installation covered by the directive
- Section 54 (Assessing best available technique)

Government Decree on Substances Dangerous and Harmful to the Aquatic Environment: https://finlex.fi/en/laki/kaannokset/2006/en20061022.pdf
Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (guide; in Finnish, with English abstract):
https://julkaisut.valtioneuvosto.fi/handle/10024/160990

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation):https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32006R1907

Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (POP Regulation):
https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32019R1021

Protected or otherwise valuable areas include

- Natura 2000 sites[79]
- nature reserves[80]

Information on important groundwater areas (in Finnish): https://www.ymparisto.fi/fi-FI/Vesi/Vesiensuojelu/Pohjaveden_suojelu/Pohjavesialueet/Pohjavesialueet(26765)

[79] Natura 2000 sites in Finland: https://ym.fi/en/natura-2000-network; See SYKE map service for details of individual sites (in Finnish)
http://syke.maps.arcgis.com/apps/webappviewer/index.html?id=831ac3d0ac444b78baf0eb1b68076e1a

[80] Nature reserves: https://ym.fi/en/nature-conservation-areas; spatial data sets Nature reserves and wilderness areas (in Finnish):
https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

Appendix 3f: Assessing the intensity and significance of harmful impacts – Impacts on the protection and restoration of biodiversity and ecosystems

Table A3.6. Assessing the intensity and significance of harmful impacts for objective 6: Impacts on the protection and restoration of biodiversity and ecosystems.

Intensity of harmful impact	Description	Assessing significance of the harmful impact
Minor	**The impact is minor if all of the following are realised:** • The impacts do not prevent the achievement or maintenance of the favourable conservation status of a species or natural habitat type. • The impacts do not affect protected or otherwise valuable areas or sites and species protected by legislation. • The impact will be of short duration and affects only a small area / the immediate surroundings of the activities. • There will not be any increase in logging.	**Minor or moderate impact is not usually significant but it can be significant if one of the following criteria is met:** • A large area is affected. • The affected occurrences are representative examples of the natural habitat types and species and they are connected to other similar occurrences. • There are protected or otherwise valuable areas in the affected area. • Occurrences of natural habitat types protected under the Nature Conservation Act, whose boundaries have been set by the ELY Centre, are present in the affected area. • Occurrences of certain aquatic habitat types protected under the Water Act are present in the affected area. • Sites hosting a species under strict protection under the Nature Conservation Act, whose boundaries have been set by the ELY Centre, are present in the affected area. • Breeding sites and resting places of species referred to in Annex IV(a) of the Habitats Directive, the destruction and degradation of which is prohibited, are present in the affected area. • Growing timber harvesting is not in compliance with the FSC certificate or other similar criteria.
Moderate	**The impact is moderate if any of the following is realised:** • The achievement or maintenance of the favourable conservation status of a species or natural habitat type may be adversely affected. • The impact may last for several years but the species and/or natural habitat types of the area will recover after the activities have ended. • Logging will increase but the growing timber harvesting will be carried out in compliance with the Forest Stewardship Council (FSC) certificate or similar criteria.	
Substantial	**The impact is substantial if any of the following is realised:** • The impacts prevent the achievement or maintenance of the favourable conservation status of a species or a natural habitat type. • The affected occurrences are representative examples of the natural habitat types and/or species and they are connected to other similar occurrences. • The impacts extend to protected or otherwise valuable areas or to sites and species protected by legislation. • The impact is irreversible, which means that the species and/or natural habitat types of the area will not recover after the activities have ended. • There will be a significant increase in logging.	**A substantial impact is always significant**

Sources

Under section 5 of the Nature Conservation Act (1096/1996), nature conservation shall focus on attaining and maintaining the **favourable conservation status** of natural habitats and of wild species of Finland.

The conservation status of a **natural habitat** shall be taken as favourable when its natural range and the areas it covers within that range are stable enough to ensure the long-term maintenance of said habitat and of the structure and functions of its ecosystem, and when the conservation status of its typical species is deemed favourable. Following Article 1, paragraph e) of the Habitats Directive (92/43/EEC),[81] these factors should be considered in such cases:

- range and distribution
- structure and function characteristic of the habitat type
- species typical of the habitat type.

The conservation status of a **species** shall be taken as favourable when the species proves capable of maintaining itself on a long-term basis as a viable component of its natural habitat. Following Article 1, paragraph i) of the Habitats Directive (92/43/EEC), these factors should be considered in such cases:

- range
- population size
- habitat.

The **status of Finland's threatened habitat types** was last assessed in 2018[82] and the **status of threatened species** in 2019.[83]

Protected or otherwise valuable areas include:

- Natura 2000 sites[84]
- nature reserves[85]
- areas reserved for conservation (sites included in national conservation programmes that are not yet protected and other areas acquired by the state for nature conservation purposes)[86]
- nationally valuable geological formations[87]
- important breeding, feeding, moulting and resting sites and migration routes for birds.[88]

[81] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). http://data.europa.eu/eli/dir/1992/43/oj

[82] Kontula, T. & Raunio, A. (eds.). 2019. Threatened Habitat Types in Finland 2018. Red List of Habitats Results and Basis for Assessment. Finnish Environment Institute & Ministry of the Environment, Helsinki. The Finnish Environment 2/2019. 254 s. http://urn.fi/URN:ISBN:978-952-11-5110-1. Online service of the assessment of threatened habitat types in Finland (in Finnish): https://luontotyyppienuhanalaisuus.ymparisto.fi/

[83] Online service of the assessment of threatened species in Finland: https://punainenkirja.laji.fi/en

[84] Natura 2000 sites in Finland: https://ym.fi/en/natura-2000-network; see SYKE map service for details of individual sites (in Finnish) http://syke.maps.arcgis.com/apps/webappviewer/index.html?id=831ac3d0ac444b78baf0eb1b68076e1a

[85] Nature reserves: https://ym.fi/en/nature-conservation-areas; spatial data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

[86] Spatial data set Areas included in national conservation programmes (in Finnish): https://ckan.ymparisto.fi/dataset/%7B5A93FF5B-FB88-40C7-84E0-91FCC492A621%7D

[87] Nationally valuable geological formations: https://www.ymparisto.fi/en-US/Nature/Geological_formations; downloadable spatial data sets (in Finnish): https://www.syke.fi/fi-FI/Avoin_tieto/Paikkatietoaineistot/Ladattavat_paikkatietoaineistot#V

[88] Important bird areas (in Finnish): https://www.birdlife.fi/suojelu/alueet/

Sites and species protected by legislation include:

- natural habitat types protected under the Nature Conservation Act, when the boundaries of the occurrence have been set by the ELY Centre[89]
- certain aquatic habitat types protected under the Water Act[90]
- habitats of special importance in terms of biodiversity under the Forest Act[91] (applies to the management and utilisation of forests mainly in areas classified as forestry land)
- sites hosting a species under strict protection under the Nature Conservation Act, when the boundaries of the site have been set by the ELY Centre[92]
- breeding sites and resting places of animal species referred to in Annex IV(a) of the Habitats Directive, the destruction and deterioration of which is prohibited[93]
- natural monuments.[94]

You can ask for advice and guidance from the municipal environmental protection authority or the regional ELY Centre. Detailed instructions for ecological surveys in the target area and for ecological impact assessments (in Finnish) can be found in Mäkelä and Salo (2021)[95].

Forest product **responsibility certificate**: Forest Stewardship Council (FSC)[96]

[89] Natural habitat types protected under the Nature Conservation Act, section 29: https://www.finlex.fi/fi/laki/kaannokset/1996/en19961096.pdf; spatial data of sites where the boundaries of the occurrence have been set by the ELY Centre is included in the data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

[90] Certain aquatic habitat types protected under the Water Act: https://finlex.fi/en/laki/kaannokset/2011/en20110587.pdf

[91] Habitats of special importance in terms of biodiversity under the Forest Act: https://www.finlex.fi/fi/laki/kaannokset/1996/en19961093_20140567.pdf; to view verified occurrences of such habitats on private land, visit the Forest Centre map service (in Finnish): https://www.metsakeskus.fi/fi/avoin-metsa-ja-luontotieto/luontotietoaineistot/erityisen-tarkeat-elinymparistot

[92] Species under strict protection under the Nature Conservation Act, section 47: https://www.finlex.fi/fi/laki/kaannokset/1996/en19961096.pdf; listed in Nature Conservation Decree, Appendix 4: https://www.finlex.fi/fi/laki/ajantasa/1997/19970160; spatial data on sites where the boundaries of the site have been set by the ELY Centre is included in the data set Nature reserves and wilderness areas (in Finnish): https://ckan.ymparisto.fi/dataset/%7BC8FC4A42-A2C3-40C4-92CD-2299C688514E%7D

[93] Presentation of the species (except for bats) in Annex IV of the European Union's Habitats Directive (in Finnish): http://urn.fi/URN:ISBN:978-952-11-4638-1

[94] Natural monuments: https://ym.fi/en/natural-monuments; spatial data can be found for example in municipal map services

[95] Mäkelä, K. & Salo, P. 2021. Luontoselvitykset ja luontovaikutusten arviointi – Opas tekijälle, tilaajalle ja viranomaiselle. Suomen ympäristökeskus, Helsinki. Suomen ympäristökeskuksen raportteja 47/2021. 346 s. http://urn.fi/URN:ISBN:978-952-11-5445-4

[96] Forest Stewardship Council (FSC): https://fi.fsc.org/fi-fi/fsc-in-english

Appendix 4.
DNSH assessment for a commercial-scale bioproduct plant

The example describes a DNSH assessment of an imaginary bioproduct plant. The plant is planning to introduce a new process to use the biomass, generated as a by-product in its existing processes. An EIA has already been carried out on the plant and the plant has applied for a change to its existing environmental permit. In the example, the DNSH assessment is carried out in two stages and the data collected for the EIA and environmental permit procedures is used in the assessment. In the general assessment carried out in the first stage, it is determined that the project makes a 100 per cent contribution to the achievement of the climate change mitigation and circular economy objectives set out in the RRF Regulation.

Description of the project planned by the imaginary bioproduct plant:

'The company's production process generates a side stream, which is not currently used as a high-grade product as the side stream consisting of moist biomass is incinerated. In a new treatment, precious materials, accounting for 80 per cent by weight of the side stream (calculated from dry weight), can be recovered from the side stream. Water, from which precious materials have been recovered, is also separated in the process. A small proportion (20% by weight) goes to energy use. The water separated in the process cannot be used in production and therefore it must be appropriately treated. The production plant is located on the shore of a waterway. The company is applying for a circular economy investment grant for a commercial-scale production plant from Business Finland. The investments receiving funding in the call for applications for recycling and reuse investment projects[97] will only meet the climate and environmental criteria set for EU funding if in them at least 50 per cent by weight of the waste or side stream in question can be used as a secondary raw material. In this project, the use of recycled materials as raw materials in accordance with the efficiency criteria (045a) contributes 100 per cent to the achievement of the climate objective (paragraph a of DNSH. Climate change mitigation) and the environmental objective (paragraph d of DNSH. Circular economy objective.'

Existing infrastructure (such as the wastewater treatment plant) would be used in the processing of wastewater and waste gases.

General observations of the description of the DNSH assessment:

- If a project contributes to an environmental objective 100 per cent under the RRF Regulation (Annex IV), only a brief description and the reasons why the efficiency criteria would be met are required.
- Similarly, if the project meets the assessment criteria for 'substantially contributing' to the achievement of an environmental objective set out in the EU Taxonomy Regulation (2020/852) and the related 'Do no significant harm' criteria, a brief description and justification why the efficiency criterion is met is sufficient as the DNSH assessment.
- If an EIA has been carried out on the project and the project has been granted an environmental permit/has a valid environmental permit, the documents accumulated during these processes probably contain information that can be adequately used in the impact assessment/DNSH assessment. Consideration is primarily needed for objectives 2 (climate change adaptation) and 4 (transition to a circular economy). It may also be required for objective 1 (climate change mitigation).
- If, as part of the project, an existing process is changed or a parallel process is added to the plant site, the impact of the changes on emissions, the manner in which the change affects environmental impacts, and the significance of the change must be described in the DNSH

[97] https://www.businessfinland.fi/ajankohtaista/tapahtumat/2021/rahoitusinfo-kierratys--ja-uudelleenkayttoinvestoinnit

assessment. Earlier administrative processes and documents produced in them can also be used in this case.

- If an existing environmental permit is revised because of a change in the process, a parallel process is added or an entirely new plant planned, all permits applied for must be listed in the DNSH assessment. Relevant BREF documents must also be presented and the applicant must describe how the requirements contained in them can be met. The applicant should also describe the aspects considered in the assessment of biodiversity and how it intends to prevent harmful impacts (for example, Natura assessment or the derogation granted under the Nature Conservation Act). The BAT evaluation does not take into account the location, and for this reason, the conditions in the target area must be assessed (sensitivity to a specific variable, etc.).

Table A4.1. General assessment of the impacts of the example project.

1. Climate change mitigation			
Objective	**Yes**	**No**	**If you answered No, give a brief justification.** **If you answered Yes, give a detailed assessment in Table 2.**
Will the project have potentially harmful impacts on climate change mitigation? • Will there be an increase in greenhouse gas emissions? (If the answer is Yes, will the increase be minor or larger? - You can also give the answer in the next table) (here you can also take into account cross-effects and substitution) • Will carbon sinks and/or carbon storages decrease? Will there be any other harmful impacts?		X	The project will contribute 100 per cent to the achievement of the climate change mitigation objective. The purpose of the project is to recover 80 per cent by weight of the dry matter side stream, which is now incinerated. The material to be used is biomass (non-hazardous waste).
Instructions for assessment Only a brief justification is required if: • the use of the recycled materials of the project as raw materials in accordance with efficiency criteria makes a 100 per cent contribution to the achievement of the climate objective (paragraph 045a of Annex VI to the RRF Regulation).			
2. Climate change adaptation			
Objective	**Yes**	**No**	**If you answered No, give a brief justification.** **If you answered Yes, give a detailed assessment in Table 2.**
Will the project have potentially harmful impacts on climate change adaptation? • Will the project increase water consumption? • Will the project increase the risk of flooding or drought, or exposure to extreme weather? • Will there be any other impacts?		X	The project will not have any impacts on the climate change adaptation objective.
3. Sustainable use and protection of water and marine resources			
Objective	**Yes**	**No**	**If you answered No, give a brief justification.** **If you answered Yes, give a detailed assessment in Table 2.**
Will the project have potentially harmful impacts on the sustainable use and protection of water and marine resources? • Can the project cause degradation of surface water or groundwater quality (for example, cause nutrient, metal or suspended solids loading, weaken the living conditions of fish or spread non-native species)? • Will the project increase heat stress? • Will there be any other impacts?	X		

4. Transition to a circular economy			
Objective	**Yes**	**No**	**If you answered No, give a brief justification.** **If you answered Yes, give a detailed assessment in Table 2.**
Will the project have potentially harmful impacts on transition to a circular economy? • Will the project increase the use of natural resources? • Will the project make the reuse of products or materials more difficult or will it shorten the useful lives of products? • Will the project make recycling of materials more difficult? • Will the project increase the disposal or incineration of waste? • Will there be any other impacts?		X	The project will contribute 100 per cent to the achievement of the circular economy objective. The purpose of the project is to recover 80 per cent by weight of the dry matter side stream, which is now incinerated. The material to be used is biomass (non-hazardous waste). A small proportion (20 per cent by weight) goes to energy use.
Instructions for assessment Only a brief justification is required if: • the use of recycled materials of the project as raw materials in accordance with efficiency criteria makes a 100 per cent contribution to the achievement of the circular economy objective (paragraph 045a of Annex IV to the RRF Regulation).			
5. Pollution prevention and control			
Objective	**Yes**	**No**	**If you answered No, give a brief justification.** **If you answered Yes, give a detailed assessment in Table 2.**
Will the project cause environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use? • Will the project increase chemicalisation of the environment? • Will the project cause significant emissions of harmful or hazardous substances? • Is there a potential for higher environmental risks? • Will there be any other impacts?	X		
6. Protection and restoration of biodiversity and ecosystems			
Objective	**Yes**	**No**	**If you answered No, give a brief justification.** **If you answered Yes, give a detailed assessment in Table 2.**
Can the project adversely impact biodiversity or undermine the protection and/or restoration of ecosystems? • Will the project destroy occurrences of protected or threatened habitat types or adversely impact their quality? • Will the project reduce the size of occurrences or the geographic distribution of protected or threatened habitat types?	X		

• Will the project destroy or adversely impact the quality of habitats of threatened species or species protected by legislation? • Will the project reduce the population size or range of threatened species or species protected by legislation? • Will the project make the protection and restoration of ecosystems more difficult? (Will the impacts extend to such areas as Natura 2000 sites or nature reserves?) • Will there be any other harmful impacts on biodiversity?			

Table A4.2. Detailed DNSH assessment of the impacts of the example project. The assessment must cover the objectives for which potentially harmful impacts were identified in stage 1.

1. Climate change mitigation			
Objective	**Yes**	**No**	**Describe here the intensity, duration and extent of the impacts and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).**
Will the investment project have significant harmful impacts on climate change mitigation? • Will there be a significant increase in greenhouse gas emissions? • Will carbon sinks and/or carbon storages decrease? • Will there be any other impacts?		X	
Instructions for assessment You can use LCA principles, such as the guidelines contained in the GHG Protocol (https://ghgprotocol.org/), PEF method (2013/179/EU) or any other appropriate method to assess the climate impacts.			
2. Climate change adaptation			
Objective	**Yes**	**No**	**Describe here the intensity, duration and extent of the impacts and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).**
Will the investment project have potentially significant harmful impacts on climate change adaptation? • Will the project significantly increase water consumption? • Will the project increase the risk of flooding or drought, or exposure to extreme weather? • Will there be any other impacts?		X	
Instructions for assessment Describe here the impacts of any water consumption on local water balance. Potential impacts of climate change must also be assessed; for example, will access to water required in the process be at risk during extreme weather.			

3. Sustainable use and protection of water and marine resources			
Objective	**Yes**	**No**	**Describe here the intensity, duration and extent of the impacts and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).**
Will the investment project have potentially harmful impacts on the sustainable use and protection of water and marine resources? • Can the project cause degradation of surface water or groundwater quality? For example, could it increase the loading of metals or other harmful or hazardous substances, or significantly weaken the living conditions of fish? • Will the project significantly increase heat stress? • Will there be any other impacts?	X		The environmental impacts of the existing permit of company X on the receiving waters were modelled during the application stage of the existing environmental permit. Existing emissions do not weaken the status of the receiving waters. • As the process would not significantly change the emissions discharged by the plant into waters, significant impacts on waters are not expected. • Total nutrient emissions (N and P) would increase by about [x]%. According to the modelling, heat stress would extend over about [y] km2 and nutrient emissions would spread [x] km downstream (affected area). Nutrient emissions and heat stress would cause a minor increase in the eutrophication of waters in the affected area. • Operating the plant at full capacity may increase the need to remove more sulphates from the process. As the wastewater is discharged into a large water body, a small increase in salinity would not have any impact on the mixing or spread of the wastewater in the discharge area. The process would not have any impacts on soil or groundwater. During disruptions, discharges would primarily be directed to the treatment plant through the wastewater system. • Furthermore, higher emissions would not have any impact on local fish stocks. • In the planned project, [x] and [y] components would be recovered from the biomass, which would reduce existing emissions of these parameters into the waters. • The plant is located in an area designated in the regional land use plan. • The plant is not located in a groundwater area. The nearest groundwater areas are located about [x] kilometres east and about [y] kilometres south of the plant. • Under the existing building permit, additional construction is permitted at the plant site. • In the process, water would be evaporated from the biomass and as a result, heat stress would increase by about [y]%. However, this would not cause any significant increase in total heat stress.

Instructions for assessment

Here you should identify and assess potential risks to achieving the good status of waters defined in river basin management plans (do the emissions make it less likely that the good status can be achieved by the year 2027).

If the ecological status classification is lowered because of the emissions, the impacts of the project can be considered as significantly harmful.

The list of variables contains a range of different ecological and chemical parameters that must not be weakened. There is more room within the classification range.

The DNSH description should identify the variables of the emissions generated in the process that may weaken the status of the receiving waters (BREF documents may not necessarily contain all significant variables for the target area).

The characteristics of the receiving waters (for example, is it a large lake or a small river) have an impact on the assessment.

The duration of the impacts should also be assessed (for example, the impacts arising during the construction may be temporary).

Matters concerning land-use planning and the location of the installation (for example, its location in relation to groundwater areas) must be addressed in the description.

Relevant legislation and guidance:

Government Decree on Substances Dangerous and Harmful to the Aquatic Environment: https://finlex.fi/en/laki/kaannokset/2006/en20061022.pdf

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3c.

4. Transition to a circular economy			
Objective	**Yes**	**No**	**Describe here the intensity, duration and extent of the impacts and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).**
Will the investment project have potentially significant harmful impacts on transition to a circular economy? • Will the project significantly increase the use of natural resources? (Special consideration should be given to critical raw materials, such as rare earth elements.) • Will the project make the reuse of products or materials significantly more difficult or will it shorten the useful lives of products? Has consideration been given to the recyclability of products or materials? • Will the project significantly increase the disposal or incineration of waste? • Will there be any other significant impacts?		X	

Instructions for assessment

Describe here how the project is related to waste hierarchy. Under the RRF Regulation, no funding can be granted to projects that increase incineration of waste or disposal of waste in landfills.

Under the technical guidance on the use of the Recovery and Resilience Facility, an activity is considered to do significant harm to the circular economy, including waste prevention and recycling, if it leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or if it significantly increases the generation, incineration or disposal of waste, or if the long-term disposal of waste may cause significant and long-term environmental harm.

Describe the following:

- reuse of the product/material generated in the production or recyclability of the material
- impact of the chemicals contained in the product/waste on reuse/recycling (and how to disseminate information on this throughout the value chain).

The project must also be in accordance with the National Waste Plan.

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3d.

5. Pollution prevention and control

Objective	**Yes**	**No**	**Describe here the intensity, duration and extent of the impacts and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).**
Will the project piloting and demonstration stage, application of the results or the investment project cause environmental degradation (soil, water, air quality) through such factors as higher emissions or changes in land use? • Are BAT requirements (BREF documents of chemical industry and metal processing) considered in the production? • Will the project increase chemicalisation of the environment? For example, will it cause more leaks or leaching of harmful substances into soil, groundwater or surface water? • Will the project cause a significant increase in the emissions of hazardous substances? • Will it increase other environmental risks (such as explosion hazard)? • Will there be any other impacts?	X		The following BREF documents have been used in the existing environmental permit: • BAT reference document for pulp and paper industry • LCP-BREF for large combustion plants • EFS-BREF for storage. There are no other BREF documents that could be directly applied to the planned process. Existing limit values for P and N emissions would be exceeded as a result of the changes in emissions arising from the new process, and for this reason, an application for a change to the existing environmental permit has been submitted. Biomass processing would increase the wastewater load directed to the treatment plant for the following parameters: [x, y.]. Because of an increasing load, the treatment plant process would be adjusted as follows: […] An increase in wastewater loading would also lead to the expansion of spill basins, which would significantly reduce the risk of overflow. To manage the plant's sulphur balance, it may be necessary to remove more sulphur from the process to the wastewater. Currently, sulphur emissions to waters are [x] kg, and calculations indicate that the upgraded process would increase sulphur emissions by about [y] kg. However, the higher emissions would be within the nutrient emission levels laid out in the BREF documents applied to the existing process. Thus the overall plant operations would be in compliance with BAT. BREF for pulp and paper production

			does not include BAT emission levels for sulphate, but the sulphate emissions of the plant are at the same level as in other similar installations. The calorific value of the by-product to be incinerated is low and, as the incineration of biomass generated as a by-product would be reduced by [x]%, it would improve boiler management. As a result, emissions into air would be reduced by about [y]% The chemicals to be used in the by-product process are in compliance with the REACH Regulation and would not increase chemicalisation.

Instructions for assessment

Describe here applicable BREF documents and how the activities comply with BAT requirements (BAT emission levels are binding). For more information on BAT, go to the BAT website of the Finnish Environment Institute and to view the reference documents go to the website of the European IPPC Bureau.

If there are no applicable BREF documents/BAT conclusions, other BAT reports and regulation can be used as a reference for BAT evaluation. These include the BAT reports prepared under the auspices of the Nordic Council of Ministers, HELCOM Recommendations and other similar documents.

The chemicals used must comply with the Chemicals Regulation (provisions and links): Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006)
- Discharged waters must not contain hazardous substances referred to in Annex 1 A) or substances referred to in Annexes 1 C1) or 1 D) in concentrations that may cause environmental quality standards to be exceeded.
- Applying the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (guide; in Finnish, with English abstract)

Management of environmental damage must be in accordance with all relevant provisions. A preparedness plan for disruptions and exceptional situations based on the risk assessment referred to in section 15 of the Environmental Protection Act must be in place.

BAT compliance of the installation under the Industrial Emissions Directive is one criterion for meeting the DNSH requirements with regard to this environmental objective. However, location of the installation is not a BAT consideration and for this reason, sensitivity of the location may cause additional requirements (also in the environmental permit process).

Operations of the plant must not endanger the good status of groundwater.

Air quality standards must not be exceeded.

Risks to environment should also be identified and described.

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3e.

6. Protection and restoration of biodiversity and ecosystems			
Objective	**Yes**	**No**	**Describe here the intensity, duration and extent of the impacts and the sensitivity of the target to changes and, based on them, give an assessment of the significance of the impacts (see instructions for assessment).**
Can the project activities have significant harmful impacts on biodiversity or significantly undermine the protection and/or restoration of ecosystems? • Will the achievement or maintenance of the favourable conservation status of a species or a natural habitat type be adversely affected? • Will the project impacts extend to protected or otherwise valuable areas? • Will there be any other significant harmful impacts?	X		The project would not lead to an increase in the use of wood raw material because biomass generated as a by-product of an existing process would be used. Thus, the project would not have any significant indirect impacts on, for example, threatened or protected forest habitat types or species protected by legislation. According to modelling, the activities would increase nutrient loading (N and P) by about [x]% and increase water body temperature by about [y]. Nutrient emissions would spread [x] km downstream and thermal discharge would extend over about [y] km^2. No threatened habitat types or species, protected habitat types or species protected by legislation occur in the affected water body. Furthermore, there are no nature reserves or Natura 2000 sites in the affected area. As a whole, the impacts on the water ecosystem would not be significant.

Instructions for assessment

Describe here how the project impacts species and their habitats, occurrence of natural habitat types, and protected or otherwise valuable areas.

In the case used as an example, a new process is added to the plant in question. Any significant harmful impacts would mostly result from higher emissions or emissions that are otherwise different from earlier emissions. In other words, there would be changes in the quality of species' habitats or occurrences of natural habitat types. Some of the emissions may also have direct impacts on species.

For example, effluents and cooling water may carry nutrients, sulphates, metals, extractives, environmental bacteria, and suspended solids to the sea. Nutrients cause eutrophication. Sulphates increase water stratification and can form toxic hydrogen sulphide. Different types of contaminants accumulate in sediments and biota. Endocrine disruptors affect the reproduction of biota.

Industrial effluents and cooling waters also increase water temperature, which can affect fish in many different ways. Thermal discharge increases primary production and accelerates eutrophication, which may lead to oxygen depletion in hypolimnion and an increase in the internal loading of the water body. Thermal discharge also reduces the thickness and surface area of the ice cover.

Significance of the impact must be assessed following the assessment guidelines presented in Appendix 3f.

Appendix 5.
Experts of the DNSH project at the Finnish Environment Institute

Kaj Forsius, Centre for Sustainable Consumption and Production (coordination, industrial emissions)

Timo Jouttijärvi, Centre for Sustainable Consumption and Production (industrial emissions)

Tiina K. M. Karppinen, Centre for Sustainable Consumption and Production (circular economy)

Petrus Kautto, Strategic Programme for Sustainable Circular Economy (circular economy)

Kirsi Kostamo, Biodiversity Centre (biodiversity)

Mika Marttunen, Freshwater Centre (water use and management)

Jyri Mustajoki, Freshwater Centre (assessing the significance of impacts)

Seita Romppanen, Environmental Policy Centre (national regulation)

Pälvi Salo, Biodiversity Centre (biodiversity)

Kimmo Silvo, Centre for Sustainable Consumption and Production (coordination, overall assessment of emissions)

Sampo Soimakallio, Centre for Sustainable Consumption and Production (climate change mitigation)

Kimmo Syrjänen, Biodiversity Centre (forest biodiversity issues)

Glossary and abbreviations

BAT	Best Available Techniques
BREF	Best Available Techniques Reference Document (BREF document)
DNSH	Do no significant harm
EIA	Environmental impact assessment
ELY Centre	Centre for Economic Development, Transport and the Environment
KHO	Supreme Administrative Court of Finland
LCA	Life Cycle Assessment
POP	Persistent Organic Pollutant
RDI project	Research, development and innovation project
REACH Regulation	EU regulation on the registration, evaluation, authorisation and restriction of chemicals (1907/2006)
RRF Regulation	EU regulation on the Recovery and Resilience Facility (2021/241)
RRP	Recovery and resilience plan
TEM	Ministry of Economic Affairs and Employment
WFD	Water Framework Directive (2000/60/EC)
YM	Ministry of the Environment

Literature and legislation

Regulation (EU) 2021/241 of the European Parliament and of the Council establishing the Recovery and Resilience Facility (RRF Regulation): https://eur-lex.europa.eu/legal-content/EN/TXT/%20PDF/?uri=CELEX:32021R0241&from=EN

Commission Notice Technical guidance on the application of 'Do no significant harm' under the Recovery and Resilience Facility Regulation (2021/C 58/01): https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52021XC0218%2801%29

Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (EU Taxonomy Regulation): https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1598877683025&uri=CELEX:32020R0852

Commission Delegated Regulation on Technical Screening Criteria (EU 2021/2139) and supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R2139&qid=1639037016630

Finland's sustainable growth programme: https://julkaisut.valtioneuvosto.fi/handle/10024/163363

Finland's recovery and resilience plan and the proposal for a Council Implementing Decision on the plan: https://ec.europa.eu/info/publications/proposal-council-implementing-decision-approval-assessment-recovery-and-resilience-plan-finland-and-annex_fi

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