Nord Trøndelag Elektrisitetsverk AS

Green Finance Second Opinion

15 May 2023

Executive Summary

Nord Trøndelag Elektrisitetsverk AS (NTE) was established by Nord-Trøndelag County in 1919 and is today owned by 19 municipalities in Trøndelag, mid-Norway. NTE develops, produces and distributes renewable energy, as well as builds and operates digital infrastructure. Altogether NTE has 23 power stations producing annually about 4 TWh electricity (averaged over 2017-2021). In addition to further developing the hydropower production capacity, NTE wishes to explore the potential in hydrogen and wind power.

The green finance framework provides for funding of renewable energy projects, mainly hydro and wind power, as well as hydrogen production and storage. For the first transaction the estimate is that 100% will be allocated to new assets and projects. NTE mentions in particular financing for the NOK 1 billion hydro power station in Nedre Fiskumfoss as a replacement for an old station in the Namsen River and extension of the Ytre Vikna wind power park. The hydrogen production will be by electrolysis based on renewable energy (green hydrogen).

We rate the framework **CICERO Dark Green** and give it a governance score of **Good.** The Dark Green shading reflects that renewable energy and hydrogen based on such resources are key elements in the transition to a low carbon society. In respect of governance, NTE has ambitious climate targets, a thorough selection process, shows consideration for physical climate risk, and is increasing its focus on construction and embedded emissions.

SHADES OF GREEN

CICERO Dark Green

GOVERNANCE ASSESSMENT

GREEN BOND and GREEN LOAN PRINCIPLES

Based on this review, this framework is found to be aligned with the principles.

Strengths

It is a strength that the framework focuses exclusively on low carbon solutions, supported by NTE's overall strategy to increase renewable power generation. The inclusion of manufacturing and storage of green hydrogen is also a strength, given the potential importance of hydrogen in hard to abate sectors. The adoption of a Scope 3 reduction target related to NTE's customers is positive. NTE has as a target to contribute to a 55% reduction in direct climate emissions from their customers by 2030.

Pitfalls

Several project categories may entail associated emissions, for example from the construction process or supporting infrastructure. While NTE includes certain environmental issues in its procurement process, it is important that it continues to increase its focus on impacts in its supply chain including embodied emissions.

Renewable energy projects can cause local opposition for a variety of reasons. Such risks can increase in the case of large projects, like the planned extension of Ytre Vikna wind park. Opposition can to some extent be mitigated via stakeholder engagement, though engagement has its limits. For example, in the Nordic context risks remain around the interference of wind farms with indigenous rights, in particular with regards to reindeer herding: in 2021, the Norwegian Supreme Court stripped two Norwegian wind farms of their licenses given the interference with the rights of the indigenous Sami people. When NTE considered an expansion of Ytre Vikna, a reindeer grazing area, the company was quite clear that it did not want to start a project that did not have roots in the municipality and with local stakeholders. In March 2023 Nærøysund municipality's council said they wanted an impact assessment of the wind farm. NTE states that they will not build if there is no local political support for the project. Therefore, the municipality can stop the process at any time right up until the authorities grant a licence.

The importance of end-of-life considerations is becoming clearer and more pressing. NTE informed us it does take this into account to a certain degree, and it is crucial that such considerations are considered at the outset of projects, in procurement decisions, and folded into the selection process under the framework.

EU Taxonomy

The activities electricity production from hydropower and wind power and manufacturing and storage of hydrogen are found to be likely aligned with the taxonomy mitigation criteria. We note that life cycle assessments for hydropower and manufacture of hydrogen have not yet been conducted by NTE. Nevertheless, on the basis of currently available studies, we expect emissions to be considerably below the taxonomy thresholds for substantial contribution to mitigation. When NTE has conducted such assessments in line with the methodologies referenced in the taxonomy, we encourage them to make the results public.

The main gaps for the DNSH criteria across all eligible activities relate to climate change adaptation. It is unclear whether the required climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis. We note, however, that NTE is carrying out a climate risk and vulnerability assessment. Currently, it is under way but not yet completed.

°CICERO Shades of Green now a part of S&P Global

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Company description

Nord Trøndelag Elektrisitetsverk AS (NTE) was established by Nord-Trøndelag County in 1919 and is today owned by 19 municipalities in Trøndelag, mid-Norway. NTE has 554 employees and the headquarter is in Steinkjer. NTE develops, produces and distributes clean and renewable energy, as well as builds and operates digital infrastructure. NTE has business areas within renewable energy and energy services, telecommunication, installation and power grid. The main business area revenue wise is the production of electricity.

The renewable energy business area consists of the wholly owned company NTE Energi AS, which has production facilities for hydropower in a number of municipalities in Trøndelag. The company is also a co-owner of hydropower plants in Nordland and in Sweden. Altogether NTE has 23 power stations producing annually 3.97 TWh electricity (averaged over 2017-2021)[1]. The company has large new energy projects both under construction and under planning covering a new hydropower station and the development of a full-scale green hydrogen production plant and works on two onshore wind park projects.

The telecom business area works to give customers access to world-class digital infrastructure. The market area has 64,400 fibre customers. NTE also owns 50% of Nordvest Fiber AS, which has 4,200 customers in North-West Norway. In 2021, NTE also bought Verdal Kabel-TV AS.

The installation business is run through the wholly owned company NTE Elektro AS. With its 263 installers and more than 25,000 customer visits annually, NTE Elektro is the largest electrical company in Trøndelag.

Finally, the network business area includes partial ownership (40%) in power grid company Tensio AS. Tensio's business is subject to official control by the Norwegian Directorate of Water Resources and Energy (NVE).

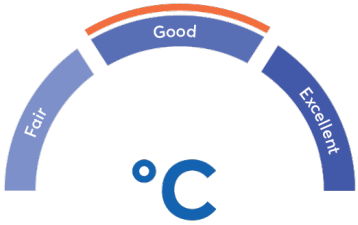
Governance assessment

NTE has comprehensive and ambitious environmental targets, including the goal of becoming climate neutral by 2030. NTE intends to adopt and commit to emission reductions in accordance with Science Based Targets initiative (SBTi).

According to NTE, screening and stakeholder dialogue are conducted for all projects. In particular wind power projects has been met with local resistance lately. Nærøysund municipality has given consent for NTE to start work on an impact assessment for extension of a wind park, Ytre Vikna 2.0. A consultation group, with representatives of local stakeholder groups such as landowners, reindeer husbandry, neighbours, opponents of wind power, business associations, cabin owners, hunters and fishers, municipalities and county councils, will follow the work on the impact assessment. Through this, NTE wants to contribute to transparency, and make it possible for local communities and stakeholders to receive ongoing information and the opportunity to give input to the investigation work along the way.

[1] This corresponds to the needs of approximately 500,000 people.

NTE is currently working to set up its TCFD reporting with the help of a sustainability reporting advisor. A first version of reporting according to the TCFD guidelines will be published in the 2022 annual report. With regards to LCAs, this is currently not done consistently, but for certain projects according to NTE.



NTE has been reporting greenhouse gas emissions with the help of independent experts since 2019. The planned annual reporting associated with the green finance framework is good. The overall assessment of NTE's governance structure and processes gives it a rating of **Good**.

Sector risk exposure

Physical climate risks. Science shows that weather events are expected to increase in intensity and frequency, that incremental climatic changes are highly likely to happen, and that their impact is expected to grow more severe over the coming years and decades. For NTE and its partners located in Northern Europe, extreme precipitation, particularly during the winter, and associated flooding from heavy rainfall or snowmelt, will likely increase. Sea level rise may be a concern in some coastal areas. NTE's operations and value chain may be directly affected.

Transition risks. Due to the profound changes needed to limit global warming to 2ºC, transition risk affects all sectors. Electrification plays a key role in decarbonization strategies, which will consequently result in increased demand. NTE is exposed to transition risk from stricter policies on reducing grid loss, leakage levels and demands on life cycle assessments for its extension projects. Insurance premiums may also rise as extreme weather events increase the likelihood of loss and damage to the grid.

Environmental risks. Expansion of the grid, particularly in rural areas, will have an impact on local environment, biodiversity, local pollution, etc. As with climate change, nature and biodiversity loss can create physical risks due to the loss of critical ecosystem services which can contribute to operational disruptions (e.g., landslides), while also reducing resilience to physical climate risks.

Environmental strategies and policies

Through a new sustainability strategy, NTE has established concrete targets and KPIs for the impact NTE has on people, the environment and society. In 2021, NTE applied for membership in the UN's Global Compact.

NTE has as ambition to be climate neutral in 2030 and reduce both its direct and indirect climate emissions. In order to reach the net zero goal in 2030, NTE wants to adopt and commit to emission reductions in accordance with Science Based Targets initiative (SBTi)[2]. The company recognizes that it will have to build more infrastructure in order to achieve a goal of increasing the production of renewable energy to 8 TWh by 2030[3]. In addition to further developing the hydropower production capacity, NTE wishes to explore other renewable energy sources. It is already part of the development of a green hydrogen production plant and several projects for wind power. Finally, NTE has as a target to contribute to a 55% reduction in direct climate emissions from their customers by 2030.

[2] https://sciencebasedtargets.org
[3] NTE produced 3.5 TWh of renewable energy in 2021.

NTE's climate accounting, which started in 2019, is provided by Asplan Viak and uses Environmentally Extended Input-Output Analysis (EEIOA) as the basis for the calculations, and the GHG protocol as the basis for reporting. In total, the 2021 scope 1+2+3 greenhouse gas emissions amounted to 27,253 tCO_2e. According to the accounts, NTE reduced emissions by 7.5% from 2020 to 2021. The reduction was in scope 1 (-10%) mainly due to electrification of the vehicle fleet, and scope 3 emissions (-7.5%). The scope 3 emissions, which include investments in buildings, plant and machinery, as well as purchases of goods, amounts to 96% of total emissions. Emission intensity (ton CO_2 per million NOK revenue) was 5.8 in 2019, 13.1 in 2020 and 8 in 2021.

NTE is currently working to set up its TCFD reporting with the help of a sustainability reporting advisor. A first version of reporting according to the TCFD guidelines will be published in the 2022 annual report. With regards to life cycle analyses (LCAs), this is currently not done consistently, but for certain projects according to NTE. When it comes to climate resilience, NTE relies on the regulatory frameworks for hydro power and wind power installations.

NTE has a particular focus on biological diversity in the waterways where it has operations and carries out both continuous mapping and monitoring of the environment. One of the waterways mapped in 2021 is Byafossen power plant. The results of the surveys showed that the measures implemented with habitat improvement and water flow led to an increase in the survival and recruitment of juvenile salmon to the adult population of salmon. Both environmental design surveys and classic fish biological surveys are carried out.

According to NTE, it emphasises good stakeholder dialogue and development in line with interests of the local community. The company aims to have zero breaches of its ethical guidelines, which are based on the OECD Guidelines for Multinational Enterprises. All suppliers must accept the ethical guidelines, in which they inter alia commit to prevent forced and child labour, excessive use of overtime, discrimination and corruption, and to follow environmental requirements. The supply chain is largely confined to Norway and NTE wants to use local suppliers to the greatest extent possible.

Green finance framework

Based on this review, the framework is found to be aligned with the Green Bond and Green Loan Principles. For details on the issuer's framework, please refer to the green bond framework dated April 2023.

Use of proceeds

For a description of the framework's use of proceeds criteria, and an assessment of the categories' environmental impacts and risks, please refer to section 2.

Selection

To ensure the transparency and accountability around the selection of green projects, NTE has established an internal Green Finance Committee being responsible for the evaluation and selection process. The Green Finance Committee consists of members from the Management, Operations, Sustainability and Finance teams in NTE, as well as the Chief Finance Director, and all decisions will be made in consensus.

Only such assets and projects that comply with the green project criteria defined in the framework are eligible to be financed with green finance instruments. Screening of potential controversial projects and stakeholder dialogues are conducted for all projects. According to NTE, it would never build a project that does not have local support from both authorities and stakeholders. The Green Finance Committee will keep a register of all green projects, and to ensure traceability, all decisions made by the committee will be documented and filed.

The Green Finance Committee holds the right to exclude any green project already funded by green finance instruments, which is further described below under Management of Proceeds. The Green Finance Committee is also in charge of potential future oversight and updates of the framework.

Management of proceeds

An amount equal to the net proceeds from issued green finance instruments will be earmarked for financing and refinancing of green projects as defined in the green finance framework.

The Finance department of NTE will endeavour to ensure that the value of green projects at all times exceeds the total amount of green finance instruments outstanding. If a green project already funded by green finance instruments is sold, or for other reasons loses its eligibility in line with the criteria in the framework, NTE will strive to replace such project by another qualifying green project as soon as practically possible.

Net proceeds from green finance instruments awaiting allocation to green projects will be managed according to NTE's overall liquidity management policy and may be invested in short term money market instruments or held as cash.

Reporting

To enable investors, and other stakeholders, to follow the developments of green projects funded by green finance instruments, the Green Finance Committee will have the responsibility to produce a green finance report which will be made available on NTE's website. The reporting will not be linked to individual bonds. The first report will be published within a year of the first issue, and subsequently in conjunction with annual reporting. The report will include an allocation report and an impact report and be published annually as long as there are green finance instruments outstanding, or until full allocation. The report will cover all outstanding green finance instruments. Reporting will per project category, not per project.

The allocation report will include the following information:

- The nominal amount of green finance instruments outstanding, divided into green bonds and green loans
- The amount of net proceeds awaiting allocation to green projects (if any)
- Amounts invested in each of the green project categories defined in the green finance framework and the share of new financing versus refinancing
- Examples of green projects that have been funded by green finance instruments.

The impact report aims to disclose the environmental impact of the green projects financed under the framework. Reporting of environmental impact will, to some extent, be aggregated and depending on data availability, calculations will be made on a best intention basis. The impact assessment may, where applicable, be based on the metrics listed below.

- Annual energy generation capacity from financed hydropower and wind (MW)
- Annual energy generation from financed hydropower and wind (MWh)
- Number of hydrogen projects under development
- Annual green hydrogen produced
- Installed hydrogen production capacity
- Annual reduction and/or avoidance of GHG emissions (tonnes of CO_2e) from financed assets.

An independent auditor appointed by NTE will on an annual basis provide a limited assurance report confirming that an amount equal to the net proceeds from issued green finance instruments have been allocated to green

projects. Impact reporting will not be independently verified, but the methodology used for the estimates will be publicly available.

2 Assessment of NTE's green finance framework

The eligible projects under NTE's green finance framework are shaded based on their environmental impacts and risks, based on the "Shades of Green" methodology.

Shading of eligible projects under NTE's green finance framework

- Green finance instruments issued under the framework will finance investments promoting the green energy transition, such as investments in renewable energy sources.
- Net proceeds from green finance instruments can be used for the financing of new assets and projects, as well as for refinancing purposes. For the first transaction the estimate is that 100% will be allocated to new assets and projects. Refinancing may be relevant in 2024 and later. New assets and projects are defined as ongoing green projects and those taken into operation less than 12 months prior to the issuance of a green finance instrument.
- NTE informs us that the majority of green proceeds will be for projects in the renewable energy category.
- Green finance instruments will not be used to finance investments linked to fossil energy generation, nuclear energy generation, research and/or development within weapons and defence, potentially environmentally negative resources extraction, gambling, or tobacco.

Category	Eligible project types	Assessment of alignment with EU taxonomy's technical criteria for mitigation and DNSH[4]	Green Shading and considerations
Renewable energy projects	Investments, and related expenditures, directed towards the development, construction, installation, improvement, operation, repair, and maintenance of renewable energy production capacity in Norway, including hydropower and wind.	• **4.5. Electricity generation from hydropower: Likely aligned with mitigation criteria, likely aligned with DNSH.** • **4.3. Electricity generation from wind power: Likely aligned with mitigation criteria, likely aligned with DNSH.**	**Dark Green** ✓ Renewable energy, including wind and hydro power, plays a vital role on the path to a low carbon energy sector. NTE states that for the time being this category is limited to hydropower and wind. We mention in particular the NOK 1 billion hydro power station in Nedre Fiskumfoss in the Namsen River and extension of the Ytre Vikna wind power park. The new hydro power station will be specially adapted to the needs of a national

[4] taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf (europa.eu)

			salmon river, according to NTE. The new facility will be completed in 2023. ✓ Large hydropower facilities and associated construction/renovation projects can have impacts on the surrounding environment and biodiversity. NTE does have activities in nature conservation areas. As an example, the intake for the power station in Tunnsjø is situated in a nature conservation area. Similarly, the company has production facilities in 'nasjonale laksevassdrag' (national salmon waterways), with all the extra precautions that entails. ✓ For wind power end-of-life handling should be important consideration. ✓ Wind projects can have an environmental impact on local communities and can be linked to resistance from locals. ✓ Infrastructure development may entail use of fossil fuel machinery or the acquiring, maintenance, or operation of vessels.
Hydrogen production and storage °C	Investments, and related expenditures, directed towards the development and construction of green (electrolytical) hydrogen production facilities. Investments, and related expenditures, directed towards the construction of hydrogen storage facilities (tanks).	• **3.10. Manufacture of hydrogen: Likely aligned with mitigation criteria, likely partially aligned with DNSH**. • **4.12. Storage of hydrogen: Likely aligned with mitigation criteria, likely partially aligned with DNSH**.	**Medium to Dark Green** ✓ Green hydrogen production and storage may become an important element in a green energy transition, in particular for use in sectors that are hard to electrify such as heavy transport and aviation. ✓ NTE is co-leading the work to build a full-scale production facility for green hydrogen in the Nærøysund municipality along with several partners. The facility is set to supply green hydrogen to the maritime sector and includes storage facilities. The aim is to realise the factory by 2025.

		✓ Leakage of hydrogen can, through indirect chemical processes, contribute to global warming. Leakage of stored hydrogen is difficult to avoid due to small molecule size and low density. Impacts from leakage of stored hydrogen to the atmosphere are not yet well-understood but emerging research indicates it increases the atmospheric lifetime of methane and its climate impacts, partially offsetting its emissions reduction benefits, and may contribute to Antarctic ozone depletion[5].

Table 1. Eligible project categories

[5] Atmospheric implications of increased hydrogen use - GOV.UK (www.gov.uk)

EU Taxonomy

The EU Taxonomy Regulation[6] is a classification system setting criteria for economic activities to be defined as environmentally sustainable. The regulation defines six environmental objectives. To be considered sustainable, an activity must substantially contribute to at least one of the six environmental objectives[7] without harming the other objectives ("Do No Significant Harm"), while complying with minimum social safeguards[8]. So far, the EU has adopted delegated acts under the regulation that set out the technical screening criteria for the climate mitigation and adaptation objectives, respectively. The DNSH-criteria are developed to make sure that progress against some objectives is not made at the expense of others and recognizes the relationships between different environmental objectives.

CICERO Shades of Green has assessed eligible projects for NTE's framework against the mitigation thresholds, the DNSH criteria for relevant activities in the delegated act adopted in June 2021 (Annex 1) and the minimum social safeguards.

CICERO Shades of Green assesses that the relevant taxonomy activities for NTE (see Annex 2) are likely aligned with the mitigation criteria of the EU Taxonomy, although specific life cycle assessments for hydropower and manufacture of hydrogen have not yet been conducted by NTE. Nevertheless, on the basis of currently available studies, we expect emissions to be considerably below the taxonomy thresholds for substantial contribution to mitigation. Activities align with the DNSH criteria with the exception of the DNSH to climate change adaptation, where we consider the eligible activities to be partially aligned. The reason being that it is unclear whether the required climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis. We note, however, that NTE is carrying out a climate risk and vulnerability assessment. Currently, it is under way and not yet completed.

Minimum safeguards

To qualify as a sustainable activity under the EU regulation certain minimum social safeguards must be complied with. CICERO Shades of Green has assessed the company's social safeguards with a focus on human and labour rights. We take the sectoral, regional and judicial context into account and focus on the risks likely to be the most material social risks. CICERO Shades of Green concludes that NTE appears to fulfil the minimum social safeguards. The most relevant risks are according to NTE those arising from procurement of services within the construction sector. Concrete risk factors here are working conditions, employment contracts and compliance with Norwegian labour laws. Furthermore, there are risks associated with procurement of goods produced abroad, notable solar panels. These value chains are exposed to a wide array of human and labour rights risks.

[6] Regulation EU 2020/852 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN
[7] The six environmental objectives as defined in the proposed Regulation are: (1) climate change mitigation; (2) climate change adaptation; (3) sustainable use and protection of water and marine resources; (4) transition to a circular economy, waste prevention and recycling; (5) pollution prevention and control; (6) protection of healthy ecosystems.
[8] Alignment with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the International Labour Organisation's ('ILO') declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights.

3 Terms and methodology

This note provides CICERO Shades of Green's second opinion of the client's framework dated April 2023**.** This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Shades of Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

'Shades of Green' methodology

CICERO Shades of Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	Solar power plants
Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	Energy efficient buildings
Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	Hybrid road vehicles

The "Shades of Green" methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised, including potential macro-level impacts of investment projects.

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Shades of Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

Assessment of alignment with Green Bond Principles

CICERO Shades of Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles. We review whether the framework is in line with the four core components of the GBP (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. The selection process is a key governance factor to consider in CICERO Shads of Green's assessment. CICERO Shades of Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Shades of Green places on the selection process. CICERO Shades of Green assesses whether net proceeds or an equivalent amount are tracked by the issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs.

EU taxonomy assessment

CICERO Shades of Green has assessed the activities against the EU Taxonomy's technical screening criteria, including the do-no-significant-harm (DNSH) criteria. In addition, we have assessed alignment with the minimum social safeguards, as described in article 18 of the EU taxonomy. To assess activities' taxonomy alignment, CICERO Green has reviewed the issuer's green finance framework, other supporting documents provided by the issuer, and written responses to questions on each asset's taxonomy alignment.

Appendix 1:
Referenced Documents List

Document Number	Document Name	Description
1	NTE_DNB_Green Finance Framework_DRAFT_2023-04-20	NTE's Green Finance Framework dated April 2023
2	NTEs-ars-og-baerekraftrapport-2021	NTE's Annual and Sustainability report 2021
3	A__rs-og-b__rekraftrapport-2020	NTE's Annual and Sustainability report 2020
4	Bærekraftstrategi med mål og kpi'er_030322	Power point presenting NTE's Sustainability strategy.
5	Hydrogen-Council-Report_Decarbonization-Pathways_Part-1-Lifecycle-Assessment	Report on life cycle emissions from production of hydrogen, see: https://hydrogencouncil.com/wp-content/uploads/2021/01/Hydrogen-Council-Report_Decarbonization-Pathways_Part-1-Lifecycle-Assessment.pdf

Appendix 2: EU Taxonomy criteria and alignment

Complete details of the EU taxonomy criteria are given in taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf (europa.eu)

Electricity generation from hydropower

Framework activity	**Renewable energy**		
Taxonomy activity	**4.5 Electricity generation from hydropower (NACE Code D35.11 and F42.22)**		
Taxonomy version	**EU Technical mitigation criteria**	**Comments on alignment**	**CICERO Green's comments on alignment**
Mitigation threshold	The activity complies with either of the following criteria: a) the electricity generation facility is a run-of-river plant and does not have an artificial reservoir; b) the power density of the electricity generation facility is above 5W/m^2; c) the life cycle GHG emissions from the generation of electricity from hydropower, are lower than 100gCO_2e/kWh.[9]	**Relevant contextual information** A study performed in 2019 by the Norwegian Institute for Sustainability Research (NORSUS) on Norwegian hydropower, indicates average life-cycle emissions of around 3.3 gCO_2e/kWh. In addition, the study notes that hydropower plants in Norway tend to be located at high altitudes where there is little vegetation as well as colder climate, which leads to limited extra methane emissions from algae growth with could develop in the water storage basin where the climate is warmer.[10] **Information provided by the issuer** NTE is in the process of completing a power density analysis for all its hydropower plants. The preliminary results of the assessment find that only one plant is below the 5W/m^2 threshold. The results will be corroborated by an independent third party. It is thus NTE's assessment that the activity is likely aligned with technical criteria b). Additionally, referring to the NORSUS study, the activity meets the technical criteria c). A LCA analysis is being conducted by NTE.	Likely aligned. Note that the NORSUS study referenced does not use the same LCA methodology as the Taxonomy. We believe, however, that it is likely that actual emissions are significantly below the Taxonomy threshold.

[9] The life cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018162, ISO 14064-1:2018163 or the G-res tool. Quantified life cycle GHG emissions are verified by an independent third party.
[10] AR-01.19-The-inventory-and-life-cycle-data-for-Norwegian-hydroelectricity.pdf (norsus.no)

	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps:[11] a) screening of the activity to identify which physical climate risks from the list in Section II of the Appendix may affect the performance of the economic activity during its expected lifetime; b) where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; c) an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that: (a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale; (b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are	**Relevant contextual information** The construction and operation of hydropower facilities (including related water storage in dams) are regulated by Norwegian Water Resources and Energy Directorate (NVE). **Information provided by the issuer** Physical climate risk factors are screened comprehensively. In addition, NTE is currently conducting a physical climate risk assessment on Group level, beginning with the Energy business unit. The assessment will make use of the most recent information, including weather projections.	Likely partially aligned. A more systematic approach to climate projections and assessment of impacts should be documented.

[11] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations. The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.		
Sustainable use and protection of water and marine resources	1. The activity complies with the provisions of Directive 2000/60/EC[12], in particular with all the requirements laid down in Article 4 of the directive. 2. For operation of existing hydropower plants, including refurbishment activities to enhance renewable energy or energy storage potential, the activity complies with the following criteria: 2.1. In accordance with Directive 2000/60/EC and in particular Articles 4 and 11 of that Directive, all technically feasible and ecologically relevant mitigation measures have been implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. 2.2. Measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: (a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state-of-the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning); (b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow; (c) measures to protect or enhance habitats.	**Relevant contextual information** The construction of energy production facilities larger than 1 MW needs a license from the Norwegian Water Resources and Energy Directorate (NVE) according to the "Energy Act" and the "Water Resources Act". Conditions and rules of operation will be stated in the license. Mitigation of negative environmental impacts as well as impacts on biodiversity, surrounding areas, and cultural heritages are important elements in attaining necessary licenses from NVE. Companies need to complete an EIA and to demonstrate alignment with the EU Water Framework Directive (WFD). For newer installations, minimum requirements include minimum water flow, functional fish migration pathways as well as safeguards for biodiversity and local ecosystems. River basin management (RBM) is conducted on a regional level, and hydropower plants need to be incorporated in the existing river basin management plans. This is regulated in the Water Directive, which is implemented in Norwegian law. Old hydropower plants do	Likely aligned.

[12] The Water Framework Directive, EUR-Lex - 32000L0060 - EN - EUR-Lex (europa.eu)

	2.3. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body. 3. For construction of new hydropower plants, the activity complies with the following criteria: 3.1. In accordance with Article 4 of Directive 2000/60/EC and in particular paragraph 7 of that Article, prior to construction, an impact assessment of the project is carried out to assess all its potential impacts on the status of water bodies within the same river basin and on protected habitats and species directly dependent on water, considering in particular migration corridors, free-flowing rivers or ecosystems close to undisturbed conditions. The assessment is based on recent, comprehensive and accurate data, including monitoring data on biological quality elements that are specifically sensitive to hydromorphological alterations, and on the expected status of the water body as a result of the new activities, as compared to its current one. It assesses in particular the cumulated impacts of this new project with other existing or planned infrastructure in the river basin. 3.2. On the basis of that impact assessment, it has been established that the plant is conceived, by design and location and by mitigation measures, so that it complies with one of the following requirements: (a) the plant does not entail any deterioration nor compromises the achievement of good status or potential of the specific water body it relates to; (b) where the plant risks to deteriorate or compromise the achievement of good status/potential of the specific water body it relates to, such deterioration is not significant, and is justified by a detailed cost-benefit assessment demonstrating both of the following: (i) the reasons of overriding public interest or the fact that benefits expected from the planned hydropower plant outweigh the costs from deteriorating the status of water that are accruing to the environment and to society; (ii) the fact that the overriding public interest or the benefits expected from the plant cannot, for reasons of	not have licenses but must comply with and are subject to the same requirements and the same audit regime as plants with a license. Smaller energy projects with lesser environmental impacts may be handled through simplified handling procedures. NVE is carrying out audits to monitor performance. To receive a license for a new hydropower plant, the Water Resource Act (§25) needs to be fulfilled, requiring that the overall consequences locally, regionally and nationally are investigated. This will be a part of the application to receive a and focus on e.g., the environment, nature and biodiversity. A license will only be issued if the advantages of the development are outweighing the disadvantages. Consequences must be adapted to the expected lifespan of the development. **Information provided by the issuer** NTE always seeks to protect species and ecosystems in the areas the company operates. A host of environmental measures are taken to create a natural aquatic environment, such as setting out fish spawn into the river, environmental mappings and simulations, installation of salmon ladders and/or tunnels. NTE has downstream and upstream fish migration measures in place on all production facilities where the authorities deem it necessary. This applies to production facilities situated in anadrome water ways. The remaining power production plants do not interfere with the fish' natural migration.	

	technical feasibility or disproportionate cost, be achieved by alternative means that would lead to a better environmental outcome (such as refurbishing of existing hydropower plants or use of technologies not disrupting river continuity). 3.3. All technically feasible and ecologically relevant mitigation measures are implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. Mitigation measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: (a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state-of the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning); (b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow; (c) measures to protect or enhance habitats. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body. 3.4. The plant does not permanently compromise the achievement of good status/potential in any of the water bodies in the same river basin district. 3.5. In addition to the mitigation measures referred to above, and where relevant, compensatory measures are implemented to ensure that the project does not increase the fragmentation of water bodies in the same river basin district. This is achieved by restoring continuity within the same river basin district to an extent that compensates the disruption of continuity, which the planned hydropower plant may cause. Compensation starts prior to the execution of the project.		
Protection and restoration of	An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU,[13] or in accordance with national provisions.	**Relevant contextual information** The construction of energy production facilities larger than 1 MW needs a license from the Norwegian Water	Likely aligned.

[13] The EU-Directive on the assessment of the effects of certain public and private projects on the environment (the EIA-directive). EUR-Lex - 32011L0092 - EN - EUR-Lex (europa.eu)

biodiversity and ecosystems	Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.	Resources and Energy Directorate (NVE) according to the "Energy Act" and the "Water Resources Act". To receive a license the company needs to complete an EIA, including implementation of mitigative measures. This is also required by the "Planning and Construction Act". **Information provided by the issuer** NTE always seeks to protect species and ecosystems in the areas the company operates. In addition to the EIAs mandated by the Energy Act and the Water Resources Act ('vanndirektivet'), NTE conducts regular surveys of habitats in the rivers in which the company operates.	

Electricity generation from wind power

Framework activity	Renewable energy		
Taxonomy activity	**4.3 Electricity generation from wind power (NACE codes D.35.1.1 and F 42.22)**		
	EU Technical mitigation criteria	**Comments on alignment**	**CICERO Green's comments on alignment**
Mitigation criteria	• Substantial contribution to climate change mitigation. • The activity generates electricity from wind power.	**Relevant contextual information** Wind power is assumed to contribute substantially to climate change mitigation.	Likely aligned.
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps[14]: **(a)** screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; **(b)** where the activity is assessed to be exposed to physical climate risks, a climate risk, and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; **(c)** an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are	**See activity "electricity generation from hydropower"** **Relevant contextual information for wind power** The construction and operation of wind power facilities are regulated by Norwegian Water Resources and Energy Directorate (NVE). **Information provided by the issuer** NTE's technical requirements for wind turbines cover relevant weather and climate extremes related to inter alia downpour, wind and temperature. All turbines are built to withstand substantially more heavy winds than at time of installation, and to withstand Arctic climate. Turbines are installed at high points ensure stable wind flows on solid ground, which makes physical risks related to flooding and sea level rise irrelevant. In addition, NTE is currently conducting a physical climate risk assessment on Group level, beginning with the Energy business unit. The assessment will make use of the most recent information, including weather projections.	Likely partially aligned. A more systematic approach to climate projections and assessment of impacts should be documented.

[14] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations. The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.		
Sustainable use and protection of water and marine resources	In case of construction of offshore wind, the activity does not hamper the achievement of good environmental status as set out in Directive 2008/56/EC[15] of the European Parliament and of the Council, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptor 11 (Noise/Energy), laid down in Annex I to that Directive, and as set out in Commission Decision (EU) 2017/848159 in relation to the relevant criteria and methodological standards for that descriptor.	**Relevant contextual information** In Norway, wind farms are regulated by NVE. New wind farms in addition need an approved plan for environment, transport, and construction (MTA-plan), including input on how to minimize landscape changes and noise. Offshore windfarms are regulated by the Ocean Energy Act (Havenergiloven), also managed by NVE. **Information provided by the issuer** Offshore windfarms are subject to a thorough licensing process.	Likely aligned.
Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.	**Relevant contextual information** Licenses include requirements to allocate either locked funds or provide a bank guarantee for the amount required for decommissioning, and development of plans for decommissioning, possible recycling and reuse of components and the restoration of land. **Information provided by the issuer** NTE always considers recyclability when procuring turbines, which is included in the company's technical requirements to suppliers. NTE in particular focuses on the wings and materials used. The licensing process now also requires that there is a plan for removal of related infrastructure.	Likely aligned.

[15] The EU-Directive establishing a framework for community action in the field of marine environmental policy. EUR-Lex - 32008L0056 - EN - EUR-Lex (europa.eu)

Protection and restoration of biodiversity and ecosystems	An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU,[16] or in accordance with national provisions. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. In case of offshore wind, the activity does not hamper the achievement of good environmental status as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity) and 6 (seabed integrity), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors.	**Relevant contextual information** In Norway, wind turbines for the production of electricity are covered by the Energy Act and are normally subject to a license. Plants consisting of up to 5 wind turbines with a total installed capacity of less than 1 MW are exempt from the licensing obligation. Wind power installations where installed effect exceed 10 MW need an EIA in accordance with the Planning and Building Act, as a part of the licensing process. **Information provided by the issuer** Biodiversity and ecosystems are protected through license and related requirements on impact assessments, including an Environmental Impact Assessment. All projects have their own impact programs that evaluates a substantial range of possible impacts, such as biodiversity, visual and landscape impacts, noise etc.	Likely aligned.

[16] The EU-Directive on the assessment of the effects of certain public and private projects on the environment (the EIA-directive). EUR-Lex - 32011L0092 - EN - EUR-Lex (europa.eu)

Manufacture of hydrogen

Framework activity	Hydrogen production and storage		
Taxonomy activity	**3.10 Manufacture of hydrogen (NACE Code C20.11)**		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Mitigation criteria	• Substantial contribution to climate change mitigation The activity complies with the life-cycle GHG emissions savings requirement of 73.4% for hydrogen [resulting in life-cycle GHG emissions lower than $3tCO_2e/tH_2$] and 70% for hydrogen-based synthetic fuels relative to a fossil fuel comparator of 94g CO_2e/MJ in analogy to the approach set out in Article 25(2) of and Annex V to Directive (EU) 2018/2001. Life-cycle GHG emissions savings are calculated using the methodology referred to in Article 28(5) of Directive (EU) 2018/2001 or, alternatively, using ISO 14067:2018[17] or ISO 14064-1:2018[18]. Quantified life-cycle GHG emission savings are verified in line with Article 30 of Directive (EU) 2018/2001 where applicable, or by an independent third party. Where the CO_2 that would otherwise be emitted from the manufacturing process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12, respectively, of this Annex.	**Information provided by the issuer** An assessment of life-cycle emissions savings has not been conducted (the project is still in the development phase). The green hydrogen will be produced from renewable energy sources, either hydropower, wind power or both. The hydrogen project in question is connected to the development of a new wind farm in Nærøysund, which has the potential to contribute power to the manufacturing plant.	Likely aligned. The company has not started production, so no company specific calculation of emissions is conducted. We are nevertheless of the view that the activity is likely aligned on the grounds that it is limited to the production of green hydrogen (from hydropower and/or wind power)[19].
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps[20]:	See activity "electricity generation from hydropower" **Information provided by the issuer**	Likely partially aligned. It is unclear whether the climate projections and

[17] ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of [adoption date]: https://www.iso.org/standard/71206.html).
[18] ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of [adoption date]: https://www.iso.org/standard/66453.html).
[19] See e.g., https://hydrogencouncil.com/wp-content/uploads/2021/01/Hydrogen-Council-Report_Decarbonization-Pathways_Part-1-Lifecycle-Assessment.pdf
[20] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	(a) screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; **(b)** where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; **(c)** an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations. The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.	A separate physical climate risks assessment has not been conducted for the production and storage facility specifically. The TEK17 building standard does however have absolute requirements with regards to mitigation of certain physical climate risks. Furthermore, a legally required Impact Assessment demands an assessment of flooding, sea level etc. 'Storulykkeforskriften' does also place strict requirements on the robustness of the facility. NTE is also currently conducting a physical climate risk assessment on Group level, beginning with the Energy business unit. The assessment will make use of the most recent information, including weather projections.	assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis.
Sustainable use and protection of water and marine resources	Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the	**Relevant contextual information** Production of electricity from hydrogen is regulated by the Directorate for Civil Protection and Emergency Planning (DSB) and subject to the "Planning and Building Act". This requires e.g., carrying out an EIA.	Likely aligned.

	Council[21] and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council[22] and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.		
Pollution prevention and control	The activity does not lead to the manufacture, placing on the market or use of: (a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council[23], except in the case of substances present as an unintentional trace contaminant; (b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council[24]; (c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council[25]; (d) substances, whether on their own, in mixtures or in an article, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council[26], except where there is full compliance with Article 4(1) of that Directive; (e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council[27], except where there is full compliance with the conditions specified in that Annex;	**Information provided by the issuer** Discharges and emissions are regulated by 'forurensingsforskriften' (the Norwegian Pollution Act). Discharges are subject to approval by the authorities. The main discharge from the activity is sea water (which is discharged at a different temperature than the sea). Saline solution is used in the electrolyser, but otherwise the use of chemicals is limited. Emissions are further determined by government permits, which in turn are governed by EU regulations.	Likely aligned.

[21] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).
For activities in third countries, in accordance with applicable national law or international standards which pursue equivalent objectives of good water status and good ecological potential, through equivalent procedural and substantive rules, i.e. a water use and protection management plan developed in consultation with relevant stakeholders which ensures that 1) the impact of the activities on the identified status or ecological potential of potentially affected water body or bodies is assessed and 2) deterioration or prevention of good status/ecological potential is avoided or, where this is not possible, 3) justified by the lack of better environmental alternatives which are not disproportionately costly/technically unfeasible, and all practicable steps are taken to mitigate the adverse impact on the status of the body of water.
[22] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).
[23] Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (OJ L 169, 25.6.2019, p. 45).
[24] Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, and repealing Regulation (EC) No 1102/2008 (OJ L 137, 24.5.2017, p. 1).
[25] Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer (OJ L 286, 31.10.2009, p. 1).
[26] Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. (OJ L 174, 1.7.2011, p. 88).
[27] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. (OJ L 396, 30.12.2006, p. 1).

	(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society; (g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of chlor-alkali121 and the best available techniques (BAT) conclusions for common wastewater and waste gas treatment/management systems in the chemical sector[28]; (b) the best available techniques (BAT) conclusions for the refining of mineral oil and gas[29]. No significant cross-media effects occur.		
Protection and restoration of biodiversity and ecosystems	An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions[30]. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.	**Information provided by the issuer** The activity is subject to the "Planning and Building Act", which inter alia requires carrying out an EIA. The location of the production facility is already regulated for commercial use.	Likely aligned.

[28] Commission Implementing Decision (EU) 2016/902 of 30 May 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for common waste water and waste gas treatment/management systems in the chemical sector (OJ L 152, 9.6.2016, p. 23).
[29] Commission Implementing Decision 2014/738/EU of 9 October 2014 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the refining of mineral oil and gas (OJ L307, 28.10.2014, p. 38).
[30] The Taxonomy is referring to Appendix D in the Taxonomy Annex 1.

Storage of hydrogen

Framework activity	**Production and storage of hydrogen**		
Taxonomy activity	**4.12 Storage of hydrogen**		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Mitigation criteria	• Substantial contribution to climate change mitigation The activity is one of the following: (a) construction of hydrogen storage facilities; (b) conversion of existing underground gas storage facilities into storage facilities dedicated to hydrogen-storage; (c) operation of hydrogen storage facilities where the hydrogen stored in the facility meets the criteria for manufacture of hydrogen set out in Section 3.10. of this Annex[31].	**Information provided by the issuer** The activity covered in the green finance framework is (a) construction of hydrogen storage facilities.	Likely aligned.
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps[32]: **(a)** screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; **(b)** where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; **(c)** an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models.	See activity "electricity generation from hydropower" and "manufacture of hydrogen".	Likely partially aligned. It is unclear whether the climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis.

[31] The Taxonomy is referring to activity 3.10 in the Taxonomy Annex 1.
[32] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations. The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.		
Transition to a circular economy (circular economy)	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.	**Information provided by the issuer** Waste management is a legal requirement, and there are further requirements for waste management plans. The criterium is most useful for the equipment, but the choice of equipment for the activity has not yet been concluded. There are strict regulations for decommissioning.	Likely aligned.
Pollution prevention and control	In the case of storage above five tonnes, the activity complies with Directive 2012/18/EU of the European Parliament and of the Council[33].	**Information provided by the issuer** Directive 2012/18/EU is implemented in Norwegian law through 'Storulykkeforskriften', which NTE must comply with.	Likely aligned.
Protection and restoration of biodiversity and ecosystems	An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions[34]. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.	**Information provided by the issuer** See activity "manufacture of hydrogen"	Likely aligned.

[33] Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (OJ L 197, 24.7.2012, p. 1).

[34] The Taxonomy is referring to Appendix D in the Taxonomy Annex 1.

	For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.		

Appendix 3:
About CICERO Shades of Green

CICERO Shades of Green, now a part of S&P Global, provides independent, research-based second party opinions (SPOs) of green financing frameworks as well as climate risk and impact reporting reviews of companies. At the heart of all our SPOs is the multi-award-winning Shades of Green methodology, which assigns shadings to investments and activities to reflect the extent to which they contribute to the transition to a low carbon and climate resilient future.

CICERO Shades of Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Shades of Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Shades of Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions

Environmental Finance Bond Awards 2022 Winner External assessment provider of the year

- **2021 Largest External Reviewer,** Climate Bonds Initiative Awards
- **2020 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2020 Largest External Review Provider In Number Of Deals,** Climate Bonds Initiative Awards
- **2019 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2019 Largest Green Bond SPO Provider,** Climate Bonds Initiative Awards
- **2018 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2018 Largest External Reviewer,** Climate Bonds Initiative Awards
- **2017 Best External Assessment Provider,** Environmental Finance Green Bond Awards
- **2016 Most Second Opinions,** Climate Bonds Initiative Awards