



# Akershus Energi

## Green Finance Second Opinion

December 7, 2020

**Akershus Energi AS (Akershus Energi) is a Norwegian energy company founded in 1922 and owned by the county of Viken.** The core business of Akershus Energi is hydropower. Akershus Energi has expanded their activities to also include district heating and wind power, as well as planning for future developments within solar power and green hydrogen.

**Projects financed under this framework aim to contribute to increase the renewable energy generated in their region by 1 TWh.** According to the issuer around 30% of the proceeds of the first green bond will be applied to refinance existing hydropower plants, 30% to finance new wind investments and the remaining to other eligible projects related to solar PV, district heating and hydrogen. The company will in 2021 complete installation of a wind power plant with an installed effect of 160 MW. According to the issuer there have not been any major conflicts related to this development. Akershus Energi is planning to build a 20 MW green hydrogen production facility over the next few years. The district heating network is based on renewable energy sources (99%) and does not include combustion of waste.

**Akershus Energi has a sound management and governance structure in place, as well as regular and transparent reporting about green bond project achievements.** The issuer, however, has no overall emission targets for its business operations, nor report scope 3 emissions. CICERO Green also encourages Akershus Energi to conduct life cycle assessments of major new projects. Unallocated proceeds will mainly be invested in money market instruments, however the issuer cannot guarantee that these proceeds for a shorter period of time could be invested in funds that have stakes in companies with main business activities related to fossil fuel.

**Akershus Energi seems to comply with the relevant technical mitigation thresholds in the EU taxonomy and most of the Do-No-Significant-Harm criteria.** Norwegian hydropower, wind power, green hydrogen produced with Norwegian energy mix and solar PV generate electricity with CO<sub>2</sub>-emissions significantly lower than the given taxonomy thresholds. It is a question if Norwegian hydropower regulation is considered aligned with the sustainable water management criteria. For old hydropower plants, e.g. no requirements related to fish passes or turbines that prevent fish kill, exist. Investors should also be aware that proceeds could be allocated to existing district heating network that not necessarily use today's best available technology. Akershus Energi understands climate risks related to their activities, but a more systematic approach to climate risk assessments is needed.

Based on the overall assessment of the eligible green assets under this framework and governance and transparency considerations, Akershus Energi's green finance framework receives a **CICERO Dark Green** shading and a governance score of **Good**. To improve the framework, Akershus Energi could expand reporting to include scope 3 emissions and work to systematize processes around climate risk and life cycle assessments.

### SHADES OF GREEN

Based on our review, we rate the Akershus Energi's green finance framework **CICERO Dark Green**.

Included in the overall shading is an assessment of the governance structure of the green finance framework. CICERO Shades of Green finds the governance procedures in Akershus Energi's framework to be **Good**.



### GREEN BOND PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.





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# 1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated December 2020. 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 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.

## Expressing concerns with 'shades of green'

CICERO 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:

### CICERO Shades of Green



**Dark green** is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.



**Medium green** is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.



**Light green** is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.



**Brown** is allocated to projects and solutions that are in opposition to the long-term vision of a low carbon and climate resilient future.

### Examples



Wind energy projects with a strong governance structure that integrates environmental concerns



Bridging technologies such as plug-in hybrid buses



Efficiency investments for fossil fuel technologies where clean alternatives are not available



New infrastructure for coal

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 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.



## 2 Brief description of Akershus Energi's green finance framework and related policies

Akershus Energi AS (Akershus Energi) is a Norwegian energy company owned by the county of Viken. The core business of Akershus Energi is production of renewable energy through hydropower. Akershus Energi has expanded their activities to also include district heating and wind power as well as future developments within solar power and hydrogen.

Akershus Energi was founded in 1922 when they completed the hydropower plant Rånåsfåss I in Viken county (formerly known as Akershus county). They have an average annual electricity production of 2.5 TWh from hydropower which corresponds to the annual electricity consumption of approximately 150,000 homes. In addition, they have about 200 GWh from district heating. The hydropower business is operated through five wholly owned subsidiaries. In 2019 Akershus Energi had their main share of income from hydropower (ca 80%) and district heating (ca 20%). Current business areas comprise:

**Hydropower.** Akershus Energi currently owns nine hydropower plants in eastern Norway, with installed effect between 3 and 81 MW. The issuer has additional ownership interests in ten power plants.

**District heating.** Akershus Energi is investing in district heating through their subsidiary Akershus Energi Varme AS. According to the issuer, Akershus Energi's district heating infrastructure does not include waste, but relies on waste heat from sewage, solar power, wood waste, electricity with certificates of origin, certified bio oil and heat.

**Wind.** Akershus Energi started investing in wind power generation in 2020. Investments in wind are made through the wholly owned subsidiary Akershus Energi Vind AS.

**New Renewable and Infrastructure.** Akershus Energi has established a unit responsible for development of solar energy, hydrogen, and local energy solutions. The issuer aims to have one large-scale production plant for green hydrogen to be used in the transport sector in place within the next three years.

### Environmental Strategies and Policies

Akershus Energi aims to supply the region with renewable energy and to produce this energy in a sustainable way. They are targeting an increase of 1 TWh of new renewable energy in their region (NO1), comprising wind (ca 50%), solar, completion of a hydropower plant and upgrades of existing hydropower.

Akershus Energi received certification according to the Eco-Lighthouse certification (Miljøfyrtårn) scheme in 2020. This requires the company to have a comprehensive Health Safety and Environment (HSE) Safety Management system, and to document and report on environmental impacts. The issuer informs that as a part of the Eco-Lighthouse certification, they have established a concrete target of a 5% reduction in electricity use for 2020 and 2021 for the head office. Akershus Energi is also working to reduce their greenhouse gas emissions by e.g. eliminating fossil fuel in the district heating plants. There are no concrete targets after 2021.



The company's impact reporting is limited to scope 1 and 2 emissions, and totalled 7 199 tons CO<sub>2</sub>, a reduction from 8 471 tons in 2018. Most of the scope 1 emissions arise from incineration plants in district heating and scope 2 emissions from purchases of electricity<sup>1</sup>. According to the issuer they are in a process of systemising their ESG reporting and will choose a framework and implement a reporting model by the end of 2020.

Akershus Energi has not implemented TCFD. However, the issuer informs that they have included risk assessment of environmental impact as part of the internal control system. The company performs quarterly risk assessments of all operational and project related risks. The company is aware of the physical climate risks they are exposed to and have implemented some measures to mitigate these; avoid locating infrastructure close to areas with possibilities of landslides, and hydropower facilities will receive upgrades and extensions in preparation of higher precipitation levels.

As a part of the Eco-Lighthouse certification, the issuer has implemented a waste policy with a goal to sort and recycle 50% of the waste from the main office in 2021 and 70% in 2022 (the share was 29 % in 2019). The certification does not cover the power stations, which according to the issuer have their own sorting policy and waste is handled either through recycling or proper waste facilities. For wind power and solar PV, the issuer informs that equipment and machinery will be reused or recycled at end of life.

According to the issuer, they are contributing to seven of the UN Sustainable Development Goals and follow the UN Global Compact's ten principles in the areas of human rights, labour standards, the environment and anti-corruption. As a part of the Eco-Lighthouse certification, the issuer's suppliers are required to comply with the labour standards. Akershus Energi is adhering to the UN Global Compact guidelines in their procurement processes. This includes that environmental aspects are included in all procurement and tenders made from the main office, e.g. that status on certification should be collected from suppliers and those with certification in place will be preferred.

### Use of proceeds

Green finance instruments (including green bonds and green loans) issued under Akershus Energi's green finance framework will finance investments to promote the green energy transition, such as direct investments in renewable energy sources as well as production of renewable and low-carbon fuel and heat and necessary infrastructure. This also includes acquisitions of such projects as well as investments in share capital of companies with such assets.

According to the issuer around 30% of the proceeds of the first green bonds will be applied towards refinancing loans that has funded existing hydropower projects, 30% to finance new wind power generation investments and the remaining to other eligible projects related to hydropower, district heating, solar PV, and hydrogen, see table 1.

Green bonds 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 resource extraction, gambling, or tobacco.

### Selection

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects

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<sup>1</sup> Electricity purchased is covered by Guarantee of Origin (GOO) from hydropower, but CO<sub>2</sub> emissions are still viewed as a total for all electricity production in Europe.



can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the governance process.

To ensure the transparency and accountability around the selection of green projects, Akershus Energi has established an internal Green Finance Committee (GFC), which is responsible for the evaluation and selection process. The GFC consists of members from the management, operations, and finance teams in Akershus Energi, and all decisions will be made in consensus. According to the issuer, Akershus Energi does not have a dedicated environmental expert, but members in the GFC have a high level of competence of renewable energy and environmental aspects.

The GFC will keep a register of all green projects, and all decisions made by the committee will be documented and filed. According to the issuer, the GFC holds the right to exclude any green project already funded by green finance instruments. The GFC is also in charge of potential future oversight and updates of this framework.

### **Management of proceeds**

CICERO Green finds the management of proceeds of Akershus Energi to be in accordance with the Green Bond Principles.

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 issuers green finance framework. The Finance department of Akershus Energi will be responsible to ensure that the value of green projects at all times exceed the total amount of green finance instruments outstanding.

Proceeds will be allocated as individual disbursements to specific projects. According to the issuer, 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 Akershus Energi's framework, such green project will be replaced by another qualifying green project.

Net proceeds from green finance instruments awaiting allocation to green projects will be managed according to Akershus Energi's overall liquidity management policy and may be invested in short term money market instruments or held as cash. Akershus Energi aims to invest in the real estate and financial sector but cannot guarantee that unallocated proceeds can be invested in funds that has stakes in stock-listed companies such as e.g. Equinor. Unallocated proceeds cannot be used for investments in fossil fuel related projects. The company aims at holding net proceeds as short time as possible to invest in projects, and therefore use instruments with low risk profiles but higher yield than what is achievable for a bank deposit.

### **Reporting**

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

Akershus Energi will prepare a green finance report that will be made available on the company's website. The report will include both allocation of proceeds and impacts and be published annually as long as there are outstanding green finance instruments. An independent auditor appointed by Akershus Energi 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. The finance department will be responsible for the reporting.



### **Allocation Report**

The allocation report will include the following information.

- Amounts invested in each of the green project categories defined in table 1 and the share of new financing versus refinancing.
- Examples of green projects that have been funded by green finance instruments.
- 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).

The allocation report will be externally verified.

### **Impact Report**

The impact report aims to disclose the environmental impact of the green projects financed by Akershus Energi's green finance framework. Impact reporting will, to some extent, be aggregated and depending on data availability, and calculations will be made on a best effort basis. Transparency on the grid factor will be given. Impact reporting will not be verified by a third-party. The finance department will be responsible for the reporting. Construction emissions will not be assessed.

The impact assessment may, where applicable, be based on the metrics listed below.

- Annual energy generation capacity from hydropower, wind and solar (MWh)
- Annual energy generation capacity from district heating (MWh)
- Actual annual energy generation (MWh)
- Annual reduction and/or avoidance of GHG emissions (tonnes of CO<sub>2</sub>e)
- Volume of hydrogen produced





### 3 Assessment of Akershus Energi’s green finance framework and policies


The framework and procedures for Akershus Energi’s green finance investments are assessed and their strengths and weaknesses are discussed in this section. 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 in this section to note areas where Akershus Energi should be aware of potential macro-level impacts of investment projects.

#### Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in Akershus Energi’s green finance framework, we rate the framework **CICERO Dark Green**.

#### Eligible projects under the Akershus Energi’s green finance framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green bonds aim to provide investors with certainty that their investments deliver environmental returns as well as financial returns. The Green Bonds Principles (GBP) state that the “overall environmental profile” of a project should be assessed and that the selection process should be “well defined”.

Category	Eligible project types	Green Shading and some concerns
<b>Renewable energy</b>  	Renewable energy projects <ul style="list-style-type: none"> <li>Investments, and related expenditures, directed towards the development, construction, installation, improvement, operation, repair, and maintenance of renewable energy projects, including hydro, wind and solar power, with life cycle emissions below 100g CO<sub>2</sub>/kWh.</li> <li>Hydrogen production               <ul style="list-style-type: none"> <li>Investments, and related expenditures, directed towards the production of green hydrogen, as well as related infrastructure.</li> </ul> </li> </ul>	<b>Dark Green</b> <ul style="list-style-type: none"> <li>✓ Hydropower is a clean, renewable energy source, which contributes to Norway’s low grid emissions factor.</li> <li>✓ Large hydropower facilities and associated construction/renovation projects can have impacts on the surrounding environment and biodiversity.</li> <li>✓ The issuer confirms that they do not have activities in or near conservation or biodiversity sensitive areas like national parks, wet land, or nature reserve.</li> <li>✓ Proceeds will be used to complete a hydropower plant in Tolga, and to upgrade existing plants.</li> <li>✓ The company will in 2021 complete installation of a wind power plant with an installed effect of 160 MW (Odal Vindkraftverk). The issuer informs that there have not been any major conflicts related to the development, and that they have received positive feedback from the Nina/WWF on their work related to nature conservation and the location of the windfarm<sup>2</sup></li> </ul>

<sup>2</sup> [Vindkraftkonsesjoner opp mot WWFs kriterier for utbygging. Songkjølen/Engerfjellet is Odal Vindkraftverk](#)





<p>District heating and cooling</p> <ul style="list-style-type: none"> <li>• Investments, and related expenditures, directed towards facilities and related infrastructure for district heating and cooling where at least 95% of the energy comes from renewable energy sources, such as waste heat from sewage, solar power, wood waste, electricity with certificates of origin, certified bio oil, as well as facilities for recovering and distributing waste heat from nearby industries.</li> <li>• Production of heat/cool from bioenergy.</li> <li>• Production of heat/cool from waste heat.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Akershus Energi has specified that they emphasize maintaining good dialogue with stakeholders, and the use of local suppliers to reduce transport and maximize local value creation.</li> <li>✓ Akershus Energy is aiming at a 20 MW green hydrogen installation, in cooperation with among others Nel Fuel AS. However, construction has not started, and work is ongoing on infrastructure and location assessments. The issuer cannot confirm that the project will be realized within the next three years.</li> <li>✓ The issuer informs that 99% of the energy in the district heating came from renewable energy sources in 2019. The infrastructure does not include combustion of waste. The last 1 % was from fossil fuels, mainly light fuel oil.</li> <li>✓ The electricity certificates originate from hydropower production.</li> <li>✓ The issuer informs that investments in production of heat/cool would most likely involve biooil and/or waste heat.</li> <li>✓ Production of heat/cool from bioenergy is considered a transitional activity according to the EU Taxonomy.</li> <li>✓ The biooil is a waste product from Norwegian suppliers, certified through RedCert EU (part of the EU ISCC).</li> <li>✓ Waste heat will come from i.a. sewage, industry, and data centers.</li> <li>✓ There are no current plans to construct new waste incineration plants. The focus is on waste heat from other operations (sewage, industry, data centers etc).</li> </ul>
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Table 1. Eligible project categories

## Background

In 2019, global renewable electricity generation rose 6%, with wind and solar PV technologies together accounting for 64% of this increase. Although the share of renewables in global electricity generation reached almost 27% in 2019, renewable power still needs to expand significantly to meet the IEA's Sustainable Development Scenario (SDS) share of 50% of the generation by 2030<sup>3</sup>. The EU has committed itself to a clean energy transition, which will contribute to fulfilling the goals of the Paris Agreement on climate change and provide clean energy to all. To deliver on this commitment, the EU has set binding targets, e.g. to increase the share of renewable energy to at least 32% of EU by 2030<sup>4</sup>.

In February 2020, Norway released updated targets for 2030 to cut emissions by 50-55% from 1990 levels<sup>5</sup>. Norway is projected to miss its 2020 emissions reductions target by around 4.5 million tCO<sub>2</sub>e and needs fast action to reach the new 2030 goal. The government has outlined necessary steps to achieve this through the 'Klimakur

<sup>3</sup> <https://www.iea.org/fuels-and-technologies/renewables>

<sup>4</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/necp\\_factsheet\\_pl\\_final.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/necp_factsheet_pl_final.pdf)

<sup>5</sup> <https://www.regjeringen.no/no/aktuelt/norge-forsterker-klimamalet-for-2030-til-minst-50-prosent-og-opp-mot-55-prosent/id2689679/>



2030' analysis<sup>6</sup>. The analysis covers 60 emissions reductions measures in multiple sectors including energy, transport and industrials that will lead to a 50% emissions reduction by 2030. The implementation of electrification measures will make up 34% of total emissions reductions between 2021-2030 in Norway.

Norwegian power demand is estimated to increase by 5.8 TWh to account for the electrification of many sectors towards 2030. In 2018, Norway produced 147 TWh of electricity and total consumption amongst all sectors was 136 TWh, while in 2030, it is expected consumption will increase to 159 TWh. Considering expansions in generation capacity from wind and hydropower, this will be well within Norway's expected generation capacity of 174 TWh. Electricity generation is expected to increase until 2022 due to investments in offshore wind power.

Developing low-carbon hydrogen production is critical for hydrogen to aid in the clean energy transition. Most hydrogen is currently produced through emissions-intensive natural gas reforming and coal gasification. One of the main low-carbon production routes is through water electrolysis (green hydrogen), producing hydrogen from low-carbon electricity and water. In recent years, the number and size of projects and installed capacity have expanded considerably, from less than 1 MW in 2010 to more than 25 MW in 2019<sup>7</sup>. According to the Government of Norway's hydrogen strategy<sup>8</sup>, the government wishes to prioritize efforts in areas where Norway, Norwegian enterprises and technology clusters may influence the development of hydrogen related technologies, and where there are opportunities for increased value creation and green growth.

### EU Taxonomy assessment

In March 2020, a technical expert group (TEG) proposed an EU taxonomy for sustainable finance that specified mitigation thresholds and "do no significant harm" (DNSH) criteria for eligible activities. The DNSH-criteria are to make sure that progress against some objectives are not made at the expense of others and recognizes the relationships between different environmental objectives<sup>9</sup>. In November 2020, EU published its draft delegated act to outline its proposed technical screening criteria for climate adaptation and mitigation objectives, respectively, which it was tasked to develop after it entered into law in July<sup>10</sup>.

We have assessed eligible projects in Akershus Energi's green finance framework against the mitigation thresholds and the DNSH criteria in the draft delegated acts published in November 2020<sup>11</sup>. CICERO Green has not assessed the minimum safeguards (social aspects) of the EU taxonomy.

Relevant EU-Taxonomy activities are electricity generation from hydropower, wind power, solar photovoltaic technology, manufacture of hydrogen, district heating /cooling distribution, and production of heat/cool from bioenergy and waste heat.

Comments on alignment is given under Strengths and Pitfalls, and detailed thresholds, NACE-codes and likely alignment with DNSH criteria are given in Appendix 2.

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<sup>6</sup> <https://www.miljodirektoratet.no/globalassets/publikasjoner/m1625/m1625.pdf>

<sup>7</sup> <https://www.iea.org/reports/hydrogen>

<sup>8</sup> <https://www.regjeringen.no/en/aktuelt/the-norwegian-hydrogen-strategy/id2704774/>

<sup>9</sup> Taxonomy: Final report of the Technical Expert Group on Sustainable Finance, March 2020.

[https://ec.europa.eu/knowledge4policy/publication/sustainable-finance-teg-final-report-eu-taxonomy\\_en](https://ec.europa.eu/knowledge4policy/publication/sustainable-finance-teg-final-report-eu-taxonomy_en)

<sup>10</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12302-Climate-change-mitigation-and-adaptation-taxonomy#ISC\\_WORKFLOW](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12302-Climate-change-mitigation-and-adaptation-taxonomy#ISC_WORKFLOW)

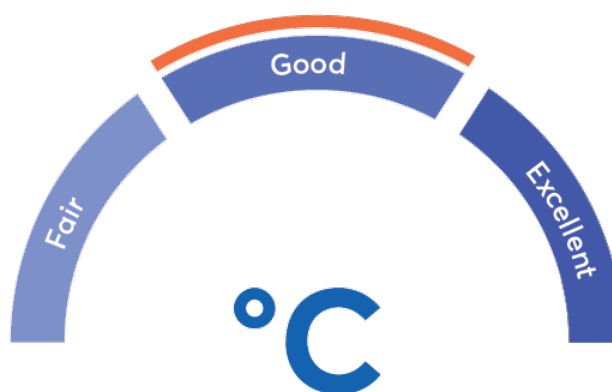
<sup>11</sup> EU Taxonomy: Annex to the Commission Delegated Regulation, supplementing Regulation (EU) 2020/852, November 2020. [https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-da-2020-annex-1\\_en.pdf](https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-da-2020-annex-1_en.pdf)



### Governance Assessment

Four aspects are studied when assessing the Akershus Energi's governance procedures: 1) the policies and goals of relevance to the green finance framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: 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.

Akershus Energi aims to supply the region with renewable energy and is targeting an increase of 1 TWh renewable energy in their region. They have received Eco-Lighthouse certification and are working on systemizing their ESG-reporting. They have short term concrete targets for reduction of electricity use for the main office. Akershus Energi has not implemented TCFD-reporting but they are aware of the climate risk related to their activities. However, a more systematic approach to climate risk assessments is needed, also to be fully aligned with the DNSH-criteria in the EU taxonomy. Impact reporting is solid and is referring to relevant indicators. The issuer is not reporting on scope 3 emissions. Akershus Energi is adhering to the UN Global Compact guidelines in their procurement processes, and environmental aspects are included in procurement and tenders. The procurement process could however be strengthened by including life cycle assessment of major projects.



The overall assessment of Akershus Energi's governance structure and processes gives it a rating of **Good**.

### Strengths

It is a clear strength that Akershus Energi's framework focuses exclusively on low-carbon solutions. Akershus Energi's framework will expand the provision of renewable energy and be a front runner in the region by adding electricity produced from the new energy sources solar PV and hydrogen. Under the renewable energy category, proceeds will be used to upgrade existing hydropower assets. This contributes to extending the lifetime of hydropower assets and has the potential to deliver increased capacity by improving the efficiency of systems. Restorations and capacity additions to existing sites can be considered positive for the environment and climate as this avoids local impacts and GHG emissions connected with new constructions.

Based on information presented by the issuer, projects to be financed under the framework are well within the EU taxonomy mitigation thresholds listed for hydropower, district heating, production of heat/cool from waste heat and for hydrogen production when Norwegian electricity mix is used. Production of electricity from wind power, solar PV, and production of heat/cool from waste heat are considered to contribute substantially to climate change mitigation without any further threshold screening in the EU taxonomy.

- Norwegian hydropower is assumed to generate electricity with life cycle emissions far lower than the given thresholds (3,3g CO<sub>2</sub>e/kWh) in the EU taxonomy. The maximum emission threshold, including life cycle emissions, for generation of electricity from hydropower is 100g CO<sub>2</sub>e/kWh. Calculation method used in the study differ from the taxonomy, however it is not likely that actual emissions are close to the given threshold.
- According to the issuer, the company will produce green hydrogen using either a European or a Norwegian energy mix. Manufacture of hydrogen needs to comply with the life cycle GHG emissions savings of 80 % relative to a fossil fuel comparator of 2.256 tCO<sub>2</sub>eq/tH<sub>2</sub>. The issuer informs that when using a European energy



mix (520g CO<sub>2</sub>/kWh), emissions are estimated to 22t CO<sub>2</sub>/tH<sub>2</sub>. When using a Norwegian energy mix (18,9g CO<sub>2</sub>/kWh) emission are estimated to 0,8t CO<sub>2</sub>/tH<sub>2</sub>, which is well within the threshold given.

- The issuer informs that at least 95% of the energy used in Akershus Energi's district heating comes from renewable sources which clearly falls within the minimum requirement to use at least 50% renewable energy sources in the network.
- Akershus Energi intends to produce heat using certified biooil complying with the sustainability requirements given in the amended Renewable Energy Directive (RED II), which is the main technical requirement given in the taxonomy.

The main negative environmental impacts associated with generation of renewable energy, manufacturing of hydrogen and district heating/cooling include impacts on biodiversity, interference with migration pathways and changes in habitat from construction and operation, unsustainable management of water and waste, noise, visual and chemical pollution of the local environment. The impacts will vary widely depending on the solutions chosen and on the location of the activities. There might also be considerable local resistance to construction of new hydro- and wind power.

It is the Norwegian Water and Energy Resources Directorate (NVE) who is managing the water and energy resources in Norway. In accordance with the Energy and/or Water Course Act, the construction of energy production facilities larger than 1 MW (hydropower plants, onshore wind, solar, district heating/cooling etc.) need a license from the NVE. Old hydropower plants (established before 1917 when the "Water resource Act" was introduced) will normally not possess a license but will be subject to the same laws as plants with licenses. 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. 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". District heating and cooling installations over 10 MW need a license from NVE, and some installations may also have a duty to connect to the grid (tilknytningsplikt). Regarding pollution, district heating and cooling installations and production of heat/cool from bioenergy and waste heat under 50 MW are regulated by the "Pollution control regulation" and the County Governor (Fylkesmannen), and installations over 50 MW need a license from the Norwegian Environment Agency. Both in the "Pollution control regulation" and in the license, requirements related to emissions to air, discharge to water, noise and monitoring are given. For bioenergy boilers, no emission value is given for SO<sub>2</sub>. For plants below 5MW the "Pollution control regulation" does not include emission limits for NO<sub>x</sub>, but there is currently a proposal to adjust the "Pollution control regulation" to be in line with EU-requirements. Relevant authorities conduct audits to monitor compliance of the licenses they issue.

The company has informed us that they are following national laws and regulations and obtain licenses for their operations where required, and that they are regularly audited by relevant competent authority. This comprises completion of EIAs and alignment with the EU water framework directive (WFD), as well as adherence to requirements related to impacts on biodiversity and habitats. To receive a license for hydro production, the project needs to undergo an Environmental Impact Assessment (EIA) in line with the EU EIA-directive (2014/52/EU). In practical terms there are EIA requirements for all hydro projects above 10 MW, and many of the smaller ones. By adhering to the legal regime relevant to their operations, Akershus Energi is likely to be aligned with the main aDNSH-criteria related for circular economy, pollution, and ecosystems. DNSH-criteria where the issuer is likely to be only partly aligned are presented under pitfalls.

Akershus Energi will complete a wind power plant with an installed effect of 160 MW in 2021. It is considered a strength that Akershus Energi has been working with the local stakeholders to avoid conflicts and to contribute to conservation of the nature in relation with the wind power development. For wind power Akershus energi has developed plans for decommissioning and the restoration of land.



As a part of the Lighthouse certification, the issuer has implemented a waste policy with concrete goals on recycling for handling waste from the main office building. Power stations have their own sorting policy, and waste is handled either through recycling or waste facilities. For wind power and solar PV, the issuer informs that equipment and machinery will be reused or recycled at end of life.

### Weaknesses

We find no material weaknesses in Akershus Energi's green finance framework.

### Pitfalls

Akershus Energi has not implemented TCFD-reporting and is lacking a more systematic approach to physical climate change risks. To be fully aligned with the DNSH-criteria "Climate change adaptation" Akershus Energi needs to identify physical climate risks for their activities by performing a climate risk and vulnerability assessment.

While renewable energy projects generally are considered to have positive climate mitigation impacts, there are nevertheless emissions associated with the construction process. CICERO Green encourages Akershus Energi to conduct life cycle assessments of major projects. Life cycle assessments will provide valuable information on the environmental and climate impacts of the projects and point to suppliers that can lead to a reduction in emissions. In order to make sure that the production of heat is as efficient as possible most efficient equipment in the district heating network should be used. It follows from the EU-taxonomy that fans, compressors, pumps and other equipment used should be with the top-class requirements of the energy label and represent the best available technology. Investors should be aware that equipment used in Akershus energi old district heating/cooling installations most likely do not represent today's best available technology.

If the company obtains and complies with the licenses issued by the relevant authorities, it is our interpretation that they are likely to be aligned with several of the requirements in the EU taxonomy DNSH-criteria related to sustainable water management and biodiversity considerations. It is however unclear to what extent the Norwegian hydropower regulation fully takes into account the EU taxonomy DNSH criteria s in particular related to sustainable water management. According to the EU-taxonomy hydropower plants in operation should i.a. have fish passes and turbines to prevent fish kill and reduce adverse impacts of eutrophication. New hydropower developments need to complete a cumulative impact assessment to ensure that the construction of the plant does not deteriorate the status of the relevant water body. Norwegian regulation includes a requirement for installation of fish passes for existing hydropower. However, there is no requirement to fence out fishes in old hydropower plants, as well as no requirements for turbines that prevent fish kill or for cumulative impact assessments for new hydropower developments. Furthermore, the requirement related to eutrophication is for Akershus Energi's hydropower plants not placed on the hydropower producers as their operation does not increase eutrophication. Akershus Energi has not carried out cumulative impact assessments for new hydropower plants but informs that this will be included for future new developments. However, licenses issued by NVE comprise requirements related to impacts on biodiversity where relevant and river basin management (RBM) is, according to the regulation, conducted on a regional level. New hydropower developments need to be incorporated in existing river basin management plans.

If the company obtains and complies with the licenses issued by the relevant authorities, it is our interpretation that they are likely to be aligned with several of the requirements in the EU taxonomy DNSH-criteria related to sustainable water management and biodiversity considerations. It is however unclear to what extent the Norwegian hydropower regulation fully takes into account the EU taxonomy DNSH criteria s in particular related to sustainable water management. According to the EU-taxonomy hydropower plants in operation should i.a. have fish passes or turbines to prevent fish kill and reduce adverse impacts of eutrophication. New hydropower developments need to complete a cumulative impact assessment to ensure that the construction of the plant does



not deteriorate the status of the relevant water body. Norwegian regulation includes measure to fence out fish and prevent fish kill, like fish passes or turbines, for existing and new hydropower developments. However, there is no requirement to fence out fish for old hydropower plants. This is also the case for cumulative impact assessments. Furthermore, the requirement related to eutrophication is for Akershus Energi's hydropower plants not placed on the hydropower producers as their operation does not increase eutrophication. Akershus Energi has not carried out cumulative impact assessments for new hydropower plants but informs that this will be included for future new developments. However, licenses issued by NVE comprise requirements related to impacts on biodiversity where relevant and river basin management (RBM) is, according to the regulation, conducted on a regional level. New hydropower developments need to be incorporated in existing river basin management plans.

Except for partial alignment with criteria related to resilience, the water management criteria for hydropower and best available technology in the district heating network Akershus Energi is likely to be aligned with the DNSH-criteria in the EU-taxonomy related to the activities given in their green finance framework.



## Appendix 2: EU Taxonomy criteria and alignment

Complete details of the EU taxonomy criteria are given in [https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-da-2020-annex-1\\_en.pdf](https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-da-2020-annex-1_en.pdf).

### Electricity generation from hydropower

Framework activity	Renewable energy projects		
Taxonomy activity	Electricity generation from hydropower (NACE Code D.35.1.1 and F42.22)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation threshold	<p>The activity complies with either of the following criteria:</p> <ul style="list-style-type: none"> <li>a) The life cycle GHG emissions from the generation of electricity from hydropower are lower than 100gCO<sub>2</sub>e/kWh<sup>12</sup>.</li> <li>b) The power density of the electricity generation facility is above 5 W/m<sup>2</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>• The issuer is referring to a study by the Norwegian Institute for Sustainability Research on Norwegian hydropower, where average emissions are calculated to around 3.3g CO<sub>2</sub>e/kWh<sup>13</sup>.</li> <li>• The life cycle assessment (LCA)-study is performed using the ISO 40040/44/48.</li> <li>• Power density is not calculated.</li> </ul>	Likely aligned with thresholds, but company specific LCA-studies are not calculated. Method used in study differ from the taxonomy. However, it is not likely that actual emissions are close to the given threshold.
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	<ul style="list-style-type: none"> <li>• Physical climate risks 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.</li> <li>• The assessment is proportionate to the scale of the activity and its expected lifespan.</li> </ul>	<ul style="list-style-type: none"> <li>• Risk assessments are carried out regularly, including safety and environmental issues and mitigation actions to reduce risks. Physical climate risk material to the activities have been considered for some activities, but not in a systematic manner.</li> </ul>	Likely partly aligned, but a more systematic approach to physical climate related risk is needed.

<sup>12</sup> The life-cycle GHG emissions are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067, ISO 14064-1, the G-res tool. Quantified life-cycle GHG emissions are verified by an independent third party.

<sup>13</sup> <https://norsus.no/wp-content/uploads/AR-01.19-The-inventory-and-life-cycle-data-for-Norwegian-hydroelectricity.pdf>





<p>Sustainable use and protection of water and marine resources (water management)</p>	<p>1: Operation of existing hydropower plants, including refurbishment activities to enhance renewable energy or energy storage potential.</p> <p>Measures have been implemented to reduce adverse impacts on water and protected habitats. The effectiveness is monitored in an authorisation or permit. The operation of the hydropower plant complies with authorisation or permit issued by the competent authority, and sets out relevant mitigation measures necessary to:</p> <ul style="list-style-type: none"> <li>• ensure conditions as close as possible to undisturbed continuity in the water body the plant relates to, functional fish passes and turbines preventing fish kill, measures to ensure minimum ecological flow and sediment flow;</li> <li>• reduce the impact of hydropeaking;</li> <li>• protect or enhance habitats;</li> <li>• reduce adverse impacts of eutrophication.</li> </ul> <p>2: Construction of new hydropower plants</p> <ul style="list-style-type: none"> <li>• The plants are conceived so that no deterioration of the status of the water body is experienced, demonstrated by a cumulative impact assessment.</li> <li>• Where the cumulative impact assessment demonstrates that the envisaged project could deteriorate or compromise the achievement of good status/potential of the specific water body it relates to, a further in-depth cost-benefit assessment must be performed.</li> </ul>	<ul style="list-style-type: none"> <li>• 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 Law” and the “Water Resources Law”.</li> <li>• Companies need to complete an EIA and to demonstrate alignment with the WFD. This includes requirements for minimum water level.</li> <li>• NVE is carrying out audits to monitor performance.</li> <li>• 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 “Vanndirektivet”.</li> <li>• Old hydropower plants do not have licenses but must comply with and are subject to the same laws and the same audit regime as plants with a license.</li> <li>• According to the issuer they are following national laws and regulations and obtain licenses for their operations where required. This comprises incorporation in the relevant RBMP, and alignment with the Water Framework Directive.</li> <li>• The issuer further informs that they are obliged to implement mitigation measures related to the water ecology, such as conducting impact assessments on fish and construct two-way water passages, but that there are no requirements for older power to install such passages.</li> <li>• The issuer’s hydropower stations are river based and do not have issues with sediment flows.</li> <li>• Habitat protection is a part of the requirements given to hydropower stations. Enhancing of fish stocks used to be a requirement, but as experience showed that this was counterproductive to the environment in the river, this was stopped in line with instructions from the County Governor.</li> <li>• Mjøsa is one of the lakes affected by eutrophication, however, the demands to reduce the impact is not placed on the hydropower producers as their operation does not increase eutrophication.</li> <li>• A cumulative impact assessment has not been carried out.</li> <li>• Proceeds used under the green finance framework will be used to complete and operationalize a new hydropower plant.</li> </ul>	<p>Likely partly aligned.</p>
<p>Protection and restoration of biodiversity and ecosystems (ecosystems)</p>	<ul style="list-style-type: none"> <li>• An Environmental Impact Assessment (EIA) or screening has been completed in accordance with national provisions.</li> <li>• Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• The construction of energy production facilities larger than 1 MW needs a license from the NVE according to the “Energy Law” and the “Water Resources Law”.</li> <li>• To receive a license the company needs to complete an EIA, including implementation of mitigative measures. This is also required by the “Energy Law”.</li> </ul>	<p>Likely aligned.</p>



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	<ul style="list-style-type: none"><li>For sites/operations located in or near biodiversity-sensitive areas additional requirements apply.</li></ul>	<ul style="list-style-type: none"><li>According to the issuer they are following national laws and regulations and have completed EIAs for all projects, also hydropower plants without a license.</li><li>The issuer confirms that they do not have activities in or near conservation areas or areas with sensitive biodiversity.</li></ul>	
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## Electricity generation from wind power

Framework activity	Renewable energy projects		
Taxonomy activity	Electricity generation from wind power (NACE code D.35.1.1 and F 42.22)		
	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> <li>Substantial contribution to climate change mitigation.</li> </ul>	<ul style="list-style-type: none"> <li>Wind power is assumed to contribute substantially to climate change mitigation.</li> </ul>	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	Please see under Hydropower.		
Sustainable use and protection of water and marine resources (water management)	Only for offshore wind.		N/A
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>According to the issuer they are following national laws and regulations and obtain licenses for their operations where required.</li> <li>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.</li> </ul>	Likely aligned.
Protection and restoration of biodiversity and ecosystems (ecosystems)	Please see under Hydropower.		



### Electricity generation using solar photovoltaic technology

<b>Framework activity</b>	<b>Renewable energy projects</b>		
<b>Taxonomy activity</b>	<b>Electricity generation using solar photovoltaic technology (NACE Code D 35.1.1 and F 42.22)</b>		
<b>Taxonomy version</b>	<b>EU Technical mitigation criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Mitigation criteria	<ul style="list-style-type: none"> <li>Substantial contribution to climate change mitigation.</li> </ul>	Solar power is assumed to contribute substantially to climate change mitigation.	Likely aligned.
	<b>EU Taxonomy DNSH-criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Climate change adaptation	Please see under Hydropower.		
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>According to the issuer they are following national laws and regulations and obtain licenses for their operations where required.</li> <li>For investments in solar power, the issuer will demand a 40- year lifespan for the power plant. The projects will provide means for decommissioning including restoring land. The issuer confirms that they will follow the “pyramid of waste” where reuse of panels will be prioritized over recycling of components.</li> </ul>	Likely aligned.
Protection and restoration of biodiversity and ecosystems (ecosystems)	Please see under Hydropower.		



## Manufacture of hydrogen

Framework activity	Renewable energy projects		
Taxonomy activity	Manufacture of hydrogen (NACE Code C20.1.1)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> <li>The activity complies with the life cycle GHG emissions savings requirement of 80 % relative to a fossil fuel comparator of 94g CO<sub>2</sub>e/MJ [resulting in 2.256 tCO<sub>2</sub>eq/tH<sub>2</sub>]</li> <li>Standards for life-cycle emission calculations are given.</li> </ul>	<ul style="list-style-type: none"> <li>According to the issuer, they will produce green hydrogen (using atmospheric alkaline electrolyser) with an electricity use of 42,28 MWh/t hydrogen. The issuer has not conducted their own LCA but use emission values from the supplier of the technology.</li> <li>The issuer informs that when using a European energy mix (520g CO<sub>2</sub>/kWh), emissions are estimated to 22 t CO<sub>2</sub>/tH<sub>2</sub> and when using a Norwegian energy mix (18,9 CO<sub>2</sub>/kWh) emission are estimated to 0,8 t CO<sub>2</sub>/tH<sub>2</sub>.</li> </ul>	Likely aligned when a Norwegian energy mix is used. The company has not started production, so no company specific calculation of emissions is conducted.
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	Please see under Hydropower.		
Sustainable use and protection of water and marine resources (water management)	<ul style="list-style-type: none"> <li>Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan.</li> <li>Implement the EUs Water Framework Directive (WFD).</li> </ul>	<ul style="list-style-type: none"> <li>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”.</li> <li>According to the issuer, they follow national laws and regulation, and obtain licenses where required, including aligning with the WFD.</li> <li>The issuer further informs that they do not operate in areas with water scarcity. By focusing on green hydrogen production, the risks of pollution and oil and gas related waste are minimized. When searching for potential production sites, the focus has been on areas with existing grid and transport connectivity and where there may already be industrial production in place.</li> </ul>	Likely aligned.
Pollution prevention and control (pollution)	<ul style="list-style-type: none"> <li>Emissions are within or lower than the emission levels associated with the best BAT ranges set out in the BAT conclusions for the refining of mineral oil and gas.</li> </ul>	<ul style="list-style-type: none"> <li>According to the issuer, they will produce green hydrogen and electricity will be produced from renewable energy sources. By focusing on green hydrogen production, the risk of air pollution is minimized.</li> </ul>	Likely aligned.
Protection and restoration of biodiversity and ecosystems (ecosystems)	Please see under Hydropower.		



### District heating/cooling distribution

Framework activity	Renewable energy projects		
Taxonomy activity	District heating/cooling distribution (NACE Code D35.30)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> <li>Construction and operation of pipelines and associated infrastructure for distributing heating and cooling must meet the definition of efficient district heat/cool systems in the EU Energy Efficiency Directive (2012/27/EU): “Efficient district heating and cooling” of at least 50% renewable energy.</li> </ul>	<ul style="list-style-type: none"> <li>According to the issuer, at least 95% of the energy used in Akershus Energi’s district heating comes from renewable sources such as waste heat from sewage, solar power, wood waste, electricity with certificates of origin or from certified bio oil as well as heat produced from nearby industries.</li> </ul>	Likely aligned
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	Please see under Hydropower.		
Sustainable use and protection of water and marine resources	<ul style="list-style-type: none"> <li>Environmental degradation risks related to preserving water quality and avoiding water stress identified and addressed, in accordance with water use and protection management plan.</li> <li>In the EU, fulfill the requirements in the EU water legislation.</li> </ul>	<ul style="list-style-type: none"> <li>District heating and cooling installations under 50 MW are regulated by the “Pollution control regulation”, and installations over 50 MW need a license from the Norwegian Environment Agency.</li> <li>All Akershus Energi’s installations for district heating except Lillestrøm/Akershus EnergiPark are under 50 MW.</li> <li>According to the issuer, they follow national laws and regulation, and obtain licenses where required, including aligning with the WFD.</li> </ul>	Likely aligned
Pollution prevention and control.	<ul style="list-style-type: none"> <li>Ensure use of efficient equipment, representing the best available technology.</li> </ul>	<ul style="list-style-type: none"> <li>According to the issuer, new suppliers are obliged to install efficient pipeline insulation to minimise heat losses and high-quality components to maximise lifetime of infrastructure assets (requirements are specified in the contract tenders). This is considered by the issuer to be best available technology.</li> </ul>	Likely aligned for new installations. Uncertain alignment for old installations.
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.		



### Production of heat/cool from bioenergy

Framework activity	Renewable energy projects		
Taxonomy activity	Production of heat/cool from bioenergy (NACE Code D35.30)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ol style="list-style-type: none"> <li>Agricultural biomass should comply with the criteria in the amended Renewable Energy Directive (RED II, 2018/2001).</li> <li>GHG-emission savings from the use of biomass are at least 80 % compared to the fossil fuel comparator.</li> </ol>	<ul style="list-style-type: none"> <li>Over the next three years, possible investments in production of heat/cool will most likely involve biooil.</li> <li>Akershus Energi is using biooil certified by REDcert.</li> <li>The REDcert scheme is recognized by the EU for demonstrating compliance with the sustainability criteria in the RED II.</li> </ul>	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	Please see under Hydropower.		
Sustainable use and protection of water and marine resources	<ul style="list-style-type: none"> <li>Environmental degradation risks related to preserving water quality and avoiding water stress identified and addressed, in accordance with water use and protection management plan.</li> <li>In the EU, fulfill the requirements in the EU water legislation or complete an EIA in line with national regulations.</li> </ul>	<ul style="list-style-type: none"> <li>District heating and cooling installations are regulated by the County Governor or the Norwegian Environment Agency, depending on size.</li> <li>The EU directive 2015/2193 for medium sized combustion plants (between 1-50 MW) is incorporated in the Pollution control directive and supervised by the County Governor.</li> <li>The EU directive 2010/75 is transposed in Norwegian law and supervised by the Norwegian Environment Agency through a license. For bioenergy boilers, no emission value for SO<sub>2</sub> is given, however combustion of bioenergy is associated with low SO<sub>2</sub>-emissions.</li> <li>All Akershus Energi's installations for district heating except Lillestrøm/Akershus EnergiPark are under 50 MW.</li> <li>According to the issuer, they follow national laws and regulation, and obtain licenses where required. This includes alignment with the WFD.</li> </ul>	Likely aligned
Pollution prevention and control.	<ul style="list-style-type: none"> <li>Emissions should be below relevant EU directive (installations &gt; 50MW directive 2010/75 and installations &lt; 50MW directive 2015/2193).</li> </ul>	<ul style="list-style-type: none"> <li>See under Sustainable use and protection of water and marine resources.</li> </ul>	Likely aligned.
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.		





### Production of heat/cool from waste heat

<b>Framework activity</b>	<b>Renewable energy projects</b>		
<b>Taxonomy activity</b>	<b>Production of heat/cool from waste heat (NACE Code D35.30)</b>		
<b>Taxonomy version</b>	<b>EU Technical mitigation criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Mitigation criteria	Substantial contribution to climate change mitigation.	Production of heat/cool from waste heat is assumed to contribute substantially to climate change mitigation.	Likely aligned.
	<b>EU Taxonomy DNSH-criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Climate change adaptation	Please see under Hydropower.		
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The company informs that they demand the best available options from their suppliers in terms of technology as well as quality. This includes requiring equipment with high durability.</li> </ul>	Likely aligned
Pollution prevention and control.	<ul style="list-style-type: none"> <li>Equipment used represent the best available technology.</li> </ul>	<ul style="list-style-type: none"> <li>A requirement for the use of Best Available Techniques is included in the license from the Norwegian Environment Agency.</li> <li>According to the issuer they comply with national laws and regulations and obtain licenses where required.</li> <li>The company informs that they demand the best available options from their suppliers in terms of technology as well as quality. This is considered by the issuer to be best available technology.</li> </ul>	Likely aligned.
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.		



# Appendix 3: Referenced Documents List

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Document Number	Document Name	Description
1	Akershus Energi's Green finance framework, dated December 2020.	Akershus Energi's green finance framework from November 2020.
2	Annual report 2019, Akershus Energi	Annual report from 2019.

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## Appendix 4: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO 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 Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University and the International Institute for Sustainable Development (IISD).

