

‘Second Opinion’ on Agder Energi’s Green Bond Framework

20 October 2017

Summary

Overall, Agder Energi's Green Bond Framework, together with its environmental strategy for hydropower project management and climate gas emission reporting as part of the social responsibility reporting, provide a sound base for climate friendly investments. Agder Energi's Green Bond Framework is in line with the recommendations of the Green Bond Principles. The framework lists eligible projects that support the objective to promote the transition to low carbon, climate resilient growth and a sustainable economy. The company has clear guidelines for the management of the green bond proceeds. Agder Energi will report on various indicators of projects financed by the green bond proceeds. These reports will be available to both investors and the public.

The framework promotes two types of climate mitigation measures in the form of renewable energy and energy efficiency projects. Renewable energy projects will encompass investments in new and existing hydropower and potentially onshore windpower plants. Local environmental impacts are considered in the Environmental Management Program, however GHG emissions during the construction phase could be a cause for concern. Energy efficiency investments will focus on different types of enhancements to the transmission and distribution grid. These investments aim to improve the resilience and flexibility of the grid. Given Norway's largely renewable-based electricity mix, investments in transmission- and distribution grids are unlikely to lock-in or incentivize the use of fossil fuels. The framework excludes direct investments in fossil fuel and nuclear energy generation projects. Agder Energi, as well as one of its sub-companies, is certified as "Miljøfyrtårn", a Norwegian environmental certification scheme.

Based on the assessment of the project types that will be financed by the green bond, and the assessment of policies and reporting standards, Agder Energi's Green Bond Framework receives a Dark Green shading.



°CICERO
Dark Green

Contents

| | |
|---|-----------|
| Summary | 2 |
| 1 Introduction and background | 4 |
| Expressing concerns with ‘shades of green’ | 4 |
| 2 Brief Description of Agder Energi’s Green Bond Framework and rules and procedures for climate-related activities | 6 |
| Definition: | 6 |
| Selection: | 6 |
| Management of proceeds: | 6 |
| Transparency and Accountability: | 7 |
| 3 Assessment of Agder Energi Green Bond Framework and environmental policies | 10 |
| Eligible projects under the Green Bond Framework | 10 |
| Strengths | 11 |
| Weaknesses | 12 |
| Pitfalls | 12 |
| <i>Impacts beyond the project boundary</i> | 12 |
| Appendix: About CICERO | 13 |

1 Introduction and background

As an independent, not-for-profit, research institute, CICERO (Center for International Climate and Environmental Research - Oslo) provides Second Opinions on institutions' framework and guidance for assessing and selecting eligible projects for green bond investments, and assesses the framework's robustness in meeting the institutions' environmental objectives. The Second Opinion is based on documentation of rules and frameworks provided by the institutions themselves (the client) and information gathered during meetings, teleconferences and e-mail correspondence with the client.

CICERO 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 has established the global Expert Network on Second Opinions (ENSO), a network of independent non-profit research institutions on climate change and other environmental issues, to broaden the technical expertise and regional experience for Second Opinions. CICERO works confidentially with other members in the network to enhance the links to climate and environmental science, building upon the CICERO model for Second Opinions. In addition to CICERO, ENSO members currently include Basque Center for Climate Change (BC3), International Institute for Sustainable Development (IISD), Stockholm Environment Institute (SEI), and Tsinghua University's Institute of Energy, Environment and Economy. A more detailed description of CICERO can be found at the end of this report. ENSO encourages the client to make this Second Opinion publically available. If any part of the Second Opinion is quoted, the full report must be made available.

CICERO's Second Opinions are normally restricted to an evaluation of the mechanisms or framework for selecting eligible projects at a general level. CICERO does not validate or certify the climate effects of single projects, and thus, has no conflict of interest in regard to single projects. CICERO is neither responsible for how the framework or mechanisms are implemented and followed up by the institutions, nor the outcome of investments in eligible projects.

This note provides a Second Opinion of Agder Energi Green Bonds Framework and policies for considering the environmental impacts of their projects. The aim is to assess the Agder Energy Green Bonds Framework as to its ability to support Agder Energi's stated objective of promoting the transition to low-carbon and climate resilient growth.

This Second Opinion is based on the green bond framework presented to CICERO by the issuer. Any amendments or updates to the framework require that CICERO undertake a new assessment. CICERO takes a long-term view on activities that support a low-carbon climate resilient society. In some cases, activities or technologies that reduce near-term emissions result in net emissions or prolonged use of high-emitting infrastructure in the long-run. CICERO strives to avoid locking-in of emissions through careful infrastructure investments, and moving towards low- or zero-emitting infrastructure in the long run. Proceeds from green bonds may be used for financing, including refinancing, new or existing green projects as defined under the mechanisms or framework. CICERO assesses in this Second Opinion the likeliness that the issuer's categories of projects will meet expectations for a low carbon and climate resilient future.

Expressing concerns with 'shades of green'

CICERO Second Opinions are graded dark green, medium green or light green, reflecting the climate and environmental ambitions of the bonds and the robustness of the governance structure of the Green Bond

Framework. The grading is based on a broad qualitative assessment of each project type, according to what extent it contributes to building a low-carbon and climate resilient society.

This Second Opinion will allocate a ‘shade of green’ to the green bond framework of Agder Energi:

- **Dark green** for projects and solutions that are realizations today of the long-term vision of a low carbon and climate resilient future. Typically, this will entail zero emission solutions and governance structures that integrate environmental concerns into all activities.
- **Medium green** for projects and solutions that represent steps towards the long-term vision, but are not quite there yet.
- **Light green** for projects and solutions that are environmentally friendly but do not by themselves represent or is part of the long-term vision (e.g. energy efficiency in fossil-based processes).
- **Brown** for projects that are irrelevant or in opposition to the long-term vision of a low carbon and climate resilient future.

The project types that will be financed by the green bond primarily define the overall grading. However, governance and transparency considerations also factor in, as they can give an indication whether the institution that issues the green bond will be able to fulfil the climate and environmental ambitions of the investment framework.

2 Brief Description of Agder Energi's Green Bond Framework and rules and procedures for climate-related activities

Agder Energi is a regional electricity company located in the South of Norway. The company provides services in its home region as well as across the rest of Norway. Agder Energi's activities fall into three categories: Electricity generation and sale from its hydropower plants, providing district heating, distribution grid services and other related grid services. The different activities are organized as sub-companies within the Agder Energi group. Various regional municipalities have a cumulative 54.5 % ownership stake in Agder Energi. The remaining shares are held by the largest Norwegian state owned electricity company, Statkraft AS. The company reported an annual profit of 251 million NOK (32 mill. USD) in 2016.

Agder Energi has an average annual electricity production of 8.1 TWh, which makes it the third largest electricity producer in Norway. According to the company website, Agder Energi's 49 wholly and partly owned hydropower plants contribute 99 % of the company's total energy production, which is a combination of electricity and heat production. The district heating activities are based on a variety of fuels, such as bio-waste from forestry, industrial waste-heat, bio-oil and biogas, as well as, to a smaller extent, fossil oil and gas. Agder Energi strives to operate using only renewable energy sources and has over the past years reduced the use of fossil fuel oil.

Agder Energi has policies and systems for managing a.o. health, security and environmental risks. The company reports its climate gas emissions. All policies for risk assessment and management, as well as reporting standards for climate gasses are applied to all major sub-companies in which Agder Energi has a controlling stake.

Definition:

Eligible projects are within the field of climate mitigation. Eligible technologies are renewable energy and energy efficiency. Eligible projects may be funded in whole or in part by Agder Energi or its subsidiaries. Projects will be located in Norway. The framework states that green bond proceeds will not be used to finance nuclear or fossil energy generation projects. The green bond proceeds may be used to purchase or develop new eligible projects as well as to renovate, upgrade and refinance existing eligible projects. All eligible projects are going to be included in the "Green Project Portfolio". Projects will be excluded from this portfolio if they for whatever reason seize to fulfill the criteria.

Selection:

Projects fulfilling the eligibility criteria will be evaluated, selected and approved by the Treasury Department in cooperation with the relevant business unit at Agder Energi. An environmental specialist will be part of this decision making process. All decisions are taken in consensus, lending the environmental expert veto powers. Proceeds from the green bond can only be used for projects fulfilling the eligibility criteria and Agder Energi's Group Strategy for Social Responsibility.

Management of proceeds:

The framework states that an amount of equal size to the green bond proceeds will be credited to a special account for the funding of eligible projects. According to the framework, actual payments to eligible projects will be made

from other funds and accounts in the company. At the end of every financial quarter, all payments to eligible projects will be reimbursed using the green bond proceeds on the special account. This will continue for as long as the balance on the special account is positive and for as long as the bond is outstanding. The special account balance will be placed in liquidity reserves until disbursement to eligible projects. While in the liquidity reserve, the proceeds will be managed along with other funds in the reserve. The policies guiding the management of the reserve restrict investment and allocation to bank deposits, commercial paper and bonds issued by banks and municipalities, the issuer informed upon request.

Transparency and Accountability:

Investors in the green bond will receive an annual investor letter containing information on: Projects that have been financed, project characteristics, the allocated amounts and expected environmental impacts. The letter will also outline the share of proceeds that has been used for new investments and refinancing.

According to the framework, the issuer aims to report on impacts using the following metrics: For renewable energy: Expected and actual amount of capacity added, restored, connected and distributed. For energy efficiency projects: The issuer aims to report on the expected and achieved energy efficiency gains.

Upon request the issuer informed that in cases where an eligible project has been financed only in part by green bond proceeds, the investor letter will point out the specific share of renewable energy or energy efficiency improvements financed by the green bond proceeds. The same logic applies to joint venture projects where Agder Energi stands for only a share of the financing.

The investor letter will be publicly available on the issuer's website. The internal tracking of proceeds, the allocation of proceeds and the investor letter will be verified by the issuer's own internal compliance function. The opinion of this compliance function will also be made publicly available on the issuer's website.

The framework also states that the second opinion and the framework itself will be publicly available on the issuer's website.

The table below lists the documents that formed the basis for this Second Opinion:

| Document Number | Document Name | Description |
|-----------------|--|---|
| 1 | Green Bonds Framework, dated 16 October 2017 | Outlining use of proceeds, process for project evaluation and selection, management of proceeds, reporting and transparency |
| 2 | Environmental Strategy for Agder Energi Hydropower (Miljøstrategi Agder Energi vannkraft)) | Company level strategy for safeguarding environmental standards in the company's hydropower operations. Qualitative description of growth strategy, goals in relation to concession agreements, technical aspects including the handling of |

| | | |
|---|--|---|
| | | chemicals, safeguarding minimum flow and biodiversity. |
| 3 | Environmental Strategy on Project Level for Agder Energi Hydropower (Miljøstrategi ved prosjektgjennomføring I Agder Energi Vannkraft) | Project level strategy for safeguarding environmental standards in larger hydropower projects. The document details how environmental risk is managed with regards to standards and demands from public authorities or the project owner. The strategy outlines standards for contractors regarding environmental risk analysis and management. |
| 4 | Annual Report 2016 (Agder Energi årsrapport 2016) | Outlining a.o. how health, security and environment analysis and reporting is part of the business plans for all of the company's activities. |
| 5 | Agder Energy Social Responsibility Report 2016 (Agder Energi Samfunnsansvar 2016) | Corporate Social Responsibility reporting for the group and all sub-companies. The document contains detailed reporting on CO2 emissions of operations based on different standards. The report also includes NOx emissions. |
| 6 | Strategy for social responsibility in Agder Energi (Strategi for samfunnsansvar I Agder Energi) | The document outlines how the company manages and communicates its social responsibility regarding the areas of human rights, labour rights, environment, and anti-corruption. Agder intends to integrate social responsibility into all of the company's activities. |
| 7 | Application for concession – Extension of Iveland power plant (Konsesjonssøknad – Utvidelse av Iveland kraftverk) | The document outlines expected local environmental impacts for this particular project. |

| | | |
|---|--|---|
| 8 | Project owner's environmental report on Skjerkevann reservoirs (Byggherrens miljøoppfølgingsprogram) | Environmental management plan for the Skjerkevann reservoirs. |
| 9 | Project owner's environmental report on Iveland II power station (Byggherrens miljøoppfølgingsprogram) | Environmental management plan for the Iveland II power station. |

Table 1. Documents reviewed

3 Assessment of Agder Energi Green Bond Framework and environmental policies

Overall, the Agder Energi Green Bond Framework provides a detailed and sound framework for climate-friendly investments.

The framework and procedures for Agder Energi's green bond 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, whereas the weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where issuers should be aware of potential macro-level impacts of investment projects.

Eligible projects under the Green Bond 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 certainty to investors 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 |
|------------------|---|--|
| Renewable Energy | Including: Hydropower Windpower | Dark Green ✓ Consider negative impacts on wildlife, nature and lifecycle pollution. Avoid negative impacts on biodiversity. ✓ Consider emissions from construction phase and landscape issues and mass deposits. |

| | | |
|-------------------|---|---|
| Energy Efficiency | Including: | Dark Green |
| | Connection of renewable energy to transmission networks | ✓ Transmission lines support Norway's largely renewable electricity mix. Interconnectors to other countries are not included. |
| | Upgrading of transmission and distribution networks | |
| | Energy storage | |
| | Energy recovery | |
| | Smart grids | |

Table 2. Eligible project categories

Strengths

Overall, we find Agder Energi's Green Bond Framework to be in compliance with the 2017 Green Bond Principles.

Health, security and environment risk assessment established across all operations

The analysis and management of risk is part of business plans that have been established for all the company's activities. Health, security and environment (HSE) is one of four key elements in the company's risk analysis, according to the annual report. Due to varying types of activities, the risk analysis work is done on the operations level and reported to Agder Energi's managing board. HSE is treated as a priority topic in all leadership groups.

Focus on environmental concerns in larger hydropower projects

The environmental risk analysis on a project level in the hydropower sector is conducted in the form of the "Environmental management program" (Miljøoppfølgingsprogrammet – MOP). Under MOP, environmental concerns, regulations and mitigating measures are described for single, typically larger hydropower projects. The program defines concrete environmental goals for each topical segment of the project. The aim is to minimize environmental impacts, both in terms of physical changes to the landscape and in terms of emissions into the air, soil, and water. The MOP is supposed to maintain the focus on environmental impacts and their mitigation throughout the process, from planning to construction and start of commercial operations. An environmental expert follows up this plan.

Sub-contractors are required to compile an analysis of the probability and potential consequences of hazardous environmental events during the construction phase. Sub-contractors are required to maintain and permanently update plans outlining measures to reduce the likelihood and consequences of such events.

Environmental concerns in decision-making processes

Projects fulfilling the eligibility criteria will be evaluated, selected and approved by the Treasury Department in cooperation with the relevant business unit at Agder Energi. An environmental specialist will be part of this

decision making process. Decision have to be taken in consensus, which gives the environmental perspective the power to veto decisions.

Good reporting standards on climate gas emissions

Agder Energi reports on the emission of some climate gasses in a detailed and well-structured manner. The company reports separately on local polluting emissions (NOx) and climate gas emissions (CO₂). Reporting is provided for all of Agder Energi's major operations as well as structured by area of operation (e.g. hydropower, district heating, grid activities etc.). Climate gas emissions are calculated by converting the total energy demand, and energy contained in used fuels, to electricity demand. Based on this demand, the equivalents of climate gas emissions are calculated based on both the European and the Norwegian grid factors.

Weaknesses

Environmental overview of supply chain is insufficient

The issuer does not have policies to analyze the CO₂ environmental record of sub-contractors and suppliers, nor is lifecycle analysis conducted in the decision-making process. Especially for large hydropower plants, construction periods can span over several years and require heavy machinery. CICERO is encouraged to learn about the focus on local environmental impacts and the requirements Agder Energi is putting on sub-contractors in connection to the MOP program. However, including the CO₂ footprint of a sub-contractor into the policies and requirements that sub-contractors operate under, as well as reporting on these emissions, would strengthen the framework further.

Pitfalls

Impacts beyond the project boundary

Due to the complexity of how socio-economic activities impact the climate, a specific project is likely to have interactions with the broader community beyond the project borders. These interactions may or may not be climate-friendly, and thus need to be considered with regards to the net impact of climate-related investments. Specifically with large hydro projects, there can be negative environmental impacts particularly during the construction phase. While local environmental impacts are considered in the MOP program, Agder Energi should take special considerations for large hydro projects on GHG emissions associated with construction vehicles and machinery.

Appendix: About CICERO

CICERO Center for International Climate Research is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international climate cooperation. We collaborate with top researchers from around the world and publish in recognized international journals, reports, books and periodicals. CICERO has garnered particular attention for its work on the effects of manmade emissions on the climate and the formulation of international agreements and has played an active role in the UN's IPCC since 1995.

CICERO is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO received a Green Bond Award from Climate Bonds Initiative for being the biggest second opinion provider in 2016 and from Environmental Finance for being the best external review provider (2017).

CICERO Second Opinions are graded dark green, medium green and light green to offer investors better insight in the environmental quality of green bonds. The shading, introduced in spring 2015, reflects the climate and environmental ambitions of the bonds in the light of the transition to a low-carbon society.

CICERO works with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions. Led by CICERO, ENSO is comprised of trusted 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). ENSO operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

cicero.oslo.no/greenbonds

