

'Second Opinion' on Lyse's Green Bond Framework

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Summary

Overall, Lyses's Green Bond framework and environmental governance provide a sound framework for climate-friendly investments. Only renewable energy and related infrastructure projects in Norway are eligible under the Green Bond framework. These investments are supportive of the objective of promoting a transition to low-carbon and climate-resilient growth. Lyse's green bonds proceeds will finance not only new projects, but also existing ones (re-financing). The ambition is, however, to use the majority of the green bonds proceeds to finance new projects. Lyse has informed us that international electricity interconnectors are not relevant for green bond financing under their green bond framework.

Governance procedures, such as selection, monitoring and measurement of activities, are well documented. We are encouraged to see that Lyse is now working on a procurement policy that takes into account environmental considerations. Lyse has received an environmental price for one of their recent hydro power plant projects. There is, however, potential for improving the issuer's approach to climate change issues. Lyse does not have quantified climate goals, nor a climate adaptation strategy. The Company further does not report its annual greenhouse gas emissions.

Lyse's green bond framework includes regular and transparent updates of project achievements to investors and the public. Lyse has informed us that they will report added power capacity of their renewable energy projects.

Based on an overall assessment of the project categories that will be financed by the green bond, governance and transparency considerations, Lyse's Green Bond Framework gets a Dark Green shading. Having said that, Lyse would gain from a more systematic approach to climate change issues.

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.

The CICERO-led ENSO 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 institution themselves (the client) and information gathered during meetings, teleconferences and email correspondence with the client. 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 regarding 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 Lyse's Green Bonds Framework and governance for considering the environmental impacts of their projects. The aim is to assess Lyse's Framework as to its ability to support Lyse's stated objective of promoting the transition to low-carbon and climate resilient growth. 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:

- 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.

2. Brief description of Lyse's Green Bond framework and Rules and Procedures for Climate-Related Activities

Lyse AS is a company based at the west coast of Norway and is owned by 16 municipalities in Southern Rogaland. The Lyse Group produces 5 % of Norway's total electricity. With experience from building and operating electricity grid infrastructure, the Group has established itself also as a supplier of fibre-optic broadband solutions, and developed a district heating and gas supply network in the region. The company was founded in 1999 and has its head office located in Stavanger. The company is 100 % municipality owned and employ around 1300 people.

The company operates ten hydroelectric plants and one thermal power plant. The thermal power plant is based on excess steam from a waste incinerator. The majority of the hydropower capacity was built last century. From 2007-2011 a new power station was built and an old one was upgraded in Jørpeland, increasing capacity in this district from 36 GWh to 110 GWh per year. The company received a price for this project because of its technological solutions and environmental achievements. Lyse has also started constructing one new power plant in Lysebotn to replace an old one, and by that increase its capacity by 180 GWh per year. The new power plant will be completed in 2018.

Definition of green bond projects; Lyse's green bonds proceeds will finance not only new projects, but also existing ones (re-financing). The ambition is, however, to use the majority of the green bonds proceeds to finance new projects. The main eligible categories are renewable energy, energy efficiency and green buildings.

Selection of projects; Eligible Projects will be selected and approved in consensus by the Treasury Department and the relevant production unit at Lyse (i.e. the environmental specialists in Lyse's production units have a veto).

Management of proceeds; According to the framework and in line with the Green Bonds Principles the Green bond, proceeds will be tracked by Lyse in a systematic manner. An amount equal to the net proceeds of the issue of the notes will be credited to a special account. As long as the notes are outstanding and the special account has a positive balance, funds will be deducted from the special account equal to disbursement to eligible projects. Until disbursement to eligible projects, the special account balance will be placed in liquidity reserves.

Reporting and Accountability; To enable investors to follow the development and provide insight to prioritized areas, Lyse will provide an annual investor letter to investors including:

- 1) a list of projects financed;
- 2) a selection of project examples with impact reporting; and
- 3) a summary of Lyse's Green Bond development.

The investor letter as well as the use of proceeds, tracking and management of funds will be assured by Lyse's controller. Impacts of Lyse's renewable energy projects will be reported as added capacity. The opinion of the controller and the investor letter will be made publicly available on Lyse's web page.

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

Table 1: Documents Reviewed

Document Number	Document Name	Description
1	Lyse Green Bond Framework – 20 December 2016	
2	Lyse Annual Report 2015	Overview of the company's activity throughout 2015
3	This is Lyse	Description of the company and its visions for the future
4	Regarding Lyse's Environmental Strategy	Short explanatory note on Lyses's strategy
5	Social Responsibility and annual reporting 2014	Overview of the company's activity throughout 2014
6	Environment and Procurement policy	Lyse is working on a procurement policy that takes into account environmental considerations
7	Lyse Board of Directors reporting to its owners 2016	A comprehensive four-year report to the owners
8 a-b	Information hydro projects (Lysebotn m. fl.)	Project information
9 a-c	District heating connections	Project information
10	Lyse Environmental Awards	Governmental award for well integrated hydro project
11	Forus Energigjenvinning	Project information
12	Lyse District Heating	Project information
13	Kultiveringsanlegg - Årdalselva	Project information
14	HMS og Miljøpolitikk	Overarching internal policy on health, environment and safety.

3. Assessment of Framework

Overall, Lyse's green bond framework provides a detailed and sound framework for climate-friendly investments. The framework and procedures for Lyse's 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

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”.

In table 2 below an investment category that includes projects and solutions that are realizations today of the long-term vision of a low-carbon and climate-resilient future are dark green. Typically, this will entail zero emission solutions and governance structures that integrate environmental concerns into all activities. Medium green covers projects and solutions that represent steps towards the long-term vision, but are not quite there yet. 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) are graded light green.

Table 2 Eligible project categories

Category	Eligible project types	Green Shading and some concerns
Renewable Energy	<ul style="list-style-type: none"> • hydro • solar • wind • related infrastructure 	<p>Dark green</p> <ul style="list-style-type: none"> ✓ 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. ✓ Consider potential lock-in of obsolete technologies. ✓ International electricity interconnectors are not relevant

Strengths

Lyses’s framework includes renewable energy and related infrastructure. Renewable energy is an important building block for reaching the 2 degree Celsius manmade global warming goal. These types of projects are in CICERO’s view important in promoting a transition to low-carbon and climate-resilient growth.

Lyse has a good structure for approval of projects in place that ensure environmental integrity. Projects will be selected and approved in consensus by the Treasury Department and the relevant production unit at Lyse (i.e. the environmental specialists in Lyse's production units have a veto). Lyse could, however, gain from a stronger documentation of internal policies and/or strategies which can strengthen the basis for selection of projects (see under weaknesses below).

Impact reporting is an important tool to enhance transparency regarding the projects' economic risk from climate change and the environmental effectiveness of the projects. Thus, it is important to verify that projects perform as intended with respect to mitigation of greenhouse gas emissions and enhancing climate change resilience, as well as avoiding significant unwanted external effects. Lyse has informed us that impacts of renewable energy projects will be reported as added capacity.

Weaknesses

Lyse does not have own quantified climate goals, nor a climate adaptation strategy. The Company further does not report its overall annual greenhouse gas emissions. The ambition is, however, to contribute to achieving the climate goals of the regions where the company operates. Lyse is in their view playing an important part in achieving these goals by increasing renewable energy capacity and its stepwise approach in establishing a district heating network based on local waste and energy resources (including natural gas). The company sees natural gas as a bridge towards climate neutral gas and district heating. We are encouraged to see that Lyse is now working on a procurement policy that takes into account environmental considerations.

Pitfalls

Construction and reconstruction of transmission and distribution networks are eligible under the green bond framework. These projects are important in order to build a well-functioning energy system. The aim of such investments is to decrease network losses and provide opportunities to connect renewable energy. It is, however, important to consider potential lock-in of obsolete technologies. Lyse has informed us that international electricity interconnectors would not be relevant for green bond financing.

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 regard to the net impact of climate-related investments.

Rebound effects

Efficiency improvements may lead to rebound effects. When the cost of an activity is reduced, there will be incentives to do more of the same activity. Lyse should be aware of such effects and possibly avoid Green Bond funding of projects where the risk of rebound effects is particularly high.

References

ICMA (2016) Green Bond Principles.

<http://www.lysekonsern.no>

https://en.wikipedia.org/wiki/Lyse_Energi

Appendix: About CICERO

CICERO (Center for International Climate and Environmental Research – Oslo) is Norway’s foremost institute for interdisciplinary climate Research. We deliver new insight that help solve the climate challenge and strengthen international climate cooperation.

We help to solve the climate problem and strengthen international climate cooperation by predicting and responding to society’s climate challenges through research and dissemination of a high international standard. Our researchers collaborate with top researchers from around the world, and publish their work in recognized international journals, reports, books and periodicals.

CICERO has garnered particular attention for its research on the effects of manmade emissions on the climate, society’s response to climate change, and the formulation of international agreements. We have played an active role in the IPCC since 1995. In recent years we have also developed considerable expertise in climate financing and is currently a lead provider of Second Opinions on Green Bonds.

CICERO has a national role in promoting knowledge about climate change and is internationally recognised as a driving force for innovative climate communication. We are in constant dialogue about the responses to climate change with public and private decision makers, government administration and civil society.

See: <http://www.cicero.uio.no/en/posts/news/cicero-grades-climate-friendly-bonds-with-shades-of-green>