

‘Second Opinion’ on Lietuvos Energija’s Green Bond Framework

22. juni 2017

Summary

Overall, Lietuvos Energija's Green Bond Framework together with its corporate social responsibility policy, commitments to achieving climate change targets in line with the national Lithuanian Climate Change Management Plan, as well as its management systems provide a sound base for climate-friendly investments. The green bond framework lists eligible projects which support their objectives to promote the transition to low carbon, climate resilient growth and a sustainable economy. Lietuvos Energija's procedures support sound management of proceeds, as well as regular and transparent reporting about green bond project achievements to investors and the public.

The framework promotes renewables, pollution prevention and control, energy efficiency, and clean transportation within their operations and excludes investments in fossil fuel and nuclear energy based projects. The framework is however to some extent exposed to fossil fuels through its incineration of municipal waste, as plastic and other fossil-fuel based fractions are not eliminated despite recycling efforts. Green bonds will not finance projects related to its gas grid operations. Although Lietuvos Energija does not have complete control over the energy mix in the electricity grid, it aims to promote the increased share of renewables in the energy mix. Green bonds can be used to finance both new projects as well as refinance existing eligible projects.

Based on the overall assessment of the project types that will be financed by the green bonds and governance and transparency considerations, Lietuvos Energija's Green Bond Framework receives a Dark Green shading.



°CICERO
Dark Green

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1 Introduction and background

The global Expert Network on Second Opinions (ENSO), a network of independent non-profit research institutions on climate change and other environmental issues, was established by CICERO (Center for International Climate and Environmental Research – Oslo) 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 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.

This Second opinion was produced by SEI and CICERO on behalf of ENSO. SEI is an independent international research institute that has been engaged in environment and development issues at local, national, regional and global policy levels for more than 25 years. CICERO is an independent, not-for-profit, research institute, focused on providing reliable and comprehensive knowledge about all aspects of the climate change problem. A more detailed description of each of these institutions can be found at the end of this report. SEI and CICERO are both 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.

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.

ENSO's Second Opinions are normally restricted to an evaluation of the mechanisms or framework for selecting eligible projects at a general level. ENSO network members do not validate or certify the climate effects of single projects, and thus, has no conflict of interest in regard to single projects. Network members are 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 Lietuvos Energija's Green Bond Framework and policies for considering the environmental impacts of their projects. The aim is to assess the Lietuvos Energija Green Bond Framework as to its ability to support their stated objective of climate mitigation.

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.

ENSO 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. Network members strive 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. ENSO 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'

ENSO 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 Lietuvos Energija:

- 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 Lietuvos Energija's Green Bond Framework and rules and procedures for climate-related activities

Lietuvos Energija is a state-controlled company group based in Lithuania. The main activities of the group include generation of power, trade and distribution of natural gas, as well as the construction and maintenance of energy infrastructure. The rights and obligations of the shareholder of the Lietuvos Energija Group are implemented by the Ministry of Finance of the Republic of Lithuania¹.

The company controls and operates key Lithuanian power plants ensuring the security of energy supply, nationwide distribution power network, and services more than 1.6 million consumers across Lithuania, offers services of electricity supply to customers, supplies of natural gas to more than 570 thousand customers, develops and implements energy projects of national strategic importance.

Lietuvos Energija Group has two main subsidiaries; Lietuvos Energijos Gamyba, AB is Lithuania's largest power generating company, combining all the power generation capacities controlled by the State and Energijos Skirstymo Operatorius AB, responsible for distribution, maintenance and development of electricity and natural gas distribution networks, security and reliability of energy distribution assurance². Both subsidiaries are listed on the NASDAQ OMX Vilnius Stock Exchange. Neither Lietuvos Energija Group nor its subsidiaries currently have a credit rating from Standard & Poor's (S&P), Moody's, and Fitch Group³.

Lietuvos Energy Group is also a member of the UN Global Compact since June 2016⁴. The group exercises corporate responsibility by focusing on environmental protection, work safety and health, responsibility, accountability and transparency. This work comprises amongst other things compliance with requirements of LST EN ISO 14001 standard in objects of its subsidiary Lietuvos Energijos Gamyba⁵.

Definition:

Lietuvos Energija's environmental sustainability related objectives are to promote the transition to low carbon and climate resilient growth and a sustainable economy. Projects eligible under the Green Bond Framework (GBF) fall into the following project categories: renewable energy, pollution prevention and control, energy efficiency and clean transportation. Renewable energy projects cover wind, hydro⁶, bio-gas, solar and geothermal power and related infrastructure. Pollution prevention and control can include the generation of

¹ Lietuvos Energija Annual Report 2016 – 2017.

https://issuu.com/lietuvosenergija/docs/le_annual_report_2016_final_eng

² <http://www.le.lt/en/for-investors-/465> (Accessed May 17, 2017)

³ As of May 17, 2017

⁴ <https://www.unglobalcompact.org/what-is-gc/participants> (Accessed May 17, 2017)

⁵ Lietuvos Energija Annual Report 2016 – 2017.

https://issuu.com/lietuvosenergija/docs/le_annual_report_2016_final_eng

⁶ Hydro power is defined as a) new investments, refurbishment and maintenance of small scale hydro power plants (up to 10 megawatts (MW) of generating capacity and b) refurbishment and maintenance of large scale hydro without any increase in the size of its impoundment.

energy from waste⁷ using forest biomass, and/or local municipal waste streams which have gone through sorting processes. Energy efficiency projects include the construction and reconstruction of electricity distribution networks to decrease network losses and/or provide possibilities to connect renewable energy, smart grid projects and ESCO projects. Clean transportation solutions projects cover electric maintenance vehicles and their supporting infrastructure. See the table 2 for further details.

Green bonds can be used to finance both new projects as well as refinance existing eligible projects. Green bonds will not finance nuclear generation projects nor projects related to its gas grid operations. Although Lietuvos Energija does not have complete control over the energy mix in the electricity grid, it aims to promote the increased share of renewables in the energy mix. The GBF is also supposed to exclude fossil energy generation projects, although it is not possible to completely eliminate all fossil fuel based materials when using municipal waste as an energy source.

Selection:

Projects are initially assessed by the Lietuvos Energija Board of Directors and those passing approval are further screened by the Lietuvos Energija Green Bond Committee (GBC). Projects which meet the criteria detailed above, have a high likelihood of positive net and long-term environmental impacts and are approved by consensus, are selected for financing. Projects are to promote the goals of low carbon, climate resilient growth and sustainable economy and are evaluated based on their alignment with the Green Bond Principles, the UN Global Compact principles, as well as goals of the Lithuanian Climate Change Management Policy,⁸ which covers both mitigation and adaptation. The GBC consists of representatives from various functions from the companies within the group including environmental, corporate social responsibility, finance as well as energy efficiency and energy distribution. All representatives have veto power.

Management of proceeds:

Lietuvos Energija has a dedicated green bond account for the net proceeds of Green Bonds kept at a financial institution. At the end of each fiscal quarter, funds equal to the amount disbursed for financing and/or refinancing projects during that quarter, will be transferred from the dedicated account to be used for financing and/or refinancing eligible projects. Positive balances on the dedicated green bond related account can be treated as liquid reserves and invested in short term financial instruments.

Transparency and Accountability:

Lietuvos Energija will report on its green bonds through its annual Green Bond Investor letter. Reporting will cover 1) list of projects financed (description, allocation of finances, and expected impact); 2) division of allocation between new projects and refinancing, as well as 3) a summary of their Green Bond portfolio's development. Information on actual project impacts will also be included once this information is available.

⁷ Waste-to-energy is defined as local municipal waste (which cannot be recycled or reused, harmless industrial waste and sludge accumulating in the water treatment plant (which cannot be used as fertilizer) and/or forest biomass from areas that have, or meet the requirements for, FSC or PEFC certification and that comply with the EU FLEGT Regulation, if applicable.

⁸ Lithuanian Climate Change Management Policy:
http://www.am.lt/VI/files/File/Klimato%20kaita/Lankstinukas_Klimato_kaita_ENG.pdf

The allocation of funds from Green Bonds proceeds and the Investor Letter will be verified by an external auditor. Both documents will be made publically available via the Lietuvos Energija website.

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

Document Number	Document Name	Description
1	Lietuvos Energija Green Bonds Framework, 15.06.2017	Green Bond Framework description
2	Summary of applicable rules and regulations, Short version, 10.05.2017	Summary document of national and EU legislation and principles followed in relation to the areas of activity.
3	Lietuvos Energija Corporate Sustainability Report 2015	Corporate document detailing sustainability related activities and commitments
4	Principles of Social Responsibility (extract in English)	Principles of social responsibility which guide Lietuvos Energija work. Considered a summary of the Corporate Social Responsibility Policy (Lithuanian language only)
5	Energijos Skirstymo Operatorius AB (ESO) Corporate Sustainability Report 2016	Corporate document detailing sustainability related activities and commitments for subsidiary company.
6	Letter of Commitment – Global Compact	Letter of commitment to participate in the voluntary initiative based on CEO commitments to implement universal sustainability principles and to take steps to support UN goals.
7	ISO 14001 Certificate - Lietuvos Energijos Gamyba AB a) Certificate (in Lithuanian) b) Clarification (in English)	Environmental management assessment certification of a Lietuvos Energijos subsidiary based on international standard.
8	ISO 14001 Certificate - Energijos Skirstymo Operatorius AB (ESO)	Environmental management assessment certification of a Lietuvos Energijos subsidiary based on international standard for the scope of

		gas management (distribution of natural gas, infrastructure development and maintenance.)
9	OHSAS 18001 Certificate - Lietuvos Energijos Gamyba AB	Occupational health and safety assessment certification of a Lietuvos Energijos subsidiary based on internationally applied British standard.
10	Lithuanian Climate Change Management Policy and Its Implementation	Summary of the national climate change management policy which covers both mitigation and adaptation

Table 1. Documents reviewed

3 Assessment of Lietuvos Energija’s Green Bond framework and environmental policies

Overall, the Lietuvos Energija green bond framework provides a detailed and sound framework for climate-friendly investments.

The framework and procedures for Lietuvos Energija’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	<ul style="list-style-type: none"> wind power hydropower – investments in small and large scale hydropower biogas solar power – on-shore and off-shore geothermal power – ground heating 	<p>Dark green</p> <p>Wind and Hydropower: should consider GHG emissions from building, refurbishment, as well as climate resilience.</p> <p>Biogas: should consider GHG emissions and certification from biomass, in particular forest biomass imported from outside EU.</p>

	and infrastructure related to the above renewable energies		For all projects: should consider broader impacts, such as potential negative impacts on biodiversity, nature and local communities; lifecycle emissions.
Pollution prevention and control	Incl. waste to energy.	Medium Green	<p>Should consider GHG emissions; lifecycle emissions and potential lock-in effects.</p> <p>Should consider certification from biomass, in particular forest biomass imported from outside EU</p> <p>Should consider broader impacts, such as potential negative impacts on biodiversity, nature and local communities</p> <p>Should avoid fossil fuels use.</p> <p>Good practices should include recycling of resources and reduction of methane emissions.</p>
Energy efficiency	Incl. construction and reconstruction of electricity distribution networks to decrease network losses and/or provide possibilities to connect renewable energy, smart grid projects and ESCO projects.	Dark green	<p>Should consider potential rebound and lock-in effects.</p> <p>Should avoid fossil-fuel use.</p>
Clean transportation	Clean transportation solutions for maintenance vehicles based on non-fossil fuel and supporting infrastructure, e.g. electric vehicles and charging stations.	Dark green	Potential for emissions reduction is context dependent, as well as the fuel

mix available in the electricity grid.
Consider potential lock-in effects.

Should avoid fossil-fuels use, even in
the source of electricity generation.

Table 2. Eligible project categories

Strengths

Established management and governance structures

Lietuvos Energija has solid management and governance structures indicated by their existing planning and reporting processes, as well as their past experience with projects falling in the eligible project categories for green bonds⁹. Lietuvos Energija has a CSR policy¹⁰ for which the summary principles are publically available in English and reports on their activities within this realm annually in their CSR report. The company is also involved in ongoing work to expand their currently certified occupational health and environmental management systems to cover further operations and committed to the UN Global Compact Principles and COP Policy and its required reporting in 2016. It is a strength that Lietuvos Energija operative goals support the implementation of the climate change goals set nationally and thus is also guided by national climate change Lithuania Climate Change Management Policy. Lietuvos Energija is forward looking and complies with European environmental legislature when it is more ambitious than the local Lithuanian legislation. All of this creates a strong base for their GBF.

The Board of Directors is directly involved in the approval of projects, and final selection is made by a GBC with relevant expertise coming from different departments of the group. This ensures commitment and accountability from the highest levels of the company, as well as broad range of competence in the selection process.

Lietuvos Energija is in the process of formalisation of its GBC work principles and designing the evaluation procedures, including evaluation criteria. Evaluation will account for the environmental impact assessment results in the case that they are required for investments and strive to take a lifecycle approach. Further evaluation procedures are planned to be approved by the board by the end of June 2017. This will serve to further strengthen the governance structures supporting sound green bond investments. It is Lietuvos Energija's intention to follow best practices in the market as the green bond standards develop.

Reporting and Review

Lietuvos Energija has an annual reporting process in place which includes external auditing. The GBF details the basic information to be included in the annual Green Bond Investor Letter. The investor letter will also report on the following expected impacts: the reduction of technological losses, reduction of CO₂ emissions, and indirect result of investment to society. Achieved results will also be included to the extent possible, based on the project timing. The Investor letter, together with the audit results will be made available online on the company website

⁹ ESO CSR report 2016

¹⁰ English language summary of CSR policy – CSR guiding principles <http://www.le.lt/en/social-responsibility-467>; http://www.le.lt/files/105/5/8_0/LE%20Socialines%20atsakomybes%20politika.pdf

Weaknesses

We find no obvious weaknesses in the Lietuvos Energija GBF.

Pitfalls

CICERO and SEI take a long-term view on climate change, and thus, recommend excluding projects that support prolonged use of fossil-fuel based infrastructure that will contribute to GHGs in the long run.

Waste incineration with energy recovery is a sound environmental and climate friendly option to divert waste away from landfills. However, the use of waste for energy is linked with potential pitfalls when it comes to supporting a low carbon and climate resilient future. Waste incineration is best combined with ambitious recycling policies and promotion and support of such policies is seen in the Lietuvos Energija GBF. When the capacity for waste incineration is higher than supply, it could create an incentive to prioritise incineration of waste for energy purposes over recycling. The Lietuvos Energija GBC's aim is to ensure that projects have a net, positive longterm environmental effects and efforts will be made to ensure no conflict with the waste hierarchy. Still there is a residual risk that the definitions of the eligible project categories can lead to financing of assets that include elements of fossil-fuel based technologies. This can, in turn, delay the transition to more climate friendly technologies.

The issuer has informed that they plan to focus on waste to energy projects under the pollution prevention and control category and that there are safeguards for such pitfalls in the current plans. However, in the case that other types of projects under this category are considered for green bond funding in the future, the issues for potential concern listed in Table 2 should be noted.

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. Also, cumulative effects should be considered, e.g. while one project might not have significant negative social or environmental impacts on its own, impacts might arise from the combined effect of many such projects.

Rebound effects

Efficiency improvements may lead to rebound effects. When the cost of an activity or the energy use of an activity is reduced there will be incentives to do more of the same activity. From the project categories in Table 2, examples of this are energy efficiency and electric vehicle transportation where if the issue is not tackled holistically, investments could have an unintended result of increasing overall energy use. Lietuvos Energija should be aware of such effects and possibly avoid Green Bond funding of projects where the risk of rebound effects is particularly high.

To support investment in projects which provide positive net impacts and to avoid the above pitfalls, it is recommended that specific indicators and performance thresholds for evaluation be selected for evaluation, and that reporting include achieved impacts. This improves transparency, as well as provides valuable insight into future project development about realistic emissions reductions and progress to targets, e.g. decrease in emissions.

Similarly, it is recommended that projects assessment and evaluation not be limited to climate mitigation, but that they are assessed holistically for potential other environmental and social impacts as well. For example, bio-mass related projects (pollution prevention and control and renewable energy categories) should consider the

impacts of transportation of bio-mass, the origin of bio-mass, as well as environmental and biodiversity impacts from e.g. the use of agricultural biomass or forest waste and deadwood.

Also, it is recommended to use a lifecycle approach to calculate the environmental and climate impacts of projects. For example, with solar power investments, a lifecycle approach includes the calculation of impacts from production of solar power stations and components through to the recycling and/or disposal phase and provides a broader view of the impacts than pure consumer use-based impacts.

4 References

IPCC (2013). Climate Change 2013: The Physical Science Basis, Fifth Assessment Report, Intergovernmental Panel on Climate Change

Appendix:

About CICERO and SEI

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.

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