

‘Second Opinion’ on the City of Reykjavik’s Green Bond Framework

November 20th, 2018

Summary

Overall, the City of Reykjavik's Green Bond Framework (GBF) provides a progressive, clear and sound framework for investments into projects that well align with the Green Bond Principles. The green bond framework lists eligible projects which promote the transition to low carbon, climate resilient growth and sustainable development. Proceeds will not be used to finance investments that increase fossil fuels use. Although it is not specified in the GBF, investments in nuclear energy are not relevant to Reykjavik due to the abundance of renewable energy. Green Bond proceeds can be used to finance both new projects as well as refinance existing eligible projects and most of the first issuance is projected to be allocated to refinancing. The allocation between these categories will be reported annually.

The City of Reykjavik has solid management and governance structures, as well as regular and transparent reporting about green bond project achievements to investors and the public. The overall assessment of the governance structure of Reykjavik gives it a rating of Excellent. The City of Reykjavik has in place strong environmental goals and targets, good mitigation and adaptation plans, a sound selection process and comprehensive and transparent reporting. Reykjavik has carried out climate risk mapping as a basis for its Climate Adaptation Plan and has included Adaptation related projects in the GBF. Reykjavik plans to report the impacts of its green bond investments in alignment with to the Joint Position Paper on Green Bonds Impact Reporting of the Nordic Public Sector Issuers, which is encouraging.

Based on the overall assessment of the project types that will be financed by the green bonds and governance and transparency considerations, Reykjavik's Green Bond Framework receives a Dark Green shading. All the categories in the GBF are rated as Dark Green, due to the reliance on renewables, combined with the energy efficiency, as well as the focus on adaptation. In our assessments, we have recently increased our attention on the importance of a balanced implementation of green bond frameworks with more than one project category. While Reykjavik has a balanced portfolio in terms of categories, it is expected that most of the funding will be allocated to Clean Transportation and Green Buildings.



°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 publicly 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 the City of Reykjavik's Green Bonds Framework and policies for considering the environmental impacts of their projects. The aim is to assess the City of Reykjavik's Green Bonds Framework as to its ability to support Reykjavik'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 ENSO by the issuer. Any amendments or updates to the framework require that ENSO 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. ENSO 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. 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’

CICERO/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. The shading methodology also aims at providing transparency to investors when comparing green bond frameworks exposure to climate risks. A dark green project is less exposed to climate risks than a lighter green investment.

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

- **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.

Assessing governance

In assessing the governance quality of the issuer, four aspects are studied: The policies and goals of relevance to the green bond framework; the selection process used to identify eligible projects under the framework, the management of proceeds and 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.

Overall shading

The project types that will be financed by the green bond primarily define the overall grading. However, governance and transparency considerations are also important because they 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. Hence, the governance assessment plays a role in the overall shading of the framework. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The overall shading reflects an ambition of having the majority of the project types well represented in the future portfolio, unless otherwise expressed by the issuer.

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

Reykjavik is the capital of Iceland with a population of about 130,000 and 273 km². Reykjavik is home to about 35% of Iceland's population and has an increasing population. The City of Reykjavik has net carbon neutrality by 2040 as a long-term vision with shorter term goals along the way documented in its climate policy. The Icelandic national electricity grid is based on 99,98% renewables (geothermal and hydro power). According to Iceland's latest National Inventory Report to the UNFCCC, the weighted average GHG emissions from electricity production in Iceland in 2015 were thus 10.1 g/kWh. The grid is used for meeting the city's electricity and space heating demand. The key source of greenhouse gas emissions is transport (70% of direct emissions in 2017) and total levels of greenhouse gas emissions from transport have increased since 2011. Reflecting this situation, the city holds at the center of its climate policy the issues of transport and energy use, awareness raising, and waste. Specifically, it envisions public transport and city owned vehicles being free of direct greenhouse gas emissions, and fuel pumps in the city replaced by electric charging stations, as well as the promotion of e-vehicle infrastructure, cycling and public transport. The city also plans for wetland reclamation and forestry to reduce and offset emissions. The city's emissions reduction goals support the Nordic Capitals' Declaration on Climate Change Commitments (2015) and Iceland's national Climate Action Plan (2018). Reykjavik is a signatory to the Covenant of Mayors for Climate and Energy.

In addition to its climate policy, Reykjavik also has a biodiversity policy, as well as several plans which support its climate goals, including its bicycle plan, transport plan, regional transport plan, and environmental and natural resource policy.

Use of proceeds:

Projects eligible under the Green Bond Framework (GBF) will have quantifiable environmental benefits, with environmental mitigation or adaptation potential. The Green Bond will fund projects supporting the City of Reykjavik's Climate Policy and demonstrating quantifiable environmental benefits. Eligible projects and their estimated allocations include green buildings (20-40%), energy efficiency (8-10%), clean transportation (45-60%), waste management (5-7%), sustainable land use / environmental management (1-3%), and adaptation measures (1-3%). According to the issuer's estimates, most of the proceeds will be allocated to clean transportation and green buildings. Projects increasing fossil fuel use are not eligible, and according to the issuer, funding of nuclear energy related projects is not relevant in the context of the City of Reykjavik and Iceland.

The Green Bonds proceeds can be used to fund both new and refinanced projects. According to the issuer, the first issuance will be used 70-100% for refinancing recent eligible projects (from 2016-2017). In contrast, future issuances will focus on new investments. The allocation between refinanced and new projects will be visible in the annual impact report.

Selection:

Projects will be initially proposed by the Reykjavik City Council and then screened and reviewed by a selection committee consisting of representatives from the City of Reykjavik Office of Finance, the Office of Property

Management and Economic Development, and the Office of Environment and Planning. The selection process will rely on assessments of environmental benefits performed by internal and/or external sustainability experts. The assessment consists of an LCA approach, Climate Resilience screening, and identifying potential rebound effects for energy efficiency projects. The selection committee selects projects based on alignment with the GBF and based on consensus. The committee then presents the selected projects to the City Council for final approval. The project funding and environmental impact is documented by the Office of Finance. Furthermore, projects will be evaluated for impacts (ex-post) throughout the Green Bond lifetime to ensure compliance.

Management of proceeds:

The City of Reykjavik will establish a dedicated account for the net proceeds of the issued Green Bonds (“the green account”) which will be managed according to internal guidelines and by the Office of Finance. Funds from the green account will be used to fund projects (new and refinancing) eligible under the Green Bonds Framework or also to repay a green bond. Until disbursement, the proceeds can be invested short-term in money market deposits, bank notes, covered bonds, and government bonds. Investment in corporate stocks or bonds is not allowed. The allocation of funds will be externally verified and the results of the audit will be communicated through the Annual Green Bond Impact Report.

Transparency and Accountability:

The City of Reykjavik will publish an Annual Impact Report on green bonds, alongside its Annual Report, in early Q2 each year. The report will include both financial and non-financial information including the total aggregated and individual funding of eligible projects; the allocation between refinanced and new projects; funds yet to be allocated; as well as accumulated and individual environmental impact of the funded projects. The investor report will be made publicly available on the City of Reykjavik’s web page, along with the Second Opinion and GBF. The environmental impact estimates will come from the external assessments used in the project screening (ex-ante) and also ex-post evaluations conducted throughout the lifetime of the Green Bond used to validate compliance.

It is the City of Reykjavik ambition to provide impacts using relevant indicators where feasible, according to the Joint Position Paper on Green Bonds Impact Reporting of the Nordic Public Sector Issuers. Specifically, CO2 avoided or reduced, kWh of energy saved, and GHG reduction per invested monetary unit will be reported for individual projects where quantifiable. A summary on methodologies used for calculation of indicators and emissions factors will be included in the report.

The City of Reykjavik verifies that Green Bonds proceeds are used for selected projects through an external audit.

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

Document Number	Document Name	Description
1	Reykjavik's Green Bonds Framework 15.11.2018	This document comprises Reykjavik’s Green Bonds Framework and how intends to use proceeds, how it plans to evaluate

		and select eligible projects, manages the proceeds and reports to investors.
2	City of Reykjavik Climate Policy 2016	This strategy outlines goals for mitigation and adaptation, along with an action plan until 2020, which is to be reviewed regularly.
3	Memo (English) on the Environment and Natural resource policies of Reykjavik (2015), 25.10.2018 plus original language policy (2015).	English language introduction to Policy and Policy. The introduction describes the objectives and 9 categories of the policy. Sample KPIs provided.
4	Reykjavik Biodiversity Policy (2016)	Policy including 6 policy goals and policy implementation.
5	Memo (English) on the Proposed Measures for Climate Change Adaptation (2017) with original language “Overview of major risk factors due to climate change in Reykjavik, ways to adapt and current status” report (2017).	City Council Document setting out the proposals for climate change adaptation measures based on the risk assessment performed. Measures are categorized as Grey, Mild and Green solutions and linked partners are identified.
6	Reykjavik Municipal Plan 2010-2030 (2014)	Outline and explanation of the main objectives and the future vision proposed in the new Municipal Plan. It provides an overview of the areas that will be subject to change over the time period covered.
7	Memo (English, 2018) on the Action Plan in Waste Management, with original language plan 2015-2020	Description of the Action Plan, its 4 categories, and subcategories where relevant. Table of waste collection improvements until 2020.
8	Memo (English, 2018) on the report on wetland reclamation action plan for the area of Úlfarsárdalur (2016).	Map of area, as well as brief description of potential impact of reclamation in terms of C sequestration and biodiversity.

9	Memo (English, 2018) on Reykjavik's Procurement Policies.	Aim, general principles and general clauses related to procurement procedures and selection criteria.
10	Memo (English, 2018) on the Proposal of city rules on procurement and leasing of vehicles (2018)	Introduction to the rules applying to vehicle procurement and leasing in support of the climate policy.
11	Memo on Iceland's Climate Action plan 2018 - 2030, September 2018	Introduction to the action plan with main goal, the 2 most important actions, with a figure related to emissions allocation and a table listing the actions proposed.
12	Nordic Capitals' Declaration on Climate Change	Signed declaration issued ahead of the COP21 in Paris 2015 detailing the mitigation and resilience objectives,
13	Confirmation of Reykjavik's participation in the Blue Flag program (ecolabel) (2018)	Letter of confirmation relating to Blue-Flag, which relates to beaches, marinas and boating tourism operators, stating the requirement for a control visit. Also states results of Blue Flag certification in Reykjavik.
14	Memo (English, 2018) on the Green Accounting in Reykjavik (02.2018)	Document describes ghg trends in the city based on the Green Accounting for 2015-6. Table summarizing various Scope of emissions.
15	Memo (English, 2018) on GHG emissions 2017 Original language report (2018)	Memo shows scope 1 and 2 emissions in 2017. Table on emissions within Reykjavik by scope in the year 2017 measured in tCO ₂ e.
16	BORGARLÍNA Recommendations Screening Report (September 2017)	A report based on the screening process performed for the planning of the regional public transportation system.

17	Memo (English, 2018) on the Energy transition in public transport - scenarios, 1111276-000-MRP-0001 (May 2017)	Outline of the two possible scenarios to achieve a fully electric fleet of buses in Reykjavík by 2040.
18	Memo related to the City Council minutes (Oct 8, 2015) where the agreement was made to utilize BREEAM.	Memo on the agreement to use BREEAM in buildings owned by the City.
19	Memo (English) to the Bicycle Plan 2015-2020 plus original language plan	Document discusses cycling and walking; SUMP; incentives; relevant plans/policies; future plans.
20	Nordic Public Sector Issuers: Position Paper on Green Bonds Impact Reporting (October 2017)	A practical guide on impact reporting for Nordic public sector green bond issuers.
21	National Inventory Report Iceland (2017)	Includes the weighted average GHG emissions from electricity production in Iceland in 2015.

Table 1. Documents reviewed

3 Assessment of Reykjavik’s Green bond framework and environmental policies

Overall, the City of Reykjavik’s green bond framework provides a detailed and sound framework for climate-friendly investments.

The framework and procedures for Reykjavik’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 and resilience 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.

Overall shading

Based on the project category shadings detailed below, and consideration of the issuer’s systematic sustainability work, governance structure and transparency considerations, we rate the framework **CICERO Dark Green**. The issuer has in place an excellent governance structure and process, including climate risk assessment and veto power of environmental experts in the selection process, but lacks specific performance criteria for eligibility in many categories. Instead, the issuer has identified likely projects to be funded and requires projects to align with and move the city towards its climate goal of carbon neutrality.





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
Green buildings	New and retrofitted buildings are expected to have a “Very good” ¹ , “Excellent”, or “Outstanding” BREEAM rating. ² The grading must include the following:	Dark green ✓ For investments into energy efficiency: Should consider the potential of rebound effects for energy consumption.

¹ If a building receives a “Very good” rating it must have a 65% score or higher, based on BREEAM scoring system. Only building projects initiated in 2017 or earlier can have a “Very good” rating, newer buildings will have an “Excellent” or “Outstanding” rating.

² According to the issuer, it is expected that all the buildings under the framework will meet the minimum criteria in the energy efficiency category (ene 1) for excellent rating with energy efficient solutions supplementing the 100% renewable energy supply.

	<ul style="list-style-type: none"> • A screening for climate risk and resilience included in the design. • Electricity and space heating from 100% renewable energy sources. • Solutions for a car-free living and electric charging stations fueled with 100% renewable energy sources. 	<ul style="list-style-type: none"> ✓ Best available technology for energy efficiency should be used. ✓ Construction projects can have potential negative local environmental impacts. ✓ In addition to climate issues, BREEAM covers a broader set of issues, which is important to overall sustainable development.
Energy efficiency 	<p>Project examples:</p> <ul style="list-style-type: none"> • Technologies for reducing energy consumption, e.g. retrofitting led bulbs for street lighting. • Energy efficiency projects cannot include fossil fuel based technologies. 	Dark green <ul style="list-style-type: none"> ✓ Screening process covers assessment of rebound effects.
Clean transportation 	<p>Project examples:</p> <ul style="list-style-type: none"> • Urban rail or Bus Rapid Transit system for public Transport; • Infrastructure for bicycle transport; Infrastructure for EV charging; • Infrastructure for e-bike charging; • Transition to renewable energy in public transport. 	Dark green <ul style="list-style-type: none"> ✓ Potential for emission reduction depends on area planning and degree of urbanization, introduction of new vehicle technologies for passenger and goods transportation, and fuel types. ✓ Screening process covers assessment of potential lock-in effects and life-cycle analysis. ✓ Should avoid fossil-fuel use.
Waste management 	<p>Project examples:</p> <ul style="list-style-type: none"> • Equipment for improving waste processing³; • Waste collection vehicles using renewable energy (such as electricity from hydro or geothermal and hydrogen), or alternative fuels such as methane from landfills; • Increased methane collection from landfills for CNG production for public and private transport⁴. 	Dark green <ul style="list-style-type: none"> ✓ Should avoid lock-in effects due to project screening process. ✓ Incineration or combustion are neither practiced by Reykjavik nor are they planned.
Sustainable land-use / environmental management	<p>Project examples:</p> <ul style="list-style-type: none"> • Wetland reclamation and forestry within the City of Reykjavik's geographical limits⁵; • Document and preserve biodiversity; 	Dark green <ul style="list-style-type: none"> ✓ Consider negative impacts on wildlife, nature and lifecycle pollution. Avoid negative impacts on biodiversity.

³ According to the issuer, the aim is to decrease waste collection frequency and thus fuel consumption.

⁴ According to the issuer, methane is currently collected from landfills, but later could be collected from biogas production from anaerobic digestion of organic waste.

⁵ According to the issuer, projects will have a positive long-term impact to reduce GHG emissions.



- Urban planning for densification of the City of Reykjavik.

Adaptation



Project examples:

- Mapping of risk due to rising sea levels;
- Blue-green/self-sustaining surface water solutions⁶;
- Review of current flood prevention.

Dark green

- ✓ For investments into climate change adaptation: Should consider the implications of climate change on developments along lakefronts, waterfronts and other locations at risk of climate impacts and natural hazards.

Table 2. Eligible project categories

Governance assessment

In assessing the governance quality of the issuer, four aspects are studied: The policies and goals of relevance to the green bond framework (1), the selection process used to identify eligible projects under the framework (2), the management of proceeds (3) and the reporting on the projects to investors (4). Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent.

The overall assessment of the governance structure of the City of Reykjavik gives it a rating of Excellent. Reykjavik has in place strong environmental goals and targets, good mitigation plans, a sound selection process and comprehensive and transparent reporting. Also, although Adaptation is considered a project category in the Green Bond Framework, and climate resilience is supported by this and other project categories, resilience screening could potentially be added to other project categories as well.

Strengths

Governance

It is a strength that the City of Reykjavik takes a holistic approach to sustainable development, evident from its linking of the eligibility categories to the SDGs and the variety of categories included in its GBF. The city has set itself emissions reductions goals to be net carbon neutral by 20407. The GBF also includes adaptation measures, which are based on an initial mapping of climate risks for Reykjavik based on the Covenant of Mayors for Climate and Energy Reporting Guidelines. The City of Reykjavik uses a comprehensive environmental governance and reporting structure indicated by their Green Accounting methods and numerous climate (mitigation and adaptation), environmental policies, and plans which are aligned with each other.

Project selection and decision procedures and responsibilities are identified and there is commitment and procedures to ensure that projects produce long-term positive environmental impacts related to mitigation and/or adaptation. There is a three-step screening where projects are proposed by the City Council and further assessed and selected from by a selection committee before final approval by City Council. It is a strength that the screening of projects is performed jointly with representatives from various sectors and final selection is based on consensus. Environmental expertise is included in the selection committee, selection is based on assessment

⁶ Blue green surface water solutions refer to open storm water solutions.

⁷ Carbon neutrality, as referred to in the Climate Policy of the City of Reykjavik, relates to emissions within the city’s geographical scope.

of environmental impacts and in some cases also involve external environmental expertise. The selection process will also consider potential rebound effects, potential lock-in effects and utilize LCA approaches for assessment. It is also considered a strength that certifications, along with additional criteria, are used for project selection in the Green Building category. It would strengthen the GBF if performance criteria were included also in other categories.

Reporting

The City of Reykjavik has plans to report the impacts of its green bond investments in an annual report which will be made publically available on its website. The report will include information on both an aggregate basis, as well as a project by project basis. The reporting includes financial allocation, as well as environmental impacts using indicators aligned with the Joint Position Paper on Green Bonds Impact Reporting of the Nordic Public Sector Issuers. It is a strength that results of ex-post impacts will also be reported when available, as they are also assessed regularly, and that methodologies will be summarized for transparency.

Project categories

Based on allocation, the Green Bonds will focus mainly on carbon mitigation. An estimated 45-60% of the proceeds will be allocated to clean transportation which will support the shift of public and private transport to be free of direct ghg emissions. This directly deals with the City of Reykjavik's main source of ghg emissions. The framework also mentions potential projects such as wetland reclamation and forestry, urban planning, and various projects in waste management (another significant source of emissions) which will contribute to emissions mitigation.

To support climate resilience, the City of Reykjavik has included Adaptation as an eligible project category and overall risk mapping has already been performed. Although Adaptation is estimated to cover a low share of financed projects, resilience is also supported by other project categories. For example, project examples mentioned within the Sustainable land-use/environmental management category support climate resilience. Due to the resilience screening required for building design of new and retrofitted buildings, the Green Building category, which is estimated to comprise 20-40% of allocated funds, also supports climate resilience. It should be noted that all long-term infrastructure investments, e.g. in waste management, transportation etc. should be screened for climate risk in order to support resilience, along with mitigation.

Controversial projects are not mentioned as ineligible in the GBF, but it is mentioned that projects will not increase fossil fuels use and according to the issuer, investments in nuclear are not relevant for them due to their current abundant energy sources. As the grid is already based on renewable resources and the issuer's projects represent a move towards utilizing the grid, along with other renewable resources, lock-in to fossil fuel supporting infrastructures is not seen as a large risk.

Weaknesses

We find no substantial weaknesses in Reykjavik's Green Bond Framework.

Pitfalls

ENSO takes a long-term view on climate change. One way to better ensure long-term positive effects is through impact assessments and certifications, e.g. in green building. However, these certifications do not necessarily ensure improved energy performance or that resilience aspects are taken into consideration.

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.

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. From the project categories in Table 2, an example is green buildings, energy efficiency or even clean transportation. Reykjavik should be aware of such effects and possibly avoid Green Bond funding of projects where the risk of rebound effects is particularly high.

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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SEI is an independent international research institute that undertakes policy oriented and applied research on environment and development issues. Our innovative, integrated systems research forms the basis for our work on policy advice, capacity development, decision support and implementation of policy and practice. Our mission is to support decision-making and induce change towards sustainable development around the world by providing integrative knowledge that bridges science and policy in the field of environment and development.

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