CICERO
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Second opinion on City of Gothenburg's Green Bond framework

Contents

Summary and conclusions

We acknowledge that City of Gothenburg is taking important steps to reduce its carbon and environmental footprint. Overall, City of Gothenburg's Green Bond framework and supporting environmental policies provide a transparent, comprehensive, long-term and robust approach to investments that promote a transition to low-carbon and climate-resilient growth. City of Gothenburg takes a broad view of climate change impacts in its environmental policies, incorporating life-cycle analysis and the environmental impact of the supply chain. The Green Bond framework lists eligible projects that are supportive of the objective of promoting a transition to low-carbon and climate-resilient growth. The city's policies support regular and transparent updates to investors and the general public.

The Green Bond framework includes a procedure for monitoring and verification of project performance. However, an independent verification of performance and better specification of environmental indicators would be valuable.

The Green Bond framework would benefit from more specified targets for some eligible project categories, e.g. referring to building standards for sustainable housing and whether fossil-based technologies are eligible for public transport investments.

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's Second Opinions are normally restricted to an evaluation of the mechanisms or framework for selecting eligible projects at a general or overall 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 for the outcome of investments in eligible projects.

This note provides a Second Opinion of City of Gothenburg's Green Bond Framework (dated March 2015) and policies for considering the environmental impacts of their projects. The aim is to assess City of Gothenburg's Green Bond Framework as to its ability to support the city's stated objective of low-carbon and climate resilient growth.

Climate change will have a significant impact on economic development, both from the perspectives of sustainable future development pathways and adaptation to changing circumstances. The Intergovernmental Panel on Climate Change report (IPCC, 2013) on the physical science of climate change highlighted the seriousness of human-induced climate effects. The report can be viewed as an immediate call to action on the challenge of reducing greenhouse gas (GHG) emissions. The 195 countries that have ratified the United Nations Framework Convention on Climate Change (UNFCCC) have agreed to reduce GHG emissions to limit global temperature increase to below 2°C. Reaching this target requires shifting development pathways towards low- or zero-emitting economies, and avoiding locking-in high-emitting capital.

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 the second opinion projects likeliness of meeting expectations for a low carbon and climate resilient future.

2. Brief description of City of Gothenburg's Green Bond framework and environmental policies

CICERO produced a first second opinion on City of Gothenburg's Green Bond framework in July 2013. The present (and second) opinion is based on a revised Green Bond framework and the next five new documents listed first in Table 1 (documents 1 to 6), as well as documents 7 to 15 that were used in the previous second opinion.

Table 1. Document overview

Document reference no.	Title
1	City of Gothenburg - Green Bond Framework. March 2015
2	Klimatstrategisk program för Göteborg
3	Översiktsplan för Göteborg
4	Vattenförsörjingsplan för Göteborgsregionen - Samanfattning
5	City of Gothenburg Green Bonds Investor letter
6	Göteborgs Stads miljöprogram 2013
7	Göteborg Vatten bygger Nordens största ultrafilteranläggning
8	Projekt GoBiGas Biogasproduktion genom förgasning
9	Strategi för energieffektivisering i Göteborg Stad till 2014 och 2020
10	Budget 2013
11	Miljö och klimatnämden K2020 – Public transport development program for the Göteborg Region
12	A little book about the environmental work in the City of Gothenburg
13	Miljöbalk 1998.808
14	Miljö och klimatnämndens uppdrag
15	Utvärdering project Tillsynsutveckling i väst

Investments in Green Bonds will be transferred to a special budget account to support the City of Gothenburg's lending to eligible projects. Eligible projects are defined as project categories that in whole or part promote transition to low-carbon and climate resilient growth, in line with the city's environmental program and climate strategy, and as defined by the City of Gothenburg. Eligible projects include mitigation projects as well as adaptation projects, and up to 20 % of investments may be focused on sustainability and environmental targets. Table 2 provides the eligible project categories.

The selection of Green Bond projects is based on Swedish and EU law and the overall environmental strategy of City of Gothenburg. The City Council decides on the Environmental Program and Climate Strategy, as well as making decisions on project investments. The projects eligible for Green Bond funding are jointly selected by the city's Urban Development Office and Treasury Department based on the Environmental Program and Climate Strategy. The Environment Administration verifies the City Office's selection, followed by the Treasury presenting the selected and verified projects for Green Bond funding for the City Executive Board for final approval.

Table 2. Eligible project types for Green Bond investments

Project categories
Renewable energy (solar, wind, wave, bio, waste and hydro)
Energy efficiency
Waste management
Water management
Bio fuel
Smart grids
Sustainable transportation (e.g. public transport, cycle and shipping infrastructure)
Sustainable housing (e.g. infrastructure and construction)
Environmental (max 20 %)
Biodiversity (e.g. development of new or restoration of nature conservation areas)
Water clearing facilities
Air pollution

For transparency an annual investor letter will be made publically available on the city's home page, containing a list of projects financed, more information about some selected project examples, and a summary of the City of Gothenburg's Green Bond development.

The Environment Administration monitors and reports on the implementation of the Environmental Program and the Climate Strategy, based on regular reports from companies and departments to the City Office (Urban Development Office and Treasury Department). The City Office monitors economic development of the projects as well as reports on suitable environmental indicators, and informs investors through letters and annual reports.

3. Assessment of City of Gothenburg's Green Bond framework and environmental policies

In the following the system and procedures for selecting projects for Green Bond funding are assessed, specifically with regard to strengths, weaknesses and potential pitfalls.

3.1 Environmental policies

The procedure for selecting Green Bond projects is briefly outlined in the memo "Green Bond framework" from March 2015 (City of Gothenburg, 2015). This procedure is transparent, fairly standardized, as well as elaborate in terms of the roles of different actors and their responsibilities. City of Gothenburg has developed an ambitious and comprehensive environmental program until 2020 with targets related to climate, sustainable transport, waste management, reduced pollution and health impacts, as well as improved environmental protection and increased biodiversity. The environmental program details more than 200 measures to meet the targets, and lists the responsible committees and bodies. The city has also adopted a climate strategy with a time horizon until 2050 (City of Gothenburg, 2014a). Two specific targets are to reduce the energy use of industry, public buildings and dwellings by 10% in the period 2011 to 2030, and to reduce CO_2 emissions from road transportation by at least 80 % in the period 2010 to 2030. By 2030 all district heating will be based on renewable energy, waste incineration and surplus heat from industry.

3.2 Eligible projects under the Green Bond framework

Table 3 lists the eligible project categories for Green Bond funding with an assessment of the likelihood of meeting the objectives of low carbon and climate resilient growth.

Even reasonably "safe" Green Bond project types may lead to unwanted side effects under certain conditions. The best insurance against negative external effects is a selection procedure delimiting eligible projects to the likely best-performing project categories with respect to climate mitigation and enhanced climate change resilience; thus for supporting sustainable development in general. This requirement is largely fulfilled in the case of the City of Gothenburg.

Table 3. Eligible project types for Green Bond funding and likelihood of meeting objective

Eligible project types	Likelihood of meeting objective
Renewable energy (solar, wind, wave, bio, waste and hydro)	Good, but be aware of the various environmental impacts associated with all renewable energy sources. Observe complex impacts of some biomass energy sources
Energy efficiency	Good, but be aware of possible rebound effects
Waste management	Good to medium. Good practice waste management should recycle resources and reduce methane emissions
Water management	Good. Important given climate change scenarios and higher frequency of extreme weather conditions. Limited effect on mitigation
Biofuel	Good. Observe complex impacts of some biofuels
Smart grids	Good. Potential for more efficient power production and consumption, especially in combination with increased intermittent renewable power generation. Beware of possible rebound effects
Sustainable transportation (e.g. public transport, cycle and shipping infrastructure)	Good. 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. Could specify whether some fossil-based transportation investments (e.g. diesel buses) are eligible
Sustainable housing (e.g. infrastructure and construction)	Good. Important for long-term sustainable development. Also of importance for climate change resilience. Could refer to building standards such as Miljöbyggnad, LEED or BREEAM
Environmental (max 20%)	
Biodiversity (e.g. development of new or restoration of nature conservation areas)	Good. Important for ecosystem conservation and sustainable development
Water clearing facilities	Good. Important given climate change resilience and higher frequency of extreme weather conditions
Air pollution	Good. Measures are not specified

3.3 Strengths

The Green Bond framework includes a comprehensive list of project categories that are important for low-carbon and climate change resilient growth. The City of Gothenburg has comprehensive and ambitious climate and environmental programs with perspectives until 2050. A large number of measures and all responsible committees and bodies are specified in this program. Clear targets for 2030 are specified for sustainable energy production, total energy use, energy use in industry and buildings, emissions from transportation, greenhouse gas emissions related to public procurement of goods and services, and waste generation.

3.4 Weaknesses

It is important to be able 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. The Green Bond framework outlines a procedure for monitoring implementation of projects through reports from companies and departments to the City Office. Economic performance and suitable environmental indicators will be reviewed. However, the environmental indicators are not specified, and there is no information about involving external reviewers.

Even though City of Gothenburg's climate and environmental programs provide some additional information, the Green Bond framework would benefit from more specified targets as compared to present status and expected development for some of the project categories (e.g. biofuels and air pollution). A clear reference level and target facilitate monitoring and verification of project performance.

3.5 Pitfalls

3.5.1 Project types

The complexities and possible negative environmental impacts of some categories of biomass energy developments should be observed. The green bond framework does not specify whether some fossil-based public transportation technologies are eligible. In terms of sustainable housing some type(s) of building standard(s) could be applied.

3.5.2 Macro impacts

Beyond the consideration of specific project types, it is important to evaluate the potential for macro-level impacts of climate activities. Based on the city's climate and environmental programs considerations of macro effects are included in the assessment of Green Bond funded projects.

3.5.3 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. According to City of Gothenburg's climate and environmental programs such considerations are taken well care of.

3.5.4 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 improved energy efficiency, which in part may lead to more energy use. Another example is public support schemes for renewable energy that increases energy supply, leads to a reduced energy price and thus more energy consumption. Such effects can never be entirely avoided. City of Gothenburg should be aware of such effects and possibly avoid Green Bond funding of projects where the risk of rebound effects is particularly high.

3.6 Transparency and monitoring, reporting and verification

According to the City of Gothenburg's Green Bond procedure, an overview of Green Bond projects, more detailed information about some project examples, and a summary of the city's Green Bond development will be available through an annual investor letter, to be made publicly available at the city's home page.

References

City of Gothenburg (2015), Green Bond framework – March 2015. Memo.

City of Gothenburg (2014a), Klimatstrategisk program för Göteborg.

City of Gothenburg (2014b), City of Gothenburg Green Bond Investor letter.

City of Gothenburg (2013), Göteborgs Stads Miljöprogram 2013.

City of Gothenburg (2010), Gothenburg and the environment - A little book about the environmental work in the City of Gothenburg.

City of Gothenburg (2009), Översiktsplan för Göteborg. Del 1 – Utgångspunkter och strategier.

City of Gothenburg (2008), K2020 - Public transport development program for the Göteborg Region.

Göteborg Energi (2011), Projekt GoBiGas – Biogasproduktion genom förgasning, Beslutsärende, 29 September.

Göteborgsregionens kommunalförbund (2014), Vattenforsörjingsplan för Göteborgsregionen - Samanfattning, May.

Göteborg Stad (2012), Budget 2013 – Miljö och klimatnämnden, R 2012:25.

Göteborg Stad (2011), Strategi för energieffektivisering i Göteborg stad till 2014 och 2020, R 2011:17.

Göteborg Vatten (2012), Göteborg Vatten bygger Nordens största ultrafilteranläggning, Presskonferens 18. september.

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

Miljö- och klimatnämnden (2011), Miljö- och klimatnämndens uppdrag.

Svensk författningssamling (1998), Miljöbalk, SFS 1998:808.

Swedegroup (2013), Utvärdering project Tillsynsutveckling i väst, Delrapport 13-02-19.