

'Second Opinion' on Västerås Stad's Green Bond Framework

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Summary

Overall, Västerås Stad's Green Bond Framework provides a clear and sound framework for climate-friendly investments. The framework lists eligible categories of projects that are supportive of the objective of promoting a transition to low-carbon and climate-resilient growth and is supported by a strong governance structure. Västerås Stad has reduced its emissions substantially and has the ambition to continue the decline in emissions in order to meet a reduction target of 60 percent in 2020. The municipality was awarded first place in an annual rating of municipalities on environment in Sweden in 2016.

Climate change related projects will make up 80% of the projects, with the remaining 20% going to environmental management projects related to nature conservation. The framework does explicitly exclude nuclear power and fossil fuel energy projects with the exception of minor plastic fractions in waste-to-energy power stations.

Based on the overall assessment of the project types that will be financed by the green bond and governance and transparency considerations, Västerås Stad's Green Bond Framework gets a Dark Green shading. The dark green shading was achieved only after some careful considerations. Västerås Stad's would benefit from a higher ambition for some of the project categories (e.g. building sector) and a clearer requirement of impact reporting against standard indicators and external review or verification.

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 in regard to single projects. CICERO is neither responsible for how the framework or mechanisms are implemented and followed up by the institutions, nor the outcome of investments in eligible projects.

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

This Second Opinion is based on the green bond framework presented to CICERO by the issuer. Any amendments or updates to the framework require that CICERO undertake a new assessment.

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

Expressing concerns with 'shades of green'

CICERO Second Opinions are graded dark green, medium green or light green, reflecting the climate and environmental ambitions of the bonds and the robustness of the governance structure of the Green Bond Framework. The grading is based on a broad qualitative assessment of each project type, according to what extent it contributes to building a low-carbon and climate resilient society:

- 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 Västerås Stad's Green Bond Framework and Rules and Procedures for Climate-Related Activities

Västerås is a municipality in central Sweden, located on the shore of Lake Mälaren in the province Västmanland, around 100 kilometres from Stockholm. With its 145 000 inhabitants the municipality is the sixth largest in Sweden.

The City of Västerås aims with its green bonds program to reduce environmental impact and promote the transition to low carbon and climate resilient growth. Västerås Stad has in place ambitious climate visions and goals. According to its climate plan adopted in 2012 greenhouse gas emissions should be reduced by 60 percent by 2020 from its level in 1990. In 2050 emissions should only be one ton per person. Within the organisation of the municipality there should be no net emissions in 2050, and 60 percent reductions should be achieved by 2020 compared to 2009 level.

Green Bond eligible projects include both mitigation and adaptation projects. But also to a smaller extent (max 20%) projects which are related to environmental preservation rather than directly climate related will be eligible under the framework.

To enable investors to follow the development and provide insight to prioritised areas, Västerås Stad will provide an annual investor letter to investors that includes a list of projects financed, a selection of project examples with impact reporting and a summary of Västerås Stads's Green Bond development. This investor letter will be made publically available on Västerås Stad's web page. The processes for allocation of use of proceeds, tracking and management of funds will be part of Västerås Stad's annual internal control.

The Chief Financial Officer and the Treasurer together with the Department for Sustainability within the City Executive Office decide by consensus which projects are eligible for green bond financing.

Västerås Stad's Green Bonds can be used to finance new projects but also refinance projects. The ambition is however to use the majority of the Green Bond proceeds to finance new projects.

According to the Green Bond framework the net proceeds from the issue of green bonds shall be credited to a separate account. As long as green bonds are outstanding and proceeds from issues are available on a separate account, the City of Västerås shall, at the end of every fiscal tertial, deduct funds from the separate account in an amount equal to disbursements through Green Projects made during such tertial. Until disbursement to Green Projects, the separate account balance will be placed in liquidity reserves.

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

Table 1: Documents Reviewed

Document Number	Document Name	Description
1	Västerås Stad - Ramverk för gröna obligationer 16th September 2016	Green Bonds Framework official version in Swedish
2	City of Västerås - Green Bonds Framework	Green Bonds Framework English translation
3	Beskrivning av Västerås stads ledning och styrning av miljöarbetet	A description of the issuers management of environmental issues with links to further information and documents relevant for the implementation of the green bond framework such as Climate Strategy 2012 (Klimatprogram) and a more detailed Action Plan 2012 (Handlingsplan).

3. Assessment of Västerås Stad’s Green Bond framework and environmental policies

Overall, Västerås Stad’s green bond framework provides a detailed and sound framework for climate-friendly investments. The framework and procedures for Västerås Stad’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”.

Table 2 Eligible project categories

Category	Eligible project types	Green Shading and some concerns ¹
Renewable energy	<ul style="list-style-type: none"> ▪ wind power ▪ solar power ▪ bioenergy (from forest waste and household waste) ▪ thermal energy 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ Consider life cycle emissions, and avoid negative impacts on biodiversity of particular importance for wind projects. ✓ The issuer has informed us that only locally produced bio waste is eligible. Peat will not be eligible. ✓ Potential for heavy metal pollution in thermal energy projects.
Energy efficiency	<ul style="list-style-type: none"> ▪ district heating/cooling ▪ energy recovery ▪ energy storage ▪ smart grids 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ Be aware of possible rebound effects. Good practice waste management should recycle resources.
Sustainable transportation	<ul style="list-style-type: none"> ▪ public transportation ▪ pedestrian and bicycle paths ▪ electrical vehicles ▪ logistics solutions which lead to reduced climate footprints from transportation of goods and people 	<p>Dark Green</p> <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

¹ Note: 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.

		types. No projects that include fossil fuel are eligible.
Sustainable commercial and residential properties	<ul style="list-style-type: none"> ▪ minimum certification of LEED gold, BREEAM very good, Miljöbyggnad silver or Svanen and at least 25% less energy usage than required by current regulations (Boverkets byggregler, BBR) ▪ major renovations leading to a reduced energy usage of at least a 35% or that compliance with current regulations for new buildings (Boverkets byggregler, BBR) is achieved 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ Building criteria are considered adequate but may not reflect best available technology nor the highest level of standards possible in Sweden. ✓ In addition to climate issues, BREEAM and LEED cover a broader set of issues, which is important to overall sustainable development.
Waste Management	<ul style="list-style-type: none"> ▪ recycling and re-use, rehabilitation of contaminated land 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ combustion of plastic fractions is not eligible under this category (see energy recovery category)
Water and waste water management		<p>Dark Green</p> <ul style="list-style-type: none"> ✓ Important given climate change scenarios and higher frequency of extreme weather conditions.
Climate adaptation measures	<ul style="list-style-type: none"> ▪ in buildings ▪ infrastructure ▪ sensitive habitats 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ Important given climate change scenarios and higher frequency of extreme weather conditions. ✓ Potential for good synergies with mitigation actions and opportunities
Environmental measures in other fields than climate mitigation and climate adaptation	<ul style="list-style-type: none"> ▪ Nature conservation ▪ Biodiversity ▪ Development of non-toxic environments ▪ Sustainable agriculture ▪ Improving eco-system services 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ Max 20 percent. Good for environment as a whole. Very broad category. No climate mitigation objective

Strengths

Västerås Stad has in place ambitious climate policies. Within the organization of the municipality, emissions have been reduced by 40 percent since 2009, while emissions in the geographical scope of the municipality have declined by 40 percent since 1990 adjusted for population growth. The ambition is to continue the decline in emissions and meet a reduction target of 60 percent in 2020. The municipality was awarded first place in an annual rating of municipalities on environment in Sweden in 2016²

CICERO takes a long-term view on climate change, and thus recommends excluding projects that support prolonged use of fossil fuel-based infrastructure that will contribute to GHGs in the long run. City of Västerås has explicitly stated in their green bond framework that they will not finance nuclear power or fossil fuel energy projects with the exception of minor plastic fractions in waste-to-energy power stations.

The backbone of the governance structure is the Västerås Stad Green Bond Framework. The Bond framework includes a comprehensive list of project categories that are important for low-carbon and climate change resilient growth.

Västerås Stad has a good structure for approval of projects in place that ensure environmental integrity. Eligible projects have to be approved by consensus by the Chief Financial Officer and the Treasurer together with the Department for Sustainability within the City Executive Office. The issuer has informed us that environmental aspects and social benefits of the projects will be well documented, in the selection process before a final decision is taken. Depending on the type of green bond projects the issuer will consider lifecycle analysis. All contracts Västerås Stad enters into, appropriate sustainability performance will be required from its subcontractors. Selection and decision procedures and responsibilities could however be identified a bit clearer. The framework would gain from some more details on describing who will select eligible projects to be approved and procedures for how and how often (in addition to whom) the approval will happen.

Weaknesses

We find no obvious weaknesses in Västerås Stad's Green Bond framework.

Pitfalls

The use of biomass and waste for energy purposes represents a potential pitfall when it comes to supporting a low carbon and climate resilient future. Västerås Stad has informed us that only locally produced biomass (forest waste and household waste) will be used. The combustion of waste in order to produce energy will qualify for green bond financing under the energy recovery project type. The waste will not only have a local origin but will also be imported from other countries in Europe (today mostly from UK). In their 2015 climate reporting Mälarenergi's, energy company owned by the municipality, the company argues that the imported waste from UK would end up in landfills if not combusted in Västerås.

² <http://kommunrankning.miljobarometern.se/>

Incineration with energy recovery is a sound environmental and climate friendly option to divert waste away from landfills, but should be combined with ambitious recycling policies. In particular, a high focus on recycling fossil fuel waste into new materials is needed. Due to transport related emissions and plastic fractions in the waste these energy recovery projects get a medium green rating.

The buildings sector accounts for 40% of primary energy consumption in most International Energy Agency (IEA) member countries (IEA/UNDP, 2011). Energy efficiency improvements in buildings are thus important building blocks for reaching the 2 degree climate change goal. Västerås Stad applies criteria for both new buildings and in renovation of existing buildings with energy efficiency requirements over and above status quo. In addition, voluntary environmental certifications such as LEED, BREEAM, or equivalent are preferred. These certifications provide some level of measurement of the environmental footprint of a building, including energy efficiency measures. The Green Bond framework would benefit from a clearer requirement that best environmental technology is used in eligible green bond building projects. Voluntary certifications could be required and the classification level of projects could be increased to reflect best available technology in Sweden.

In a low carbon 2050 perspective the energy performance of buildings, is expected to be improved, with passive house technology becoming mainstream and the energy performance of existing buildings greatly improved through refurbishments.

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 improved energy efficiency, which in part may lead to more energy use. Västerås Stad should be aware of such effects and possibly avoid Green Bond funding of projects where the risk of rebound effects is particularly high.

Transparency, monitoring, reporting and verification

Impact reporting is an important tool to enhance transparency in regard to 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. The Green Bond framework outlines a procedure for reporting: an overview of Green Bond project, more detailed information about some project examples, and a summary of the Green Bond development will be available through an annual investor letter, to be made publically available at a dedicated website. Also, the principle of free access to public records applies. These enable all stakeholders to have broad insight.

Västerås will encourage and promote impact reporting and will provide that to the largest extent possible. The Green Bond framework would benefit from a clearer requirement of impact reporting against standard

indicators and external review or verification. The processes for allocation of use of proceeds, tracking and management of funds will be part of Västerås Stad's annual internal control.

References

ICMA (2015) Green Bond Principles

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

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>