

‘Second Opinion’ on Vasakronan’s Green Bond Framework

25 April 2017

Summary

Overall, Vasakronan's Green Bond Framework provides a clear and sound framework for climate-friendly investments. The framework lists eligible categories of assets 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. Vasakronan is certified in accordance with the ISO 14001 standard and follows the principles of UN Global Compact. The company's Environmental Policy highlights a holistic approach to sustainable development, which includes life-cycle assessment of resource use. Vasakronan also requires suppliers to follow their Environmental Policy and works actively with tenants to reduce their environmental footprint.

Since 2009, Vasakronan has improved its building's energy performance by 50 percent. The average energy usage in all assets has been reduced to 110 kWh per square meter. In addition, Vasakronan had certified 77 percent of its building stock by 31 December 2016, mostly according to the LEED rating system. Vasakronan was the first corporate to issue a green bond in 2013. The new framework assessed here stipulate a LEED "Platinum" or BREEAM-SE "Outstanding" level for new constructions and ambitious energy saving targets for refurbishment together with good waste and water management targets. Voluntary environmental certifications such as LEED, BREEAM, or equivalents provide some level of measurement of the environmental footprint of a building, including energy efficiency measures. In a low carbon 2050 perspective the energy performance of buildings is expected to be improved, with passive and plus house technologies becoming mainstream and the energy performance of existing buildings greatly improved through refurbishments. Vasakronan is not quite there yet, but is taking solid steps towards this long-term vision. Proceeds from Vasakronan's green bonds will not be used to finance any fossil fuel or nuclear power projects.

GRESB is an investor-driven organization committed to assessing the ESG performance of real assets globally. More than 250 members, of which more than 60 are pension funds and their fiduciaries, use the GRESB data in their investment management and engagement process, with a clear goal to optimize the risk/return profile of their investments. GRESB has rated Vasakronan "Green Star" every year since 2013. This is testimony to Vasakronan's implementation of green values throughout its governance structure, and its willingness to be a green leader for an important sector in Sweden.

Energy performance, water intensity and quantity of certified properties are reported quarterly and in the company's annual report and on its web site.

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

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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.

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 and ENSO 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 Vasakronan's Green Bonds Framework and policies for considering the environmental impacts of their projects. The aim is to assess Vasakronan Green Bonds Framework as to its ability to support Vasakronan's stated objective of promoting the transition to low-carbon and climate resilient growth.

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 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.

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

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

In November 2013 Vasakronan became the first company in the world to issue a corporate green bond. Vasakronan is the largest property company in Sweden. The Company has operations in Stockholm and Uppsala on the east coast, and Gothenburg and Öresund on the west coast of Sweden. Vasakronan's assets include 179 properties with a total area of 2.4 million square meters. These assets were valued at SEK 116 billion (December 31, 2016). Vasakronan is jointly owned by the Four Swedish National Pension Funds.

Vasakronan is certified according to ISO 14001. Since 2009 Vasakronan has improved its building's energy performance by 50 percent. According to the Company, as per December 31 2016, Vasakronan has reduced the average energy usage in all assets to 110 kWh per square meter. 77 percent of its building stock is certified mostly according to the LEED rating system. Vasakronan's sustainability work is based on the ten UN Global Compact principles.

The results of Vasakronan's sustainability work are reported in the annual report and are available on the company's web page. Energy performance, water intensity and quantity of certified properties are reported quarterly.

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

Table 1: Documents Reviewed

Document Number	Document Name	Description
1	Vasakronan - Green Bonds Framework. Dated 23 March, 2017	Green Bonds Framework official version
2	Summary of Vasakronan's Sustainability Data 2015	
3	Vasakronan's annual report 2015	

3 Assessment of Vasakronan’s Green Bond framework and environmental policies

Overall, Vasakronan’s green bond framework provides a detailed and sound framework for climate-friendly investments. The framework and procedures for Vasakronan’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 assets categories

Category	Eligible project types	Green Shading and some concerns
1. New construction and major renovation owned and managed by subsidiaries of Vasakronan	Buildings that have an energy performance at least 25% below current building standards and that have or will receive a certification of either: <ul style="list-style-type: none"> ✓ LEED NC “Platinum” ✓ BREEAM-SE “Outstanding” 	Dark to Medium Green <ul style="list-style-type: none"> ✓ Building criteria are good. ✓ In addition to climate issues, BREEAM and LEED cover a broader set of issues, which is important to overall sustainable development. ✓ These certification levels alone, however, do not necessarily ensure passive or plus housing, however the 25% requirement is a step in this direction.
2. Existing buildings owned and managed by subsidiaries of Vasakronan	Buildings with an energy performance under 100 kWh/sqm and that either have a certification from the construction phase (as stated in section 1 above) that is not older than ten years old, or have received LEED EB:OM certification (minimum certification “Gold”). Examples of activities that will be performed to obtain the	Dark to Medium Green <ul style="list-style-type: none"> ✓ 100 kWh/sqm is a relatively high performance.

certifications as existing buildings
are (see below):

- | | |
|---|--|
| <ul style="list-style-type: none"> ✓ Building energy retrofits (Equipment upgrades, lighting/heating, ventilation and air conditioning (HVAC) or deep retrofits – systems/envelope) | <ul style="list-style-type: none"> ✓ Be aware of possible rebound effects. |
| <ul style="list-style-type: none"> ✓ Onsite renewable energy generation powering the building and/or distributed to the grid (Solar, wind, geothermal) | <ul style="list-style-type: none"> ✓ This is very good. |
| <ul style="list-style-type: none"> ✓ Offsite renewable energy purchase | |
| <ul style="list-style-type: none"> ✓ Peak load demand reduction (Thermal energy storage, batteries and demand response systems) | |
| <ul style="list-style-type: none"> ✓ Sustainable waste management to ensure better recycling rates | |
| <ul style="list-style-type: none"> ✓ Minimize potable water consumption/disposal (Capture or recycle storm water, implement vegetated/green roofing, no potable water in landscaping, water metering/monitoring systems) | |
| <ul style="list-style-type: none"> ✓ Incorporate clean transportation infrastructure (Electric vehicle charging stations, bike facilities) | |
| <ul style="list-style-type: none"> ✓ Climate risk analysis and adaptation of buildings to cope with estimated climate change within the coming 50 years (ex. roofs withstanding greater snow loads, onsite storm water capacity) | <ul style="list-style-type: none"> ✓ Important given climate change scenarios and higher frequency of extreme weather conditions. |

Proceeds from Vasakronan's green bonds will cover both new investments and refinancing. They will not be used to finance any fossil fuel or nuclear power projects.

Strengths

Use of Proceeds

The Green Bond framework includes a comprehensive list of assets categories and actions that are important for low-carbon and climate change resilient growth. Eligible Green Bond Assets will together form the Green Pool. It follows from the framework that assets in category 1 (New buildings) will correspond to invested amount, while assets in category 2 (existing buildings) will correspond to market value, at time of the issuance, less debt from other sources, if applicable. Accredited appraisers determine the market value twice a year.

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. Vasakronan's exclusion of fossil fuel projects is a clear strength in this perspective. Also, the stringent criteria used for classification and otherwise, is a clear strength. Finally, adaptation activities are important and can provide strong synergies with mitigation actions.

Process for Project evaluation and Selection

Vasakronan has ambitious climate policies. It is a strength that Vasakronan explicitly states in their framework that they are aware that enhancing the operations and maintenance of the existing buildings by lowering the energy consumption, shifting to renewable energy sources and combating emissions from transportation and travel represent the greatest opportunities to reduce the environmental impact of their buildings portfolio. The company's Environmental Policy highlights a holistic approach to sustainable development, which includes life-cycle assessment of resource use. Vasakronan also requires suppliers to follow their Environmental Policy and works actively with tenants to reduce their environmental footprint. These are clear strengths helping to secure the environmental integrity of Vasakronan's Green Bond Framework.

GRESB is an investor-driven organization committed to assessing the ESG performance of real assets globally. More than 250 members, of which more than 60 are pension funds and their fiduciaries, use the GRESB data in their investment management and engagement process, with a clear goal to optimize the risk/return profile of their investments. GRESB has rated Vasakronan "Green Star" every year since 2013. This is testimony to Vasakronan's implementation of green values throughout its governance structure, and its willingness to be a green leader for an important sector in Sweden.

Voluntary environmental certifications such as LEED, BREEAM, or equivalent are required by the issuer to qualify for green bond financing. These certifications provide some level of measurement of the environmental footprint of a building, including energy efficiency measures. In a low carbon 2050 perspective the energy performance of buildings is expected to be improved, with passive or plus house technologies becoming mainstream and the energy performance of existing buildings greatly improved through refurbishments. Vasakronan is not quite there yet, but is taking solid steps towards this long-term vision.

Vasakronan has a good structure for approval of projects in place that ensure environmental integrity and a life cycle perspective of building projects. The selection of eligible assets is handled by a committee consisting of members from the Treasury department and the Corporate Social Responsibility department. Their decisions are documented and the Head of CSR has the opportunity to veto every decision.

To ensure legitimacy in the selection process, an updated list of the assets in the Green Pool is kept by the Treasury team. The list will be used as a working tool to determine if there is headroom to issue a Green Bond. Such issuance will require that there is an existing capacity to utilize the net proceeds in accordance to the Green Bond Framework and Vasakronan's financial policy.

Management of Proceeds

An amount equal to the net proceeds of the issue of the Green Bonds will be credited to a Special Account that will support Vasakronan's financing of Eligible Assets. The proceeds in the Special Account is kept separate from other bank accounts to ensure and enable separate monitoring and tracking of the Green Bond proceeds. A transfer is allowed from the Special Account if the value of the Green Pool exceeds the nominal amount of outstanding Green Bonds.

If for any reason, a property would not reach the anticipated certification level or is sold, that asset will be removed from the Green Pool and replaced by an asset that qualifies in accordance with the Green Bond framework.

Vasakronan will document the transfers to and from the Special Account, to ensure tracking and simplify review. The Use of Proceeds from the Special Account is being reviewed by the company's accountants annually.

Vasakronan will disclose the amount equal to the net proceeds not yet allocated to Eligible Green Projects and Assets, which is temporarily held by Vasakronan in form of cash or time deposit with banks. An external auditor reviews the Special Account balance on an annual basis.

CICERO finds the management of proceeds to be in accordance with the Green Bond Principles.

Reporting

The Green Bond framework outlines a procedure for providing a detailed investor report. The annual report will contain a list of assets in the Green Pool, more detailed information about some project examples, a summary of the Green Bond development and an estimate of the share of financing of new projects versus re-financing of existing buildings.

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. We are very encouraged to see that to the extent data is available per asset Vasakronan will report the type of certification and level, energy performance (kWh per sqm), CO₂-emissions (Scope 1 and 2), waste diverted from landfills during the construction phase or diversion rates for waste collected from tenants and water intensity.

If an Eligible Asset is not fully financed/refinanced with net proceeds from Vasakronan Green Bond, Vasakronan will disclose the entire project and highlight the part financed/refinanced by net proceeds from Vasakronan Green Bond. Vasakronan will only account for the net proceeds and impact in relation to the amount financed/refinanced by Vasakronan Green Bonds in its' Green Bond reporting.

The investor reports will be included in the annual report and will also be available on Vasakronan's webpage. The reports will be reviewed and verified by the company's accountants.

In conclusion, CICERO finds the reporting and monitoring to be transparent and comprehensive.

Weaknesses

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

Pitfalls

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. Vasakronan should be aware of such effects and possibly avoid Green Bond funding of projects where the risk of rebound effects is particularly high. Their program to work with tenants to help reduce energy use will counter any rebound effects.

Appendix: About CICERO and ENSO

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 inter-national 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 inter-national 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-car-bon 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.

cicero.oslo.no/greenbonds

