

‘Second Opinion’ on Vasakronan’s Green Bond Framework

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Summary

Overall, Vasakronan's Green Bond Framework and supporting environmental policies provide a transparent and robust approach to investments that promote a transition to low-carbon and climate-resilient growth. Vasakronan takes a holistic view of climate change impacts in its corporate environmental policies, incorporating life-cycle analysis of raw materials, and the environmental impact of the supply chain. The Green Bond Framework lists eligible projects that are generally supportive of the objective of promoting a transition to low-carbon and climate-resilient growth.

While the highest certification ratings for new buildings and renovations of existing buildings are not always achieved, Vasakronan recognizes some of the limitations of environmental certification systems. Vasakronan supplements the certification criteria with additional considerations for site selection and recycled materials. Vasakronan also offers Green Leases, which is a progressive approach to working with tenants to reduce their environmental footprint and address the potential for rebound effects.

Vasakronan's policies support regular and transparent updates to investors and the public. The lack of supply-chain adherence to corporate policies is being addressed through a new Code of Conduct for suppliers with monitoring for compliance with Vasakronan's environmental policies.

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

Climate change will have a significant impact on economic development, both from the perspectives of sustainable future development pathways and adapting to changing circumstances. The recently released 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.

1.1. Buildings sector considerations

Vasakronan's business focuses on the buildings sector, with energy efficiency projects as a key component to the Green Bond Framework. The buildings sector consumes the most energy globally, accounting for over 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 towards reaching the 2°C goal.

Many energy efficiency options are cost-efficient in theory, but can face practical challenges to implementation. According to the World Energy Outlook 2013, over 80% of the economic potential to improve energy efficiency will remain unrealized in the next two decades. This untapped potential is largely due to non-technical barriers, such as ownership structure –a building owner does not face the same incentives for efficiency improvements as tenants that are responsible for paying electricity bills.

Another consideration is that energy efficiency improvements can reduce greenhouse gas emissions in the short-term, but can also have the counter-effect of increasing emissions over the long-term, by depressing prices that trigger increased demand and emissions from energy use. This effect is known as the 'rebound effect'. CICERO takes a long-term view on energy efficiency, which encourages energy efficiency improvements but with careful consideration of projects where the potential for rebound effects is high.

1.2. Environmental certification systems for buildings

Several voluntary environmental certification systems provide some level of measurement of the environmental footprint of a building, including energy efficiency measures. The most widely used certification system is Leadership in Energy and Environmental Design (LEED), although many other country-specific systems exist.

LEED ratings originated in the United States but are the most widely used globally. A LEED rating is determined by the number points earned in the project check-list. A higher number of points earns a higher rating, with some requirements for each rating level. Although the LEED certification system does not have a site selection prerequisite, the sustainability of building site selection, including the urban density and access to public transportation, accounts for 10% of the total points possible.

In the United Kingdom, the BREEAM ratings work in a similar manner to the LEED ratings. BREEAM SE is the Swedish adaptation of this system. BREEAM also includes a comprehensive consideration of environmental and energy issues associated with buildings, including a category on land use and site selection. A rating is issued based on points earned, similar to LEED, with minimum requirements for some environmental issues.

The Miljöbyggnad certification system is specific to Sweden. The system involves a preliminary rating which is then verified in the finished building. This system is more detailed than LEED or BREEAM SE in some aspects such as the calculation of energy efficiency.

While these voluntary certification systems can improve the environmental footprint of buildings and raise awareness of environmental issues, they fall short of guaranteeing an environmentally-friendly building. For each of these certification systems, points are accumulated for environmental measures which result in a rating level. However points can be earned for activities that do not have a direct impact on the climate or the environment, e.g. through the reduction of noise pollution, or by the use of a trained environmental professional. Likewise, it is possible to achieve the highest ratings without consideration of critical climate change issues such as site selection, land use, and the building's relation to urban density and public transportation. Further, neither the BREEAM nor the Miljöbyggnad systems consider the environmental impact of site selection and urbanization considerations.

2. Brief Description of Vasakronan's Green Bond Framework and Environmental Policies

Vasakronan, a real-estate property company, has a stated mission of providing high and risk-weighted returns on real estate assets in Sweden. It also aims to conduct business with respect to ethics and the environment.

Vasakronan's investment framework includes a Green Bond Framework, which is supported by the company's environmental vision, policies, and code of conduct. These documents that can impact the environmental soundness of the company's investments are described briefly in this section.

The company's Environmental Policy highlights a holistic approach to sustainable development, which includes life-cycle assessment of resource use. Vasakronan also requires their suppliers to follow the Environmental Policy.

Vasakronan's Code of Conduct is based on the UN Global Compact principles. The relevant UN environmental principles are:

- Principle 7: Businesses should support a precautionary approach to environmental challenges.
- Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility.
- Principle 9: Businesses should encourage the development and diffusion of environmentally friendly technologies.

The Code of Conduct also notes that Vasakronan uses only renewable energy. It also states that Vasakronan actively works with tenants to choose sustainable resources.

Vasakronan’s Green Bond Framework includes a list of eligible mitigation and adaptation projects that support low-carbon climate resilient growth (see Table 1). LEED certifications are sought for all larger buildings, with a minimum certification of “gold” for new buildings and rehabilitations. If a tenant requires a different certification, e.g. BREEAM or Miljöbyggnad, then Vasakronan will still develop these buildings according to LEED standards.

Table 1: Eligible Projects

Category		Eligible project types
Mitigation	Energy efficiency	<ul style="list-style-type: none"> • Certified commercial properties <ul style="list-style-type: none"> ○ New construction <ul style="list-style-type: none"> - LEED (minimum certification “gold”) - BREEAM (minimum certification “very good”) - Miljöbyggnad (minimum certification “silver”) ○ Rehabilitation or major renovations of existing buildings <ul style="list-style-type: none"> - LEED (minimum certification “gold”) - BREEAM (minimum certification “very good”) - Miljöbyggnad (minimum certification “silver”) • Investments in energy efficiency (ex. better insulation, lightning systems, heat recovery)
	Other mitigation	Green IT
	Renewable energy generation	Renewable onsite energy (ex. photovoltaic)
	Water	Water management
	Transportation	Infrastructure for electric cars
Adaptation		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)

Vasakronan’s environmental procedures also include a mechanism for reporting and compliance. The Green Bond Framework also stipulates that investors will receive an annual letter listing the projects financed. These letters will be made publically available on Vasakronan’s webpage. In addition, an annual Sustainability Report is issued by Vasakronan and made available publically on the website. This report provides updates on progress towards environmental goals. Internal and external audits are conducted on an annual basis to ensure compliance with ISO 140001 for Environmental Management Systems. The Environmental Vision identifies an internal Compliance Officer who is responsible for ensuring that employees and external suppliers follow environmental regulations and policies.

3. Assessment of Vasakronan's Green Bond Framework and Environmental Policies

Overall, Vasakronan's green bond framework and environmental policies provide a progressive, clear and sound framework for climate-friendly investments.¹ The framework and procedures for Vasakronan's environmental investments are assessed according to both the micro or project level impacts and the macro-level impacts in this section.

3.1.1. Corporate environmental policies

The company's Environmental Policy focuses on sustainable resource use. Vasakronan incorporates life-cycle analysis of materials, as highlighted in the Sustainability Report. The company also reflects the UN Global Compact in the Environmental Policy, through considering the environmental impact of the supply chain (principle #8).

One aspect that Vasakronan could improve would be to increase renewable energy use by tenants in its buildings. As per Vasakronan's Code of Conduct, the company itself uses only renewable energy, and works with tenants to choose renewable energy. However since Sweden is largely reliant on electricity production from non-GHG-emitting sources, such as nuclear and hydro, this is not likely to have a significant impact on GHG emissions (IEA, 2013).

3.1.2. Eligible projects under the Green Bond Framework

The eligible projects listed in the Green Bond Framework are generally supportive of Vasakronan's identified objective of promoting a transition to low-carbon and climate-resilient growth. Table 2 below shows the likelihood of meeting the climate objective for each project category.

According to the Green Bond Framework, Vasakronan will invest in new buildings and renovations of existing buildings that, at a minimum, achieve "gold" ratings with the LEED certification system, and certifications with the BREEAM SE and Miljöbyggnad systems when required by tenants. Personal communication with Vasakronan confirmed that for new construction they seek the highest "platinum" LEED ratings, and "gold" at the very least, and for rehabilitations increased complexities can hinder certifications higher than "gold".

While higher ratings could be achieved, the certification systems do not guarantee a low climate impact. Vasakronan is aware of some of the limitations of buildings certification systems (see Section 2.1.1), i.e. that the highest possible ratings can be achieved through points earned from building aspects that are not directly climate-related. For this reason, Vasakronan supplements the LEED certifications with their additional pledge that buildings eligible for Green Bonds must be located in developed areas and with good

¹ Vasakronan's attention to environmental issues is reflected in a corporate energy use that is 47% below the industry average, and use of only renewable energy. Vasakronan has also been a climate neutral company since 2008, offsetting remaining emissions through CDM credit purchases.

access to public transportation. In addition Vasakronan seeks the highest points possible for use of recycled materials in rehabilitation projects. The certification for new commercial properties is also supported by Vasakronan's adherence to the UN Global Compact principle #9, which encourages the use of 'best-available technology', the reuse of materials, and reduced use of raw materials.

Vasakronan's Green Bond Framework also includes green information technology (IT) as eligible projects. These investments target faster and energy efficient internet connections for its tenants. The aim is for cloud-based solutions that would reduce cooling demand to stationary servers. Vasakronan also implements computerized regulating systems in their buildings, allowing for collection and monitoring of energy use data.

Table 2: Eligible Projects and Likelihood of Meeting Objective

Category		Eligible project types	Likelihood of Meeting Objective
Mitigation	Energy efficiency	<ul style="list-style-type: none"> • Certified commercial properties <ul style="list-style-type: none"> ○ New construction <ul style="list-style-type: none"> - LEED (minimum certification “gold”) - BREEAM (minimum certification “very good”) - Miljöbyggnad (minimum certification “silver”) ○ Rehabilitation or major renovations of existing buildings <ul style="list-style-type: none"> - LEED (minimum certification “gold”) - BREEAM (minimum certification “very good”) - Miljöbyggnad (minimum certification “silver”) • Investments in energy efficiency (ex. better insulation, lightning systems, heat recovery) 	Good. LEED and other certifications include aspects important to long-term sustainable development, e.g. site selection and consideration of brownfields, urban density and planning, and access to public transportation. While higher ratings could be achieved, the certification systems do not guarantee a low climate impact. Vasakronan recognizes this and supplements the ratings by seeking the highest points for site selection and recycled materials. Potential rebound effects with tenants are addressed through the Green Lease program.
	Other mitigation	Green IT	Good. Energy efficient internet connections and moving to cloud-based solutions can reduce energy use and cooling demand.
	Renewable energy generation	Renewable onsite energy (ex. photovoltaic)	Good. Mitigation impact depends on replacement energy type, which partly includes fossil fuels in Sweden.
	Water	Water management	Good. Important given climate change scenarios and higher frequency of extreme weather conditions. Limited effect on mitigation, although reduction in hot water use reduces energy use.
	Transportation	Infrastructure for electric cars	Good. Potential for emission reduction depends on degree of urbanization, fuel type, and competition with private transportation.
Adaptation		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)	Good. Higher frequency of extreme weather events expected from climate change. Risk analysis and adaptation of buildings can reduce impacts and costs of events.

3.1.3. Macro impacts of projects

Beyond the consideration of specific project types, it is important to evaluate the potential for macro-level impacts of climate activities. Vasakronan's policies take a progressive approach to considering macro-issues such as cross-boundary impacts and rebound effects, as described below.

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.

Vasakronan uses a life-cycle approach to environmental sustainability as described in the company's Environmental Policy and the Sustainability Report. It also considers the environmental impact of its supply chain. Both of these approaches implicitly consider impacts beyond the project borders. However Vasakronan's environmental policies and frameworks could be more specific with regard to which considerations will be made for particular pollutants or activities.

Rebound effects

Another macro-level concern is the potential for rebound effects. This can occur when small-scale GHG reductions result in a net uptake of emitting activities. For example, energy efficiency improvements in appliances can lower energy costs, and drive higher demand for appliances. This can have the end result of a net increase in GHG emissions, negating the climate-friendly aspects of the initial activity. While these effects can never be entirely avoided, it is recommended to be aware of possible rebound effects and avoid investing in projects where the risk of such effects is particularly high.

For energy use in buildings, the rebound effect mainly applies to the potential for increased energy use by tenants. Tenants often face different incentives to reduce their environmental and energy-use footprint than property owners do. As a progressive real-estate company, Vasakronan is not technically responsible for tenants' energy use. However Vasakronan takes a far-reaching environmental view, and works with tenants to reduce their environmental footprint through their Green Lease and Green Office programs. These programs aim for lower electricity consumption, lower heating and cooling in office facilities, and recycled waste. Through this program, tenants are required to purchase only green electricity in accordance with the Swedish Society for Nature Conservation's ecolabel "Good Environmental Choice". In addition, Vasakronan's investments in green IT can reduce tenants' electricity consumption and heating and cooling needs.

3.1.4. Transparency and monitoring, reporting and verification

Vasakronan's policies support regular and transparent updates to investors and the public. Annual reports on green bond investments will be made public on their website. They also provide a publically-available Sustainability Report on an annual basis, which tracks the company's progress towards environmental goals. While the LEED certification for buildings does not include monitoring of energy use, Vasakronan includes reporting on energy use for heating, cooling and electricity in its Sustainability Report.

As recognized in Vaskaronan's Sustainability Report 2012, monitoring their supply chain's adherence to corporate environmental policies revealed some lapses in compliance. In response, Vasakronan developed a specific Code of Conduct for Suppliers which is being implemented in 2013 by all new suppliers, and sent out to existing suppliers. Monitoring of compliance with the new Code will begin in 2014.

4. Conclusions and Recommendations

Overall, Vasakronan's Green Bond Framework and supporting environmental policies provide a transparent and robust approach to considering the climate impacts of investments, and sets a high standard for corporate environmental policies. Vasakronan takes a holistic view of climate change impacts in its corporate environmental policies, incorporating life-cycle analysis of raw materials, and the environmental impact of the supply chain. Vasakronan's Green Bond Framework lists eligible projects that are generally supportive of the objective of promoting a transition to low-carbon and climate-resilient growth. Further, Vasakronan's policies support transparent and regular updates to investors and the public.

Vasakronan could seek "platinum" LEED, ratings for new buildings and existing renovations, but they point to the complexities in reaching these ratings particularly for rehabilitations. At the same time, Vasakronan recognizes the limitations of such certification systems, whereby high building ratings do not guarantee a limited climate impact. Vasakronan supplements the certification criteria with additional considerations to ensure that new construction has a lower environmental footprint when compared to alternative sites, and rehabilitation projects seek the highest points possible for environmentally-friendly material and resource use.

With regards to macro-level impacts of investments, Vasakronan's framework and policies include consideration of impacts beyond the project borders. The Green Lease and Green Office programs work with tenants to reduce their environmental impact, which addresses the potential rebound effects that can result from energy efficiency in buildings. Vasakronan had identified the need for improved supply chain compliance, and is rolling out a new Code of Conduct for Suppliers with a monitoring plan.

References

- BREEAM (2013). "BREAM SE English Manual for New Construction and Refurbishment", Version 1.0, Swedish Green Building Council.
- IEA (2013). "Energy Policies of IEA Countries: Sweden 2013 Review", International Energy Agency.
- IEA (2012). *World Energy Outlook 2012*, International Energy Agency.
- IEA/UNDP (2011). "Modernizing Building Energy Codes", International Energy Agency and United Nations Development Programme.
- IPCC (2013). *Climate Change 2013: The Physical Science Basis*, Fifth Assessment Report, Intergovernmental Panel on Climate Change, 2013.
- ISO (2009). "Environmental Management: The ISO 14000 family of International Standards", International Organization for Standardization.
- LEED (2009a). "LEED 2009 for Core and Shell Development", US Green Building Council.
- LEED (2009b). "LEED 2009 for Existing Buildings Operation and Maintenance", US Green Building Council.
- LEED (2009c). "LEED 2009 for New Construction and Major Renovations", US Green Building Council.
- Miljöbyggnad (2012a). "Miljöbyggnad Certification Process", Swedish Green Building Council.
- Miljöbyggnad (2012b). "Miljöbyggnad Existing Buildings", Manual 2.1, Swedish Green Building Council.
- Miljöbyggnad (2012c). "Miljöbyggnad New Buildings", Manual 2.1, Swedish Green Building Council.
- UN (2000). "UN Global Compact", Environment Principles 7, 8, and 9, United Nations.
- Vasakronan (2013a), "Green Bond Framework."
- Vasakronan (2013b). "Uppförandekod."
- Vasakronan (2013c). Personal communication with Vasakronan (phone call on 12 November and email correspondence on 15 November).
- Vasakronan (2013d). "Green Lease Program and the Green Office"
- Vasakronan (2012a). "Environmental Vision 2012."
- Vasakronan (2012b). "Sustainability Report 2012."
- Vasakronan (2009). "Vasakronan Environmental Policy."