



Fastighets AB Stenvalvet Green Finance Second Opinion

May 10, 2021

Fastighets AB Stenvalvet (Stenvalvet) is a company in Sweden with ownership, management and development of public service properties as activities. Stenvalvet has at present 100 properties and a combined market value of 13 billion SEK. The properties are used to provide public services – residential homes for the elderly, facilities for the legal system, healthcare and education – and the tenants are predominantly government, municipalities and regions. The properties are mainly located in Dalarna, Kalmar, Mälardalen, Skåne, Visby, Western Sweden, Umeå and Växjö, all in Sweden.

Categories in this framework covers Green buildings, Energy efficiency, Clean transportation and Renewable energy. The Green building criteria builds on design stage certification, post-construction certification or in-use certification from Miljöbyggnad Silver, BREEAM Very good and Nordic Swan Ecolabel or equivalent with an energy consumption of at least 25% below the applicable national building regulation. The other categories cover projects and activities associated with the green buildings.

Stenvalvet has as an overarching goal to be climate neutral by 2030. Currently, greenhouse gas emission time series are not reported. Stenvalvet has as an energy target to reduce the energy consumption by 20% by 2023 compared to 2018, representing an annual reduction of more than 4%. This is slightly more than IEA says are needed in order to be aligned with the Paris agreement. The electricity used by Stenvalvet is renewable, procured centrally and of guaranteed origin. Stenvalvet informs us that climate resilience is one of the aspects that they look at during the due diligence processes. Sustainable stormwater management, green infrastructure and solar shading are examples of focus areas. The selection process for eligible projects, the management of the proceeds and the reporting on allocation of proceeds and impacts are all good. Impact reporting is done when feasible, and if relevant data is available and is not subject to third party review/verification. TCFD guidelines are not implemented. However, physical risks are assessed regularly as part of the due diligence process of new investments.

The direct and indirect climate impacts of the real estate sector is of growing concern. The environmental ambition level is not the highest, but represents steps in the right direction. The issuer has informed us that no buildings directly heated by fossil fuels in Sweden will be financed under this framework.

Based on the overall assessment of the project types in the framework of Stenvalvet, governance and transparency considerations, the green finance framework receives an overall **CICERO Medium Green** shading. In order to achieve a Dark Green shading, the green finance framework would need stronger eligibility criteria in the Green buildings category and stronger governance elements at the company level (strategies, targets, reporting).

SHADES OF GREEN

Based on our review, we rate the Stenvalvet's green finance framework **CICERO Medium Green**.

Included in the overall shading is an assessment of the governance structure of the green finance framework. CICERO Shades of Green finds the governance procedures in Stenvalvet's framework to be **Good**.



GREEN BOND and GREEN LOAN PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.





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1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated March 2021. This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green 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.

The second opinion is based on a review of the framework and documentation of the client's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

Expressing concerns with 'shades of green'

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

CICERO Shades of Green



Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.



Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.



Light green is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.

Examples



Wind energy projects with a strong governance structure that integrates environmental concerns



Bridging technologies such as plug-in hybrid buses



Efficiency investments for fossil fuel technologies where clean alternatives are not available

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green finance are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green finance framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



2 Brief description of Stenvalvet's green finance framework and related policies

Fastighets AB Stenvalvet (Stenvalvet) is a Swedish company with ownership, management and development of public service properties as activities. Stenvalvet has at present 100 properties and a combined market value of 13 billion SEK. The properties are mainly located in Dalarna, Kalmar, Mälardalen, Skåne, Visby, Western Sweden, Umeå and Växjö, all in Sweden. The properties are used to provide public services – residential homes for the elderly, facilities for the legal system, healthcare and education – and the tenants are predominantly government, municipalities and regions. Stenvalvet is owned by long-term institutional investors; Kyrkans pension (Church of Sweden Pension Fund), Kåpan Pensioner (Pensions for government employees, Kåpan) and Stiftelsen för Strategisk Forskning (The Swedish Foundation for Strategic Research).

Environmental Strategies and Policies

The overall climate target for Stenvalvet is to achieve 100% climate neutrality by 2030, by buying emission quotas if necessary. In the sustainability policy of Stenvalvet, it is among many objectives, stated that sustainability is an integral part of the business. To achieve this, Stenvalvet will:

- Manage operations in line with Agenda 2030 and the global goals for sustainable development.
- Offer safe and healthy environments for everyone who stays in their properties.
- Continuously increase competence in sustainability both within and outside the business through training and dialogue.

Particular focus is on the following areas:

- Reduce energy use in the business and increase the proportion of self-produced electricity.
- Prioritize climate-neutral building materials with little impact on the environment and human health and strive for a circular material handling.
- Maintain a continuous dialogue with the tenants about how they and the company can jointly reduce environmental and climate impact.
- Set sustainability requirements for the suppliers.
- Increase the proportion of green financing.

In the guidelines for sustainability from 2019, it is further stated as goals:

- Reduce energy use in existing properties.
- Strive for low energy use in construction and major modernizations as well during maintenance measures.
- Phase out fossil energy sources and direct-acting electricity.
- Use and create renewable energy.

Stenvalvet informs us that greenhouse gas emissions in 2020 is estimated to have been 2,200 tCO₂e, up from 2,000 tCO₂e in 2019. Although the total greenhouse gas (GHG) emissions were higher in 2020, the GHG intensity of the portfolio of buildings was lower in 2020 than in 2019, 3.4 kgCO₂e/m² compared to 3.6 kgCO₂e/m². This is because the number of properties has increased. Scope 1 emissions in 2020 represented 4% of total emissions. The rest was Scope 2 and 3 emissions. Scope 3 emissions only cover some transport and travel related emissions.



Heating is mostly district heating. Two of the properties have had oil pans recently, either due to regulations or to cover peak energy demand. One oil pan was removed in 2020 and there is now district heating in that building. The other oil pan is only used to cover peak energy demand. It is rarely used and will be removed as soon as an alternative solution is in place.

In 2020 energy use which Stenvalvet is responsible for has been verified to be (with 2019 numbers in parenthesis): 80 (84) kWh/m² in the form of heat and 53 (59) kWh/m² in the form of electricity. Stenvalvet has as an energy target for 2023 to reduce the energy consumption by 20% compared to 2018 figures. This amounts to an average annual reduction of 4.4%. The electricity used by Stenvalvet is renewable, procured centrally and of guaranteed origin. Stenvalvet is aiming to increase its own generation of electricity. Solar panels have been installed at five properties to date, and the company is planning on investing further in solar power.

Stenvalvet informs us that climate resilience is of great importance and is one of the aspects that they look at during the due diligence process related to transactions and when they design new buildings or retrofit old ones. Sustainable stormwater management, green infrastructure and solar shading are examples of focus areas.

Use of proceeds

Net proceeds from Stenvalvet's issuances of green financing instruments will be used to fund eligible projects either wholly or in part, to promote the transition to low carbon, climate resilience and sustainable and environmental benefits as determined by Stenvalvet in line with Stenvalvet's sustainability policy. The proceeds raised on the basis of the green finance framework can be invested in new assets and projects and be used to refinance existing projects. Initially, the proceeds will primarily be used for new financing. The look back period will be around three years. All proceeds pursuant to the green finance framework will be used in compliance with the list of eligible projects shown in table 1. They fall into the categories of Green buildings, Energy efficiency, Clean transportation and Renewable energy. The majority of the proceeds will be used for the categories Green buildings and Energy efficiency. The net proceeds will be used exclusively to finance and refinance eligible projects in Sweden. Eligible projects may be owned by Stenvalvet directly, or indirectly through subsidiaries.

Green debt net proceeds will not be allocated to projects for which the purpose is fossil energy production or infrastructure, nuclear energy generation, weapons and defence, potentially environmentally harmful resource extraction (such as rare-earth elements or fossil fuels), gambling or tobacco.

Selection

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the governance process.

Potential projects and assets are identified on an ongoing basis within the scope of Stenvalvet's regular business activities as per the company's decision-making process for investments, maintenance and acquisitions. A Green Finance Committee (GFC), made up of the CFO and the Head of Sustainability, will review and evaluate projects and assets to ensure they meet the green terms and conditions and play a part in the company's compliance with relevant sustainable development goals. The GFC can request further information and consult internal parties, the energy controller in particular, and it has the mandate to make decisions. Decisions by the GFC must be unanimous in order to allocate net proceeds to eligible projects. Identified projects and assets must also be compliant with national legislation and regulations, as well as Stenvalvet's policies and guidelines. Screening for controversial projects is part of the due diligence process. Allocation decisions are documented.



Stenvalvet works with a limited number of suppliers, which allows for a closer cooperation and provides better insight. They also try to find local suppliers so as to support local businesses. Life cycle assessments are carried out when relevant, i.e., in new construction and larger renovation/retrofitting projects. The monitoring of the properties' energy consumption and through dialogue with tenants, mitigates the risk of rebound effects related to energy efficiency projects.

A list of all eligible projects that satisfy the green terms and conditions will be retained by Stenvalvet so as to assure the legitimacy of this process. If a project no longer meets the green terms and conditions, it will be removed from the list (and the funds will be recovered). The list will be used as a tool to determine if there is a current or future opportunity to issue green bonds.

Management of proceeds

CICERO Green finds the management of proceeds of Stenvalvet to be in accordance with the 2018 Green Bond¹ and Green Loan Principles².

An amount equal to the net proceeds of any green financing instruments raised will be credited to an earmarked account that supports Stenvalvet's lending for eligible projects. As long as a green financing instrument is outstanding and the earmarked account has a positive balance, funds may be transferred from the earmarked account to the Stenvalvet lending pool in a sum corresponding to all disbursements made from that pool in respect of eligible projects. Proceeds will be allocated to a portfolio of disbursements. The earmarked account will monitor and track the eligible projects. Group Treasury is responsible for the allocation of proceeds. If, for any reason, an eligible project ceases to comply with the requirements set out in this framework, the project will be removed from the earmarked pool. Proceeds yet to be allocated towards eligible projects will be placed in liquidity reserves and managed as such. Unallocated proceeds be not be used to invest in fossil fuel related projects or assets.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

Stenvalvet will publish an annual green finance investor report so that investors are able to monitor developments, as well as providing an insight into priority areas. GFC will be responsible for the reporting and the first report will be published the year after the first bonds are issued. Stenvalvet intends to report on quantitative impact indicators where feasible, and if relevant data is available. The Green Finance Investor Report will include allocation reporting covering a description of the eligible project portfolio; the type of financing instruments utilised and the respective amounts outstanding; information on the split between new finance and re-financing; and a list of eligible projects, including the amounts allocated and disbursed per category and geographical distribution. It is the ambition to link the reporting to individual bonds/loans. The allocation reporting will be reviewed by an external independent accountant. An appropriate independent external assurance provider will provide annual assurance of the Stenvalvet selection process for the financing of eligible projects.

¹ Green Bond Principles published in June 2018 are voluntary process guidelines for issuing Green bonds established by International Capital Markets Association (ICMA), <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

² Green Loan Principles published in March 2018 are voluntary process guidelines for issuing Green loans established by Loan Markets Association ("LMA"), https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/LMA_Green_Loan_Principles_Booklet-220318.pdf



The impact reporting aims to disclose the environmental impact of eligible projects financed under the framework, based on the proportion of finance provided by Stenvalvet for each project. Stenvalvet is capable of financing both large and small eligible projects in the same project category, and so impact reporting will be aggregated where appropriate.

The impact assessment is submitted with the proviso that not all related data can be included, and that calculations will therefore be on a “best possible” basis. If a green building is under construction but not yet operational, for example, Stenvalvet will provide best estimates of future energy performance levels. Where applicable, the impact assessment will be based on the Key Performance Indicators (KPIs) as follows:

- Green buildings: Environmental certification, absolute energy consumption (MWh), energy savings (MWh and percentage) and intensity (kWh per square metre) per year, and calculated carbon footprint disclosed in terms of absolute emissions (tonnes) and intensity (kilograms per square metre) per year.
- Energy efficiency: Energy savings (aggregated, MWh/year and percentage), greenhouse gas savings (aggregated, tonnes/year), and examples of at least two projects that have been funded with green net proceeds over the year (if any such projects have been funded).
- Clean transportation: The number of charging stations installed for electric vehicles and savings in terms of annual greenhouse gas emissions for the total number of charging stations installed for electric vehicles.
- Renewable energy: Each annual report will include at least one example – where applicable – of a renewable energy investment that has been funded with green net proceeds. KPIs is not disclosed beforehand in this framework. Stenvalvet will place emphasis on carbon savings (where applicable) as relevant performance metrics.

Calculation of greenhouse gas emission savings will utilise the grid factor for Sweden (23 gCO₂/kWh in 2019). The methodology used for the impact reporting will be publicly available, but the impact reporting will not be independently verified.



3 Assessment of Stenvalvet’s green finance framework and policies


The framework and procedures for Stenvalvet’s green finance 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; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where Stenvalvet should be aware of potential macro-level impacts of investment projects.

Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in Stenvalvet’s green finance framework, we rate the framework **CICERO Medium Green**.

Eligible projects under the Stenvalvet’s green finance 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 investors with certainty 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 	<p>New buildings</p> <ul style="list-style-type: none"> Financing of newly constructed or acquired buildings that either have or will receive a design stage certification, post-construction certification or in-use certification from Miljöbyggnad Silver, BREEAM Very Good, Nordic Swan Ecolabel or an equivalent certification scheme, and an energy consumption at least 25% below levels defined in applicable national legislation. <p>Existing buildings</p> <ul style="list-style-type: none"> Financing of existing buildings with a high energy performance that either have or will receive a design stage certification, post-construction certification or in-use certification from Miljöbyggnad Silver, BREEAM Very Good, Nordic Swan Ecolabel or an equivalent certification scheme, and achieve an energy target as specified below: 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ The highest shading level, dark green, is reserved for the highest building standards such as Zero-Energy buildings and passive houses. ✓ In addition to climate issues, BREEAM, Miljöbyggnad, and similar certification schemes cover a broader set of issues, which is important to overall sustainable development. These certification levels alone do not ensure improved energy efficiency, passive or plus housing. This framework's requirements on energy efficiency mitigate this. ✓ The Nordic Swan Ecolabel assesses the entire life cycle of the buildings, from raw materials to production, use, disposal and recycling.






	<p>i) an Energy Performance Certificate (EPC) with energy class A or B, or ii) energy use per square meter not exceeding the targets set out below:</p> <table border="1"> <thead> <tr> <th>Construction Year</th> <th>Energy use per m²</th> </tr> </thead> <tbody> <tr> <td>- 1975:</td> <td>125 kWh/m²</td> </tr> <tr> <td>1976-1990:</td> <td>105 kWh/m²</td> </tr> <tr> <td>1991-2005:</td> <td>95 kWh/m²</td> </tr> <tr> <td>2006 - :</td> <td>25% below levels defined in applicable national building legislation at the time of construction</td> </tr> </tbody> </table>	Construction Year	Energy use per m ²	- 1975:	125 kWh/m ²	1976-1990:	105 kWh/m ²	1991-2005:	95 kWh/m ²	2006 - :	25% below levels defined in applicable national building legislation at the time of construction	<ul style="list-style-type: none"> ✓ Refurbishment of existing buildings are often better than new constructions from a climate point of view, but should ideally come with greater improvements in energy efficiency. ✓ The issuer should consider construction phase emissions and emissions related to transportation to and from the properties.
Construction Year	Energy use per m ²											
- 1975:	125 kWh/m ²											
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<p>Energy efficiency</p> 	<ul style="list-style-type: none"> • Financing of projects which aim to improve the energy efficiency, for example insulation, energy retrofits such as installation of more efficient ventilation or heating systems, replacement of fuse ratings and adjustment of controls and light fittings. • The Green Finance Committee will only include investments where a minimum 20% energy saving is targeted and where minimal adverse climate impact and potential rebound effects can be achieved. 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ Efficiency measures in existing buildings is a good way to lower the climate footprint of buildings, unless it involves fossil fuel elements which then can be locked in. No upgrading of fossil fuel technologies will be allowed. ✓ According to IEA, efficiency of building envelopes needs to improve by 30% by 2025 to be aligned with the Paris target. 										
<p>Clean transportation</p> 	<ul style="list-style-type: none"> • Financing of supportive infrastructure and solutions for clean transportation such as charging stations, bicycle storage and other supportive infrastructure investments that underpin and emphasise the use of clean transportation solutions. 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ Note that hybrid cars will involve a fossil fuel element. 										
<p>Renewable energy</p> 	<ul style="list-style-type: none"> • Financing of on-site or standalone solar panels, geothermal heating and cooling installations, heat pumps and heat exchangers, as well as related infrastructure to increase the percentage of renewable energy used within the Stenvalvet property portfolio and support the objective of increased renewable energy. 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ To be aligned with the proposed EU Taxonomy, CO₂ emissions should be lower than 100 gCO₂/kWh. 										

Table 1. Eligible project categories



Background

As member of the EU, Sweden is subject to the EU's climate targets of reducing collective EU greenhouse gas emissions by 40% by 2030 compared to 1990 levels, increasing the share of renewable energy to 32% and improving energy efficiency by at least 32.5%³. The European Green Deal aims for carbon neutrality in 2050.⁴ Sweden has developed a National Energy and Climate Plan (NECP) in which it outlines the targets and strategies in all sectors.⁵ These strategies include measures such as increasing renewable energy capacity, increasing energy efficiency, facilitating the large scale implementation of clean transportation alternatives, and increasing carbon sinks through reforestation and the LULUCF sector. Non-ETS emissions, of which public buildings and households are a part, must decrease by 63% by 2030.

The construction and real estate sector have a major impact on our common environment. According to the National Board of Housing, Building and Planning's environmental indicators, it accounts for 32% of Sweden's energy use, 31% of waste and 19% of domestic greenhouse gas emissions. Calculations from Sveriges Byggindustrier indicate that the climate impact of new production of a house is as great as the operation of the house for 50 years. IEA reports that the efficiency of building envelopes needs to improve by 30% by 2025 to keep pace with increased building size and energy demand – in addition to improvements in lighting and appliances and increased renewable heat sources.⁶ The energy efficiency of buildings is dependent on multiple factors including increasing affluence and expectations of larger living areas, growth in population and unpredictability of weather, and greater appliance ownership and use. Additionally, approximately half of life-cycle emissions from buildings stem from materials/construction. The other half stems from energy use, which becomes less important over time with the increasing adoption of off-grid solutions such as geothermal and solar. All of these factors should therefore be considered in the project selection process. In addition, voluntary environmental certifications such as LEED and BREEAM or equivalents measure or estimate the environmental footprint of buildings and raise awareness of environmental issues. These points-based certifications, however, fall short of guaranteeing a low-climate impact building, as they may not ensure compliance with all relevant factors e.g., energy efficiency, access to public transport, climate resilience, sustainable building materials. Many of these factors are covered under the World Green Building Council's recommendations for best practices for developing green buildings.⁷ CICERO Shades of Green assesses all of these factors when evaluating the climate impact of buildings.

The Exponential Roadmap⁸ lays out a trajectory for reducing emissions by 50% by 2030 and requires that emissions reductions strategies within the buildings sector be rapidly scaled up. The roadmap advocates for standardised strategies that are globally scalable within areas such as new procurement practices for construction and renovation that require dramatically improved energy and carbon emission standards, developing new low-carbon business models for sharing space and smart buildings to achieve economies of scale, and allocating green finance funding for sustainable retrofitting and construction.

Choice of building materials is becoming more important for climate footprint than heating/cooling and power. A large number of LCA studies show that wood-frame building results in lower primary energy and GHG emission compared to non-wood alternatives including concrete and steel. Less energy, in particular fossil fuels, is needed to manufacture wood-based building materials compared with alternative non-wood materials. Wooden materials also store carbon during their lifetime, temporary sequestering carbon from the atmosphere. Hence, wood-based buildings are appropriate for long-term strategies for reducing fossil fuel use and GHG emissions when combined

³ https://ec.europa.eu/clima/policies/strategies/2030_en

⁴ https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

⁵ https://ec.europa.eu/energy/topics/energy-strategy/national-energy-climate-plans_en

⁶ <https://www.iea.org/reports/building-envelopes>

⁷ <https://www.worldgbc.org/how-can-we-make-our-buildings-green>

⁸ https://exponentialroadmap.org/wp-content/uploads/2020/03/ExponentialRoadmap_1.5.1_216x279_08_AW_Download_Singles_Small.pdf



with sustainable forestry⁹. Quantitative estimates are imprecise, but some studies indicate energy savings of the order of one third in the construction phase of wood buildings compared to buildings using mainly other materials.

EU Taxonomy

In March 2020, a technical expert group (TEG) proposed an EU taxonomy for sustainable finance that included a number of principles including a “Do-No-Significant-Harm” (DNSH) clause and safety thresholds for various types of activities.¹⁰ In November 2020, EU published its draft delegated act to outline its proposed technical screening criteria for climate adaptation and mitigation objectives, respectively, which it was tasked to develop in order to take the Taxonomy after it entered into law in July¹¹. The Do-No-Significant-Harm criteria include among other things measures such as ensuring resistance and resilience to extreme weather events, preventing excessive water consumption from inefficient water appliances, ensuring recycling and reuse of construction and demolition waste and limiting pollution and chemical contamination of the local environment. Among the stricter draft DNSH criteria are constraints on type of land that can be used for buildings (no forest, fertile soil or land with high biodiversity). In addition, the buildings should not be dedicated to extraction, storage, transport or manufacture of fossil fuels.

CICERO Green will not here verify Stenvalvet’s framework against the full draft EU taxonomy, but notes that the updated proposed taxonomy includes specific thresholds for the real estate sector, some of which can briefly be summarized as follows:

1. The design and construction of new buildings needs to ensure a net primary energy demand that is at least 20% lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national regulation.
2. Ownership or acquisition of buildings built before 2021 should have an Energy Performance Certificate label A.
3. Renovations should deliver at least 30% primary energy savings.
4. Large non-residential buildings should have dedicated energy management system.

It is currently unclear what will be in the final taxonomy and how this will apply to Sweden, but it is reasonable to expect that new buildings with energy use 20% below present regulation would be aligned with the taxonomy. The screening criteria for ownership and acquisition of buildings built before 2021 are strict (EPC A). Eligible buildings with energy performance label B would not comply with the taxonomy screening criteria. Energy label B in Sweden implies an energy performance between 50 and 75% of current regulations.

It is anticipated that activities related to energy efficiency, including installation of solar panels, heat pumps, extension of district heating and cooling, are to be classified as sustainable according to the EU Taxonomy.

Governance Assessment

Four aspects are studied when assessing the Stenvalvet’s governance procedures: 1) the policies and goals of relevance to the green finance framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) 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

⁹ R&D Fund for public real estate, The Swedish Association of Local Authorities and Regions (2016): Climate impacts of wood vs. non-wood buildings.

¹⁰ Taxonomy: Final report of the Technical Expert Group on Sustainable Finance, March 2020.

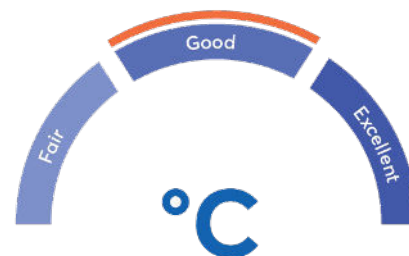
https://ec.europa.eu/knowledge4policy/publication/sustainable-finance-teg-final-report-eu-taxonomy_en

¹¹ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12302-Climate-change-mitigation-and-adaptation-taxonomy#ISC_WORKFLOW



Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

Stenvalvet's ambition of becoming climate neutral by 2030 is good. They also have an adequate shorter term quantitative energy saving target in addition to more general sustainability ambitions. However, there is a lack of time series of greenhouse gas emissions, making it difficult to assess progress towards the 2030 climate goal. Stenvalvet is not aligned with the guidelines from TCFD. It is also unclear whether the type of land is assessed in the selection of projects, cf. the DNSH clause in the proposed EU Taxonomy. Otherwise, the selection process is good, and management of proceeds according to the Green Bond Principles and Green Loan Principles. The reporting is on a portfolio bases and covers key relevant indicators. Impact reporting is done when feasible, and if relevant data is available and is not subject to third party review/verification. Climate risks are properly accounted for within the Swedish laws and regulations for building projects, and taken into account in Stenvalvet's due diligence processes.



The overall assessment of Stenvalvet's governance structure and processes gives it a rating of Good.

Strengths

Requirement of energy consumption at least 25% below levels defined in applicable national legislation in the Green building category is a strength of the framework, and lower than what is proposed for renovation project alignment with the EU Taxonomy. The explicit exclusion of fossil fuel and other harmful technologies is a further strength of the framework. Finally, a commitment to impact reporting, though conditional, increases transparency to investors.

Stenvalvet has as an energy target for 2023 to reduce the energy consumption by 20% compared to 2018 figures. This amount to an average annual reduction of 4.4%. This is slightly more than IEA says are needed in order to be aligned with the Paris agreement.

Stenvalvet works with a limited number of suppliers, which allows for a closer cooperation and provides better insight. They also try to find local suppliers so as to support local businesses. Life cycle assessments are carried out when relevant in new construction and renovation/retrofitting. The monitoring of the properties' energy consumption and through dialogue with tenants, mitigates the risk of rebound effects related to energy efficiency projects.

Weaknesses

Lack of quantitative target for greenhouse gas emissions at the company level in the short term (at least scope 1 and 2), is a weakness. Lack of time series reporting of emissions today, also makes it difficult to assess progress towards the long term 2030 target of climate neutrality. There is also a lack of scenario analysis whether or not formally in alignment with the TCFD recommendations. Other than that, we find no material weaknesses in the framework.

Pitfalls

CICERO Green factor in if there have been any considerations around transportation solutions and environmental impacts in the construction and demolition phases of the building (building material and waste considerations). The CICERO Dark Green shading is difficult to achieve in particular in the building sector because buildings have



a long lifetime. CICERO Dark Green shading in the building sector should therefore conform to strict measures and is reserved for the highest building standards such as LEED Platinum, Zero-Energy buildings and passive houses. The issuer is encouraged to also consider construction phase emissions and systematically work on reducing emissions related to transportation to and from the properties.

The Green building criteria in Stenvalvet's green finance framework build on new construction or in-use Miljöbyggnad Silver, BREEAM Very Good, Nordic Swan Ecolabel or an equivalent certification scheme in addition to energy use at least 25% below current national regulations, which is quite strict in Sweden. Nevertheless, the green buildings eligible under Stenvalvet's framework are falling short of the long-term vision of zero-energy buildings or passive houses. Also, to the extent that the buildings rely on district heating, there is an inherent probability that some fossil fuel fractions (e.g., plastics) will be involved. The issuer informs us that they where possible buy fossil free district heating and that they have initiated discussions with local energy companies that do not provide 100% fossil free heating today about their possibilities of doing so in the future.

The energy efficiency requirement of 20% energy saving in this framework, does not align with the 30% requirement in the proposed EU Taxonomy. However, there are many individual efficiency measures that qualify automatically under the taxonomy. 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 1, an example is energy efficiency investments in buildings which in part may lead to more energy use or a failing to reach the potential reductions. Stenvalvet's energy use monitoring and work with its property users can actively mitigate the risk of rebound effects related to energy efficiency.

Life cycle assessment of projects are mainly carried out in connection with some of the environmental certification schemes. There is no emission accounting covering construction and demolition phase activities.

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. Stenvalvet's green finance framework is not quite there yet, but is taking valuable steps towards this long-term vision. More stringent criteria would have been required for a darker shading.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Stenvalvet Green Finance Framework_updated jan 2021 ver 4	Green finance framework dated January 2021
2	Policy för hållbar utveckling	Policy for sustainable development
3	Riktlinje för hållbarhetsarbetet	Guidance for sustainability
4	Rutin-SundaHus-2.0	Routine for control and verification of building materials in “Sunda Hus”
5	Uppförandekod	Code of conduct
6	Uppförandekod för leverantörer	Code of conduct for suppliers
7	Årsredovisning Stenvalvet 2019	Annual report from 2019



Appendix 2: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green finance investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green 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 Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent 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).

