



Rikshem Green Bond Second Opinion

January 13, 2020

Rikshem AB (Publ) (Rikshem) is one of Sweden's largest private real estate companies. The company owns, develops and manages residential properties and properties for public use. The property portfolio is concentrated to selected growth areas in Sweden, and almost 50 percent of the property value is located in the greater Stockholm area and Uppsala. Approximately 70 percent of the value pertains to residential properties and 30 percent to properties for public use, such as nursing homes, other care facilities and schools.

The green bond framework of Rikshem is aligned with the Green Bond Principles (2018). The eligible categories – **Clean transportation, energy efficiency, green buildings, pollution prevention and control and renewable energy** – are well defined and provide important steps toward a low carbon future. More than 50% of the issuance over time will be used for new projects. Less than 10% will be on operational expenditures, mainly within the categories Clean transportation and Energy efficiency. The criteria for eligible projects under the Green building category are good, but do not yet deliver the solutions needed in a low carbon 2050 perspective (passive house technology and similar). Rikshem already works extensively with industrialized woodbased construction. 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. It is a clear strength that the Green Bond Council of Rikshem will review information about potential projects and evaluate the overall environmental impact, which includes life cycle considerations, potential rebound effects, and resilience.

Rikshem reports in line with GRI standards, but do not currently follow TCFD recommendations regarding reporting and climate scenario analysis. To do so is at the top of the priority list in the strategic development towards climate neutrality in 2030 for Rikshem. Currently, Rikshem will emphasise energy savings and greenhouse gas reductions as the most relevant performance metrics for most projects.

Based on the overall assessment of the project types in the framework of Rikshem, the green finance framework receives an overall **CICERO Medium Green** shading. In order to achieve a dark green shading, the green finance framework could include a clearer requirement that best environmental technologies are used in eligible building projects.

SHADES OF GREEN

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

Included in the overall shading is an assessment of the governance structure of the green bond framework. CICERO Shades of Green finds the governance procedures in Rikshem's framework to be Excellent.



GREEN BOND 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 January 13, 2020. 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	Examples
 <p>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.</p>	 <p>Wind energy projects with a strong governance structure that integrates environmental concerns</p>
 <p>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.</p>	 <p>Bridging technologies such as plug-in hybrid buses</p>
 <p>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.</p>	 <p>Efficiency investments for fossil fuel technologies where clean alternatives are not available</p>
 <p>Brown is allocated to projects and solutions that are in opposition to the long-term vision of a low carbon and climate resilient future.</p>	 <p>New infrastructure for coal</p>

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, the governance aspects are carefully considered and reflected in the overall shading of the green bond framework. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green bond 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.



2 Brief description of Rikshem's green bond framework and related policies

Rikshem AB (Publ) (Rikshem) is one of Sweden's largest private real estate companies, with properties located in growth areas across the entire country. The company owns, develops and manages residential properties and properties for public use. Rikshem is owned equally by the Fourth Swedish National Pension Fund and AMF Pensionsförsäkring AB. The property portfolio is concentrated to selected growth areas in Sweden, and almost 50 percent of the property value is located in the greater Stockholm area and Uppsala. Approximately 70 percent of the value pertains to residential properties and 30 percent to properties for public use, such as nursing homes, other care facilities and schools.

Rikshem issued its first green bond in 2014 as one of the first corporate and real estate companies to do so. The previous green bond framework was limited to investments in energy efficiency and wooden buildings. This updated green bond framework is wider in scope to better reflect current work and progress as well as align with current market standards and best practices.

Environmental Strategies and Policies

As part of its community development work, the company is transitioning to climate-neutral operations with carbon neutrality to be reached by 2030, where electricity, heating and water are used as responsibly and efficiently as possible. To achieve this, the company are actively monitoring energy use, and carbon emissions are measured annually with the goal of reducing emissions by an average of one kilo per square meter per year and energy use in its properties by at least 2.5 percent annually (in 2018 it reached 2.6 percent).

Carbon emissions in 2018 amounted to 11.4 kg/m² in existing properties (normal year corrected), of which 0.1 kg/m² came from electricity. This entails a decrease of 2.4 percent compared with 2017. Rikshem almost exclusively uses environmentally friendly district heating to heat its buildings. A transition is ongoing at the remaining facilities. Step 1 (ongoing) is to phase out of oil burners where Rikshem is responsible for operation and monitoring and will be finalized during 2020. Step 2 is to phase out the burners that are owned by Rikshem, but where tenants are responsible for operation and monitoring. For existing properties, the average energy use per square meter for 2018 was 140.2 kWh/m² heated area, normal year corrected.

When other measures haven't been possible or the carbon footprint has not been fully reduced, the company invests in certified climate compensation projects, primarily within the Clean Development Mechanism (CDM). One comprehensive climate investment that Rikshem decided on in 2018 was that energy use is to be monitored in real time. The work, which is long-term and constitutes a major step for Rikshem, will involve the digitization of several substations on properties in 2019. Rikshem is also phasing out and replacing all cars with electric cars.

Rikshem reports in line with GRI standards. Rikshem does currently not follow or implement TCFD recommendations regarding reporting and climate scenario analysis, but to do so is at the top of the priority list in the strategic development towards climate neutrality in 2030.

A key challenge for property owners and developers globally is to reduce the environmental and climate footprint of new buildings, while at the same time maintaining, improving and ensuring the continued use, lessened environmental footprint and attractiveness of existing buildings. In the former, Rikshem works extensively with



industrialized wood-based construction. Wood is a renewable material which significantly lowers greenhouse gas emissions during the construction phase, stores carbon throughout the buildings life cycle and is faster to build with. Rikshem also reviews the possibilities of building in concrete and in such circumstances the material's climate impact needs to be taken into account, since carbon emissions from concrete are higher than from wood.

Rikshem purchases services for construction projects and renovations. When choosing a contractor, Rikshem considers it to be essential that they have environmental and quality management systems and comply with UN Global Compact principles. In 2019 Rikshem has allocated resources to more extensively use Byggarbetsdömmningen, an assessment protocol of construction materials, as well as a review of how they use and recycle material in construction projects and renovations, as well as efforts related to sorting at source of materials and waste. Thus, choosing materials, physical objects shall have optimal life length, cleaning chemicals shall be eco-labelled and environmentally friendly fuels shall be used. Materials that is used should primarily be reused, then recycled, energy recycled and in last hand deposited.

Use of proceeds

An amount equal to the net proceeds will be used to fully or partly finance or refinance investments and expenditures that promote the transition to low-carbon, climate resilient and sustainable economies within the following categories: **Clean transportation, energy efficiency, green buildings, pollution prevention and control and renewable energy**. The ambition is that more than 50% of the issuance over time will be used for new projects. Both financing or refinancing of tangible assets (without age restriction) and operational expenditure (up to 3 years backwards looking) can qualify. Rikshem expects that less than 10% will be on operational expenditures, mainly within the categories Clean transportation and Energy efficiency. The combined allocated amount to a specific green asset, by one or several sources of financing with specified use of proceeds, may not exceed its value. Rikshem only operates in the Swedish market and the net proceeds will therefore be used exclusively to finance or refinance investments in Sweden.

The long-term ambition is to allocate the majority of the net proceeds to new projects and assets (defined as projects and assets financed within 12 months from completion). The proportion of net proceeds allocated to new projects and assets will be disclosed in the annual reporting. Not more than 15% of net proceeds will be allocated to eligible green assets with a primary alignment towards environmental objective not related to climate change mitigation or adaptation.

The net proceeds will not be allocated or linked to fossil-based energy generation, nuclear energy generation, research and/or development within weapons and defence, potentially environmentally negative 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.

Projects and assets potentially eligible for green bond financing will be identified as part of the ongoing operations. Identified projects and assets will be evaluated by the Green Business Council ("GBC"), which currently has the following members: Head of Sustainability, Group Treasurer, Head of Projects and Head of Transactions. The head of sustainability has good overall knowledge in all sustainability aspects. To help her, she has a sustainability



team with four more persons. Two of them are experts within energy and environmental aspects, one senior strategist and a coordinator/analyst. The remaining team are experts in social sustainability and analyse/audit.

The GBC will evaluate the nominated projects and assets to ensure compliance with the framework. It will review information about the assets and evaluate the overall environmental impact, which includes life cycle considerations, potential rebound effects, resilience and adherence to at least one of the five environmental objectives: Climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation and pollution prevention and control. The projects and assets must also be compliant with applicable national laws and regulations, as well as policies and guidelines at Rikshem. Controversial projects will be identified and excluded by the GBC. The GBC can request additional information and consult with internal parties, but the mandate to make decisions is held by the group. A decision to allocate net proceeds will require a consensus decision by the GBC, whereby the Head of Sustainability effectively holds a veto. Decisions made by the council will be documented.

An updated list of all green assets will be kept by Rikshem treasury department. If a project or asset ceases to meet the Green Terms, it will be removed from the list (and the funds will be recycled). The list will also be used as a tool to determine if there is a current or expected capacity for additional green bond financing.

Management of proceeds

CICERO Green finds the management of proceeds of Rikshem to be in accordance with the Green Bond Principles (2018).

The net proceeds of any green bond financing will be credited to a dedicated account (the “Green Account”) or otherwise tracked by Rikshem (together, the “Green Portfolio”). Deductions will be made from the green portfolio by an equivalent amount corresponding to the financing, refinancing, investment or expenditure of eligible green assets or at repayment of any green bond financing. If an eligible green asset no longer qualifies or if the underlying project or asset is divested or lost, an amount equal to the funds allocated towards it will be re-credited to the green portfolio. Funds may also be reallocated to other green assets during the term of any green bond financing, unless otherwise agreed in the loan documentation. The treasury department will keep a record of the purpose of any change in the green portfolio and ensure that the combined funds directed towards a specific green asset, by one or several sources of green bond financing or other financing with specific use of proceeds, does not exceed its value. Pending fund disbursement to green assets and while the green portfolio has a positive balance the proceeds may be invested or utilised by the treasury in accordance with Rikshem financial policy. Such unallocated funds may for instance be invested in short-term interest-bearing securities, such as Swedish treasury bills (and related entities) or Swedish municipal notes (including related entities). Swedish municipalities generally have high ambitions regarding sustainability.

The allocation of net proceeds will be verified by Rikshem external auditor.

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.

In order to be fully transparent towards the Green Bond investors and other market stakeholders, Rikshem will publish an annual green bond report on its website (www.rikshem.se/gronfinansiering) that will detail the allocation



of green funds. The GBC will be responsible for the reporting. The first such reporting under this framework is expected to take place in April 2021, in proximity to the company's Annual Report, and will be available in English.

The reporting will contain information on all green assets that have been financed with green bonds (perhaps with the exception of very small energy efficiency projects that might be aggregated), a summary of Rikshem activities in the past year as pertains to green bond financing as well as information, including examples, of the financed green asset's adherence to the relevant criteria.

Rikshem will provide allocation reporting and emphasis will be placed on providing examples to single projects based on size. Allocation disclosure will cover (all data is to be as of the end of the previous year): The sum of outstanding green bonds and the sum of the green portfolio balance, including any short-term investments or funds managed within Rikshem liquidity portfolio, and the proportion of net proceeds allocated to new investments.

The reporting will also contain a disclosure of asset level performance indicators and will cover the combined effect of financed eligible green assets. The reporting will strive to disclose the impact based on the green bond financings share of the total investment. For financed green assets that are not yet operational, Rikshem will strive to provide estimates of future performance levels. Rikshem will emphasise energy savings and greenhouse gas reductions as the most relevant performance metrics for most projects.

The impact metrics for **clean transportation** will cover annual absolute (gross) greenhouse gas emissions in CO₂e, annual (gross) greenhouse gas savings in percentage, and the number of charging stations for electric vehicles installed.

Each yearly report will include an example of an **energy efficiency** investment that have been financed with green net proceeds (if such a project has been financed). Rikshem will emphasize energy and carbon savings, where applicable, as relevant performance metrics.

The impact metrics for **green buildings** will include: Environmental certification and grade (if applicable), energy performance (kWh per square meter) and relative performance (%-improvement) compared with applicable national building code (new buildings), annual energy savings (MWh) based on relative performance compared with applicable national building code or in the case of renovation, energy savings versus pre renovation performance, and carbon intensity (grams per square meter) and annual carbon savings (tonnes).

For the category **pollution prevention and control**, each yearly report will include an example of an investment that has been financed with green net proceeds (if such a project has been financed). Rikshem will showcase a description of the investment, as well as the expected impact on waste volumes and the ability to recycle and reuse waste as relevant information metrics.

The impact metrics for **renewable energy** will be yearly production (GWh) and prevented CO₂e emissions from production (tonnes). For an installation of renewable energy in a real estate asset, the percent of the assets total energy use supplied by the installation will be disclosed.

To calculate greenhouse gas (GHG) emission reductions, Rikshem gathers the GHG emission values presented by its energy suppliers in its energy monitoring system. Two grid factors are calculated from the total use of energy in Rikshem's property portfolio, one for heat and one for building electricity. These numbers vary from year to year. For 2018 the numbers were 4,3 grams CO₂e per kWh for electricity and 101,4 grams CO₂e per kWh for heat, with a combined CO₂e for delivered energy of 87 grams CO₂e per kWh. To assure consistency, the emission



factor(s) used in Rikshem's green bond reporting will equal the emission factor(s) used in the company's sustainability reporting.

The external auditor of Rikshem, or a similar party appointed by Rikshem with the relevant expertise and experience, will investigate and report whether the net proceeds have been allocated to the eligible green projects and assets that Rikshem has communicated in the reporting. The conclusions will be provided in a signed statement, which will be published on Rikshem website (www.rikshem.se/gronfinansiering).



3 Assessment of Rikshem’s green bond framework and policies

The framework and procedures for Rikshem’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; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where Rikshem 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 Rikshem’s green bond framework, we rate the framework **CICERO Medium Green**.

Eligible projects under the Rikshem’s 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 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
Clean transportation 	Financing of supportive infrastructure such as charging stations for all types of electric vehicles, bicycle garages, or other investments that support and emphasize the use of environmentally sound and low carbon solutions, as well as electric vehicles used in our operations, such as bicycles and fully electric service cars. Low Carbon Vehicles: Fully electric or hydrogen vehicles.	Dark green <ul style="list-style-type: none"> ✓ Supporting infrastructure can potentially be used by plug-in hybrid cars, containing elements of fossil fuels. ✓ The issuer informs CICERO Green that new service vehicles will be 100% electrical cars.
Energy efficiency 	Financing of investments in the existing portfolio of buildings that target a lower overall energy use and an improved environmental footprint. This could include, for instance, the installation of geothermal heating/cooling, energy-efficient lighting, IT-technology (monitoring, efficiency management and remote operation), energy	Dark green <ul style="list-style-type: none"> ✓ Energy efficiency investments, such as smart technology aimed at reducing energy consumption, are key to reducing emissions. Smart grids and grid upgrades are



efficient windows or an upgraded ventilation system. Only directly associated expenditure (e.g. material, installation and labour) is eligible for financing. Rikshem will ascertain the following:

- a) High estimated energy savings in the targeted area for physical installations (minimum 20%).
- b) Minimize long term negative climate impact and potential rebound effects.
- c) Minimal negative climate impact from the technology used.

necessary to manage and increase the share of intermittent and decentralized renewable energy.

- ✓ Be aware of potentially harmful rebound effects. Lock-in of fossil fuel equipment is avoided since Rikshem informed CICERO Green that the net proceeds will not be allocated or linked to fossil-based energy generation, hence properties with such equipment will not be included in the framework.

Green buildings



Environmentally certified buildings: Financing of development, acquisition or otherwise completed low energy buildings that have, or will, receive (i) a design stage certification or (ii) a post-construction certification or (iii) an in-use certification in any of the following building certification schemes at the defined threshold or better: Miljöbyggnad “Silver”, BREEAM “Very Good” or Svanen, as well as achieve at least 15 % lower energy use than required by the applicable national building code (BBR) or meet the requirements of NZEB.

Wooden buildings: Financing of development, acquisition or otherwise completed low energy buildings that have, or will, use FSC or PEFC certified wood as the main building component and thereby minimize the use of cement and steel, as well as achieve at least 15 % lower energy use than required by the applicable national building code (BBR) or meet the requirements of NZEB.

Energy efficient residential buildings: New or existing residential buildings that achieve at least 15 % lower energy use per square meter than required by the applicable national building code (BBR) or meet the requirements of NZEB.

Renovated buildings with decreased energy use: Financing of renovation, acquisition or otherwise completed low energy buildings that have, or will, achieve at least a 30% decrease in overall energy use or achieves an energy use in line with the

Medium green

- ✓ Rikshem has informed CICERO Green that they foresee that the most significant use of proceeds in the Green Building category is for wooden buildings.
- ✓ Passive or plus house technologies should become mainstream and the energy performance of existing buildings greatly improved. Rikshem is taking steps towards this long-term vision. However, a dark green shading would require passive or plus house technologies.
- ✓ Although voluntary environmental certifications such as BREEAM, Miljöbyggnad and Svanen can measure or estimate the environmental footprint of buildings and raise awareness of environmental issues, they fall short of guaranteeing an environmentally friendly building. They do not guarantee a reduction in greenhouse gas emissions nor necessarily include considerations of resiliency.
- ✓ For new buildings, access to public transport is important, as well as bicycle parking and charging facilities for electric cars. Rikshem’s whole portfolio has good access to public transportation and this is an



	applicable national building code (BBR) for newly built properties.	important factor for site selection for new development. ✓ Issuer has informed us that buildings directly fueled by fossil fuel would not be eligible.
Pollution prevention and control	Financing of investments in waste management, such as collection, prevention, reduction or recycling of waste as well as enabling infrastructure and facilities, in operations and in support of the tenants.	Dark green ✓ Apart from the direct climate impact, waste recycling strategies are crucial for environmental and social wellbeing. The waste sector contributes almost 5% of global GHG emissions mainly from landfill and wastewater methane and nitrous oxide as well as CO ₂ from waste incineration. ✓ Waste-to-energy solutions will normally contain some fossil elements (e.g. plastics). There will be no direct investments in waste to energy solutions.
Renewable energy	Financing of renewable energy production, such as on-site solar power installations or stand-alone solar farms, geo-energy (ground and surface systems) as well as related infrastructure investments for example grid connections, electric substations or networks.	Dark green ✓ While renewable energy is generally low-carbon, local environmental impacts such as on biodiversity and landscape, and lifecycle emissions from construction and operation can be of concern for these projects. ✓ Rikshem do not foresee any investments in either wind or hydro power projects. ✓ Be aware that purchase of renewable energy does not necessarily imply more renewable energy overall.

Table 1. Eligible project categories

Background

According to the IEA¹, the buildings and buildings construction sectors combined are responsible for 36% of global final energy consumption and nearly 40% of total direct and indirect CO₂ emissions. Efficiency of building

¹ <https://www.iea.org/topics/energyefficiency/buildings/>



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. Energy efficiency improvements in buildings are thus important building blocks towards reaching the 2°C goal. Also, local transport solutions and easy access to renewable energy are important elements. Emissions from buildings are approximately half coming from materials/construction and half from energy use. Over time the energy use becomes less important (with off grid solution such as geothermal and solar increasing).

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. Wood-based materials use primarily biomass residues for processing energy. Wooden materials also store carbon during their lifetime, temporarily sequestering carbon from the atmosphere. Large amounts of biomass residues are produced during the manufacture and end-of-life of wood products, and these can be used to replace fossil fuels. Hence, wood-based buildings are appropriate for long-term strategies for reducing fossil fuel use and GHG emissions when combined with sustainable forestry². 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.

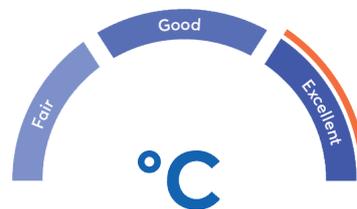
Finally, the building sector traditionally has incentive problems due to the different interests of constructors, owners and tenants of buildings:

- Constructors do not necessarily focus on long-term efficiency, but more on short term cost of construction.
- Owners do not necessarily upgrade the building as the running costs are carried by the tenants.
- Tenants often have less flexibility to upgrade efficiency as this requires investments from owners.

Governance Assessment

Four aspects are studied when assessing the Rikshem's governance procedures: 1) the policies and goals of relevance to the green bond 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 Excellent.

Rikshem has in place a long-term environmental goal of becoming carbon neutral by 2030. They do have a sound selection process with veto power for the environmental expertise in the Green Bond Council. Management of proceeds are in accordance with the Green Bond Principles (2018). Rikshem are climate reporting according to GRI. One part of the strategic development of Rikshem is to extend the reporting standards compliance and TCFD³ is at the top of the list. The impact reporting, which is on a portfolio level, is good. We note that Rikshem does not carry out climate scenario analysis or risk assessments in alignment with the methodology recommended by TCFD.



² R&D Fund for public real estate, The Swedish Association of Local Authorities and Regions (2016): Climate impacts of wood vs. non-wood buildings. <https://webbutik.skl.se/bilder/artiklar/epub/7585-377-2.epub>

³ <https://www.fsb-tcfd.org/publications/final-recommendations-report/>



The overall assessment of Rikshem's governance structure and processes gives it a rating of Excellent.

Strengths

The framework of Rikshem is well aligned with the Green Bond Principles (2018). The eligible categories are defined and provide important steps toward a low carbon future. It should be noted with appreciation that the grid emission factor(s) Rikshem uses in their impact reporting is considerably lower than what has been outlined in the "Nordic Public Sector Issuers: Position Paper on Green Bonds Impact Reporting" (January 2019), which currently states 380 grams CO₂ per kWh.

It is a clear strength that the Green Bond Council of Rikshem will review information about potential projects and evaluate the overall environmental impact, which includes life cycle considerations, potential rebound effects, resilience and adherence to at least one of the five environmental objectives.

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. Rikshem is aware of such effects and takes actions to avoid green bond funding of projects where the risk of rebound effects is particularly high.

Weaknesses

We find no substantial weaknesses in the green bond framework of Rikshem but note a current lack of scenario analysis in alignment with the recommendations by TCFD. However, resilience concerns are an integrated part of project planning.

Pitfalls

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. This is particularly the case when it comes to transport solutions associated with the buildings. 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.

Although voluntary environmental certifications such as BREEAM, Miljöbyggnad and Svanen or equivalents can measure or estimate the environmental footprint of buildings and raise awareness of environmental issues, they fall short of guaranteeing an environmentally friendly building. They do not guarantee a reduction in greenhouse gas emissions nor necessarily include considerations of resiliency.

In order to achieve a dark green shading, the green finance framework would need a clearer requirement that best environmental technology is used in eligible green finance building projects, and some of the other categories in the framework would need to be more specific.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Rikshem Green Bond Framework	Rikshem's green bond framework dated January 13 th , 2020
2	Annual report 2018	https://www.rikshem.se/media/2873/annual-and-sustainability-report-2018.pdf (in Swedish)
3	Supplier code of conduct	https://www.rikshem.se/media/2339/leverantorsuppforandekod2018.pdf (in Swedish)
4	Code of conduct	https://www.rikshem.se/media/1569/uppforandekod2018.pdf (in Swedish)
5	Sustainability policy	https://www.rikshem.se/media/2750/hallbarhetspolicy-2018.pdf (in Swedish)
6	Corporate background	https://www.rikshem.se/om-oss/foretagsfakta/var-historia/ (in Swedish)
7	Ongoing development (database)	https://www.rikshem.se/om-oss/foretagsfakta/var-historia/ (in Swedish)
8	M-Arbetsmiljöansvar BAS-P och Bas-U	Coordination of work environment responsibility
9	Anbudsformulär konsultupphandling	Tender form - consultancy procurement
10	Policy för motverkande av intressekonflikter	Policy for combating conflicts of interest



11	Policy för förmånsbilar	Policy for company vehicles
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12	Mångfalds och jämställdhetspolicy	Diversity and equality policy
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13	Hallbarhetsstrategi	Sustainability strategy
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14	Diverse dokument	A collection of short documents regarding: <ul style="list-style-type: none">- Project definitions and – process- Guidance for project development- Property owner liability, initial and follow up procedures
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15	Wkr0006	Press release on agreement with Telia regarding digitization of properties
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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 bond 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).

