

Arwidsro Fastighets AB Green Finance Second Opinion

August 18, 2020

Arwidsro Fastighets AB (Arwidsro), is a Swedish limited liability company with its registered office in Stockholm. The company is the parent company in a real estate group. The Group's business concept is to acquire, own, manage and refine properties in Sweden in the segment commercial properties and community properties. At the end of 2019, the Group consists of the parent company Arwidsro Fastighets AB and 45 wholly owned subsidiaries, which together own 31 properties with a total value of approximately SEK 1,639 million with a lettable area of approximately 89,297 m².

The eligible categories, covering Clean transportation, Green buildings, Energy efficiency, Environmentally sustainable management of living natural resources, Pollution prevention and control, and Renewable energy, with emphasis on Energy efficiency and Green buildings, are well defined and provide important steps toward a low carbon future. 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). Eligibility in the Green building category will require fulfilling Miljöbyggnad Silver, BREEAM Very Good or equivalent and energy efficiency 30% below current regulations. Retrofit will require minimum 30% energy savings.

Arwidsro is at an early stage when it comes to mapping their energy use as well as their climate footprint. Until that has been completed, they cannot report on energy use and GHG emissions, and refrain from formulating precise quantitative targets and climate strategies. They are, however, well aware of climate risks and have intentions of including life cycle analysis into their decision process.

The green finance framework of Arwidsro is aligned with the Green Bond and Green Loan Principles (2018). The proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible green projects/assets. Arwidsro have a sound selection process and an ambitious plan for impact reporting. We note, however, that there seems to be no climate scenario analysis or risk assessments in alignment with the methodology recommended by TCFD.

Based on the overall assessment of the project types in the framework of Arwidsro, governance and transparency considerations, the green finance framework receives an overall **Medium Green** shading. In order to achieve a dark green shading, the green finance framework would need a clearer requirement that best environmental technologies are used in eligible building projects.

SHADES OF GREEN

Based on our review, we rate the Arwidsro'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 Arwidsro'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 August 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 Dark green is allocated to projects and solutions that correspond to the long-term Wind energy projects with a strong vision of a low carbon and climate resilient future. Fossil-fueled technologies that governance structure that lock in long-term emissions do not qualify for financing. Ideally, exposure to integrates environmental concerns transitional and physical climate risk is considered or mitigated. Medium green is allocated to projects and solutions that represent steps towards the Bridging technologies such as long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in longterm emissions do not qualify for financing. Physical and transition climate risks might be plug-in hybrid buses 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 Efficiency investments for fossil short-term GHG emission reductions, but need to be managed to avoid extension of fuel technologies where clean equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the alternatives are not available physical and transitional climate risk without appropriate strategies in place to protect them. **Brown** is allocated to projects and solutions that are in opposition to New infrastructure for coal the long-term vision of a low carbon and climate resilient future.

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 bond 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 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. 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 Arwidsro's green finance framework and related policies

Arwidsro Fastighets AB (Arwidsro), is a Swedish limited liability company with its registered office in Stockholm. The company is the parent company in a real estate group. The Group's business concept is to acquire, own, manage and refine properties in Sweden in the segment commercial properties and community properties, in order to generate long-term, high and stable returns.

At the end of 2019, the Group consists of the parent company Arwidsro Fastighets AB and 45 wholly owned subsidiaries, which together own 31 properties with a total value of approximately SEK 1,639 million with a lettable area of approximately 89,297 m². The property portfolio is distributed over most of Sweden, but is mainly from Dalarna and to the south.

Environmental Strategies and Policies

In Arwidsro's environmental policy it is stated that Arwidsro's operations are based on long-term sustainable principles. Environmentally, this means that they must take responsibility for the impressions their business leaves. They claim awareness of the global environmental challenges, and that the real estate and construction industry has major environmental impacts. They strive to develop and use energy-efficient, climate-adapted and resource-efficient solutions and business models with regard to the entire life cycle.

They focus on the biggest influencing factors and with respect for the environment, they use all resources as efficiently as possible. They furthermore encourage and appreciate dialogues with partners and other stakeholders. Arwidsro states furthermore (in their environmental policy document) that their environmental work is based on a number of general guidelines and focus areas.

Besides these general statements and principles, and due to lack of data, Arwidsro currently does not report on energy use or greenhouse gas emissions. For this reason, Arwidsro do not have concrete targets for future (short term and long term) energy use and greenhouse gas emissions. They have, however, started work with external consultants (energy experts) to map the historical energy use, current situation and will develop suggestions on what they can do better. As of now, Arwidsro does not follow the guidelines from TCFD.

Arwidsro became member of Sweden Green Building Council (SGBC) early in 2020. Within the Sweden Green Building Council, there is a large network of experts for the exchange of experience and inspiration. They offer tools and training in environmental certification of buildings based on criteria from the world organization World Green Building Council. Arwidsro is fully aware of the climate resilience issues, and are considering them in each urban development project. For an example, they have recently decided to analyse all bigger projects (new construction and existing assets) using the ten sustainability targets in Citylab (a certification method for sustainable urban development, given by SGBC).

Overall, and although there is currently a lack of quantitative reporting, targets and strategies, Arwidsro is actively pursuing to put this in place, probably in 2021.



Use of proceeds

The net proceeds from Arwidsro's issuances of green finance instruments will finance eligible assets in Sweden in part or in full that promote environmental benefits as determined by Arwidsro and in line with Arwidsro sustainability policy. The proceeds raised based on this green finance framework can be applied towards new assets, acquisitions, and projects, and to refinance existing assets. The expected shares are 50% for new assets, 40% for acquisitions and 10% for other projects. Most of the proceeds are expected to be used for refinancing purposes. All proceeds under this green finance framework will be used in compliance with the list of eligible assets listed in table 1 in either of the categories: Clean transportation, Energy efficiency, Environmentally sustainable management of living natural resources, Green buildings, Pollution prevention and control or Renewable energy. Eligible assets can be owned by Arwidsro directly or indirectly through subsidiaries.

In addition to green finance instruments issued by Arwidsro in the capital market, the company may have green loans provided by lending institutions. Green loans taken by Arwidsro may be provided by lending institutions that finance these by issuing green bonds. Arwidsro will report the aggregate amount of green loans taken and specify each eligible asset that has been financed by a green loan in a separate section of the green finance investor report.

Net proceeds will not be allocated to projects for which the purpose of the project 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.

Arwidsro has established a Green Finance Committee (GFC) to evaluate and select assets that are in line with the criteria set out in the use of proceeds section and table 1. The committee will rely on a consensus decision when allocating net proceeds. The committee meets at least on an annual basis or when needed. The Green Finance Committee is comprised of Chairman, CEO, CFO, Head of Sustainability, Head of Transactions. The environmental competence of the GFC mainly resides with the Head of Sustainability (through education and experince), but in addition Arwidsro constantly work with consultants who are experts in different area as there are different environmental challenges in different assets/areas.

The Green Finance Committee is responsible for:

- Evaluating the alignment of proposed assets with the eligibility criteria outlined in the Use of Proceeds section and table 1.
- Ensuring that the pool of eligible assets is aligned with the categories and criteria as specified in the Use of Proceeds section and table 1.
- Replacing investments that no longer meet the eligibility criteria (e.g. following divestment, liquidation, concerns regarding alignment of underlying activity with eligibility criteria etc.)
- On a best effort basis, reviewing and updating the content of the green finance framework and managing any future updates of this document to reflect relevant changes in the issuer's corporate strategy, technology and market developments (e.g. introduction of the EU Green Bonds Standards).



Management of proceeds

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

An amount equal to the net proceeds of any green instruments raised will be credited to an earmarked account that will support Arwidsro's financing or refinancing to eligible assets. So long as the green instruments is outstanding and the earmarked account has a positive balance, funds may be deducted from the earmarked account and added to Arwidsro's financing or refinancing in an amount up to all disbursements from that pool made in respect of eligible assets. The earmarked account will ensure monitor and track the eligible assets. The Group Treasury is responsible for the allocation of proceeds which will be to individual disbursements. If, for any reason, an eligible asset ceases to align with the requirements set out in this framework such asset will be removed from the earmarked pool. Proceeds yet to be allocated towards eligible assets will be placed in the liquidity reserves and managed as such. Unallocated proceeds will be reported and will not be used to invest in fossil fuel related assets such as car/oil and gas company stocks.

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.

To enable investors to follow the development and to provide insight to prioritised areas Arwidsro will provide a Green Financing Impact Report on an annual basis. Head of Sustainability at Arwidsro will be responsible for the reporting. The first report is expected with the annual report for 2020. Arwidsro intends to report on quantitative impact indicators where feasible and relevant data information is available. The green financing investor report will include:

Allocation reporting covering i) a description of the portfolio of eligible assets; ii) type of financing instruments utilized and respective outstanding amounts; iii) information on the split between new financing and re-financing; and iv) a list of eligible assets including the amounts allocated.

Impact reporting with the aim to disclose the environmental impact of the eligible assets financed under this framework, based on Arwidsro's financing share of each project. As Arwidsro can finance large and small eligible assets in the same project category, impact reporting will, to some extent, be aggregated to cover smaller projects.

The impact assessment is provided with the reservation that not all related data can be covered and that calculations therefore will be on a best effort basis e.g. if a green building is under construction but not yet operational, Arwidsro will provide best estimates of future energy performance levels. The impact assessment will, if applicable, be based on the Key Performance Indicators (KPIs) as follows:

- Clean transportation: Annual (gross) GHG reductions in percentage compared to a 2019 baseline¹; the number of installed charging stations for electric vehicles.
- Green buildings: Environmental certification; energy consumption disclosed by absolute consumption (kWh) and intensity (kWh per square meter) per year and per assert; calculated carbon footprint disclosed

¹ According to the Swedish Transport Administration, the average emission was 120g CO₂/km for newly registered cars in 2019.



by absolute emissions (tons) and intensity (kg per square meter) per year when calculation is implemented later for 2021. A grid factor of 315 gCO₂/kWh will be used².

The GHG emissions will be monitored annually by Arwidsro in accordance with the GHG Protocol when calculation is implemented. The reporting will be independently verified.

- Energy efficiency: kWh/m²/annum; percentage of energy use reduced/avoided; and percentage energy efficiency increase.
- Environmentally sustainable management of living natural resources: 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). Arwidsro will describe the investment and the area of the installation (if applicable), as relevant
 information metrics.
- Pollution prevention and control: Each yearly report will include at least one example (if applicable) of a
 pollution prevention and control investment that have been financed with green net proceeds. KPIs will
 not be disclosed beforehand in this Framework. Arwidsro will emphasize on carbon savings, where
 applicable, as relevant performance metrics.
- Renewable energy: Each yearly report will include at least one example (if applicable) of a renewable energy investment that have been financed with green net proceeds disclosing its estimate of the reduction in greenhouse gas emissions avoided as a result of the investment.

² https://kommuninvest.se/wp-content/uploads/2020/02/NPSI Position paper 2020.pdf

3 Assessment of Arwidsro's green finance framework and policies

The framework and procedures for Arwidsro'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 Arwidsro should be aware of potential macrolevel impacts of investment projects.

Overall shading

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

Eligible projects under the Arwidsro'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 and loans 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 electric vehicles, charging stations, bicycle garages, pedestrian walkways, bicycle lanes and other investments that support and emphasize the use of clean transportation solutions.	Dark Green Only fully electric vehicles will be eligible.

Energy efficiency



Financing of investments include energy retrofits such as the installation of more efficient ventilation or heating system and adjusting light controls and light fittings.

The Green Finance Committee will only include investments where a minimum on 25% energy saving is targeted and a minimum negative climate impact and potential rebound effect is controlled.

Medium Green

- ✓ 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.
 - The issuer informs us that no fossilbased systems will be involved, and no upgrading of fossil fuel technologies will be allowed. District heating system may be involved, and that may contain some fossil elements through the use of waste for heat.

- According to IEA, efficiency of building envelopes needs to improve by 30% by 2025 to be aligned with the Paris target.
- Be aware of potential rebound effects following energy efficiency improvements.

sustainable management of living natural resources

Environmentally Finance in green environments that promote, restore and preserve biological diversity. These include, green roofs, green walls, urban biotopes, flower-beds, trees, which all have a positive effect on reduced noise levels, risk of flooding, binding air pollution and strengthens ecological values within the zone of accumulation.

Dark Green



Green buildings

Financing of development or acquisition of new constructed properties that either have or will receive a design stage certification, a post construction certification of an in-use certification of Milljöbyggnad Silver, BREEAM Very Good or an equivalent level from a certification scheme and that has an energy usage which is at least 30% below the applicable national legislation.

Financing of existing properties that either have or will receive a post construction certification of an in-use certification of Miljöbyggnad Silver, BREEAM Very Good, or an equivalent level from a certification scheme and that achieve at least a 30% increase in energy efficiency.

Medium Green

- 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 improvements from before change, mitigate this.
- ✓ No buildings with fossil fuel heating systems will be included.
- ✓ 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 informs us that climate resilience and proximity to clean public transport are taken into account in new projects. They are also aware of the importance of construction/demolition waste management and subcontractor requirements.



Pollution prevention & control



Financing or refinancing of the establishment, expansion or upgrades of solutions contributing to the management, reduction and reuse of waste such as systems and technologies contributing to an efficient management of waste, for the purpose of reducing and recycling all types of waste in the management and construction of buildings.

Medium Green

- ✓ Waste for heat or cooling will involve fossil elements (plastic).
- Management of waste will also include demolition projects.

Renewable energy



Financing of onsite installation of solar panels in order to increase the share of renewable energy used within Arwidsro's property portfolio are eligible to improve the energy efficiency and to support the aim to increase the share of renewable energy in the properties and to decrease the share of fossil fuels.

Dark Green

- ✓ To be aligned with the EU

 Taxonomy, CO₂ emissions should be lower than 100 gCO₂/kWh.
- ✓ There is not yet a quantitative target for reductions in the share of fossil fuels.

Table 1. Eligible project categories

Background

As members 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%. The European Green Deal aims for carbon neutrality in 2050. Sweden has developed a National Energy and Climate Plan (NECP) in which it outlines the targets and strategies in all sectors. 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 building sector accounts for a large share of primary energy consumption in most countries, and the 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.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. 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.

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/etp/tracking2017/buildingenvelopes/

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

According to the Exponential Roadmap⁸, which lays out a trajectory for reducing emissions by 50% by 2030, emissions reductions strategies within the buildings sector need to 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 bond funding for sustainable retrofitting and construction.

EU Taxonomy

The proposed EU taxonomy for sustainable finance⁹ includes a number of principles including a "do-no-harm clause" and safety thresholds for various types of activities. Do-No-Significant-Harm criteria include 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. CICERO Green will not here verify Arwidsro's framework against the full EU taxonomy, but notes that the taxonomy includes specific thresholds for the real estate sector, briefly 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 level mandated by national regulations.
- 2. Ownership or acquisition of buildings built before 2021: Energy performance in the top 15% of similar stock.
- 3. Renovations should deliver 30% energy savings.
- 4. Large non-residential buildings should have dedicated energy management system.

It is currently unclear how this will apply to Sweden, but it is reasonable to expect that buildings with energy use 20 percent below present regulation would be aligned with the taxonomy. The taxonomy also highlights the importance of lifecycle emissions including a focus on building material such as wood.

Energy saving renovations for existing properties that result in buildings lowering their primary energy demand with 30% are also to be classified as sustainable within the EU Taxonomy. It is further 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.

Based on the above, it seems reasonable to expect parts of Arwidsro's green financing to be aligned with the EU taxonomy. Possible exceptions are related to point 2. above, since we don't know the energy performance of the top 15% of similar stock.

Governance Assessment

Four aspects are studied when assessing the Arwidsro'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 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.

ExponentialRoadmap 1.5.1 216x279 08 AW Download Singles Small.pdf

⁸ https://exponentialroadmap.org/wp-content/uploads/2020/03/

⁹ 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_

°CICERO Shades of Green

Arwidsro is at an early stage when it comes to reporting on energy use and greenhouse gas emissions. For this reason, they have yet to develop quantitative targets for the short- and long-term for these issues. Current strategies are sound but of a general nature. Arwidsro does not follow the guidelines from TCFD. The selection process is based on good internal and external environmental competence and is based on consensus in the Green Finance Committee. They are working on including supply chain considerations, life cycle assessments, potential for lock-in of fossil fuel infrastructure and



potential rebound effects in the decision-making process. Reporting includes relevant impact metrics, but climate footprints are based on a high grid factor.

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

Strengths

Arwidsro informs us that the majority of the proceeds will be used for the categories Energy efficiency and Green buildings. As commercial properties like shops and malls are known to be quite energy intensive, the focus on energy efficiency and green buildings strengthen the framework. In addition to the commitment to relatively strong energy efficiency requirements for eligible projects, the substantial impact reporting, although conditional, increases transparency to investors and is a strength of the framework.

Weaknesses

Lack of quantitative targets for greenhouse gas emissions (at least scope 1 and 2) and energy use or efficiency in the short and long term, is a weakness. Lack of reporting of emissions today, also makes it difficult to assess the baseline for such targets. We find no other substantial weaknesses in the framework.

Pitfalls

CICERO Green factor in if there have been any considerations around transportation solutions and environmental impacts in the construction phase of the building (building material and waste considerations). Shopping malls in particular have the potential to indirectly generate considerable amount of traffic.

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 buildings eligible under Arwidsro's framework are falling short of the long-term vision of zero-energy buildings or passive houses.

We note that district heating is the predominant heating method in Sweden. Also, most of the district heating companies seek to minimize the use of oil or other fossil fuels. However, when waste-to-energy is utilized it is sometimes difficult to know the fossil fraction of the waste stream, e.g. the amount of plastics. Again, many Swedish district heating companies have strong policies to minimize these types of fractions, but without specific information of suppliers of district heating, it is difficult to guarantee totally against the use of some fossil fractions.



In calculating emission reductions, Arwidsro plans to report according to the grid factor suggested in Nordic Public Sector Issuers Impact Reporting (currently 315 gCO₂e/kWh). This is likely a high grid factor for most Swedish companies and may result in overestimation of real GHG emission reductions.

Life cycle assessment of projects are only carried out in connection with Miljöbyggnad certifications. There is no emission accounting covering construction and demolition phase activities.

Arwidsro is aware of physical and transitional climate risks, but has not formalized the process for climate risk screening.

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. Arwidsro's work with its property users can actively mitigate the risk of rebound effects related to energy efficiency.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Arwidsro - Green Bond Framework	Green Finance Framework dated August 2020
2	Årsredovisning 2019	Annual report 2019
3	Hållbarhetspolicy	Sustainability policy
4	Miljöpolicy	Environmental policy
5	Uppförandekod	Code of conduct
6	Diskriminering- och likabehandlingspolicy	Discrimination and equal treatment policy
7	Anti-korruptionspolicy	Anti-corruption policy
8	Citylab-Guide-Hållbar-stadsutveckling-i- planering-och-genomförande	Citylab Guide ver. 3.0 – A guide to sustainable urban development.
9	Fjällskivlingen 4_Effektsignatur	Energy analysis of one property (Fjällskivlingen 4)



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).

