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Second Party Opinion

Atrium Ljungberg's Green Bond Framework

Feb. 17, 2025

Location: Sweden

Sector: Real estate

Primary contact

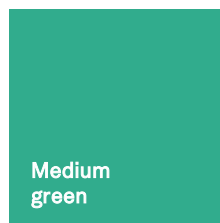
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Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

See [Alignment Assessment](#) for more detail.



Medium green

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our [Shades of Green Analytical Approach](#) >

Strengths

Atrium Ljungberg (Atrium) has screened its entire property portfolio for physical climate risks and has set a target to adapt all its buildings by 2030. Measures to achieve this target will be financed with proceeds issued under this framework in the climate change adaptation category.

Atrium is investigating the use of low carbon materials for some of its property developments. The company is doing this by conducting lifecycle analysis in the planning stages of projects. It aims to support these efforts by including an embodied emissions threshold in its criteria for eligible new construction projects.

Weaknesses

No weaknesses to report.

Areas to watch

New construction projects eligible for financing under this framework are associated with embodied high emissions from the use of construction materials.

Atrium has included an embodied emissions threshold in its criteria and has set a non-validated target to achieve net zero value chain emissions by 2040. However, the methodologies and knowledge needed to reduce such emissions are still evolving and a significant reduction will be needed as 2050 approaches.

The increased use of low carbon materials, such as wood, results in value chain exposures to biodiversity risks. The company has implemented a supply chain due diligence process and has, to date, selected suppliers with environmental certifications.

Eligible Green Projects Assessment Summary

Over the three years following issuance of the financing, Atrium expects to allocate the vast majority of proceeds to the green buildings category, and the remainder to other eligible categories, namely renewable energy, clean transportation, energy efficiency, and climate change adaptation. Within the green buildings category, Atrium anticipates that most of the proceeds will be allocated to existing buildings, and around 25% to new buildings projects.

The issuer expects that between 2025 and 2027, 55% of the proceeds will be allocated to financing new projects, and the remainder to refinancing projects.

Based on the project category shades of green detailed below, the expected allocation of proceeds, and consideration of environmental ambitions reflected in Atrium's Green Bond Framework, we assess the framework as Medium green.

Eligible projects under the issuer's green finance Atrium's Green Bond Framework are assessed based on their environmental benefits and risks, using Shades of Green methodology.

Green buildings **Medium green**

Construction of new buildings built after Dec. 31, 2020

Renovation of existing buildings

Existing buildings built before Dec. 31, 2020

Renewable energy **Dark green**

Renewable energy production and related infrastructure investments

Clean transportation **Dark green**

Supporting infrastructure for clean transportation, such as charging stations.

Energy efficiency **Dark green**

Upgrades to existing portfolio of properties that lead to energy savings in the target area of a minimum of 20%.

Climate change adaptation **Dark green**

Adaptation measures to properties to mitigate the negative consequences brought on by climate change

See [Analysis Of Eligible Projects](#) for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Atrium Ljungberg (Atrium) is a real estate company that owns, develops, and manages properties totaling 881 000 m² of lettable space, with a property value of SEK58,362 million (€5.08 billion) in 2024. Its properties are in Stockholm (80% of properties based on value in million SEK), Uppsala (10%), Malmö (5%), and Gothenburg (5%), all in Sweden. Its property portfolio is divided between offices (67% of total property value as of September 2024), retail (19%), residential (3%), and the remainder split between ongoing projects (10%) and development rights and lands (1%). In 2024 its rental income was SEK2,988 million (roughly €260 million) and its net sales were SEK3,516 million (around €306 million). Atrium has been listed on Nasdaq Stockholm since 1994, with the largest shareholders being the Ljungberg family (31.6% of voting shares), Coop Östra (20%), and the Holmström family (20.4%).

Material Sustainability Factors

Climate transition risk

Increased energy use in buildings has been a major contributor to climate change, representing around one third of global greenhouse gas (GHG) emissions on a final-energy-use basis according to the International Energy Agency (IEA). Building occupiers and operators may face higher energy bills as power prices rise, and higher capital expenditure as upgrades are required to accommodate the energy transition and meet more stringent efficiency standards. In addition, low-carbon properties may achieve higher cost efficiencies or attract premium rents in the longer term, therefore enhancing their value. Embodied emissions from building materials are a major source of emissions when looking at the carbon footprint of a building over its life cycle. Sweden, as a member of the EU, is implementing European rules on buildings' energy efficiency, while having more advanced regulations than most European countries on embodied emissions.

Physical climate risk

The geographically fixed nature of real estate assets exposes them to physical climate risks. While varying by location, these could include acute risks--such as wildfires, floods, and storms--which are becoming more frequent and severe, as well as chronic risks--such as long-term changes in temperature, precipitation patterns, and sea levels. For the Nordic building sector, the most severe physical impacts will likely come from increased flooding, snow loads, and urban overflow, as well as a higher incidence of storms and extreme weather. Acute and chronic risks could damage properties or put tenants' health and safety at risk, as well as require investments to manage potential effects or, in severe cases, the relocation of tenants. While the aggregate impact is moderate--given that the type, number, and magnitude of these risks vary by region--highly exposed regions may be subject to material physical climate risk exposure. Most participants have some insurance coverage, but it could become more difficult to secure insurance for the most exposed assets, absent adaptation to climate change.

Biodiversity and resource use

Construction and the use of wood-based materials can have significant resource-use issues. Key challenges are biodiversity risks, energy consumption, and the overuse of materials. As new buildings require land, there are also climate risks relating to site selection. Preserving natural carbon stocks is key to meeting climate goals as many habitats, like bogs and organic soils, store large amounts of carbon. Disturbing these can lead to significant emissions. Nature also absorbs carbon dioxide, so conserving 30%-50% of land, sea, and fresh water (as the Intergovernmental Panel on Climate Change recommends) is central to reducing greenhouse gases and adapting to climate change. Some ecosystems, like bogs and topsoil, take a long time to recover,

and certain changes are irreversible. Resource-intensive materials and practices pose risks to finite resources. Addressing these problems through resource-efficient design, alternative materials, and resource management will help reduce the industry's impact on local habitats and global footprints. The forestry sector in Sweden has faced criticism related to biodiversity risks from practices such as clear felling and monocultures, and its interactions with reindeer husbandry.

Issuer And Context Analysis

The framework's eligible project categories address the most material sustainability factors that we identified for Atrium. Its investments in green buildings, renewable energy, clean transportation, and energy efficiency seek to mitigate its climate transition risk. Green buildings and climate change adaptation projects focus on the company's physical climate risks.

The company aims to become climate neutral in its direct operations by 2030 and to achieve net zero emissions across its entire value chain by 2040 relative to 2023. In 2024, the latter was validated by the Science Based Targets initiative (SBTi) as in line with the 1.5C scenario in 2024. Although it has yet to publish data for its complete scope 3 inventory, all indirect emissions categories are included in the scope of the net zero target. According to the company, becoming net zero will require a 90% reduction in its absolute scope 1, 2, and 3 emissions, with the rest neutralized by carbon removals. To achieve these goals, Atrium aims to reduce emissions from planned projects by 50% by 2025 and 75% by 2030 by using lifecycle analysis to determine the carbon footprint of its buildings, and by using lower carbon materials. This includes wood, as seen in its Stockholm Wood City development, which will be made entirely of locally sourced timber. Supporting this, it aims to reach 20% circular material use by 2030. In 2024 it reduced project-related emissions by 30% compared to 2021 levels. Another key part of its strategy is to reduce emissions from property management by 22% by 2025 (2021 base year) and decrease its consumption of purchased energy by 40% by 2030 (2023 base year). To this end, Atrium installs meters and solar cells in its buildings, purchases hydroelectricity with guarantees of origin, and offers tenants infrastructure for non-fossil-based modes of transport. It has so far reduced emissions from the management of its properties by 22% versus 2021.

Atrium works to improve its buildings' physical climate resilience and their environmental performance when used by tenants. It has conducted a climate screening analysis for its entire portfolio using scenario analysis and aims to adapt all its properties by 2030. It also seeks to reduce waste volumes by 20% by 2030 (2023 base year) by working with waste contractors to improve collection by providing data on waste sorting to its commercial tenants. Moreover, it is working to decrease water consumption per square meter by 20% by 2030 compared to 2023. The company has started to implement green leases for all buildings except garages and housing and engages with tenants to reduce the environmental impacts of their activities. As of 2024, 79% of its contracted annual rent was covered by such agreements, a 5% increase versus 2023.

Atrium uses external and internal guidelines to support its efforts to mitigate the environmental impacts of its buildings. It works to obtain established certifications, namely BREEAM for new commercial properties, Miljöbyggnad for new housing buildings, and BREEAM In-Use for existing ones. As of 2024, 71% of its total area was certified. Moreover, Atrium has developed a social sustainability index called Our City as a guiding tool. It is based on five focus areas, including safety, accessibility, urban ecosystems, placemaking, and participation, each with a set of quantitative and qualitative indicators. Atrium aims to achieve a score of over 90% for its entire portfolio by 2030, having achieved 61% in 2024. That said, we note that as it is developed in-house, this tool and its outcomes lack comparability with other real estate peers.

Atrium complies with regulatory requirements and engages external parties to assess and mitigate its biodiversity risks from building on greenfield land and the use of wood-based materials. For the latter, it also collaborates with the Stockholm Green Innovation District focused on creating sustainable urban areas with climate-smart solutions.

Alignment Assessment

This section provides an analysis of the framework's alignment with the Green Bond Principles.

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

✓ Use of proceeds

We assess all the framework's green project categories as having a green shade, and the issuer commits to allocating the amount equivalent to net proceeds from issued green bonds to eligible green projects. Please refer to the Analysis Of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds. Funds may be used to finance and refinance eligible projects and may have the market value of fixed assets, capital expenditures, and/or operational expenditures (opex). We view positively that the framework has specified that opex will have a look-back period of three years.

✓ Process for project evaluation and selection

Atrium established a Green Bond Committee (GBC) formed of representatives from its Treasury and Sustainability Departments. The GBC's responsibilities include identifying eligible projects that comply with the criteria in the framework, evaluating their environmental and social impacts and compliance with national laws and Atrium's policies, as well as updating its Green Bond Framework. GBC's decisions regarding project allocation must be unanimous. The framework's exclusion list covers fossil-based and nuclear energy generation, research and development of weapons and defense systems, and the extraction of resources with potentially negative environmental impacts.

✓ Management of proceeds

Atrium will track the allocation of proceeds to eligible projects using its Green Register following a portfolio approach. The sustainability department will maintain and update a list of all green projects. The Treasury department will ensure that all financing allocated to an eligible project must not exceed its value. If projects no longer meet the criteria in the framework or if the underlying project is divested or lost, an amount equal to its allocated funds will be added the Green Register or reallocated to other eligible activities, unless there is a restriction included in the loan documentation. Unallocated funds will be invested in short-term interest-bearing securities, including Swedish treasury bills or municipal notes.

✓ Reporting

Atrium commits to disclosing its allocation of proceeds, the impacts of its financed projects, and summaries of its yearly activities with indicative examples on its website annually and while there are instruments outstanding. The allocation report will include the nominal amount of outstanding green bonds; a list of financed eligible projects, the amount allocated to each and their geographical distribution; the shares of financing and refinancing; and if applicable the amount of unallocated proceeds. Data used in this report will be from December the previous year. Its impact reporting will be on a project level and will be based on the proportion of green financing in its total investments. For projects that are not yet operational, the company will provide estimates of anticipated performance. It is positive that it will strive to align such reporting with ICMA's Harmonized Framework for Impact Reporting.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the Shades of Green methodology.

Overall Shades of Green assessment

Based on the project category shades of green detailed below, the expected allocation of proceeds, and consideration of environmental ambitions reflected in Atrium's Green Bond Framework, we assess the framework as Medium green.

Medium green

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our [Shades of Green Analytical Approach](#) >

Green project categories

Green Buildings

Assessment

Medium green

Description

New buildings

New buildings built after Dec. 31, 2020, must meet or will, upon completion, meet following criteria to be eligible:

- Achieve a primary energy demand (PED) of at least 20% (regarding energy targets in new properties, Atrium Ljungberg always strives to achieve 30% lower energy use than required by the applicable national building code [BBR] but due to the properties' high cultural values (several are listed buildings) the scope of activities that can be undertaken to limit energy use is often restricted to lower than the threshold set for nearly zero-energy building requirements.
- Obtain one of the following environmental certifications BREEAM "Excellent", Miljöbyggnad "Silver", LEED "Gold", Svanen, or better.
- Undergo testing for airtightness and thermal integrity.
- Undergo a screening of material climate risks in accordance with the EU Taxonomy
- Conduct a life-cycle analysis of the global warming potential, allowing for a maximum amount of embodied carbon in the building phase of 301 kg CO₂e/GFA (covering module A1-A5).

Renovation of existing buildings (a renovated building that fulfils the criteria for existing buildings in this framework can be classified as an eligible green project as a whole. If the building, after renovation, does not fulfil the criteria for an existing building in this framework only the cost of the renovation measures can be financed).

Renovation of existing buildings must meet or lead to the following criteria to be eligible:

- The renovation leads to an overall reduction in PED of at least 30% or meets the applicable requirements for major renovations.

- The renovated building obtains an environmental certification of BREEAM "Very Good", BREEAM In-use "Very Good", Miljöbyggnad "Silver", Miljöbyggnad iDrift "Silver", LEED "Gold", LEED EBOM "Gold", Svanen, or better.

Existing buildings

Existing buildings built before Dec. 31, 2020, must meet specified criteria below to be eligible:

- Have an energy performance certificate of class A or have a PED within the top 15% of the national or regional building stock.
- Have one of the following environmental certifications: BREEAM "Very Good", BREEAM In-use "Very Good", Miljöbyggnad "Silver", Miljöbyggnad iDrift "Silver", LEED "Gold", LEED EBOM "Gold", Svanen, or better.
- Undergo screening of material climate risks in accordance with the EU Taxonomy.

Analytical considerations

- The IEA emphasizes that reaching net-zero emissions in buildings demands major energy efficiency strides and fossil fuel abandonment. All properties must achieve high energy performance. New properties should also cut emissions from building materials and construction. Addressing physical climate risks is also key to strengthening climate resilience across all buildings.
- Atrium anticipates that 75% of proceeds will be allocated to existing buildings between 2025 and 2027 (including those for which it obtained building permits before December 2020), and the rest to new buildings. We assign a shade of Medium green to the project category to reflect the inclusion of energy use and efficiency thresholds, physical climate risk assessments, and green building certifications. In our view, the ambition for existing buildings to be in the top 15% of the national or regional building stock, and for renovated buildings to achieve a 30% improvement in energy performance, are strong commitments in the transition to a low carbon society. The issuer has confirmed that buildings dedicated to fossil-fuel-intensive value chains will not be financed under this framework nor will renovation projects with improvements to fossil-fuel-powered assets or technologies. As the issuer expects to allocate most of the proceeds to this category, this shade is the main driver of the overall framework's shade.
- The most material source of climate impacts for new construction projects is embodied emissions in the materials used. It is therefore positive that the criteria for these buildings include embodied emissions thresholds. Atrium plans to achieve this objective by performing LCA analysis in the planning stage, by using lower carbon and circular materials (such as wood). This is supported by its climate and environmental ambitions for 2030 and 2040, as well as the indicators the company selected for its sustainability-linked framework. That said, while these efforts will help decrease the lifecycle emissions of Atrium's property portfolio, they are not sufficient to render new construction carbon neutral.
- The green building certifications listed in the framework, namely BREEAM, LEED, and Miljöbyggnad, may somewhat mitigate the climate and environmental impacts associated with the construction and operations of buildings. This is because they cover a broad set of issues such as energy efficiency, biodiversity, and waste and water management. The robustness and ambition of the certifications depend on the version used and the points obtained during the process. We note that BREEAM In-Use does not include specific energy-efficiency criteria and we therefore view as positive that the criteria for renovated and existing buildings includes such quantitative thresholds. In addition, the company has started to implement green leases for all its buildings, excluding garages and housing, and is engaging with tenants to reduce their environmental impacts.
- Given the fixed nature of buildings, improving their resilience to physical climate risk is crucial in the transition to a low carbon real estate sector. Atrium will screen new construction buildings for climate risks and has also done so for the entirety of its portfolio, thereby covering all buildings eligible under this framework. It will implement adaptation measures as part of the framework's climate change adaptation category.
- Building on greenfield land presents biodiversity and climate risks. The regulatory context of Nordic countries mitigates these risks to an extent. Indeed, Atrium's property portfolio is in areas covered by legislation that requires EIAs and building permits. However, all deforestation has negative climate impacts and current practices might not sufficiently mitigate such risks, even in stringent regulatory environments. The company has confirmed that its ongoing and upcoming projects starting before 2030 will be in previously developed industrial areas, thereby limiting the biodiversity risks associated with eligible activities. Nevertheless, such impacts are taken into account during zoning planning in preparation for buildings'

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environmental impact statements. As it works with BREEAM on the development of commercial properties, Atrium engages ecologists to assess the biodiversity impacts of projects.

- Buildings related to the construction of Atrium's Wood City may be eligible for financing if they meet the criteria in the framework, which could result in value chain biodiversity risks from the large-scale sourcing of wood-based materials. The company is working to address such exposures through its supply-chain due-diligence process based on its Supplier Code of Conduct, self-assessments, and by including lifecycle considerations in the evaluation of environmental impacts associated with eligible projects through the GBC. For wood-based materials in particular, the company has elected to use certified materials (Forest Stewardship Council) or suppliers with environmental certifications (ISO 14001). The company also aims to use locally sourced materials, which enables it to have greater visibility in its supply chain. To support greater transparency in the construction value chain, it participates in Rättvist Byggande, which reviews subcontractors. In 2023 Atrium also engaged suppliers and contractors on climate neutrality through a supplier development program.

Renewable energy

Assessment

 **Dark green**

Description

On-site and off-site solar power installations and on-site geo-energy installations (ground and surface systems), wind power, as well as related infrastructure investments such as grid connections, electric substations, or networks.

Analytical considerations

- Renewable energy generation from solar, wind, and geothermal sources plays a crucial role in limiting global warming to well-below 2C, provided local and value chain environmental impacts are adequately addressed. We assess this category as Dark green because the projects will reduce the climate footprint of Atrium's buildings when they become operational.
- Eligible solar projects will primarily include rooftop installations on Atrium's properties. Since 2019 the company has increased the area covered by solar panels from 667 m² to 25, 378 m² in 2024, with an installed output of 5.1 megawatt hours per year. The renewable energy produced by solar, wind, and geo-thermal assets financed under this framework will be used by tenants and in the company's operations, thereby reducing purchased energy consumption and contributing to its ambitions for climate neutrality by 2030 and a net-zero value chain by 2040.
- Renewable energy technology carries value chain environmental and social risks. Atrium is working to address these exposures by advancing its supply-chain due-diligence process and evaluating the environmental impacts, including lifecycle considerations, of eligible activities through its GBC. Moreover, suppliers involved in Atrium's planning and construction processes are required to apply the Swedish Buildings Materials Assessment, which entails reducing environmental impacts, pollutants, and hazardous substances. To date, Atrium's main solar panel suppliers have used certifications such as ISO 26000, codes of conduct and audits, and BloombergNEF's Tier 1 Solar Module Maker to demonstrate their sustainability credentials, though we note that the latter is used as an indication of a solar manufacturer's ability to obtain non-resource debt and does not include detailed environmental specifications.

Clean transportation

Assessment

 **Dark green**

Description

Charging stations for electric vehicles, bicycle garages, pedestrian walkways, and bicycle lanes.

Analytical considerations

- Reducing the use of vehicles and switching to EVs are central to addressing road transport emissions and transitioning to a low-carbon future in accordance with the Paris Agreement. To reflect the role of the activities financed under this category in contributing to these aims in Sweden, we assign a Dark green to this category.
- With investments in the assets included in the scope of this category, Atrium will seek to support the use of low-carbon modes of transport by its tenants. EVs offer substantial reductions in lifecycle emissions when compared to internal

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combustion engine vehicles, particularly when they are manufactured and powered by renewable electricity. Therefore, by increasing the availability of charging stations, the company will improve the accessibility of EVs and encourage their adoption. In 2022 it had installed 1,100 charging points in its properties.

- The degree of lifecycle savings from EVs depends on the energy mix of the grid that powers them. Sweden is well-positioned in this regard because the majority of its electricity production is from renewable sources, which results in a low grid emission factor. According to 2023 data from the IEA, renewables (hydropower, wind, solar) accounted for 62% of electricity generation in Sweden, with nuclear contributing 29%, biofuels and waste 8%, and fossil fuels (natural gas, oil, and coal) only 1%. In addition, Atrium ensures that 100% of its purchased electricity comes from hydroelectricity with guarantees of origin and certified with the Gold Standard.
- Bicycle garages and lanes and pedestrian walkways enable alternative modes of transport that avoid the use of personal cars entirely. This is further supported by Atrium's company-wide ambition to locate its buildings in proximity to public transport links, with 85% of its portfolio achieving this goal in 2023.
- Charging technology and other types of infrastructure might be exposed to supply-chain environmental and social risks. As noted in the renewable energy category, Atrium is working to address such issues through its supply-chain due-diligence program and by evaluating the environmental risks of financed projects through its GBC.

Energy efficiency

Assessment

 **Dark green**

Description

Upgrades to the existing portfolio of buildings that lead to energy savings in the target area of a minimum 20%. Activity upgrades cover energy-efficient lighting, IT (monitoring, efficiency management, and remote operation), energy efficient windows, or an upgraded ventilation system. Only directly associated expenditure (such as for material, installation, and labor) is eligible for financing.

Analytical considerations

- Energy efficiency measures are necessary for the transition to a low-carbon economy, but their climate benefits and risks vary based on the sector and processes they are applied to. We view this project category as Dark green because these measures will contribute to reducing Atrium's and its tenants' energy consumption by a minimum of 20%.
- Improving the energy performance of buildings is important in the transition to a low-carbon future. According to the IEA net zero pathway, energy efficiency and electrification are the main decarbonization levers for the building sector. With projects included in the scope of this category, Atrium will contribute to achieving its target to reduce the energy consumption of its property management activities by 40% and its scope 1 and 2 climate neutrality goal by 2030. The company has confirmed that improvements to fossil-fuel-powered technologies will not be included in the scope of this framework because it completed its phase-out of non-renewable sources in 2019.
- Technological equipment and energy-related infrastructure may be exposed to environmental risks in their supply chains. Atrium seeks to address such exposures through its supply-chain due-diligence program and by evaluating the environmental impacts, including rebound effects, of financed projects through its GBC.

Climate change adaptation

Assessment

 **Dark green**













Description

Investments undertaken to mitigate the negative consequences brought on by climate change and their impact on properties, including adaptation of buildings, infrastructure, parks, and green areas to build resilience against expected risks such as increased rainfalls, flooding, or rising sea levels.

Analytical considerations

- Increased temperatures and worsening weather events resulting from climate change are likely to become inevitable. It is consequently essential to plan for and mitigate physical climate risks to minimize their financial and environmental effects.
- With investments allocated to this category, Atrium will contribute to its target to adapt all its properties by 2030. The company has implemented a strong process to identify the physical climate risk exposure of its portfolio. It has performed scenario analyses on all its buildings using Representative Concentration Pathways (RCPs) 4.5 (indicative of an intermediate scenario with peak emissions in 2040) and 8.5 (worst-case scenario with highest emissions by 2100) with a timeframe of the end of the century. It found that 37% of its property value is exposed to high risk in RCP 4.5 and 48% in RCP 8.5. For buildings to be deemed as having high physical climate risk, they need to be exposed to at least one of the following: torrential rain, landslides, heat stress, or flooding from sea, lakes, or waterways. The company found that its most material risks are those due to flooding from torrential rains, sea flooding, and heat stress. This analysis is supplemented by on-site inspections for high-risk properties to identify and prioritize adaptation measures. It aims to update its assessment of its physical climate risks every fifth year when new RCP scenarios are made available.
- Eligible activities include both nature-based solutions (parks and green areas) and those requiring construction. Although we understand from the company that most projects will be nature related, any emissions resulting from the latter will be covered by the relevant buildings' climate declaration.

S&P Global Ratings' Shades of Green

Assessments					
 Dark green	 Medium green	 Light green	 Yellow	 Orange	 Red
Description					
Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
Example projects					
 Solar power plants	 Energy efficient buildings	 Hybrid road vehicles	 Health care services	 Conventional steel production	 New oil exploration


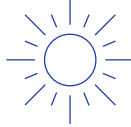



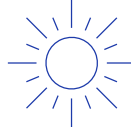




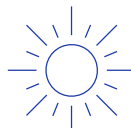


Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Mapping To The U.N.'s Sustainable Development Goals

Where the Financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the Financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not impact our alignment opinion.

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs				
Green buildings	 3. Good health and well-being	 7. Affordable and clean energy	 11. Sustainable cities and communities*	 12. Responsible consumption and production	 13. Climate action
Renewable energy	 7. Affordable and clean energy*	 11. Sustainable cities and communities*	 13. Climate action		
Clean transportation	 11. Sustainable cities and communities*	 13. Climate action			
Energy efficiency	 7. Affordable and clean energy*	 11. Sustainable cities and communities	 13. Climate action		

Climate change adaptation



7. Affordable and clean energy



11. Sustainable cities and communities



13. Climate action*

*The eligible project categories link to these SDGs in the ICMA mapping.

Related Research

- [Analytical Approach: Second Party Opinions: Use of Proceeds](#), July 27, 2023
- [FAQ: Applying Our Integrated Analytical Approach for Use-of-Proceeds Second Party Opinions](#), July 27, 2023
- [Analytical Approach: Shades of Green Assessments](#), July 27, 2023
- [S&P Global Ratings ESG Materiality Maps: Real Estate](#), July 20, 2020

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Second Party Opinion: Atrium Ljungberg's Green Bond Framework

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