Humlegården Fastigheter AB
Sustainability-Linked Financing Framework Second Opinion

12 May 2023

Humlegården is a Swedish property company that owns, manages, and develops mainly office properties in the Stockholm region. As of 31 December 2022, the company owned 59 properties valued at SEK 40 billion. The company has 93 employees and is owned by 23 regional insurance companies. It had revenues of SEK 1.7 billion in 2022.

This is a second opinion on Humlegården's sustainability-linked financing framework. CICERO Shades of Green's approach to sustainability-linked frameworks includes an assessment of the issuer's climate and sustainability governance, the framework's key performance indicators (KPIs) and sustainability performance targets (SPTs), and the issuer's revenues and investments.

We give Humlegården a governance score of **Excellent.** This reflects the company's overall robust approach to climate and environmental issues for its own portfolio and supply chain. This includes a 2045 net zero target and a 2030 interim absolute emissions target that has been validated by the Science-Based Targets Initiative, as well as significant efforts on circular economy. Climate change has been integrated into Humlegården's risk assessment processes, including via scenario analysis for transition and physical risks. The company could improve with greater transparency around its efforts and outcomes from supplier engagement over sustainability.

GOVERNANCE ASSESSMENT

SUSTAINABILITY LINKED BOND AND LOAN PRINCIPLES

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

Under its framework, Humlegården aims to 1) reduce Scope 1, 2 and 3 emissions intensity, 2) reduce energy use per square metre, and 3) increase the share of major renovations and construction projects carried out according to circular principles. Strengths, weaknesses and pitfalls of the framework are discussed below, and Table 1 at the end of this executive summary provides a snapshot of our assessment of the KPIs and SPTs.

Strengths

Overall, we consider the KPIs highly complementary to each other and collectively material in terms of addressing climate transition risks. In particular, the inclusion of Scope 3 emissions categories such as embodied emissions and tenant electricity use in KPI 1 is strongly welcomed. Further, the inclusion of KPIs 2 and 3 greatly increase the credibility of KPI 1, since they require the company to take action on energy use and its material footprint, which are the two largest source of the company's emissions across Scopes 1, 2 and 3. We also note the specific importance for the low-carbon transition of reducing energy use regardless of whether it is renewable or not, which is addressed by KPI 2.

Following from the above, it is also a strength that the company is committed to always using all three KPIs for all sustainability-linked financing issued under the framework. According to the company, the corresponding SPTs will be weighted evenly when determining the size of change in financial characteristics.

Humlegården's ambitions to fully start using circular principles for major construction and renovation projects should be acknowledged, alongside the efforts it has put into developing these principles. According to the company

there is no standardized approach nor industry benchmark for measuring circularity. As such, the development of the principles and if successful, their implementation, has the potential to move the Swedish real estate sector forward on the topic of circular economy, provided that Humlegården fulfills its commitment to publish its methodology and is successful in engaging sector peers and other stakeholders around their uptake.

Pitfalls

The ambition level of SPTs 1a and 1b fall at the low end of the range represented by Humlegården's closest peers in the Swedish real estate sector, provided that Humlegården follows through on its plan to include emissions from tenant electricity use and achieves net zero Scope 1 and 2 emissions by 2030 on its way to achieving SPTs 1a and 1b. This is assessed in light of 1) Atrium Ljungberg and Vasakronan's shorter 2030 timelines to net zero across Scopes 1, 2 and 3 emissions when compared to Humlegården's 2045 timeline, and 2) Fabege's target of net zero Scope 1 and 2 emissions by 2030, while halving Scope 3 emissions from 2019-2030. It is theoretically possible for Humlegården to achieve the same as Fabege if its Scope 1 and 2 emissions also reach net zero by 2030, but this is not guaranteed. However, other than Atrium Ljungberg, peers have not provided transparency on the extent to which offsets or renewable energy guarantees of origins can contribute to their net zero targets. In comparison, while Humlegården has not specified quantitative limits, it has indicated that the use of offsets will be limited. It also uses location-based accounting for KPI 1, which prevents guarantees of origin from counting towards the target. Humlegården's targets should be considered in the context of the Swedish real estate sector, which is among the most advanced and ambitious globally on sustainability.

As of 2022, Humlegården has already achieved SPT 1a and 50% of the reductions required to achieve SPT 1b, although this may be due to inherent data volatility and does not take into consideration expected changes to the baseline from the planned future inclusion of emissions from tenant electricity use. According to the company, the volatility is related to emissions from construction projects. It is important to note that the company had also achieved SPT 1a in 2020, when KPI 1 decreased by 42% from 2019-2020, only for it to then increase by 46% from 2020-2021. As such, this issue may not signify a lack of ambition but should be noted.

KPI 2 entirely excludes energy use by tenants. Although KPI 2 would still include nearly all heating energy (which is provided by Humlegården), we note that electricity consumption may account for around half of a typical Nordic office building's energy use and hence could be associated with significant emissions. As such, KPI 2 may not fully incentivize Humlegården to try and influence tenants' energy consumption behaviours. This is mitigated by the fact that as of 2021, Humlegården requires tenants to source renewable electricity, as well as the fact that Sweden's grid is already significantly decarbonized. Note that although Humlegården can influence tenant energy consumption through energy efficient design and tenant engagement, it ultimately cannot directly control tenant behaviour.

When working towards SPTs 1a and 1b, Humlegården stands to benefit from future improvements in data quality, although Humlegården aims to provide transparency around this. In particular, when calculating Scope 3 emissions, over time Humlegården aims to gradually replace generic data with specific data as the latter become increasingly available. This is expected to reduce reported emissions because generic data are designed to be conservative. As such, improvements in KPI 1 could be attributable to better data, as opposed to actual performance improvements. It is positive that Humlegården aims to be transparent in its reporting if the increased use of specific data affects overall emission intensity.

KPI 3 is based on a bespoke methodology developed by Humlegården, which inhibits comparability with peers and other external benchmarks. However, it is positive the Humlegården intends to publish the methodology, and we note again the positive contribution represented by the development of its circular principles. Nonetheless, unless its circular principles become widely adopted by other companies and actors in the sector, there is a risk that their development contributes to fragmentation of approaches to circular economy in the sector. This could be avoided depending on the effectiveness of the company's intended efforts to engage partners and create industry praxis.

Comparability of KPI 3 over time may be impacted by Humlegården's intended future revisions to the circular principles. The principles contain both mandatory and optional criteria, and Humlegården has noted that these could change

over time to reflect new legislations and new standardised metrics. According to the company, it will only strengthen the principles over time by increasing the number of mandatory criteria.

KPI 3 is focused on processes as opposed to outcomes, and hence the environmental benefits from achieving SPT 3 are hard to assess. Further, the circular principles do not specify any quantitative thresholds. For example, the requirement to use recycled products and materials does not specify the extent to which they should be used. According to Humlegården, it may eventually report on these impacts as part of its reporting under the framework, and we encourage Humlegården to do so as soon as data area available.

Although Humlegården indicates that it will recalculate its baselines, KPIs and SPTs in various situations, it has not defined a quantitative threshold on changes that could trigger such a recalculation. This opens the possibility that its performance on the KPIs could significantly influenced by the acquisition or sale of properties. Where the company opts not to recalculate baselines, we encourage the company to be fully transparent on the extent to which changes in the KPIs are driven by such changes.

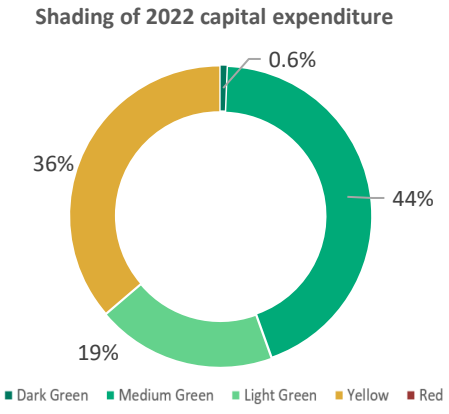
None of the KPIs are focused on addressing physical climate risks, which is a highly material issue for the real estate sector. Humlegården's overarching approach to assessing and managing physical climate risks across five and 30 year time horizons is however positive.

Assessment of Humlegården's revenues and investments

Approximately 30% of Humlegården's 2022 rental revenues were from properties with energy performance that was either equal to or better than national regulation at the time of their issued EPC. This is notable considering the high average age of Humlegården's portfolio. However, it is important to note that some of the EPC labels could be very old, and we were not provided with the data to assess this.

Of the revenues analyzed, 33% comes from properties with energy use intensity under SPT 2a (80 kWh/m^2), while 29% comes from properties with energy use intensity under SPT 2b (68 kWh/m^2). This suggests that properties not currently above these targets, accounting for 67-71% of revenues, may need to be the focus of energy efficiency investments in order for Humlegården to achieve SPTs 2a and 2b, barring any acquisitions of highly energy efficient properties.

Of Humlegården's capex in 2022, 0.6% was Dark Green, 44% was Medium Green, 19% was Light Green, and 36% Yellow. Dark Green elements included investments in electric vehicle charging facilities in Humlegården's properties. Medium Green elements included expenditures on the construction of Humlegården's new Origo (Stenhöga 5) property and reconstruction of its Greenhouse (Päronet 8) property. These shadings reflected the energy performance levels and certification achieved by Origo and the >30% improvement in energy demand from the reconstruction of Greenhouse, as well as Humlegården's approach to assessing and mitigating physical climate risks at the individual property level. The company expects both properties to be completed by end 2023, and the remaining planned capex for these properties would receive the same shading. Light Green was assigned to remaining capex on acquisition and ownership of properties that Humlegården deems to be EU Taxonomy-aligned.[1] A Yellow shade was assigned to all remaining capital expenditures considering their lack of substantially distinguishing climate or other environmental attributes. According to Humlegården, it does not have any buildings with fossil fuel assets.



[1] CICERO Shades of Green has not independently assessed Humlegården's alignment with the EU Taxonomy.

Summary of KPI / SPT assessment

Assessment of KPIs	KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (intensity)	KPI 2: Reduction of energy use (intensity)	KPI 3: Increase share of major renovations & construction projects carried out according to circular principles
Materiality	The KPI is material in addressing Humlegården's climate risks and impacts, with caveats around the planned inclusion of tenant electricity emissions.	KPI 2 is material with caveats around excluded tenant energy use, as such it should always be used together with KPI 1.	KPI 3 is material with caveats around the extent to which it will produce positive climate impacts; as such it should always be used together with KPI 1.
Strategic significance	The KPI is strategically significant.	The KPI is strategically significant.	The KPI is strategically significant.
Methodology	The methodology is mostly robust and transparent, with caveats around performance achieved since the baseline year and intended replacement of generic data with specific data.	The methodology is mostly robust and transparent, with caveats around performance achieved since the baseline year.	The methodology is mostly robust and transparent, with caveats around the lack of quantitative criteria and KPI 3's bespoke nature.
Assessment of SPTs	**SPT 1: Reduce KPI 1 from a 2019 base year** • 1a: 25% reduction by 2026 • 1b: 50% reduction by 2030	**SPT 2: Reduce KPI 2 from a 2019 base year** • 2a: 20% reduction by 2026 • 2b: 32% reduction by 2030	**SPT 3: Increase KPI 3 from a 2022 base year** • 3a: increase to 25% by 2026 • 3b: increase to 100% by 2030
Own performance	Insufficient basis for assessment due to data volatility and insufficient historical data.	Ambition is in line with own past performance.	Ambition is in line with own performance in terms of continued effort required.
Peers	Ambition is near the low end of peers' range, with caveats around the planned inclusion of tenant electricity emissions and when Humlegården's Scope 1 and 2 emissions reach net zero.	Ambition is in line with peers, with caveats around excluded tenant energy use.	Ambition is beyond peers on the basis of scope.
Science-based scenarios or international targets	Ambition is in line with the Paris Agreement goals, with caveats around the planned inclusion of tenant electricity emissions floor area growth projections.	Ambition is line with Sweden's national energy intensity target, with caveats around excluded tenant energy use.	Insufficient basis for assessment due to lack of directly relevant benchmarks.

CICERO Shades of Green has not reviewed the degree to which the variation in the financial characteristics is commensurate and meaningful. Investors are encouraged to review the term sheets in detail and conduct their own assessment of the financial characteristics of the SLBs.

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1 Humlegården's environmental management and sustainability-linked financing framework

Company description

Humlegården is a Swedish property company that owns, manages, and develops mainly office properties in the Stockholm region. As of 31 December 2022, the company owned 59 properties valued at SEK 40 billion, with a total lettable area of 508,000 m^2. The company has 93 employees and is owned by 23 regional insurance companies. Humlegården had 2022 revenues of SEK 1.7 billion.

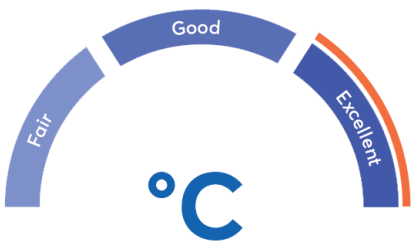
Governance assessment

Humlegården has a credible sustainability strategy that includes an overarching target to be climate neutral by 2045. The company's interim 2030 target has been validated by the Science-Based Targets Initiative as being aligned with a 1.5-degree scenario. The company also has other targets relevant to its sector, e.g. pertaining to energy use and material circularity. Its strategy is founded on a materiality analysis, and its policies reference international standards such as the UN Global Compact.

Humlegården has a robust sustainability governance structure in which responsibility for sustainability is jointly held by its board of directors and senior management (CEO and CFO). There is also a sustainability committee within the company that is chaired by its sustainability manager. The CEO reports on sustainability work to the board on a quarterly basis. However, it is unclear whether senior management remuneration is linked to performance on sustainability KPIs.

The company includes sustainability risks in its risk assessment processes and appears to integrate considerations for transition risks and physical risks into its operations. It has started work on company-wide climate scenario analysis, covering both transition and physical risks, using credible scenarios, but does not disclose the results. Humlegården's sustainability approach extends to its supply chain, and the company includes expectations around environment and human rights when evaluating and following up with its suppliers. However, it does not disclose information about its supplier engagements, e.g. the extent to which non-compliance with sustainability expectations was identified and addressed.

Humlegården includes sustainability reporting within its annual report that references the Global Reporting Initiative. Its reporting includes its performance on sustainability KPIs and provides transparency around calculation methodologies. Although it does not explicitly reference the recommendations of the Task Force on Climate-related Financial Disclosures, the sustainability report addresses key facets of the recommendations.



The overall assessment of Humlegården's governance structure and processes gives it a rating of **Excellent**. See "Environmental strategies and policies" for further information.

Sector risk exposure

Physical climate risks. For the Nordic building sector, the most severe physical impacts will likely be increased flooding, snow loads, and urban overflow, as well as increased storms and extreme weather. Developing projects with climate resilience in mind is critical for this sector. The real estate sector is also exposed to climate risks through links to the construction industry and the utilities sector.

Transition risks. Humlegården is exposed to transition risks from stricter climate policies e.g., mandatory efficiency upgrades. The company is also exposed to liability risks due to e.g., legal challenges if preventable damages from climate change increase. In addition, the real estate sector is exposed to changing consumer preferences for more climate-smart and energy-efficient buildings.

Environmental risks. The construction sector is at risk of polluting the local environment during the erection of the properties, e.g., from poor waste handling. There are also risks related to impacts on local biodiversity/habitats as well as the use of un-sustainably sourced material like tropical wood.

Environmental strategies and policies

Humlegården have a long-term target to become climate neutral by 2045. Its corporate level targets for 2030 are to: i) reduce its energy use by 32 percent compared to 2019, ii) reduce scope 1, 2, & 3 greenhouse gas emissions by 50% compared to 2019, and iii) to carry out all major renovations and new construction according to circular principles. To reach its long-term targets it has developed a climate roadmap consisting of a sustainability program that provides guidance on how the sustainability work in the company should be controlled and followed up. It is also developing and implementing procedures that support circular principles. Humlegården has identified the sustainability issues that stakeholders consider to be most important with a materiality analysis. Some highlighted issues are: i) how to make it easier for customers to get to its properties as sustainably as possible, ii) supplier follow-up, and iii) how to systematically follow up with suppliers from a sustainability perspective.

Humlegården has a long-term ambition to environmentally certify all investment properties. The properties are certified according to BREEAM In-Use with the ambition to achieve at least the level of Very Good. The proportion of certified investment properties at end of 2022 amounted to 97% of LOA (premises area).

Physical climate risk has been identified as a short term and long term risk. Short term risks include the likelihood of increased numbers of days with heavy rainfall, storms and extreme weather, which can damage its properties and affect tenants' operations. Humlegården has also started to identify potential long-term risks, including the use of climate scenario analysis based on RCP 2.6 and RP 8.5 scenarios.[2] According to the company, physical risk assessment is conducted for all properties for 5 and 30 year timeframes, and a climate risk plan is generated for each property. The climate scenario analysis also address climate transition risks, which the company works towards addressing with its overarching emissions reduction targets.

Humlegården acknowledges that a more circular economy is crucial for the low-carbon transition and includes it as a focus of its sustainability strategy. To reduce embodied emissions in its properties, the company works with partners to find alternatives to traditional materials, e.g. through alternative new material choices or through reuse of existing building materials and fixtures. In particular, the company started a collaborative project in 2019 to

[2] RCP 2.6 and RCP 8.5 are two potential climate scenarios described by the Intergovernmental Panel on Climate Change (IPCC) where RCP 2.6 is described as a very stringent scenario and RCP 8.5 is the highest baseline emissions scenario.

develop and test indicators of circularity. The findings of that work has informed Humlegården's development of its circular principles, which are the basis for one of the KPIs included in its sustainability-linked framework (also see "

Assessment of KPI 3: Share of major renovations & construction projects carried out according to circular principles" and "Assessment of SPT 3: increase share of major renovations & construction projects carried out according to circular principles"). Humlegården also has initiatives in place to maximize recycling rates for tenant waste.

Humlegården's sustainability approach includes a focus on its supply chain, and the company requires all new suppliers to undergo a sustainability evaluation and sign Humlegården's code of conduct. According to the company, it strives to select suppliers that consider circular principles and requests suppliers to provide environmental product declarations in order to assess their products' environmental impacts. Humlegården's code of conduct references the code of conduct for suppliers developed by Fastighetsägarna, the Swedish real estate industry association, which requires compliance with the UN Global Compact and sets expectations for suppliers to reduce their environmental impacts. The company follows up annually with suppliers on compliance with the code, including through its collaboration under the Real Estate Industry's Sustainable Supply Chain Initiative (FIHL). The initiative was founded in 2020 by Humlegården and four other real estate companies together with Position Green in order to develop a collaborative approach to supplier assessment and engagement.

Humlegården has embedded sustainability into its governance structure, in which its board of directors has joint responsibility together with its CEO and CFO, who delegate this to its sustainability manager. The sustainability manager is responsible for driving and reporting the company's sustainability initiatives. A sustainability committee, chaired by the sustainability manager, is responsible for establishing sustainability strategy and objectives and following up on sustainability initiatives. The CEO is required to report the results of sustainability work to the board of directors on a quarterly basis, as well as to provide in-depth updates on an ad-hoc basis.

Humlegården's emissions

Humlegården's total Scope 1, 2 and 3 emissions in 2022 were 7,102.1 tCO_2e. Scope 1 emissions (0.3% of total) include refrigerants and fuels and electricity fueling the company' vehicle fleet. Scope 2 emissions (11% of total) include district heating and cooling, and electricity from Humlegården's own offices and operations. Scope 3 emissions (89% of total) include material use for refurbishment projects[3], other procurements, energy and fuel use, demolition waste, tenant waste, air travel, construction projects[4], and tenant electricity use. Note that the lattermost category only includes electricity used by the approx. 30% of Humlegården's tenants without their own electricity contracts. According to Humlegården's framework, it aims to start collecting data on all tenants' electricity use in order to fully account for their emissions. Emissions from construction projects, materials and other procurement together represent nearly 80% of Humlegården's Scope 3 emissions.

It should be noted that the above Scope 2 emissions figures use market-based emissions accounting and assume an emission intensity of 0g CO_2e/kWh. The reason for this is that Humlegården purchases electricity from hydropower (Vattenfall) via guarantees of origin. Humlegården also reports Scope 2 emissions from electricity consumption using location-based accounting; these amounted to 95.8 tCO_2e using Vattenfall's emissions intensity of 6 g CO_2e/kWh.

Humlegården's total greenhouse gas emissions decreased by 7.0% in 2022 compared to 2021, including construction projects. Concurrently, the corresponding emissions intensity decreased by 11.6% from 14.6 to 12.9 $kgCO_2e/m^2$. Humlegården reports that the reduction is due to, among other things, lower climate impact from materials and waste. According to Humlegården's disclosures, its biggest climate impact comes from Scope 3 and material use for construction projects. If construction projects are excluded, Humlegården's emissions increased by 17.2% between 2021 and 2022, with the corresponding emissions intensity increasing by 11.5% from 9.6 to

[3] Calculated using generic data and excluding emissions from tenant refurbishment projects.
[4] Calculated using the methodology defined by Boverket for mandatory climate declarations.

10.7 kgCO_2e/m^2. Humlegården has recently updated its emissions accounting for construction projects to report emissions in the year they occur, as opposed to the year of completion. Nonetheless, emissions from construction projects can still vary in significance from year to year. In 2022, construction projects constituted 17% of total emissions, compared to 34% in 2021 and 50% in 2019.

Sustainability-linked financing framework

Based on this review, this framework is found to be aligned with the Sustainability-Linked Bond Principles and Sustainability-Linked Loan Principles. For full details on the issuer's framework, please refer to the sustainability-linked financing framework dated April 2023.

Selection of key performance indicators (KPIs)

Summary information about Humlegården's KPIs is provided in the table below. According to the company, the KPIs were selected to directly reflect the company-level targets it has set for 2030 as part of its longer-term target of achieving climate neutrality by 2045.

	KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (GHG)	**KPI 2: Reduction of energy use**	**KPI 3: Circular economy – increase share of major renovations & construction projects carried out according to circular principles**
Description	Reduction of Scope 1, 2 & 3 greenhouse gas emissions (GHG) intensity, as measured according to the GHG Protocol (89% of total emissions). Scope 3 covers emissions from construction projects and properties under management	Reduction of energy use per unit floor area	Percentage share of major renovations & construction projects (>3 SEKm, starting on/after 1 January 2023) carried out according to circular principles as defined by Humlegården's methodology
Units	kg CO_2e/sqm	kWh/sqm	%

For a discussion of the KPIs' materiality, strategic significance, and methodology, please refer to section 2—Assessment of Humlegården's Sustainability-Linked Financing Framework.

Calibration of sustainability performance targets (SPTs)

Humlegården has identified the following SPTs. According to the company, the SPTs were calibrated to directly reflect the company-level targets it has set for 2030 as part of its longer-term target of achieving climate neutrality by 2045.

	KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (GHG)	KPI 2: Reduction of energy use	KPI 3: Circular economy – increase share of major renovations & construction projects carried out according to circular principles
SPT	1a: 25% reduction by 2026	2a: 20% reduction by 2026	3a: increase to 25% by 2026
	1b: 50% reduction by 2030	2b: 32% reduction by 2030	3b: increase to 100% by 2030
Baseline/ reference value	17.2 kg CO_2e/sqm (2019 baseline)	100 kWh/sqm (2019 baseline)	0% (2022 baseline)

In addition, according to Humlegården, it will set annual SPTs for each of the KPIs for use in loan instruments issued under the framework. The company has not yet set or disclosed these annual targets but will share information about these targets with lenders or other relevant counterparties (see Reporting).

For a discussion of the SPTs' ambition level and Humlegården's strategy to achieve them, please refer to section 2—Assessment of Humlegården's Sustainability-Linked Financing Framework.

Financial Characteristics

All three KPIs/SPTs will always be used for sustainability-linked financing instruments issued under the framework, with each being weighted evenly when determining the size of the change in financial characteristics. The documentation for each such instrument will specify the KPIs/SPTs, the calculation methodology, and a target observation date (TOD), on which the company's performance on the KPIs will be compared against the SPTs. The company has not made any commitments on when the TOD could fall be in relation to the maturity of bonds issued under the framework. Should the company fail to achieve any of the SPTs, a trigger event will occur, leading to the introduction of a change to the financial characteristics of the sustainability linked financing instrument.

Possible changes to the financial characteristics include an increase in the redemption price or a step-up/down in the coupon/margin, where the size of the respective change will be specified in the security documentation for each instrument issued under this framework.

The framework includes a "most ambitious target" clause, under which 1) any future sustainability linked instrument must utilise an SPT of equal or greater ambition to previously outstanding instruments, and 2) all outstanding instruments will have their equivalent SPT adjusted to reflect the greater level of ambition.

According to Humlegården, the company will recalculate baselines, the KPIs and SPTs, as well as seek new external review in the event of any material changes to its business, but it has not defined what it considers material in this regard.

CICERO Shades of Green has not reviewed to what degree the variation in the financial characteristics of the sustainability-linked financing framework is commensurate and meaningful. Investors are encouraged to review the terms sheets in detail and conduct their own assessment of the financial characteristics.

Reporting

Humlegården is committed to annual reporting under the framework. For capital market and other non-bank financing, the company will publish a Sustainability-Linked Financing Progress Report on its website. The report will include:

- Performance on the KPIs/SPTs, calculation methodology, and baselines
- Information about any baseline recalculations
- A verification report of the company's performance on the KPIs against the SPTs and the related impact and timing of such impact on the financial characteristics
- Any other information deemed relevant to investors and/or lenders in its sustainability-linked financing instruments

In addition, the company has shared that it will report in brief on how performance on the KPIs was achieved. Where data are available, it will also eventually report on positive sustainability impacts from improving its performance on the KPIs.

For bank financing, Humlegården may choose to non-publicly report its performance under the framework to lenders or other relevant counterparts.

Note that in its first Sustainability-Linked Financing Progress Report, Humlegården has committed to recalculating and publishing verified baseline and historical data for KPI 1, as part of its plan to eventually include emissions from tenants' electricity use in this KPI.

Verification

Humlegården will seek third-party verification of the KPIs' performance relative to the applicable SPTs on an annual basis.

2 Assessment of Humlegården's Sustainability-Linked Financing Framework

According to CICERO Shades of Green's methodology for sustainability-linked financing frameworks, a Shade of Green should be allocated to the issuer's revenue and investments. The shadings provide additional context around the issuer's business model and strategy and reflect alignment of the underlying activities towards a low carbon and climate resilient future, while taking into account governance issues. (See "Terms and methodology" for further details).

In this section we also assess the KPIs and SPTs in Humlegården's sustainability-linked financing framework, in accordance with the Sustainability-Linked Bond Principles (SLBP) and Sustainability-Linked Loan Principles (SLLP). According to the SLBP and SLLP, the KPIs should be relevant, core and material to the issuer's overall business, and of high strategic significance to the issuer's current and/ or future operations. The SLBP and SLLP further recommend that three benchmarking approaches are considered during the target-setting exercise, which inform our assessment of the SPTs. We also include some comments on methodology choices including benchmarks and baselines, as well as comments on financial characteristics, reporting and verification.

Humlegården's 2022 revenues[5]

Investors should be aware of the extent of climate risk associated with Humlegården's current rental revenues. In order to provide an indication of this, we offer some analysis of the sustainability of the company's property portfolio as of end 2022, based on data shared by the company on the environmental characteristics of and revenues from properties in its portfolio. The data required to conduct a full shading of Humlegården's portfolio are unavailable; as such this analysis focuses on providing more general insights.

In general, Humlegården has an old property portfolio, given that its median year of construction is 1964. The oldest property was originally built in 1881, and the newest in 2020. The revenue-weighted median year of construction is 1966, suggesting that a greater proportion of revenue is from slightly newer properties. Over 80% of revenue is from buildings constructed before 2000, and 50% of revenues from buildings constructed before 1970. It is likely that buildings in the portfolio will have been renovated more recently, but this data have not been provided by Humlegården. Notably, all buildings are heated via district heating, and according to Humlegården, none have fossil fuel boilers.

SPTs 2a and 2b would require Humlegården to bring down its average energy use intensity to 80 kWh/m^2 and 68 kWh/m^2 by 2026 and 2030, respectively. Of the revenues analyzed, 33% come from properties currently under 80 kWh/m^2, while 29% come from properties currently under 68 kWh/m^2. This suggests that properties not currently above these targets, accounting for 67-71% of revenues, may need to be the focus of energy efficiency investments in order for Humlegården to achieve SPTs 2a and 2b, barring any acquisitions of highly energy efficient properties.

We note that energy use intensity data provided by Humlegården and which is the basis for KPI 2 may not be fully comparable with minimum regulatory requirements due to exclusion of tenant energy use. As such, Energy Performance Certificates (EPC) labels provide a better indication of how primary energy demand for Humlegården's properties compares with regulations. EPCs are determined based on the extent to which it is lower

[5] Revenues analyzed only includes those from the 31 properties actively managed by Humlegården, which comprised 95% of 2022 revenues based on data shared by the company.

than building regulations at the time the EPC was issued. EPC A, B and C indicate a primary energy demand that improves upon the minimum requirement for new buildings at the time of issuance by 50%, 25% and <25%, respectively. The distribution of revenues by EPC label is presented in the table below.[6]

EPC label	A	B	C	D	E	F	G	None
% of revenues	0%	8%	22%	27%	18%	5%	2%	18%
No. of properties[7]	0	1	6	10	7	2	1	5

The data show that the largest portion of revenues (27%) come from buildings with EPC label D, which also accounts for the largest number of buildings in the portfolio. This is followed by buildings with EPC label C (22%), and then by buildings with EPC labels E (18%), B (8%), F (5%) and G (2%). Buildings with no EPC labels accounted for 18% of revenues. Under Swedish regulations, the national minimum energy performance of newly constructed buildings is met by buildings with EPC label C or better. As such, approximately 30% of Humlegården's 2022 rental revenues were from properties with energy performance that was either equal to or better than national regulation at the time of their issued EPC. This is notable considering the high average age of Humlegården's portfolio and positively reflects Humlegården's efforts to renovate and upgrade its properties. However, it is important to note that some of the EPC labels could be very old and we were not provided with the data to assess this.

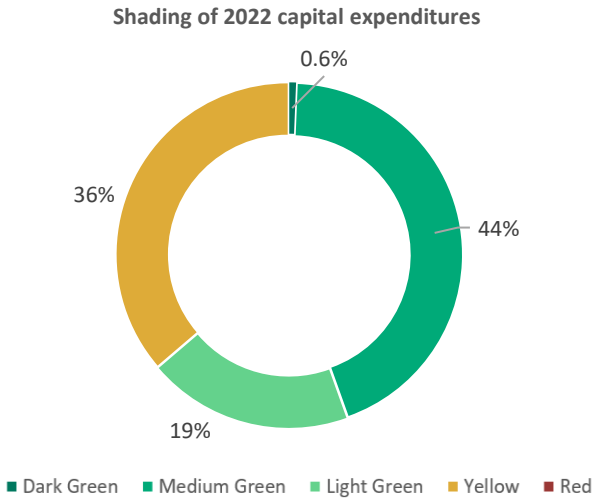
As Humlegården notes in its annual report, it has a target for 100% of its properties to be environmentally certified. Based on the data shared by the company, 88% of revenues analyzed came from properties which has achieved the "Very Good" level under the BREEAM In-Use certification scheme. BREEAM In-Use is a certification scheme that applies to existing buildings and assesses performance on energy, water, and resilience, among other issues. The "Very Good" certification can be achieved without meeting any specific performance criteria on energy efficiency. The "Very Good" certification also requires a flood risk assessment to have been undertaken.

According to Humlegården, all properties undergo physical climate risk screening across five and 30-year time horizons and action plans for mitigating identified risks are generated for each property.

Humlegården's investments

In 2022, Humlegården's total capex amounted to SEK 786 million. A Dark Green shade was allocated to 0.6%, a Medium Green shade to 43.9%, and a Light Green shade to 19.2%. The remaining 36.3% received a Yellow shade.

[6] For the purposes of this analysis, the 7% of revenue from Stenhöga 6, which is labeled in Humlegården's data as having both EPC labels D and E, was evenly allocated to revenue from EPC labels D and E.
[7] Stenhöga 6 has been counted under both EPC labels D and E given its labeling in Humlegården's data as having both.



A Dark Green shade was assigned to the 0.6% of capex spent on installation, maintenance or repair of charging stations for electric vehicles in Humlegården's buildings, on account of their clear role in a low carbon and climate resilient future.

The 36% of capex spent on Humlegården's construction of its new Origo (Stenhöga 5) property was assigned a Medium Green shading on account of 1) its qualifying for the Miljöbyggnad 3.0: Guld standard and 2) its forecast energy use intensity of 42 kWh/m2, which is >30% below Swedish minimum new building requirements and would therefore qualify for EPC B. A Medium Green shading was also assigned to the 8% of capex spent on Humlegården's reconstruction of its Greenhouse (Päronet 8) property, which led to at least a 30% reduction in primary energy demand. The property also has 1) a 'Very Good' BREEAM In-Use certification, and 2) achieving a primary energy demand that meets the Swedish minimum requirements for new buildings. It is notable that Humlegården reports saving around seven tonnes of material in this project by opting to reuse existing lighting fixtures and electrical installations. The shadings for both properties also benefited from Humlegården's approach to assessing and mitigating physical climate risks at the asset level.[8] Humlegården considers the capex on both of these properties to be aligned with the EU Taxonomy's criteria for substantial contribution to climate change mitigation.[9]

Humlegården has committed total capex of SEK 1,038 million to Origo (Stenhöga 5) and SEK 304 million to Greenhouse (Päronet 8) properties. The company expects that both will be completed by end 2023. The shadings for the remaining capex of SEK 510 million and SEK 221 million for these projects would be consistent with those assigned above.

A Light Green shading was assigned to the remaining 19% of Humlegården's capex on acquisition and ownership of buildings that it indicated as being aligned with the EU Taxonomy's criteria for substantial contribution to climate change mitigation.[10] It is possible that some of this capex may qualify for darker Shades of Green, but we have not been provided with the information needed to assess this.

The remaining 36% of capex was allocated a Yellow shading considering that it does not have substantially distinguishing climate or other environmental attributes. According to Humlegården, it does not have any buildings with fossil fuel assets and all of its buildings are supplied with district heating.

[8] These shadings may differ from those assigned in our second party opinion on Humlegården's 2020 green financing framework but more accurately reflect our current understanding of these investments' climate risks and impacts.
[9] CICERO Shades of Green has not independently assessed Humlegården's alignment with the EU Taxonomy.
[10] CICERO Shades of Green has not independently assessed Humlegården's alignment with the EU Taxonomy.

Assessment of KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (GHG)

Aspect	CICERO Shades of Green Comments
Materiality	**The KPI is material in addressing Humlegården's climate risks and impacts, with caveats around the planned inclusion of tenant electricity emissions.** ✓ KPI 1 is material in terms of managing Humlegården's climate impacts, since it covers 100% of Humlegården's reported GHG emissions and 100% of its property portfolio, provided that Humlegården follows through on its plan to also include emissions from tenant electricity use. ✓ KPI 1 is also material in terms of managing climate transition risks, principally those represented by Sweden's Climate Act, which requires carbon neutrality by 2045. ✓ It is notable that Humlegården is committed to including emissions from tenants' electricity use in KPI 1 and aims to start collecting these data. It is however a minor pitfall that Scope 3 emissions do not include other emissions associated with tenant property use, such as tenant transportation. This may however be mitigated to an extent by Humlegården's focus on properties that are in prime locations with direct access to rail transportation.
Strategic Significance	**The KPI is strategically significant.** ✓ KPI 1 will help Humlegården achieve its longer-term target of achieving climate neutrality by 2045. KPI 1 is also the basis for a target in Humlegården's overall sustainability strategy and matches the emissions scopes and subcategories of emissions included in Humlegården's sustainability reporting.
Methodology	**The methodology is mostly robust and transparent, with caveats around performance achieved since the baseline year and intended replacement of generic data with specific data.** ✓ Humlegården's measurement of Scope 1, 2 and 3 greenhouse gas emissions in kgCO2e/sqm is clearly defined and based on the GHG Protocol, which is a robust external standard. Further, the company confirmed that construction project emissions are calculated in accordance with the Boverket guidelines for climate declarations. ✓ We consider it positive that, according to Humlegården, it will use location-based and not market-based accounting to calculate Scope 2 emissions for KPI 1. ✓ The use of an emissions intensity metric improves data comparability. However, it also means that improvements on the KPI do not guarantee reductions in absolute emissions. The company also shared that growth objectives are subordinated to its emissions reduction goals. ✓ A combination of generic and specific data will be used to calculate KPI 1, particularly Scope 3 emissions. The company aims to only use the former where

specific data are unavailable and to increase the use of specific data over time. According to Humlegården, it relies on generic data provided by the Swedish National Board of Housing, Building and Planning (Boverket), but also a number of other sources. Humlegården expects to use more specific data over time, which it expects will mainly consist of environmental product declaration (EPD) data. EPD data are calculated according to the ISO 14025 standard and require independent review and verification before being published.

- ✓ While greater use of specific data may increase accuracy, it may impact comparability of KPI 1 over time. As such, it will be important for Humlegården to be transparent about the extent to which improvements in KPI 1 are attributable to improved data.
- ✓ It is positive that Humlegården aims to collect tenants' electricity use data in order to calculate the associated emissions, as opposed to using estimates based on average data. According to Humlegården, it expects to be able to use specific data for all tenants and will not need to fall back to using generic data.
- ✓ 2019 has been selected as the baseline, which Humlegården indicates as being the most representative year of its emissions. The company's performance on KPI 1 in the most recent year (2022) represents a total decrease of 25% from the baseline value; the company has therefore already achieved SPT 1a and 50% of the reductions required to achieve 1b. Note that this may change depending on the expected recalculation of the baseline to include emissions from tenant electricity use.
- ✓ According to the company, the calculation methodology for KPI 1 has been recently updated and recalculated data are unavailable before 2019.

Assessment of SPT 1: Reduce Scope 1, 2 and 3 GHG emissions intensity from a 2019 baseline

- SPT 1a: Reduce KPI 1 by 25% by 2026 compared to a 2019 baseline
- SPT 1b: Reduce KPI 1 by 50% by 2030 compared to a 2019 baseline

Benchmark	CICERO Shades of Green Comments
Own performance	**Insufficient basis for assessment due to data volatility and insufficient historical data.** ✓ Note that Humlegården aims to recalculate its baseline and historical data to include emissions from tenant's electricity use. These emissions are not included in the analysis of historical data provided below. Longer-term and more up-to-date historical data are required for a more meaningful analysis. ✓ Humlegården reduced KPI 1 by a linear annual average of 8.3%, or a total of 25%, between 2019-22 from 17.2 to 12.9 kgCO_2e/sqm. ✓ In comparison, Humlegården will need to reduce emissions by 3.6% and 4.5% annually on average from its 2019 baseline to achieve SPTs 1a and 1b, respectively. If Humlegården achieves SPT 1a in 2026 as planned, it would then

need to reduce emissions by 11% per year between 2026-2030 in order to then achieve SPT 1b.

✓ Given Humlegården's already achieved 2019-22 reductions, it has already achieved SPT 1a and 50% of the reductions required for SPT 1b. According to the company, KPI 1 data are inherently volatile due to emissions from construction projects. Notably, the company had also achieved SPT 1a in 2020, when KPI 1 decreased by 42% from 2019, only for it to increase by 46% in 2021.

Peers

Ambition is near the low end of peers' range, with caveats around the planned inclusion of tenant electricity emissions and when Humlegården's Scope 1 and 2 emissions reach net zero.

✓ SPTs 1a and 1b fall at the low end of the range represented by peers' targets, provided that Humlegården follows through on its plan to include emissions from tenant electricity use and achieves net zero Scope 1 and 2 emissions by 2030 on its way to achieving SPTs 1a and 1b. The scope of emissions covered by SPTs 1a and 1b is largely in line with peers. This analysis does not consider peers' possible reliance on offsets or renewable energy guarantees of origin to achieve their targets. Note that Swedish real estate sector issuers are among the most advanced and ambitious globally; Humlegården's targets should be considered in this context.

✓ According to Humlegården, it has not conducted any peer benchmarking for SPTs 1a and 1b. We consider its immediate peers to be large cap Swedish listed real estate developers[11] that are primarily focused on commercial (office and/or retail) properties. This peer group includes Atrium Ljungberg, Fabege and Hufvudstaden. Although not listed, Vasakronan is also included given its focus on office and retail properties. Note that of these peers, only Atrium Ljungberg has used its targets in a sustainability-linked framework.

✓ SPTs 1a and 1b lack ambition compared to Vasakronan and Atrium Ljungberg, which both have targets to achieve net zero across Scope 1, 2 and 3 emissions by 2030. Both include construction emissions in Scope 3, as well as other Scope 3 categories like emissions from tenant electricity, waste and commuting. Further, Atrium Ljungberg has set interim targets to halve construction project emissions per square metre by 2025 from 2021 and reduce property management emissions per square metre across Scopes 1, 2 and 3 by 22% by 2025 from 2021. Note that Humlegården does have a net zero target at the corporate level, although this is for 2045.

✓ Fabege and Hufvudstaden aim for net zero Scope 1 and 2 emissions by 2030 and 2025, respectively. Fabege aims to halve Scope 3 emissions intensity (including emissions from construction and tenant electricity) by 2030 from 2019, while Hufvudstaden aims to halve emissions per square metre from construction activities by 2030 from 2019. In practice, SPTs 1a and 1b may be similar in ambition to Fabege and Hufvudstaden's targets if they also entail Humlegården's Scope 1 and 2 emissions reaching net zero by 2030, but this

[11] As defined by Nasdaq. See http://www.nasdaqomxnordic.com/shares/listed-companies/stockholm

would not be guaranteed as Humlegården could achieve SPTs 1a and 1b by only reducing Scope 3 emissions.

✓ As a caveat to this analysis, it is difficult to assess the extent to which peers allow for the use of carbon offsets or purchases or renewable energy guarantees of origin to achieve their net zero targets due to insufficient disclosure, except in the case of Atrium Ljungberg.[12] It is positive that Humlegården intends to minimize reliance on these instruments for achieving SPTs 1a and 1b, but it has not specified quantitative limits. Also note that its use of location-based accounting limits its ability to achieve SPTs 1a and 1b through the purchase of renewable energy guarantees of origin.

Science-based scenarios or international targets

Ambition is in line with the Paris Agreement goals, with caveats around the planned inclusion of tenant electricity emissions floor area growth projections.

✓ SPTs 1a and 1b can be considered aligned with a 1.5-degree pathway from the perspective that they place Humlegården on a pathway to achieving net zero emissions by mid century and the absolute emissions reductions entailed would likely exceed the global reductions required under the IPCC's 1.5-degree scenario.[13] SPTs 1a and 1b may be aligned to varying extents with certain 1.5-degree and 2-degree sector and Sweden-specific pathways, with caveats related to differences in emissions categories covered by the pathways versus the SPTs. The pitfalls related to performance achieved since the baseline that were discussed under "Assessment of KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (GHG)" should be considered here.

✓ According to Humlegården, the calibration of SPTs 1a and 1b assume an average annual floor area growth of 25,000 m^2 through net acquisitions and 20,000 m^2 in new construction. Given this projected growth,[14] Humlegården's absolute emissions reductions under SPTs 1a and 1b are likely to still exceed the emissions reductions required under the IPCC's global mitigation pathway in a 1.5-degree scenario.[15]

✓ Available science-based benchmarks for the real estate sector either do not fully cover the emissions scopes targeted by SPTs 1a and 1b or are only applicable at the global level. Our sector-specific assessment of SPTs 1a and 1b is hence approached using a combination of benchmarks for 1) Scope 1 and 2 emissions plus embodied emissions in retrofits, and 2) embodied emissions from new construction materials. Note however that this combination only covers an average of about 66% of KPI 1 emissions between 2019-2022. The following

[12] Atrium Ljungberg discloses that 25% of reductions for its climate-neutral construction projects target can come from offsets; the equivalent figure for its climate neutral property management target is 57%. https://www.al.se/contentassets/66a3c43f7edb4f5f9255e911a007f3e8/al_slff_2022-02.pdf

[13] Humlegården indicates that its targets have been validated by the Science-Based Targets Initiative (SBTi) as 1.5-degree aligned. However, there are differences between SPTs 1a and 1b and the SBTi-validated target. The validated target entails absolute Scope 1 and 2 emissions reductions of 46% from 2019-2030, whereas SPTs 1a and 1b are emissions intensity based and also include Scope 3 (including construction project) emissions, which ranged from 89-96% of KPI 1 in 2022.

[14] We estimate that these projections result in a linear annual average growth in floor area of roughly 8% between 2019-2030.

[15] This pathway requires emissions to decline by 21% from 2019-2030, or a linear annual average of 1.9%. For comparison, the 1.5-degree pathway with no/little overshoot requires a 43% decline over the same period, or a linear annual average of 3.9%.
Table 3.2, https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter03.pdf

analyses assume proportionally even efforts by Humlegården to reduce emissions across the emissions categories covered by the benchmarking.

- ✓ The CRREM 1.5-degree decarbonization pathway for office buildings in Sweden[16] indicates that building emissions intensity (Scope 1 and 2, as well as Scope 3 from embodied emissions in retrofits) declines by 28% from 2019-2026 and 41% from 2019-2030. The equivalent figures for a 2-degree pathway are 8% and 15%. In this respect, the emissions reduction in Humlegården's corresponding emissions subcategories achieved with SPT 1a may align with a 2-degree pathway, while SPT 1b may align with a 1.5-degree pathway.[17]
- ✓ The IEA NZE[18] indicates that embodied emissions in building construction must decline by 40% per square metre of new floor area by 2030, or a linear annual average of 4.4% from 2021-2030. In this respect, the emissions reductions in construction project emissions that would be achieved through SPT 1b can be considered aligned with a 1.5-degree pathway, but SPT 1a does not entail a steep enough trajectory to align with said pathway.

Initiatives and Strategy to Achieve SPT 1

Overall, we consider Humlegården's strategy to achieve SPT 1 to be credible and generally consistent with its emissions profile. Humlegården has mentioned a range of initiatives when describing its strategy to achieve SPTs 1a and 1b, including:

- Adopting circular principles
- Using low impact construction techniques
- Designing and refurbishing buildings to become more resource efficient
- Engaging tenants to reduce energy consumption
- Locating buildings in proximity to public transportation
- Providing good recycling and waste management solutions

Further, the company indicates that the use of offsets in achieving SPTs 1a and 1b will be very limited. This is positive, although it has not specified a limit. As noted already, the use of location-based emissions accounting will naturally limit Humlegården's ability to rely on purchases of renewable energy guarantees of origin to reduce its Scope 2 emissions.

Humlegården has not quantified the extent to which each of the above initiatives will contribute to achieving SPTs 1a and 1b. According to the company, it will place the greatest importance on initiatives pertaining to circular principles and low impact construction techniques, given the significance of embodied emissions and other construction emissions to its emissions profile. The above aspects of Humlegården's strategy align with the

[16] Version 1 of the CRREM pathways has been used instead of the newer version 2 as the latter does not cater for Humlegården's 2019 baseline. See https://www.crrem.org/wp-content/uploads/2021/12/CRREM_Global_Pathways-V1.093.xlsx for data and https://www.crrem.eu/wp-content/uploads/2023/01/CRREM-downscaling-documentation-and-assessment-methodology_Update-V2_V1.0-11-01-23.pdf for a discussion of the differences.
[17] An important caveat to this analysis is the assumption that Humlegården's emissions do not substantially differ from the baseline used in the CRREM pathway for Swedish office buildings; ambition in relation to the pathway may vary depending on the extent to which Humlegården's 2019 performance is above or under the pathway baseline. However, the comparison of SPTs 1a and 1b's emissions reduction rates against those entailed by the pathway can still be instructive.
[18] https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

narrative in the IEA's NZE scenario, which identifies how material efficiency strategies can reduce demand for steel and cement in the building sector by more than a third compared to baseline trends, and that there is further potential to reduce embodied emissions with wider adoption of natural and innovative construction materials. Improved design-for-environment and materials choice can also improve the extent to which building materials are recoverable and recyclable, which also contributes to SPT 1 by reducing emissions at end-of-life. The NZE further notes that gains in material efficiency will depend not only on technological innovation, but also changes in standards and regulations to support circular use of materials. In these respects, the existence of KPI/SPT 3 greatly enhances the credibility of Humlegården's strategy to achieve SPT 1, and it is highly likely that the success of the latter is contingent on the former.

It is also positive that the company aims to reduce emissions from tenant energy use. This aspect of the company's strategy addresses needs outlined in the IEA's NZE scenario, which highlights how behavioural change can contribute to 250 Mt CO2 reduction by 2030 and how urban design can reduce urban carbon footprints by 60% by shaping lifestyle choices and influencing day-to-day behaviour.[19] This is well supported by the company's requirement as of 2021 for tenants to source renewable energy. However, Humlegården has not specified how else it aims to influence tenants to reduce their use of electricity and heat and has only recently committed to start collecting data on tenants' electricity use.

Given its older property portfolio and its current levels of energy efficiency (see "Humlegården's 2022 revenues"), it is likely that Humlegården has good potential to reduce emissions from overall energy use with energy efficiency-focused design, construction and renovations, as well as installation of renewable energy, although these gains could nonetheless be eroded by profligate tenant behaviour. Efforts to achieve SPT 2 are directly relevant here. See "Initiatives and Strategy to Achieve SPT 2" for additional considerations.

Finally, we note that since KPI 1 does not include tenant emissions from transportation, efforts to locate buildings in proximity to public transportation would not directly contribute to achieving SPT 1.

Summary of key factors beyond the issuers' direct control that may affect the achievement of SPT 1

Humlegården may not be able to achieve SPT 1 if Sweden's energy system does not decarbonize in line with projections. Achieving SPT 1 may also depend to an extent on how well tenants respond to its efforts to influence behaviour. Last, given the criticality of circularity to achieving emissions reductions, key factors discussed in our assessment of KPI 3 are immediately relevant here.

Assessment of KPI 2: Reduction of energy use in kWh/sqm

Aspect	CICERO Shades of Green Comments
Materiality	**KPI 2 is material with caveats around excluded tenant energy use, as such it should always be used together with KPI 1.** ✓ KPI 2 is material in terms of managing Humlegården's climate impacts, since reducing energy use will help to reduce emissions from generation of electricity and heat. KPI 2 covers heating, where all properties are connected to district

[19] https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

	heating, the heating of tap water (except for hotels and restaurants), and electricity use in common areas, such as lifts and lighting in these areas. ✓ However, KPI 2 does not include tenant energy use; according to Humlegården this mainly refers to electricity purchased by tenants, whether under their own contracts or through Humlegården. It has not attempted to quantify how much energy use would not be covered under KPI 2. Research indicates that electricity consumption accounts for at least 47% of a typical office building's energy use in Norway, and the figure is likely to be similar in Sweden.[20] Although the KPI covers energy that Humlegården provides, most of the total electricity use would be covered by the tenant and not covered by KPI 2. The proportion of energy use not covered by KPI 2 could therefore still be substantial. ✓ KPI 2 is material in the sense that it covers 47 of 59 properties, or 91% of the total floor area in Humlegården's portfolio. ✓ KPI 2 will remain material even as Sweden's electricity and heating grids continue to decarbonize, given the importance of reducing overall energy demand for the transition to a low-carbon and climate resilient future. ✓ Given the likely benefits for emissions reductions, KPI 2 is also material in terms of managing climate transition risks, principally those represented by Sweden's Climate Act, which requires carbon neutrality by 2045.
Strategic significance	**KPI 2 is strategically significant.** ✓ KPI 2 will help Humlegården achieve its longer-term target of achieving climate neutrality by 2045. KPI 2 is also the basis for a target in Humlegården's overall sustainability strategy and is already reported on in Humlegården's sustainability reporting. ✓ Performance on KPI 2 supports Humlegården's intention to improve performance on KPI 1 while minimizing the use of renewable energy guarantees of origin. ✓ According to the company, performance on KPI 2 reduces Humlegården's energy costs and may also increase the attractiveness of Humlegården's properties to tenants.
Methodology	**The methodology is mostly robust and transparent, with caveats around performance achieved since the baseline year.** ✓ KPI 2 is calculated by dividing measured energy consumption by total floor area. Humlegården has confirmed that floor area is defined as A_{temp}, which is Boverket's definition. ✓ The use of an energy intensity metric improves data comparability. However, it also means that improvements on the KPI do not guarantee reductions in absolute energy use. ✓ According to the company, it has a system in place to measure and collect data for the properties and that it expects to eventually fill all data gaps, but has not specified a timeline for doing so. Until then, generic data will be used. Note that

[20] Figure 3.8, http://publikasjoner.nve.no/rapport/2016/rapport2016_24.pdf

	this does not address the issue of electricity consumption by tenants with their own contracts as discussed under "Materiality" above. ✓ 2019 has been selected as the baseline , which Humlegården indicates as being the most representative year. Humlegården's performance in the most recent year (2022) represents a total decrease of 6% from the baseline value; the company has therefore already achieved 30% and 19%, respectively, of reductions required to achieve SPTs 2a and 2b. ✓ According to the company, the calculation methodology for KPI 1 has been recently updated and recalculated data for KPI 2 are unavailable before 2019.

Assessment of SPT 2: Reduce energy use

- SPT 2a: Reduce KPI 2 by 20% by 2026 compared to a 2019 baseline
- SPT 2b: Reduce KPI 2 by 32% by 2030 compared to a 2019 baseline

Benchmark	CICERO Shades of Green Comments
Own performance	**Ambition is in line with own past performance.** ✓ Humlegården reduced KPI 2 by a linear annual average of 2.0% between 2019-22 from 100 to 94 kWh/sqm. This period included a year-on-year decrease of 2.1% from 2021-2022, an increase of 4.4% between 2020-2021 and a decrease of 9.0% between 2019-2020. According to Humlegården's sustainability report, the decrease from 2021-2022 was attributable to efficiency measures including, among others, lighting and ventilation. The increase between 2020-2021 was attributable to unusually tenant presence due to the COVID-19 pandemic, resulting in lower than normal energy use in 2020. ✓ In comparison, Humlegården will need to achieve a linear annual average reduction of 2.9% between to achieve both SPTs 2a and 2b. ✓ Given Humlegården's already achieved 2019-2022 reductions, it will need to reduce KPI 2 by 3.1% per year between 2022-26 to achieve SPT 2a and by 3.0% per year between 2022-2030 to achieve SPT 2b. ✓ Note that as of 2022, the company has already achieved 30% and 19%, respectively, of reductions required to achieve SPTs 2a and 2b, which we consider a pitfall. Nevertheless, achieving them will still require the company to improve upon its performance between 2019-2022.
Peers	**Ambition is in line with peers, with caveats around excluded tenant energy use.** ✓ SPTs 2a and 2b are generally in line with peers, although comparability may be limited due to differences in whether tenant energy use is included or not. The pitfall related to performance achieved since the baseline that were discussed under "Assessment of KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (GHG)" should be considered here.

- ✓ Humlegården's peer benchmarking for SPTs 2a and 2b identifies that similar peer targets entail 2% to 2.5% annual reductions in energy use per square metre.[21] The annual average reductions from SPTs 2a and 2b range from 2.4% to 2.9%, depending on whether a linear annual average or a compounded annual average is taken. However, it is important to note that comparability may be limited depending on whether tenant energy use is included in these targets or not, which affects baseline calculations and could increase the challenge of achieving the targets. Comparability is also limited as some peers have portfolios focused on different property types to Humlegården, including industrial uses, warehouses, and residential, which will have different energy use profiles.
- ✓ We consider Humlegården's immediate peers to be large cap Swedish listed real estate developers[22] that are primarily focused on commercial (office and/or retail) properties. This peer group includes Atrium Ljungberg, Fabege and Hufvudstaden. Although not listed, Vasakronan is also included given its focus on office and retail properties. Of these, only Fabege has set an energy use intensity target, which entails a reduction from 73 to 70 kWh/m^2 from 2022-2025, or a linear annual average reduction of 1.4%. We note that Fabege's baseline is lower than Humlegården's and its target includes tenant energy use.

Science-based scenarios or international targets

Ambition is line with Sweden's national energy intensity target, with caveats around excluded tenant energy use.

- ✓ SPTs 2a and 2b are aligned with Sweden's national energy intensity target, while SPT 2b offers reductions in energy intensity that compare favourably with a 2-degree pathway for Swedish office buildings. The pitfalls related to excluded tenant energy use and performance achieved since the baseline year that were discussed under "Assessment of KPI 1: Reduction of scope 1, 2 & 3 greenhouse gas emissions (GHG)" should be considered here.
- ✓ According to Humlegården, SPTs 2a and 2b were calibrated using Sweden's 2030 Agenda, under which it targets for national energy intensity to decline by 50% from a 2005 baseline. Given Sweden's already achieved reductions between 2005-2018,[23] its national energy intensity needs to decline by 19.3% between 2018-2026, and by 28.9% between 2018-2030.[24] SPTs 2a and 2b can be considered ambitious in this regard. We note that national energy intensity is calculated using GDP as the denominator and is not strictly comparable with KPI 2, but believe the comparison is still relevant given that floor area can be considered a proxy for Humlegården's contribution to GDP.
- ✓ The CRREM 1.5-degree decarbonization pathway for office buildings in Sweden[25] indicates that building energy use per square metre declines by 37.6% from 2019-26 and 47.1% from 2019-2030. The equivalent reductions for a 2-degree pathway

[21] Humlegården's self-identified peers included Atrium Ljungberg, Balder, Fabege, Castellum, Stendörren, and Vasakronan.
[22] As defined by Nasdaq. See http://www.nasdaqomxnordic.com/shares/listed-companies/stockholm
[23] https://ourworldindata.org/energy/country/sweden#energy-intensity-how-much-energy-does-it-use-per-unit-of-gdp
[24] Assuming a linear trajectory.
[25] Version 1 of the CRREM pathways has been used instead of the newer version 2 as the latter does not cater for Humlegården's 2019 baseline. See https://www.crrem.org/wp-content/uploads/2021/12/CRREM_Global_Pathways-V1.093.xlsx for data and https://www.crrem.eu/wp-content/uploads/2023/01/CRREM-downscaling-documentation-and-assessment-methodology_Update-V2_V1.0-11-01-23.pdf for a discussion of the differences.

are 21.9% and 30.6%. As Humlegården's baseline value differs from these pathways', a comparison is not possible due to the fact that KPI 2 excludes a portion of building energy use (see discussion under "Materiality"). However, while conclusions cannot be drawn, SPT 2b offers reductions in the same proportion as the 2-degree pathway, while SPT 2a would not align with either.

Initiatives and Strategy to Achieve SPT 2

In order to achieve SPT 2, Humlegården indicates in its framework that it will invest in energy efficiency in existing buildings, aim for zero energy new buildings, as well as engage with tenants to ensure the energy efficient building use. In addition, the company share that it will invest in geothermal energy, optimize its energy usage through demand management and machine learning, as well as educate its personnel in optimizing the energy management of its properties. The company has not quantified the extent to which each of these initiatives will contribute to achieving SPT 2.

Given the high average age and energy performance profile of Humlegården's property portfolio (see "Assessment of Humlegården's revenues and investments"), achieving SPT 2 will necessarily entail substantial retrofits and renovations. According to Humlegården, none of its properties depend on fossil fuel heating, minimizing the risks of fossil fuel-related rebound and lock-in effects from energy efficiency investments.

The company has clarified that geothermal energy investments refer to building integrated solutions, such as ground source heat pumps (GSHPs). In the IEA's NZE scenario, ground source heat pumps become responsible for 50% of heating demand by 2050. As such, the global stock of ground source heat pumps more than triples in this scenario between 2020-2030 and increases by over ten times by 2050. GSHPs are highly energy efficient sources of heat that in Sweden's context will likely reduce demand in Humlegården's property portfolio for district heating. There are however pitfalls related to the use of refrigerants, the leakage of which can contribute to global warming, and these need to be managed properly. Depending on whether open or closed loop systems are used, GSHPs may create adverse impacts on subsurface hydrology, groundwater chemistry and thermal balance, and microbiology.[26] Drilling may also entail adverse impacts on the local environment and biodiversity.

According to the company, its optimization of energy use through demand management and machines, entails: i) increased amounts of energy data collected, ii) improved data quality to enable automated energy data reporting, and iii) better follow up on data. Such investments are crucial for reduced energy use.

Summary of key factors beyond the issuers' direct control that may affect the achievement of SPT 2

According to Humlegården, the greatest risks here pertain to geopolitical and macroeconomic environment, which may reduce opportunities for energy efficiency investments. We have not identified any other significant risks outside of Humlegården's control.

[26] https://www.heatstore.eu/documents/HEATSTORE_WP6_D6.6_Rev.%20Final_2021.10.25.pdf

Assessment of KPI 3: Share of major renovations & construction projects carried out according to circular principles

Aspect	CICERO Shades of Green Comments
Materiality	**KPI 3 is material with caveats around the extent to which it will produce positive climate impacts; as such it should always be used together with KPI 1.** ✓ Although KPI 3 is designed to address the climate and environmental impacts from Humlegården's construction and renovation projects, it is a means-based measure as opposed to a direct measure of such impacts. Humlegården shared that in one test case it observed emissions reductions of 25% by reusing certain materials, and in another saw potential reductions of almost 70% depending on particular material choices. Nonetheless, positive outcomes may not be guaranteed moving forwards, and this is a pitfall of the KPI. This pitfall is mitigated to an extent by the inclusion of embodied emissions in KPI 1. See additional discussion under "Methodology". ✓ According to Humlegården, the share of projects covered by KPI 3's major projects criterion in the most recent reporting year (2022) was 80%, and it ranges from 70-90% each year. ✓ KPI 3 is only applicable to tenant improvements and construction projects, which according to Humlegården comprise around 80-90% of its annual investment volumes. KPI 3 can be considered material in this regard. ✓ To the extent that it translates into emissions reductions, KPI 2 is also material in terms of managing climate transition risks, principally those represented by Sweden's Climate Act, which requires carbon neutrality by 2045.
Strategic significance	**The KPI is strategically significant.** ✓ KPI 3 will help Humlegården achieve its longer-term target of achieving climate neutrality by 2045, as well as KPI 1. KPI 3 is also the basis for a new target in Humlegården's overall sustainability strategy as of 2022. ✓ Improving performance on KPI 3 requires integrating a wide range of considerations for circularity into Humlegården's existing processes. In so doing, it will likely lay important foundations for future reductions of Scope 3 emissions and overall material demand. In particular, it will prepare Humlegården for limit values on emissions for new construction that will be introduced in 2027 and downward ratchets that may be introduced thereafter, as has been proposed by the Swedish National Board of Housing, Building and Planning (Boverket). Note that the limit values have not yet been proposed. Boverket has also indicated that it is exploring the future introduction of limit values to emissions from refurbishment and extensions as well.
Methodology	**The methodology is mostly robust and transparent, with caveats around the lack of quantitative criteria and KPI 3's bespoke nature.**

	✓ KPI 3 is based on a bespoke methodology developed by Humlegården, which inhibits comparability with industry benchmarks and peers. KPI 3 is also newly introduced, and so historical data are unavailable. ✓ The methodology for KPI 3 appears to be credible and ambitious in scope with respect to the application of circular economy principles in the real estate sector, and Humlegården appears to have referenced credible sources in their development. However, an overall absence of quantified thresholds on the criteria make it difficult to assess the extent to which the principles' implementation will generate positive impacts in terms of reductions in emissions and material demand. For example, the principles include a requirement to use recycled products and materials, but do not specify the extent to which they should be used. It is however helpful that Humlegården has developed a list of indicators that it will use to measure impacts from its implementation of circular principles. According to Humlegården, it may eventually report on these impacts as part of its reporting under the framework, and we encourage Humlegården to do so as soon as data area available. ✓ Humlegården notes in the framework that the mandatory and optional aspects of the circular economy principles could change over time, which would impact comparability of KPI 3 over time. According to Humlegården, this provision is in place to allow for changes to legislation and metrics, but that any changes will only allow for the criteria for compliance with the principles to become stricter over time. ✓ It is positive that Humlegården aims to make the methodology behind KPI 3 publicly available.

Assessment of SPT 3: increase share of major renovations & construction projects carried out according to circular principles

- SPT 3a: 25% by 2026
- SPT 3b: 100% by 2030

Benchmark	CICERO Shades of Green Comments
Own performance	**Ambition is in line with own performance in terms of continued effort required.** ✓ Historical data on KPI 3 are unavailable, preventing direct benchmarking of SPTs 3a and 3b against Humlegården's own performance. However, SPTs 3a and 3b represent a continuation of Humlegården's efforts to develop its circularity principles, which began in 2019 and, if achieved, will result in a substantial shift in its operating practices. ✓ Humlegården has not disclosed the percentage of its future budget that would be dedicated to achieving the target, but shared that implementation costs primarily

pertain to the increased time spent by various personnel and contractors for new and existing processes.

- ✓ In assessing this target, we have considered the challenges that Humlegården faces and high level information about its 2022-23 plan for doing so. It is clear that this involves organization-wide engagement and training as well as the introduction of new processes and development of internal resources, in addition to external outreach and engagement. See "Initiatives and Strategy to Achieve SPT 3" for further information about these efforts.

Peers

Ambition is beyond peers on the basis of scope.

- ✓ Broadly, the inclusion of embodied emissions in materials in Scope 3 emissions targets for Humlegården's peers should necessitate implementing considerations around circularity into their operations. However, peers have not set accompanying targets that address the operational challenges of doing this; further, they may still rely on offsets to achieve their Scope 3 target. From this perspective, SPTs 3a and 3b enhance the credibility of Humlegården's emissions targets and can be considered a marker of ambition in this regard, especially when considered alongside KPI/SPT 1.
- ✓ According to Humlegården, the only peer that has a specific target on circularity is Vasakronan, which by 2030 aims to 1) only use renewable, recycled or reused materials in its construction projects, and 2) eliminate non-recyclable and non-reusable waste from its business and that of its customers. It also shared that Riksbyggen has developed a circularity tool ("CIX") for assessing circularity, but information is unavailable on how this is integrated into their operations.
- ✓ We note that in its reporting, Fabege mentions the use of 20% reused material for reconstruction projects, but it is unclear whether this is an existing minimum standard or a target.

Science-based scenarios or international targets

Insufficient basis for assessment due to lack of directly relevant benchmarks.

- ✓ Although Humlegården provides multiple benchmarks against which the quality of its circular principles can be assessed, it has not identified specific benchmarks against which the timeline for SPTs 3a and 3b can be assessed.
- ✓ It is possible to draw linkages between decarbonization pathways for the real estate sector and the implementation of circular economy principles, e.g. the IEA has indicated that embodied emissions in building construction must decline by 40% per square metre of new floor area by 2030. However, the difficulty of quantifying potential emissions reductions or other environmental benefits from achieving SPT 3 precludes the benchmarking of SPT 3 against the Paris Agreement.

Initiatives and Strategy to Achieve SPT 3

Humlegården indicates that the achievement of SPT 3 will depend on the adoption of circular strategies into its daily operations. This will include integrating considerations for circularity into customer discussions, planning and design, and construction and property management. Given the widespread integration that will need to be achieved, the plan to work towards SPT 3 in 2023 is credible given its inclusion of, among other things, internal

and external workshops and various other forms of awareness raising and capacity building. Humlegården has been preparing to implement KPI/SPT 3 since 2018/19, when it originally launched the research project referenced in the appendix of the framework. As such it has in place robust guidelines and manuals that have been developed since then, in addition to processes, methods and activities for improving circularity. The company shared that it currently has ten renovation projects featuring circular principles, of which three are implementing all of the mandatory criteria for compliance. It expects to complete these three projects by end 2023, which will enable it to achieve SPT 3a.

According to Humlegården, its customers will need to be on board with circular principles if it is to achieve SPT 3. As such, customer engagement will be needed to address potential misconceptions around reused materials, impressions of limited choice, short-termism in decision-making, and lack of awareness of the linkages to climate change. We note also the question of costs associated with SPT 3 and the extent to which they could factor into gaining customer acceptance. The company has shared with us a list of costs associated with SPT 3 but not disclosed the extent of the costs or the timeframe; we are also unable to assess how complete the listed costs are. According to Humlegården, full implementation of SPT 3 may reduce costs for customers if it leads to increased reuse of products and materials, but the company has not attempted to quantitatively validate this expectation.

Summary of key factors beyond the issuers' direct control that may affect the achievement of SPT 3

According to the company and as discussed above, achievement of SPT 3 will depend in part on customer acceptance and ability of external parties, e.g. architects, suppliers and contractors, to meet new requirements around circularity, which may not be guaranteed regardless of Humlegården's engagement strategy and efforts. A related point is that according to Humlegården, achieving SPT 3 depends on industry peers sharing the same view and strategy. We find it quite likely that peers will be focused on this issue, given Boverket's plan to introduce limit values on emissions from new construction by 2027, and potentially also on renovations and extensions in the future. However, the extent and effectiveness of engagement with customers and other stakeholders in the sector may vary and Humlegården may not benefit from peer efforts depending on the extent to which it is a first mover. We also note that Humlegården may face challenges with building regulations. Although the company acknowledges this may be the case in certain respects—e.g. it is generally easier to reuse materials in renovations than in new construction projects—the company does not believe regulations to pose a major risk to SPT 3.

3 Terms and methodology

This note provides CICERO Shades of Green's second opinion of the client's framework dated April 2023. This second opinion remains relevant to all sustainability linked 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 Shades of 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.

This assessment is based on a review of documentation of the client's policies and processes, as well as information provided to us by the client during meetings, teleconferences and email correspondence. In our review we have relied on the correctness and completeness of the information made available to us by the company.

The structure of Sustainability Linked Bonds (SLBs) and Sustainability Linked Loans (SLLs) linking financial returns with environmental performance can provide security around environmental impacts. However, SLBs and SLLs can vary widely in terms of robustness depending on what KPIs are selected and how they are measured. We provide transparency on 1) the relevance, materiality and reliability of selected KPIs, 2) the rationale and level of ambition of the proposed Sustainability Performance Targets, 3) the relevance of selected benchmarks and baselines, as well as transparency on how well the strategy outlined to achieve them fits with a low carbon and climate resilient future. By considering these factors, we provide context to consider the ambition level of the SLB and SLL. Please note that CICERO Shades of Green does not evaluate any financial aspects of transaction, including to what degree the variation in the financial characteristics of an SLB and SLL is commensurate and meaningful.

Incorporated into the sustainability-linked finance assessment is our company climate risk assessment approach. We allocate a shade of green, yellow or red (see figure below) to revenues or portfolio value which reflect alignment of the underlying activities to a low carbon and climate resilient future and taking into account governance issues.

Shading	Examples
Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	Solar power plants
Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	Energy efficient buildings
Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	Hybrid road vehicles
Yellow is allocated to projects and solutions that do not explicitly contribute to the transition to a low carbon and climate resilient future. This category also includes activities with too little information to assess.	Healthcare services
Red is allocated to projects and solutions that have no role to play in a low-carbon and climate resilient future. These are the heaviest emitting assets, with the most potential for lock in of emissions and highest risk of stranded assets.	New oil exploration

In addition to shading from dark green to red, CICERO Shades of Green also includes a governance score to show the robustness of the company's sustainability governance structure. When assessing the governance of the company, CICERO Shades of Green looks at five elements: 1) strategy, policies and governance structure; 2) lifecycle considerations including supply chain policies and environmental considerations towards customers; 3) the integration of climate considerations into their business and the handling of resilience issues; 4) the awareness of social risks and the management of these; and 5) reporting. 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.

Appendix 1:
Referenced Documents List

Document Number	Document Name	Description
1	Sustainability-Linked Financing Framework (April 2023)	
2	Annual Report 2022	
3	Annual Report 2021	
4	Investor Report 2022 – Green Financing	
5	Energy Benchmark (January 2023)	Humlegården's peer benchmarking for energy intensity targets. Internal document.
6	Circular economy principles	Details of Humlegården's circular economy principles. Internal document.
7	Additional costs – circular economy and recycling (November 2022)	List of expected costs associated with implementation of circular principles (cost figures redacted). Internal document.
8	Plan for implementing circular principles (December 2022)	Internal document.

Appendix 2:
About CICERO Shades of Green

CICERO Shades of Green, now a part of S&P Global, provides independent, research-based second party opinions (SPOs) of green financing frameworks as well as climate risk and impact reporting reviews of companies. At the heart of all our SPOs is the multi-award-winning Shades of Green methodology, which assigns shadings to investments and activities to reflect the extent to which they contribute to the transition to a low carbon and climate resilient future.

CICERO Shades of Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Shades of 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 Shades of Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

- **2020** External Assessment Provider Of The Year, Environmental Finance Green Bond Awards
- **2020** Largest External Review Provider In Number Of Deals, Climate Bonds Initiative Awards
- **2019** External Assessment Provider Of The Year, Environmental Finance Green Bond Awards
- **2019** Largest Green Bond SPO Provider, Climate Bonds Initiative Awards
- **2018** External Assessment Provider Of The Year, Environmental Finance Green Bond Awards
- **2018** Largest External Reviewer, Climate Bonds Initiative Awards
- **2017** Best External Assessment Provider, Environmental Finance Green Bond Awards
- **2016** Most Second Opinions, Climate Bonds Initiative Awards