MOODY'S
INVESTORS SERVICE

ASSESSMENT
20 April 2023

Send Your Feedback

Contacts

Tom Collet
Associate Lead Analyst-SF
tom.collet@moodys.com

Adriana Cruz Felix
VP-Sustainable Finance
adriana.cruzfelix@moodys.com

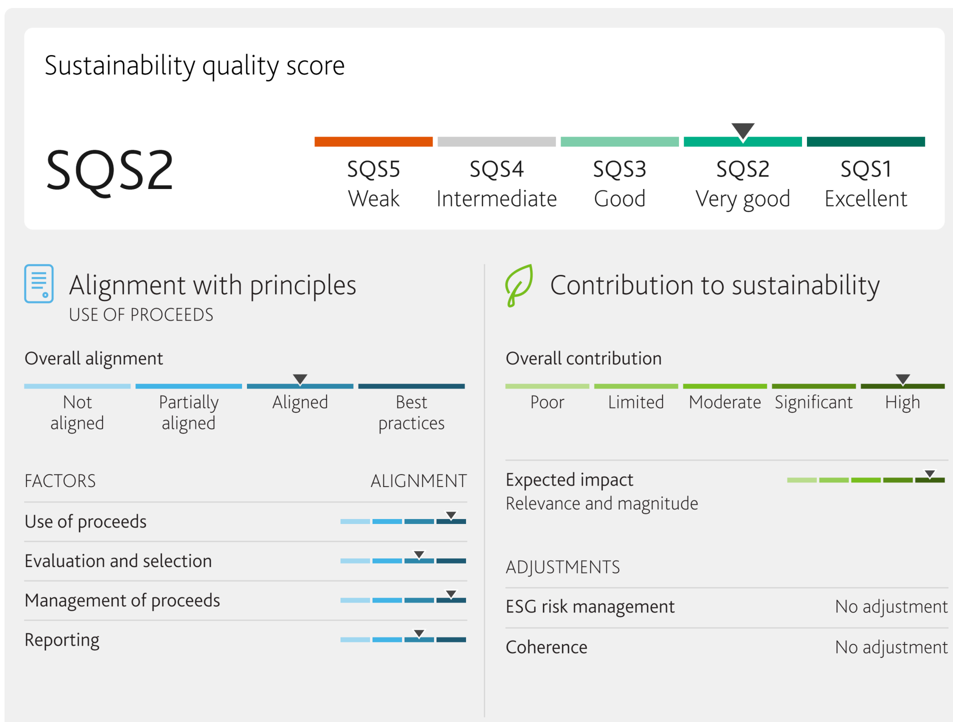
Rahul Ghosh
MD-Sustainable Finance
rahul.ghosh@moodys.com

City of Paris

Second Party Opinion – Sustainability Bond Assigned SQS2 Sustainability Quality Score

Summary

We have assigned an SQS2 sustainability quality score (very good) to the City of Paris' sustainability bond issued in November 2020. The issuer has financed projects across three green categories and three eligible social categories. In accordance with the main characteristics described within the City of Paris' formalized framework and the exhaustive list of projects detailed in its 2021 annual report, the issuance is aligned with the four core components of the International Capital Market Association's (ICMA) Green Bond Principles (GBP) 2021 (including the June 2022 Appendix 1), Social Bond Principles (SBP) 2021 (including the June 2022 Appendix 1) and Sustainability Bond Guidelines (SBG) 2021. The bond also demonstrates a high contribution to sustainability.



Scope

We have provided a Second Party Opinion (SPO) on the sustainability credentials of the City of Paris' sustainability bond issued in November 2020, including its alignment with the ICMA's GBP 2021 (including the June 2022 Appendix 1), SBP 2021 (including the June 2022 Appendix 1) and SBG 2021. Proceeds from the bond financed projects in three green categories (clean transportation, energy efficiency and climate change adaptation) and three social categories (access to essential services, social and solidarity economy, and social and affordable housing), as outlined in Appendix 2 of this report.

Our opinion reflects our point-in-time assessment of the details contained in the last updated sustainability bond reporting on the 2020 bond issuance, the City of Paris' sustainability bond framework last updated in 2017, and other public and non-public information provided by the issuer.

We produced this SPO based on our Framework to Provide Second Party Opinions on Sustainable Debt, published in October 2022.

Issuer profile

The City of Paris is the administrative and economic capital of France. The city had an estimated population of 2,142,366 and population density of 20,403 inhabitants per square kilometer as of January 2021, and covers a total area of about 105 square kilometers, divided into 20 municipal boroughs (arrondissements) – each with its own directly elected council and administrative offices. The Paris Council has comprised of the same members since 2001, and the city's mayor Anne Hidalgo — first elected in 2014 and re-elected in 2020 — is a member of the Socialist Party.

Regional and local governments (RLGs) in developed economies are very diverse in terms of geography and ecosystems, responsibilities assumed, tax base concentration, and policies and regulations designed to reduce carbon emissions or mitigate air pollution and other environmental risk factors. RLGs are generally resilient to climate shocks and negative climate trends. However, they are exposed to demographic risks as their populations age. Such risks can slow economic growth and increase demand for services, resulting in less dynamic fiscal revenue, increased social expenditure and unfunded pension liabilities. Poor employment growth prospects and labor participation may also strain advanced economy RLGs' finances, particularly where the working-age population is contracting, along with high levels of income inequality and pressure on housing affordability (especially in big cities).

Strengths

» The issuer has provided a detailed list of the projects financed with the bond proceeds, including respective allocations by category and project.

» Exhaustive environmental and social key performance indicators and co-benefits, and the management of environmental and social externalities at the project level are included in the reporting.

» The bond proceeds are allocated within 12 months without temporary investments.

Challenges

» The process for evaluation, selection and monitoring of projects is not traceable or documented, and there is no active monitoring of controversies.

» There is no external verification of the environmental and social indicators.

Alignment with principles

The City of Paris' sustainability bond issued in November 2020 is aligned with the four core components of the ICMA's GBP, SBP (including the June 2022 Appendix 1) and SBG 2021:

- [x] Green Bond Principles (GBP)
- [x] Social Bond Principles (SBP)
- [ ] Green Loan Principles (GLP)
- [ ] Social Loan Principles (SLP)
- [ ] Sustainability-Linked Bond Principles (SLBP)
- [ ] Sustainability Linked Loan Principles (SLLP)

Use of proceeds

Not aligned | Partially aligned | Aligned | **Best practices** ▼

Clarity of the eligible categories – BEST PRACTICES

The City of Paris has shared the list of projects financed by the 2020 bond issuance, including their locations and detailed descriptions, as well as the target populations for social projects. All the projects are located in Paris. The bond proceeds were exclusively used to finance capital spending in accordance with applicable budget regulation.

Clarity of the environmental or social objectives – BEST PRACTICES

The issuer has clearly outlined the environmental and social objectives associated with all environmental and social projects, which are coherent with international standards. These objectives include climate change mitigation, climate change adaptation and access to essential services. All financed projects are relevant to the respective environmental and social objectives.

Clarity of the expected benefits – BEST PRACTICES

The environmental and social benefits are clearly identified and measured at the project level. Relevant indicators include, for example, avoided carbon emissions (in tonnes of CO_2 per year), the number of trees planted and hectares of green spaces created, and the number of social housing units created. For environmental projects, the issuer also reports social co-benefits, and for social projects, the issuer also reports environmental co-benefits. This provides a holistic view of the sustainability benefits of the financed projects and is a relative strength in the reporting. The issuer has reported that there has been no refinancing with the bond proceeds.

Best practices identified

» Eligibility criteria are clearly defined for all project categories

» Objectives set are defined, relevant and coherent for all project categories

» Relevant benefits are identified for all project categories

» Benefits are measurable and quantified for most projects, either ex-ante with clear baselines or with a commitment to do so in future reporting

» Commitment to transparently disclose the share of proceeds used for refinancing where feasible

» Commitment to transparently communicate the associated lookback period(s) where feasible

Process for project evaluation and selection

Not aligned	Partially aligned	Aligned	Best practices

Transparency and quality of process for defining eligible projects – ALIGNED

The process for evaluating and selecting the projects financed is structured and clearly defined in both the framework and reporting. A dedicated procurement department ensures the integration of environmental, social and governance (ESG) criteria in contracts, which applies to most of the projects. The Directorate of Finance and Purchases collects data on the eligible projects and carries out an initial analysis of asset eligibility, in concert with operational teams managing the projects and elected council members. The sustainability bond committee — comprised of members with relevant expertise — selects, reviews and approves the eligible projects on an annual basis. The process for evaluation, selection and monitoring of projects was not documented, limiting traceability. Furthermore, the compliance of projects with the eligibility criteria is only monitored until the full allocation of the proceeds and not throughout the lifetime of the bond.

Environmental and social risk mitigation process – ALIGNED

The City of Paris is transparent in its environmental and social risk mitigation processes — both on an institutional level, as stated in the sustainable governance indicators outlined in the framework, and at the project level, with reporting detailing how specific ESG risks are mitigated, with quantified indicators when available. The issuer does not actively monitor controversies associated with projects. If controversies related to financed projects were to arise, a response would be provided to the media. However, visibility into whether remediation actions would be taken is limited.

Best practices identified

- The roles and responsibilities for project evaluation and selection are clearly defined and include relevant expertise
- Material environmental and social risks for most project categories are identified
- Presence of corrective measures to address environmental and social risks across projects

Management of proceeds

Not aligned	Partially aligned	Aligned	Best practices

Allocation and tracking of proceeds – BEST PRACTICES

The issuer has defined a clear process for the management and allocation of bond proceeds in its publicly available framework and reporting. Net proceeds from the bonds are placed in the city's general treasury account, but separately tracked to ensure their use only for eligible projects. The City of Paris confirmed it has taken specific measures as part of the annual financial audit process to monitor the amounts invested in selected eligible projects. The allocation period for the bond proceeds was shorter than 12 months, constituting a best practice.

Management of unallocated proceeds – BEST PRACTICES

Unallocated proceeds are kept in cash in the standard liquidity fund of the City of Paris' treasury, following the French regulatory framework for local authorities. There are no temporary placements for unallocated proceeds. In the event of project divestment, the issuer has specified that it will reallocate the proceeds to projects that are compliant with the bond framework.

Best practices identified

- » Broad disclosure of a clearly articulated and comprehensive management of proceeds policy to external stakeholders; bondholders or lenders at a minimum
- » Short allocation period, for example typically less than 24 months
- » Commitment to reallocate proceeds to projects that are compliant with the framework

Reporting

Not aligned	Partially aligned	Aligned	Best practices

Transparency of reporting – ALIGNED

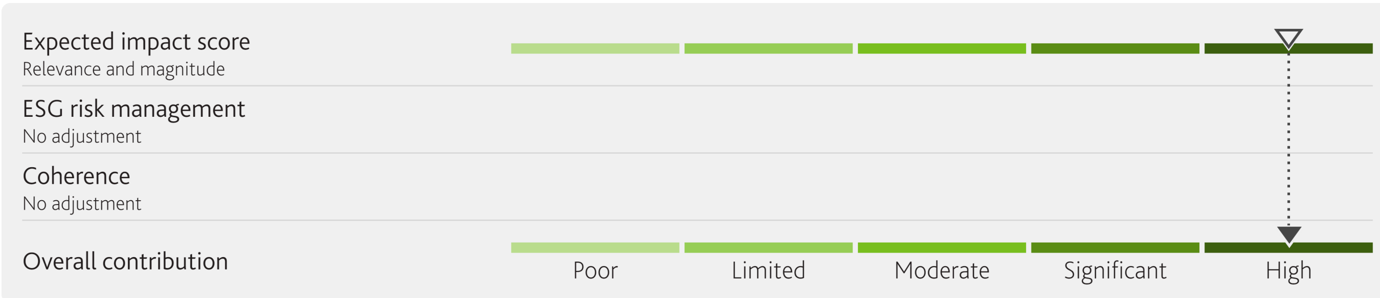
The City of Paris has committed to reporting on an annual basis, at least until full allocation and in case of significant developments. The reporting is disclosed publicly and includes details on financed projects, proceeds allocation, progress on the projects financed, environmental and social results and impact indicators, and ESG risk management measures and indicators. Reporting on the allocation of proceeds is exhaustive because there is no temporary investment of unallocated funds and no refinancing. However, the issuer has not committed to report on significant developments, issues or controversies related to the financed projects. The environmental and social indicators are clear and relevant, and cover all the expected environmental and social benefits, as well as co-benefits (for example, social co-benefits for projects with an environmental objective). In addition, the issuer has included calculation methodologies and assumptions in its reporting, in line with prior commitments. However, there is no independent verification of the allocation of proceeds, nor of the environmental and social indicators.

Best practices identified

- » Reporting on allocation of proceeds and benefits done at least at eligible category level
- » Exhaustive allocation reporting – balance or % of unallocated funds, types of temporary investments (e.g. cash or cash equivalent) and share of financing vs re-financing
- » Clear and relevant indicators to report on the expected environmental/social impact of all the projects, where feasible, or eligible categories
- » Disclosure of reporting methodology and calculation assumptions to bondholders or lenders at a minimum

Contribution to sustainability

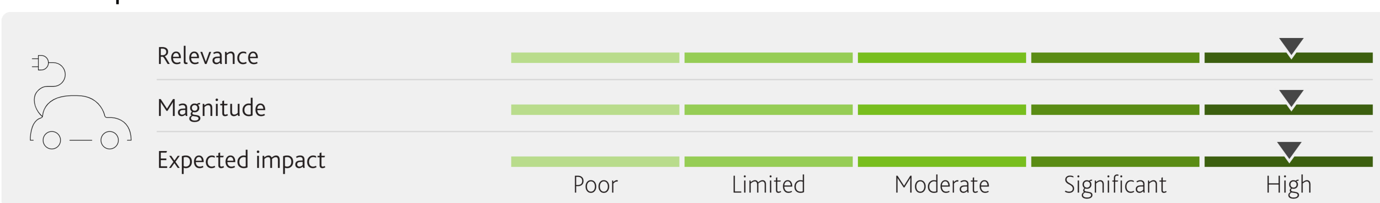
The framework demonstrates a high overall contribution to sustainability.



Expected impact

The expected impact of the eligible project categories on the environmental and social objectives is high. Based on information provided by the issuer, we have used the actual proceeds allocation information to inform the weightings of categories, with social and affordable housing accounting for over half of the weightings and clean transportation representing a quarter of the weightings. A detailed assessment by eligible category is provided below.

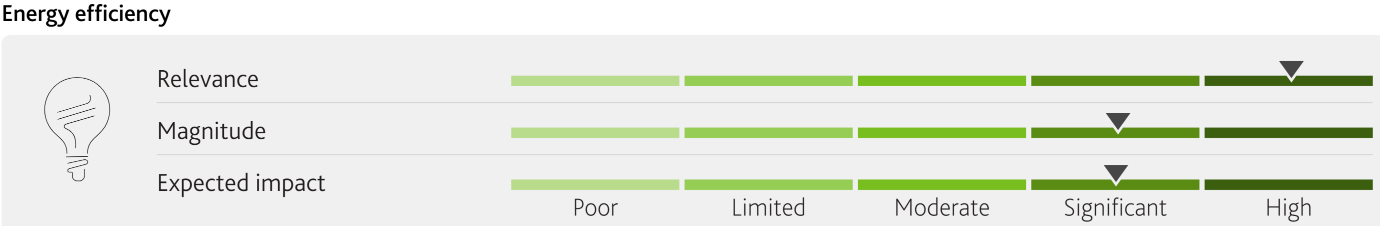
Clean transportation



The clean transportation category exhibits high relevance and magnitude. According to the Ministry of Ecological Transition, transportation accounts for 31% of the energy consumed in France and about 30% of the country's total greenhouse gas (GHG) emissions. The City of Paris is the most congested city in France, with half of the car traffic intracity and half from the suburbs. Although Paris is one of the top 10 cities in the world in terms of urban mobility readiness, challenges remain in terms of system efficiency and social impact, where the city lags behind the European average.

The category aims at financing three types of projects: the construction of cycle lanes, the extension of tramway and subway lines to extend their coverage in Paris or to further connect suburbs, and the creation of bus lines to better connect Paris' train stations (including the acquisition of electric buses). All assets are dedicated to or support public zero tailpipe emissions vehicles, and hence follow the strictest market standards. With regard to cycle lanes, recent studies[1,2] have shown that the creation of cycle lanes is likely to increase the levels of on-street cycling without necessarily inducing mode substitution for non-cyclists.

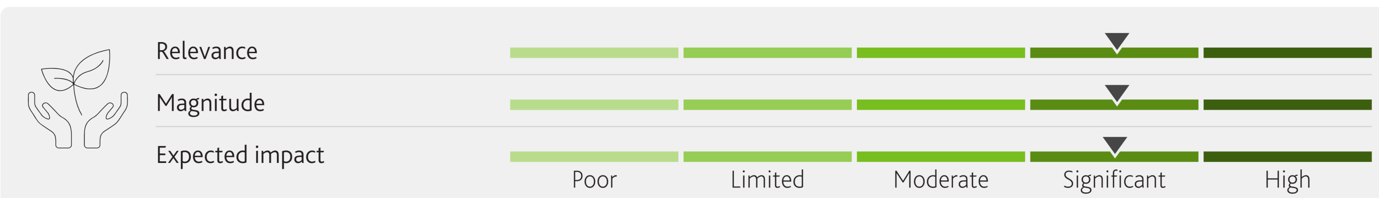
Energy efficiency



The projects financed under the energy efficiency category are highly relevant. According to the French Ministry of Ecological Transition, the real estate sector accounts for 44% of the country's energy consumption (mainly because of the heating needs of the residential sector), and roughly 25%-30% of the country's total GHG emissions. The construction of energy-efficient buildings is an important priority in France. The 2018 Multi-Year Energy Program set a goal to reduce the final energy consumption of buildings by 15% between 2016 and 2028. According to the National Low-Carbon Strategy, 370,000 buildings must be completely renovated each year between 2015 and 2030, with an additional 700,000 buildings per year between 2030 and 2050. This compares with less than 300,000 buildings each year currently. The average energy consumption of residential buildings in Paris is 242 kWh/m^2 per year. In 2022, more than 50% of the Parisian agglomeration buildings had an energy performance certificate of E, F or G, with only 19% attaining a C level or above.

The category aims at financing an array of project types, including the construction of nurseries, the construction and renovation of social housing and swimming pools, and the installation of more efficient public lighting and signage. The three new nurseries are aiming at complying with the RT2012 thermal regulation. Although this is a relevant standard, more stringent thresholds exist in the market. Also, new construction increases energy consumption. Meanwhile,the average energy consumption for renovation of social housing, to which 64% of the total proceeds was allocated, improved by 53% to 156 kWhPE/m^2/year from an average energy consumption of 331 kWhPE/m^2/year (EPC-F). This falls short of the ambitious 60% improvement target set by the City of Paris, but is higher than the EU taxonomy threshold of 30%. The Blomet swimming pool renovation project aims at decreasing energy consumption per square meter by 20% and per bather by 10%, from 34.5 MWh/bather/m^2 of pool to 27.6 MWh/bather/m^2 of pool, slightly short of the typical energy consumption improvements usually expected. The swimming pool construction project (centre sportif Thérèse et Jeanne Brulé) aims at reaching 2,450 kWh/m^2 — a significant improvement compared with the average of 3,000 kWh/m^2, but not aligned with the best technologies available in France for energy consumption. Finally, the efficient public lighting and signage project aims at reducing energy consumption by 4,617 MWh per year and a 30% energy reduction in 2020 compared with 2005 levels.

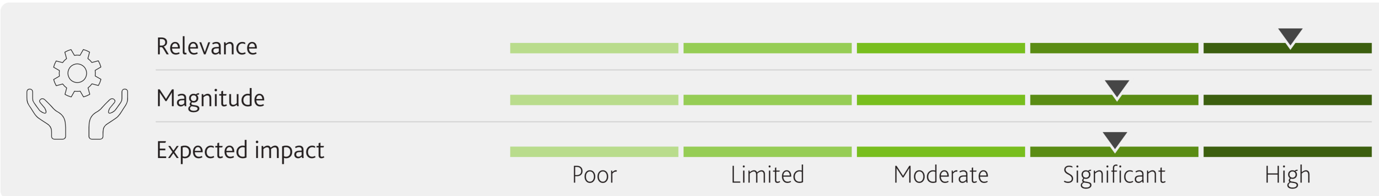
Climate change adaptation



The relevance of projects responding to physical climate risks is significant, although Paris is generally not as vulnerable to the effects of climate change as other big cities in Europe. With its very dense urban fabric, the City of Paris influences its meteorological environment by generating an urban microclimate known as an urban heat island. During the August 2003 heat wave, a difference of 4°C-8°C was observed between the center of Paris and the surrounding less urbanized areas, highlighting the relevance of projects aiming to reduce the effects of extreme heat. When it comes to urban tree cover, Paris is below average compared with other EU capitals; however, it is sixth in terms of urban green space. Extreme rainfall is also a significant challenge in France, although with a greater impact in the South of France than in Paris.

The City of Paris aimed and achieved to increase green areas by 8 hectares and plant more than 3,000 trees (or 1.5% of the total, when excluding Bois de Vincennes and Bois de Boulogne) in 2020 to limit the urban heat island effect and to ensure better management of rainfall. 7.98 hectares have actually been planted as of the end of 2020. As part of the ecodesign and biodiversity management of the city, ecological and sustainable factors are taken into consideration from the design stage, such as relying on indigenous plants. These are relevant solutions to respond to the objectives set by the City of Paris, and in line with the EU Adaptation strategy, which calls for promoting nature-based solutions for adaptation. Indeed, according to the European Commission, large-scale nature-based solutions will increase climate resilience and contribute to multiple green deal objectives, with additional benefits related to biodiversity, water management and health. However, these efforts are only part of the possible range of relevant solutions to address climate change adaptation and resilience.

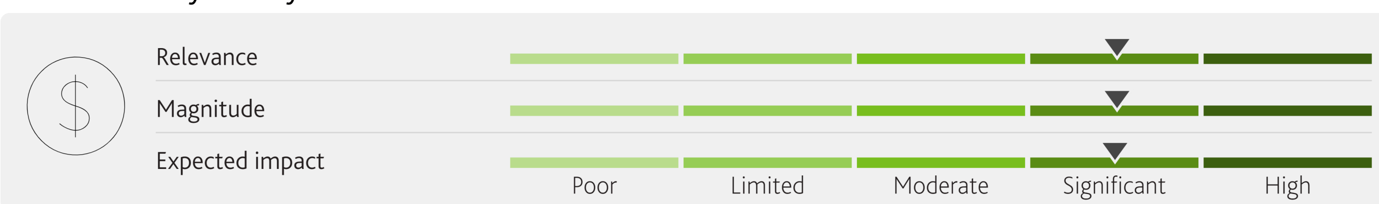
Access to essential services



Health and housing services for the elderly is a highly important social issue for the public sector. The challenges affecting the Establishment of Accommodation for Dependent Elderly People (EPHAD) in France are enduring. Not only is France's population aging, but the elderly are also increasingly isolated. In 2013, the proportion of people aged 65 and over living alone was 33.5%, with a lack of access to EPHAD. Furthermore, there is a particular need for such services in the local context: according to data from INSEE, Paris is one of the departments in France with the lowest equipment rate for support of the elderly.

The financed project is the renovation of a nursing home (EHPAD). The target population (elderly dependent people, especially with Alzheimer's or other cognitive diseases) is the most vulnerable. This renovation aims at increasing the quality and availability of the service by increasing the number of rooms for residents. Environmental and social externalities of the investments were also considered in this analysis. Regarding affordability, the pricing of residencies is regulated in France, where care and dependency costs are mostly covered by the government and accommodation costs mostly means-tested. The City of Paris also provides financial support to ensure that the residencies are financially accessible. Regarding quality, there have been recent and recurrent scandals related to the quality of care received in EPHADs in France. While these have concerned private operators, they highlight that nursing homes may not be the solution with the highest social benefit for dependent elderly people, and alternatives are gaining increasing visibility.

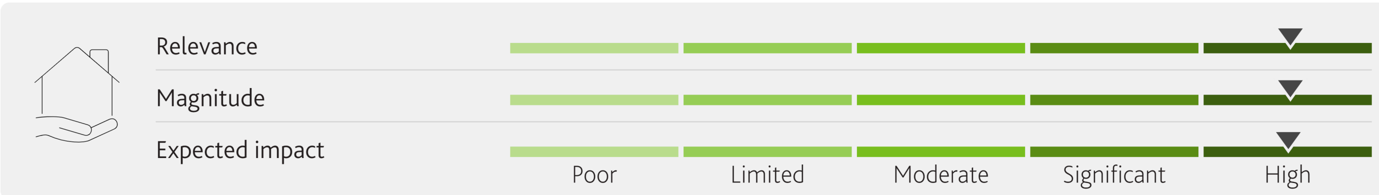
Social and solidarity economy



Social and solidarity economy (SSE) companies refer to a group of companies organized in the form of cooperatives, mutual insurance companies, associations or foundations. This category represents a response to the social and economic crisis brought about by the coronavirus pandemic, with SSE companies covering 14% of private employment in France. In the second quarter of 2020, 52,000 jobs were lost, which represents 6.5% fewer establishments. Therefore, financing these enterprises is particularly relevant. At the regional (Ile de France) level, 7.1% of employees are employed by an SSE company, and 6.7% of companies are SSE. The weight of SSE employment in Paris is the highest of all departments in the region, at above 9%. However, SSEs are already quite developed in Paris, and there is less need to support them in Paris than in other areas where they are less common.

The category supports companies through economic difficulties by providing an allowance to acquire new equipment that will boost the activity of small and medium-sized enterprises (SMEs). As a result, the projects are not a short-term response to cash flow issues, but rather intended as a medium-term investment to support businesses. The target population is relevant, with a focus on SSE SMEs. In addition, 12 out of the 29 financed structures are organizations focusing on integration through economic activity (structures de l'insertion par l'activité économique [SIAE]), thus benefiting a relevant target population (people facing socioprofessional challenges) with positive effects on their socioeconomic advancement. Although the level of detail on the investments financed in this category is a positive element the expected magnitude of impact can vary across each financed initiative.

Social and affordable housing



According to a study by the National Institute of Statistics and Economic Studies, rent indices in France have risen faster than consumer prices and gross disposable household incomes since the 1980s, leading to a sharp increase in the share of income allocated to housing expenses in recent years. The number of social housing units within Paris' territory was 255,355 as of 31 December 2020. This is equivalent to 21.8% of all main residential units in Paris. Since 2013, the target has been to reach 25% of social housing in cities of more than 1,500 inhabitants, to which this category aims to contribute.

The category both renovates substandard housing and builds new social housing units. Renovating of substandard housing has a highly positive long-term impact, both in terms of health and quality living conditions, as well as in terms of the environmental footprint of the renovated buildings (leading, for example, to increased energy efficiency). Building new social housing units will increase their availability, and the issuer will be targeting areas that currently have a social housing deficit, thus increasing social cohesion. The definition of the target population is clear, with 85% of the social housing units earmarked for people under low or very low income thresholds. Facilitating access to housing will have a positive long-term impact.

ESG risk management

We have not applied a negative adjustment for ESG risk management to the expected impact score. The City of Paris has described its general management of ESG externalities in the reporting and has included additional details on specific ESG externalities management for each of its financed projects.

Coherence

We have not applied a negative adjustment for coherence to the expected impact score. The projects financed by the 2020 sustainability bond are in line with the broader objectives set at the City of Paris level. The objectives include the 2018 updated Plan Climat Énergie that aims to reduce the city's energy consumption by 50% between 2004 and 2030, and to increase the quality of life with the following goal: zero Parisians to be exposed to pollution levels exceeding the limit values by 2024.

Appendix 1 - Mapping eligible categories to the United Nations' Sustainable Development Goals

The three eligible categories included in the City of Paris' sustainability bond are likely to contribute to six of the United Nations' Sustainable Development Goals (SDGs), namely:

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 1: No Poverty	Subsidised Public Housing	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land
GOAL 3: Good Health and Well-being	Access to essential services for target populations	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
GOAL 7: Affordable and Clean Energy	Energy efficiency	7.3 By 2030, double the global rate of improvement in energy efficiency.
GOAL 8: Decent Work and Economic Growth	Microfinance and small businesses	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.
GOAL 11: Sustainable Cities and Communities	Subsidised Public Housing	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
	Clean transport	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all.
GOAL 13: Climate Action	Climate change adapatation	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
	Energy efficiency Clean transport	13.2 Integrate climate change measures into national policies, strategies and planning.

The mapping of the UN's SDGs in this SPO considers the eligible project categories and associated sustainability objectives/benefits documented in the issuer' reporting, as well as resources and guidelines from public institutions, such as the ICMA's SDG Mapping Guidance and the UN's SDG targets and indicators.

Appendix 2 - Summary of eligible categories in the City of Paris' sustainability bond

Eligible Category	Eligible Project	Amount allocated (in million euros)	Impact Reporting Metrics
Clean transport	Alternative means of transport: Cycle lanes	20.8	km of bike lanes tons of GHG emissions avoided
	Public transport: Extension of metro line 14	41.3	km of line created tons of GHG emissions avoided number of beneficiaries
	Public transport: Extension of tramway line 3	5.1	km of line created tons of GHG emissions avoided number of beneficiaries
	Public transport: Creation of tramway line 9	4.3	km of line created tons of GHG emissions avoided number of beneficiaries
	Public transport: High Quality Transit Line creation 4	4	km of line created tons of GHG emissions avoided number of beneficiaries
	Public transport: Connection of Paris' railways stations	1.7	km of line created tons of GHG emissions avoided number of beneficiaries
Energy efficiency	Buildings: Crèche Justice	1.79	energy consumption of the asset in kWh/m²
	Buildings: Crèche Lefebvre	3.35	energy consumption of the asset in kWh/m²
	Buildings: Crèche Evangile	2.47	energy consumption of the asset in kWh/m²
	Buildings: Piscine Blomet	2	energy consumption of the asset in MWhFE/bather/m² water consumption in L/bather/year
	Buildings: Piscine Elisabeth	2.38	energy consumption of the asset in kWh/m² water consumption in L/bather/year
	Public lighting and signage: Energy Performance contract (MPE)	6	annual enegy savings in MWh tons of GHG emissions avoided
	Buildings: Renovation of social housing	33.3	annual enegy savings in MWh/year tons of GHG emissions avoided
Adaptation to climate change	New green areas: 30 new hectares of green spaces	14.14	number of hectares tons of GHG emissions avoided
	Tree planting programme: 20,000 tree planting programme	1.32	number of trees tons of GHG emissions avoided
Access to essential services for target populations	Renovation of a nursing home for elderly dependent people (EHPAD)	2.25	number of beneficiaries
Social and Solidarity Economy	Microfinance and small businesses: Subsidies to actors of the social and solidarity economy (SSE)	1	number of full time equivalents supported
Subsidised Public Housing	Eradication of substandard housing	4.8	number of units
	Social Housing Units Production Programme	149.3	number of units

Moody's related publications

Second Party Opinion analytical framework:

» Framework to Provide Second Party Opinions on Sustainable Debt, October 2022

Topic page:

» ESG Credit and Sustainable Finance

Endnotes

1 Do new urban and suburban cycling facilities encourage more bicycling? Raktim Mitra, Avet Khachatryan, Paul M. Hess, August 2021

2 Impacts of new cycle infrastructure on cycling levels in two French cities: an interrupted time series analysis, Xiao et. al, July 2022

REPORT NUMBER 1356220