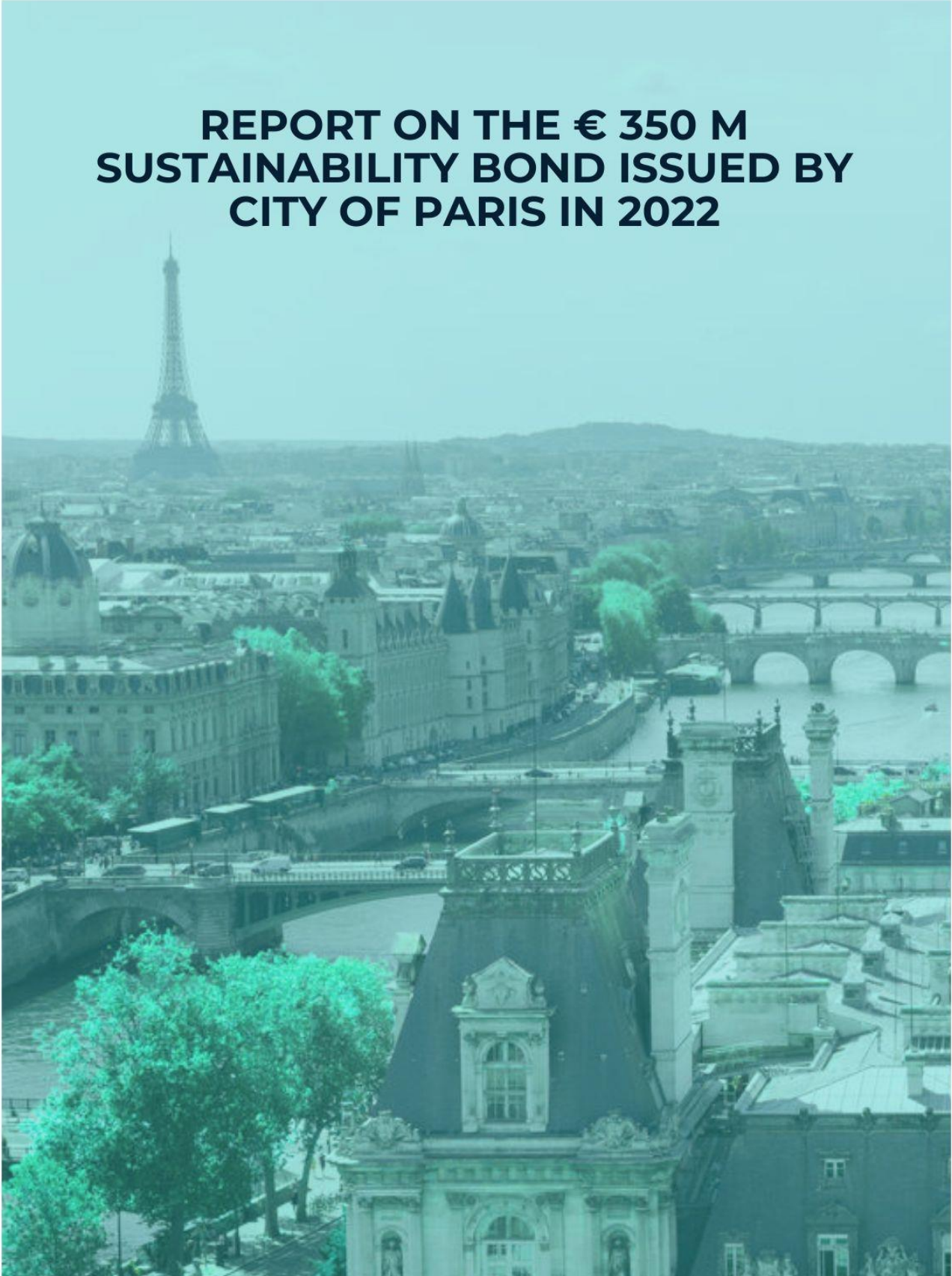


**REPORT ON THE € 350 M  
SUSTAINABILITY BOND ISSUED BY  
CITY OF PARIS IN 2022**



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## **PRESENTATION OF THE PARIS SUSTAINABILITY BOND IN CONTEXT**

## **The City of Paris has long been committed to the fight against climate change, both through its actions led locally in Paris and its administrative activities.**

For over 20 years, Paris has led an ambitious climate campaign. As early as 2004, when climate change was still questioned by some, the City of Paris made a firm diagnosis of its share of responsibility in terms of climate change, by carrying out its first assessment of greenhouse gas emissions and energy consumption generated by its administration and the Parisian territory. 2004 is still used as a reference year for the City's Climate Plans, both for "local emissions", which record direct emissions in the Parisian territory, and for its "carbon footprint", which takes account of local emissions as well as emissions generated by the lifestyles and consumption patterns of Parisian residents and users outside Paris.

Since 2007 and the adoption of its first Climate Plan, and before any legal obligation existed, Paris has already set itself a clear roadmap to combat climate change. This framework document is a strategic and operational planning tool that allows for an overall approach to the air-energy-climate issue within the territory. It defines goals and measures to reduce greenhouse gas emissions, adapt to climate change, achieve energy efficiency, improve air quality and develop renewable energies. Already in this first Climate Plan, ambitious goals were set: reduce greenhouse gas emissions and energy consumption by 25% by 2020, and increase the proportion of renewable energy and energy recovery to 25% between 2004 and 2020. This plan guided all of the city's climate policies between 2010 and 2020.

In 2012, the City of Paris reinforced the operational facet of its Climate Plan, adopting goals for each main sector (habitat, transport, waste) and committing to an over-arching anti-climate change strategy in all of its municipal policies. Directly responsible for only 5% of the territory's greenhouse gas emissions, with its second Climate Plan, the City sought to mobilise all those who live, work or pass through the territory to tackle the climate challenge. It was also at this time that Paris started anticipating the effects of climate change within its territory. An initial report on the territory's weaknesses and resilience showed that Paris is a city that is relatively resilient to climate hazards and the scarcity of resources despite weaknesses caused by heatwaves, floods, loss of biodiversity and the scarcity of water resources.

Paris' climate ambition took on a new dimension during the COP21 hosted by France in 2015, which resulted in the international community adopting the Paris Agreement. The third Climate Plan (2018-2024), which was adopted unanimously by the Paris Council in March 2018 and supported by 95% of Parisians according to a citizens' vote, reprised the goals set out in the UN Agreement on a Parisian scale, placing Paris on a path to carbon neutrality and 100% renewable energy consumption. At the same time, the issue of improving air quality was integrated into the Climate Plan:

- Reduce greenhouse gas emissions by 50% (compared to 2004);
- Reduce energy consumption by 35% (compared to 2004);
- Use 45% renewable and reusable energy in its energy consumption and at least 10% of energy produced locally;
- Reduce its global footprint by 40% within its territory;

- Become a zero fossil fuel zone;
- Comply with WHO air quality guidelines.

After several months of collective work, the 2024-2030 Climate-Air-Energy Plan was adopted on 13 December 2023 by the Paris City Council, and will come into force at the end of 2024. It displays an operational action plan for 2030 with 3 objectives: 'Faster, more local, fairer', in order to shape a sustainable future and achieve carbon neutrality :

Faster means, above all, speeding up our efforts. To achieve this, the City of Paris is mobilising its entire administration, departments and staff, as well as all the players (residents, businesses, retailers, associations, etc.) in the Paris region. With this 2024-2030 Climate Plan, Paris is driving a change of scale in its municipal levers, questioning all the activities that generate greenhouse gas emissions, and planning to move away from fossil fuels through energy sobriety and the deployment of renewable energies. Adapting Paris to the effects of climate change is also part of this acceleration imperative. The protection of residents, workers and anyone travelling through the city is at stake. For the first time, the Climate Plan defines an adaptation trajectory for Paris.

Doing more locally: actions to combat climate change must be implemented rapidly throughout the city, in every district and arrondissement. For the first time, the Climate Plan is being implemented locally, as part of a grassroots approach that is as close as possible to the daily lives of Parisians. Each arrondissement has an operational roadmap, based on its priorities and perfectly consistent with the actions undertaken in other areas, with the aim of making the arrondissement the benchmark for municipal action.

Doing more justice: Paris is placing social justice at the heart of its strategy to combat climate change. The climate crisis is amplifying inequalities. Not all Parisians are affected by climate change in the same way: those who contribute the least are often those who are most impacted by its effects. For example, residents of working-class neighbourhoods in Paris are the most exposed to heat waves, air pollution and fuel poverty, in both summer and winter. With this Climate Plan, Paris is showing its determination to reduce poverty and enable everyone to live better in a low-carbon city that is adapted to climate change.

With its new plan, Paris is committed to developing the operational means required to achieve carbon neutrality and adapt the city to the new climate reality. By choosing to promote sobriety and the transformation of public areas and buildings, using naturebased solutions instead of purely technological solutions, Paris has cemented a climate action model and encourages all players in its territory to stand with it in this approach. Working in Paris to achieve carbon neutrality and enabling every inhabitant to live in a changed environment is also a means of protecting those most vulnerable and taking all measures to reduce social and environmental inequalities.

This fourth Climate Plan will mark the start of general mobilisation to ensure Paris' habitability in the near future, and will enter the territory in a race against time to maintain the Paris Agreement goal of keeping global warming under 1.5°C, with a focus on two series of objectives:

**By 2030:** reduce local greenhouse gas emissions by 50% compared to 2004; reduce the territory's carbon footprint by 40%; reduce energy consumption by 35%; make 45% of consumption renewable, with 10% produced locally.

**By 2050:** make Paris a zero greenhouse gas emission area, reduce the territory's carbon footprint by 80% compared to 2004, reduce energy consumption within the territory by 50%, make 100% of its consumption renewable, with 20% produced locally;

With regard to the **"air quality"** component of the Climate Plan, by using the levers at its disposal, the City of Paris has set itself the goal of continuously reducing Parisians' exposure to air pollutants according to the following stages:

- In 2025, compliance with current regulatory nitrogen dioxide values,
- In 2030, compliance with new European regulatory values,
- In 2035, compliance with WHO recommendations.

With regard to **adapting** to climate change, the City of Paris will define a trajectory by setting itself several objectives, in particular:

- Enable 100% of Parisians to be less than 7 minutes' walk from an urban cool island, day and night, by 2030;
- Achieve 40% greening of the territory;
- Reach 10 m<sup>2</sup> of green areas per inhabitant by 2040;
- Diversify water resources, including making 100% of rainwater useful in line with the ParisPluie plan recommendations.

## **20 years of successful experience rewarded by the United Nations**

The 2004-2014 results, which summarise the actions taken by the City under the Paris Climate and Energy Action Plan to adapt to climate change, have shown the following:

- An approximate 10% reduction in greenhouse gas emissions;
- A 15% drop in energy consumption;
- 15% of its energy consumption being renewable and reusable.

Paris is constantly developing stronger public policies that combine solidarity, economic development, environmental protection, biodiversity and the circular economy. A mid-term report on the Climate Plan adopted in 2018 was published in 2022. This regulatory document takes stock of the situation three years after the Climate Plan entered into force. This report describes the progress made on the programme of actions and the trends observed, including:

- $\frac{3}{4}$  of actions included in the first implementation phase (2018-2020) have been

launched and over half have already achieved their goal.

- The 2020 goal to reduce greenhouse gas emissions has been reached (-24% between 2004 and 2019).

The year 2021 was marked by the "UN Global Climate Action Award" being presented to the Paris Climate Plan by the United Nations. Since 2011, this annual programme rewards the most innovative anti-climate change actions across the world.

According to rating agency VIGEO-EIRIS, Paris scored 56/100 among leaders in the local authority sector in 2021

## **2015, a year of increased mobilisation in Paris to combat climate change...**

The City of Paris stood out in 2015 by hosting the 21<sup>st</sup> international climate change conference (COP21), which saw the signing of the historic agreement adopted on 12 December 2015 as well as many actions carried out at Parisian level (adoption of action plans to combat air pollution caused by road transport, a sustainable innovation strategy for Paris, an action plan for sustainable food in municipal catering, and the Paris climate change Adaptation Strategy, etc.)



The City of Paris also promoted a number of international partnerships.

5 years after the Paris Agreement and the international summit for mayors and local leaders held on 4 December 2015, Paris and other cities chose to reassert their commitment with the Paris Declaration of 11 December 2020. Supported by multiple city networks, this declaration was approved by over 100 French and international cities and local governments, all committed to taking action and achieving carbon neutrality by 2050 at the latest.

In addition, 73 large companies with offices in Paris signed the Paris Climate Action Charter and have pledged to reduce their carbon footprint.

## **... and the year of the Climate Bond: The City of Paris issues its first labelled green and socially sustainable bond**

By hosting COP21 and the international summit for mayors and local leaders at the end of 2015, Paris gained excellent international exposure. The Climate Bond issue of November 2015 was part of efforts to support exemplary sustainable development policies. Thus, Paris confirmed its continued commitment to combatting climate change by choosing to specifically allocate the funds raised to the financing of projects with a proven climate benefit.

## **A natural extension to projects providing social benefits and contributing towards the population's well-being:**

The environment is only a part of sustainable development, which also comprises a strong social component.

The City is responsible for social services and healthcare, urban planning, primary and secondary schools, culture, the environment, economic development, as well as water management, as well as waste collection and recycling; it has actively included sustainability in all of its development plans.

As such, in 2017, the City of Paris decided to expand its original framework and establish a **"sustainable framework"** in order to ensure the eligibility of projects supporting the City's overall sustainable development plan.



The capital city has introduced ambitious programmes in order to demonstrate its inclusive role as a sustainable city:

- Access to housing: in order to provide all Parisians with access to housing, the City of Paris has committed to ensuring that 30% of housing is social housing by 2035.
- Financial support: to help vulnerable families to pay their energy bills, for example.
- Fight against exclusion: The "Parisian Pact against mass exclusion" coordinates support for the homeless. It aims to prevent the life changes that lead to homelessness and to help the homeless improve their circumstances through support centres and job search resources.
- Initiatives targeting individuals with disabilities are also at the heart of concerns, following the parisian disability and accessibility strategy adopted in 2022.
- Social cohesion and development of the Social and Solidarity Economy, promoting social integration work: five incubators and seven activity and employment cooperatives provide support to social entrepreneurs.

The Sustainability Bond Framework is a guideline the City of Paris can use to issue climate, social or Sustainability Bonds in future:

- A bond is a Climate Bond if all the funds loaned are allocated to projects eligible in one of the following categories: renewable energy, energy efficiency, climate change adaptation or clean transport.

- A bond is a Social Bond if all funds loaned are allocated to projects eligible in social categories.

- A bond is a Sustainable Bond if all funds loaned are allocated to projects eligible in both the categories (climate and social), as defined by the Framework. The Sustainable Bond issued in November 2017 was the first to be issued under this new framework.

### **Aligning with best practices:**

The issued bond must comply with the 2017 Framework, which itself complies with the latest versions of the Green Bond Principles (GBP), Social Bond Principles (SBP) and Sustainability Bond Guidelines (SBG) available at the time of their issue. That is:

#### 1 - Use of proceeds:

The City of Paris' Climate, Social or Sustainable Bonds will finance and/or refinance new or existing projects, in full or in part, in one of the eligible project categories listed below.

More specifically, the proceeds will be allocated to the financing of projects in the following eligible project categories and contributing towards one or several of the following environmental and/or social goals:

- Reduction of greenhouse gas emissions;
- Reducing energy consumption;
- Increasing the proportion of renewable energies in the supply mix;
- Adapting to climate change and the depletion of resources in Paris;

- Improving access to essential services, including education, culture, housing, healthcare, access to services for low-income and poorly-served populations, including children, youths and the elderly;
- Creating jobs;
- Supporting social and economic progress and empowerment.

## 2 - Process for Project Evaluation and Selection:

The City of Paris has made ESG (environmental, social and governance) commitments to ensure that the projects financed are of a sustainable nature.

The City of Paris' Department of Finance and Procurement (Direction des Finances et des Achats – DFA) collects data on eligible projects and analyses them in order to establish an initial selection. Paris Council representatives and the operational teams managing the projects are included in these discussions with a view to drawing up the final list of projects included in the report.

## 3 - Management of proceeds:

The net proceeds from the issue of climate, social and sustainable bonds will be managed by the City of Paris' treasury, in compliance with the French regulatory framework for local authorities, until the total amount of proceeds is allocated to the selected eligible projects and/or until the bond maturity date.

The City of Paris will take special measures during the annual financial audit process to track the amounts used to finance the selected eligible projects.

In case of disinvestment in a project, the issuer will use the net proceeds to finance other eligible projects.

## 4 - Reporting:

In accordance with the commitments made under the framework, the City of Paris will produce an annual report containing the following information, for each bond issued, at least until the funds have been fully allocated:

- the monitoring of ESG criteria at project or bond level, where applicable.
- the allocation of funds according to project financed and its progress.
- where feasible, the project's environmental and/or social impact based on the indicators listed in annex 1 to the framework.

### **Extra-financial rating and SPO:**

As a reminder, in November 2015, before the Climate Bond was issued, the extra-financial rating agency Vigeo Eiris (now Moody's Ratings), an independent entity, had assessed the City of Paris and rated its sustainable development performance.

The City ranked first in the "Local Authorities" sector assessed by Vigeo Eiris, comprising 29 European local authorities.

This ESG rating further defines the City's profile in addition to the financial ratings issued by the Fitch and Standard & Poor's agencies (on the issue date, the City was rated AA- stable by Fitch since 30/04/2021, and AA with stable outlook by S&P since 06/10/2021).

The latest reports carried out under the framework established in 2017 received a very positive opinion (respectively "Good" for 2017 and "Very good" for 2020 and 2021) regarding the contribution of the financed projects to sustainable development.

2017 :

<https://cdn.paris.fr/paris/2021/11/05/9f8ded26d28c5615e963397d55b77c56.pdf>

2020 :

<https://cdn.paris.fr/paris/2023/04/20/spo-2020-reporting-sustainability-bond-2020-mIRG.pdf>

2021 :

<https://cdn.paris.fr/paris/2024/06/07/spo-2021-sustainability-bond-reporting-2021-en-B05z.pdf>

In September 2022, the City of Paris issued another Sustainability Bond with an initial amount of 300 million euros, topped up in November by an additional 50 million euros. This report covers the total amount (350 million euros) of this issue.



## **REPORT ON THE PROJECTS FINANCED**

The City of Paris has undertaken to provide information on the selected projects on an annual basis.

Reporting is carried out at operational (project) and/or general (bond) level for cross-disciplinary indicators, which are often linked to the authority's internal organisation, notably as regards sustainable governance criteria. These indicators will now be considered common to all projects.

This report provides confirmation of and details on the selected projects (allocation and breakdown of proceeds), their progress and, where possible, their environmental and/or social benefits.

When feasible, environmental benefits are assessed and quantified by the Department of Ecological Transition and Climate (Direction de la Transition Écologique et du Climat – DTEC), which is authorised to conduct a carbon audit.

All selected projects are currently being implemented, with some at an advanced or even completed stage.

In order to best meet the transparency commitments that the City of Paris has made towards its investors, this report includes a methodological note at the end of this document.

In sum, on 31 December 2022:

- The Sustainability Bond's 350-million-euro proceeds have been fully allocated. This data is confirmed by the computer-based monitoring of local authority accounts (Helios system), in coordination with the Regional Directorate of Public Finance (Direction Régionale des Finances Publiques – DRFiP).
- **7,704 tCO<sub>2</sub>/year** of carbon equivalent has been avoided thanks to the projects to which the City allocated the proceeds of bonds in 2022.
- **23,273 trees** were planted in 2022, and **3.94 ha** of green areas were created.
- **51,333 hours of social integration work** were completed throughout 2022.

## **Global sustainable governance indicators**

### **Social responsibility towards workers & human rights compliance:**

In addition to the already protective civil service status, the human resource policies implemented in the City have incorporated the following principles:

- Right to "residual privacy" (the Charter for the Use of IT resources was revised to take account of this tolerance);
- Compliance with the French Data Protection Act to protect the personal data of individuals using the City's online services;
- Fight against all forms of discrimination (generational, gender equality, persons with a disability, etc.)
- Anonymous, personalised and confidential reception and support scheme for all victims of sexual and psychological harassment ("At your service" cell: callers can be redirected towards one of the professionals from the Support and Mediation Office who are bound by professional secrecy or medical privacy).

### **As regards its public contracts:**

Documents related to tenders (Dossier de Consultation des Entreprises – DCE) require that winning companies, in compliance with the French Public Procurement Code:

- combat illegal work,
- employ disabled or similar workers,
- provide a sound social situation and ensure gender equality at work.

Where the holders and/or their subcontractors are unable to demonstrate compliance with these commitments upon notice of award of the contract, the local authority will not enter into contracts with these structures.

The Parisian authority uses the possibility of including sustainable development goals in its specifications and contract award processes, for all its purchases, in the form of clauses on the conditions for performance and/or tender evaluation criteria (see the *Responsible Procurement* indicator).

Where the declarations made by the holders and/or their subcontractors are inaccurate, or in case of a breach of their commitments, the administration may use its general power to control and manage performance of the contract to remind the company to comply with its obligations (to make corrections) or to apply financial sanctions or terminate the contract.

In all of the City's public contracts, **awareness of health and safety issues** is included in the contractual specifications. Thus, prevention plans are established whenever the City contracts with external companies to perform works or services on its sites. Safety protocols are also implemented for loading and unloading, in accordance with the provisions of the French Labour Code. In order to promote the dissemination and appropriation of these measures, these stipulations are included in the Special Administrative Terms and Conditions (*Cahier des Clauses Administratives particulières* – CCAP) template provided to procurement departments.

Awareness is also raised according to the purpose of the operations, for example to prevent risks on construction or maintenance sites. **A General Health and Safety Coordination Plan (*Plan Général de Coordination de Sécurité et de Protection de la Santé – PGCSPS*)**, required under French regulations, lists all measures that must be implemented. Lastly, general and/or local prevention plans are applied to contracts on the provision of services relating to green areas.

Special Administrative Terms and Conditions (CCAP) provide for financial sanctions when safety and health protection measures are not implemented.

### **Sustainable procurement:**

In 2021, in accordance with Article L.2111-3 of the French Public Procurement Code, the local authority adopted its second Parisian Responsible Public Procurement Scheme (*Schéma Parisien de la Commande Publique Responsable – SPASER*).

It focuses on three categories (economic, environmental and social) to advance responsible procurement practices by:

- ✓ improving attractiveness and facilitating access to public procurement,
- ✓ promoting respectful relationships with suppliers,
- ✓ providing protection against health risks, structure procurement around a circular economy,
- ✓ encouraging eco-friendly behaviour,
- ✓ developing integration opportunities for populations isolated from the employment market,
- ✓ promoting diversity and gender equality and encouraging responsible corporate behaviour.

Resource documents (templates, standard clauses, environmental procurement guides, etc.) and special training on responsible procurement are provided to the Department of Finance and Procurement's purchasers. In addition, when preparing contracts, the Responsible Procurement Division assists purchasers in identifying issues specific to each procurement project, regarding economic, environmental and social aspects.

Some achievements by the Department of Finance and Procurement in 2022:

- 84.48% of cross-sector contracts contain an environmental clause (performance clause and/or tender evaluation criteria and/or environmental purpose) (73.11% in 2021)
- 41% of the City's centralised contracts include a circular economy clause (53% in 2021)
- 25.08% of the City's centralised works contracts include an end-of-life recovery clause and/or a waste organisation, management and disposal plan (36% in 2021).
- 93% (same percentage as in 2021) of contracts contain a clause prohibiting the use of diesel, in line with guidelines to prohibit this engine type for light vehicles and heavy goods vehicles involved in the execution of the City's contracts (except in very specific cases).

- Professional clothing for staff is made of 100% organic and fair-trade cotton.

In line with the resolution adopted by the Paris Council in 2018 regarding the disposal of avoidable plastics in Parisian collective catering, Paris has continued its commitment toward limiting or gradually abandoning plastics in 2022 with an impact on public procurement: the goal is to eliminate single-use plastics in the drinks, food and goodies segments as a priority.

In order to help the most disadvantaged people back into employment, the second Parisian Responsible Public Procurement Scheme also sets ambitious goals based on:

- Identifying potential key markets in terms of social integration and the diversification of contractual levers;
- Working in partnership with the City's Department of Attractiveness and Employment (Direction de l'Attractivité et de l'Emploi – DAE Integration section) and Ensemble Paris Emploi Compétences (EPEC), the unique Parisian facilitator;
- Membership of the HANDECO network which federates structures in the protected and adapted sector.

Year 2022 in review:

- 663 active contracts over the year included a social integration clause (503 in 2021),
- 551,310 hours of social integration work carried out (City and City of Paris' Social Action Centre (Centre d'Action Sociale de la Ville de Paris – CASVP)) on these contracts (682,170 hours in 2021),
- Nearly €6m was spent with disability organisations and €6.8m with other integration organisations.

**Facilitating SME access to public procurement** is another essential focus that falls within this economically-responsible rationale:

- 59% of expenditure arises from contracts awarded directly to SMEs in 2022 (excluding subcontracting ), compared with 51% in 2021
- 80% of suppliers are SMEs in 2022, compared with 81% in 2021.

The introduction of simplifications (technical proposal template) and guides contributes to this objective.

### **Good commercial practices and ethics**

Thanks in particular to a reorganisation of the departments responsible for payments, the **average payment period for City of Paris suppliers** was 24 calendar days in **2022** (regulatory period: 30 days), compared with 23 days in 2021, despite the volume of invoices to be paid (almost 500,000/year). For more transparency, since September 2014, suppliers have been able to track their payments via the **supplier portal**.

In terms of purchasing in 2022, 464 procedures were published by the DFA and 1,269 by the City of Paris (respectively 427 of 1214 in 2021). Four claims were made against the



City of Paris, out of 464 contracts entered into by the DFA (against six claims out of 723 contracts in 2021); all four were won by the City.

Furthermore, the Sub-Directorate for Procurement (Sous-Direction des Achats – SDA) has adopted an ethical guide entitled the "Procurement Ethics Charter" to ensure perfect compliance with the French Public Procurement Code:

- To prevent conflicts of interest, all officers taking part in a public procurement operation (public contract, public service delegation or concession, partnership agreement, etc.) must ensure that they are not in a situation of conflict of interest; if they were, they would be required to immediately report the situation. Failure to do so may result in disciplinary action.

- Ethical control mechanisms are framed by procedures involving collegiality (committees and commissions), individual accountability (sanctions in case of failure: reassignment of the file, cancellation of the contract, possible criminal liability) and visas (confirming compliance with rules in force at every stage).

All members of elected offices and new supervisors are also made aware of procurement ethics rules and the various offences existing in this field (corruption, influence peddling, illegal acquisition of interest and favouritism).

Compliance with this ethics charter by the city's representatives (applauded by the High Authority for Transparency in Public Life, HATVP, which encourages these types of practices) is entrusted to a code of conduct commission made up of five independent individuals.

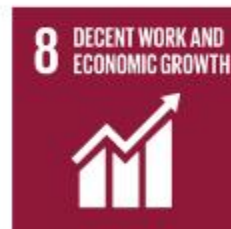
## SUMMARY OF THE PROJECTS FUNDED THROUGH THE BOND PROCEEDS

<b>Category 1 – Clean transport</b>	<b>€169,61M</b>
1.1 Alternative modes of transport: Cycling facilities	€28.14M
1.2 Public transport: Extension of metro line 14	€11.47M
1.3 Public transport: Extension of tramway line 3	€70.37M
1.4 Public transport: Redevelopment of Porte Maillot	€7.09M
1.5 Public transport: Adaptation of Line 11 metro stations	€9.54M
1.6 Public transport: Extension of the RER EOLE line	€43.00M
<b>Category 2 – Energy efficiency</b>	<b>€33.76M</b>
2.1 Buildings: Renovation of housing units	€33.76M
<b>Category 3 – Adapting to climate change</b>	<b>€13.67M</b>
3.1 Planting in public areas: creation and transformation of hectares of green areas	€7.78M
3.2 Tree planting programme: 170,000 trees	€5.89M
<b>Category 4 – Access to essential services for targeted populations</b>	<b>€5.51M</b>
4.1 Creation of the James Baldwin media library	€5.51M
<b>Category 5 – Affordable social housing</b>	<b>€127.45M</b>
5.1 Eradication of substandard housing	€4.42M
5.2 Social housing production programme	€123.03M
<b>TOTAL</b>	<b>€350.00M</b>

# 1.CLEAN TRANSPORT 2022



## 1.1. ALTERNATIVE MODES OF TRANSPORT: CYCLING FACILITIES



## Project description



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In 2022, the City of Paris has continued its commitment to developing cycling: a new 2021-2026 Cycling Plan was adopted by the Paris Council in November 2021, with the aim of making Paris a 100% cyclable city. Its first focus is to continue to expand the network of bike routes, at Parisian, metropolitan and regional level. By 2026, 180 kilometres of paths are planned, along with the general roll-out of contraflow cycle lanes. The second focus is to develop freely accessible and secure parking solutions, everywhere they are needed. 130,000 new spaces are planned, with 30,000 new rack spaces in public areas, 40,000 new secure, freely accessible spaces near train stations or at intermodal points, 10,000 new secure spaces in public areas away from intermodal points and 50,000 new spaces in private areas (social landlords, condominiums, companies, etc.). The last focus is to develop a "bike ecosystem" to provide all services that are vital to this practice, ensure bike safety and ease-of-use, support associative projects, bicycle tourism and bicycle logistics, etc.

## Key data

### **Projections :**

**New Cycle Plan 2021-2026** 100% cyclable

Paris:

Cycleways:

52 km of temporary paths made permanent

+130 km of secure cycle paths

+390 km of contraflow cycle lanes

### **Parking:**

+130,000 spaces, including:

30,000 spaces on racks

50,000 private-sector spaces

40,000 spaces near train stations

10,000 secure spaces in public areas or parking lots

### **Achievement :**

**38 kms** created in 2022

**1,442 kms** of cycleways, including cycle paths and shared-use paths, bus lanes open to bicycles, cycle lanes, contraflow cycle lanes, pedestrian paths, and lanes and paths closed to general traffic

**12,526 hours** of social integration work

*(see methodological note at the end of this report)*

## Proceeds invested in 2022

€28.14M was allocated in 2022



**Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

## Governance

### **Operational project management:**

A specific division, Mission Vélo, was created within the Department of Roads and Travel (Direction de la Voirie et des Déplacements – DVD) to achieve the goals set out in the cyclable policy related to facilities, parking and all matters linked to the cycling ecosystem. Consultations are held on all major projects and many discussions and collective efforts will be scheduled depending on the number of issues to address, with involvement from arrondissement mayors, the Prefecture of Police, the RATP, bicycle user organisations, other City departments, private and institutional partners, etc.

## Social responsibility

### **The City's procurement policy**

Compliance with labour law: a list of fines has been set up (implying a control system) in case of non-compliance with the **provisions of the French Labour Code on undeclared work or non-provision of the report on diversity.**

Compliance with contractual provisions: It should be highlighted that the samples used for the application of any penalties and reductions are taken by the City of Paris' materials

testing laboratory – **LEM VP** – with at least one sample per worksite, to the exclusion of cold bituminous coatings for which at least two samples are taken.

### **Sustainable procurement and integration**

The social clauses included in works contracts provide for a total of 13,564 hours of social integration work for individuals distant from employment. In order to ensure the proper performance of these clauses, the City of Paris has entered into a partnership with the Ensemble Paris Emploi Compétences (EPEC) association, a facilitator entrusted with approving the hours completed.

As of 31 December 2022, 12,526 hours of social integration work had been completed.

### **Social cohesion**

**Persons with Reduced Mobility (PRM) accessibility** is a component of every public area development project (including during the work phase). In this regard, the creation of cycling facilities meets the conditions set out in the Plan to Ensure the Accessibility of Parisian Roads and Public Areas, in the context of improving accessibility within the projects' scope. The Special Administrative Terms and Conditions (*Cahier des Clauses administratives Particulières* – CCAP) for roadwork contracts also include an article on **protecting residents** against pollution of all types throughout the operation.

**Users are constantly kept informed:** from development of the cycling plan to its improvement.

- Online citizen consultation,
- Participatory budget proposals received,
- Use of various communication channels,
- Information provided to citizen organisations through the press or cycling committees,
- Escalation of complaints via cycling organisations (taking part in cycling committees) and the "Dans ma rue" smartphone app.

## **Environmental responsibility**

### **Air quality**

The improvement of air quality by offering non-motorised modes of travel, which aims to reduce motor traffic and **related greenhouse gas emissions**, is central to the project.

Alongside the **environmental clauses** in the CCAP applicable to public contracts, a clause has been included relating to clean vehicles, involving the inspection of registration documents.

### **Energy consumption**

In addition to clauses placing constraints on contract holders, the latter are encouraged to **use the most effective methods** to manage the energies and fluids (notably water) required to carry out the project.

### **Eco-design**

The project is in line with the goals set for the term (planting 170,000 trees, establishing stormwater zoning and creating or sustaining wildlife corridors): a minimum requirement is that **biodiversity** and **the role of nature** should be protected (during the preliminary studies a compulsory impact assessment has been conducted). For instance, the removal of trees or flower boxes may only be considered on an exceptional basis and as a last resort.

The environmental clauses contained in the Special Technical Terms and Conditions (*Cahier des Clauses Techniques Particulières* – CCTP) of public procurement should help achieve these objectives: for example, a specific clause stipulates that the root collar of a tree must be protected during the work, whatever the type of tree.

### **Waste management**

In addition to the legal and regulatory requirements set out in CCAP applicable to works contracts relating to the development of an Environmental Assurance Plan (*Plan Assurance Environnement* – PAE) or Worksite Waste Disposal Organisation and Monitoring Plan (*Schéma d'organisation et de suivi de l'élimination des déchets de chantier* or SOSED), the DVD's Maintenance and Supply Centre (Centre de Maintenance et d'Approvisionnement) is piloting a new initiative to manage the recycling of natural stone elements at its Bonneuil-sur-Marne site. The CCTP contain numerous requirements as to the reuse of various materials.

In addition, for **hazardous waste**, the CCAP applicable to roadwork contracts include a specific article on the disposal of asbestos waste.

## **Evaluation of climate benefits**

### **Reduction of greenhouse gas emissions**

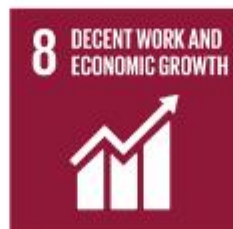
**865 t.CO2/year** were prevented thanks to the works financed by the bond issue in 2022.

*(see methodological note at the end of this report)*

## 1. CLEAN TRANSPORT 2022



### 1.2. PUBLIC TRANSPORT: EXTENSION OF METRO LINE 14





# Project description

Inaugurated in 1998 under the name "METEOR" for "Métro Est-Ouest Rapide", line 14 is the last Parisian metro line to be put into service. The first fully automated line, it covers 9.2 kilometres, from Olympiades to Saint-Lazare, with nine stations accessible to persons with reduced mobility (PRM) and 120-metre-long platforms equipped with platform screen doors. The line is equipped with an automated system of train operation (Système d'Automatisation de l'Exploitation des Trains - SAET) and a fleet of automatic 6-car MP89 trains. Thanks to the significant distance between stations (on average 1.1 km), it runs at an average speed of 39 km/h (against 20 km/h on other metro lines). All of these characteristics make line 14 an attractive line: it is used by 550,000 users every day.



Line 14; Metro  
©Guillaume Bontemps/Ville de Paris

The project to decongest line 13 by extending line 14 to Mairie de Saint-Ouen and adapting existing line 14 stations aims to:

1. **decongest line 13** upon the extension's opening; traffic studies have shown that with the extension of line 14, line 13's offloading rate will reach over 23% on the main line and over 19% on its branch lines, which will improve travel conditions for public transport users;
2. **increase the passenger capacity of line 14** extended to "Mairie de Saint-Ouen" by increasing the number of cars from 6 to 8 in order to offer the maximum capacity permitted by the line's adapted infrastructure (at least 40,000 travellers per hour in each direction);

3. **enable subsequent extensions** to the north all the way to Saint-Denis-Pleyel, and to the south to Orly airport, while optimising public investment.

## Key data

### Projections :

- **Reducing** passenger traffic on line 13 by 25% (line 13 = 600,000 passengers)
- **Transporting 35,000** passengers an hour
- Frequency of 1 train every 85 seconds
- New connections will be created with metro line 13, RER C, Transilien line L and tramway T3b.
- According to RATP estimations, 200,000 new travellers will use the line every day, including 12,500 at peak times in the morning on the extended section
- Gradual replacement of 6-car trains with 8-car trains.

### Achievement :

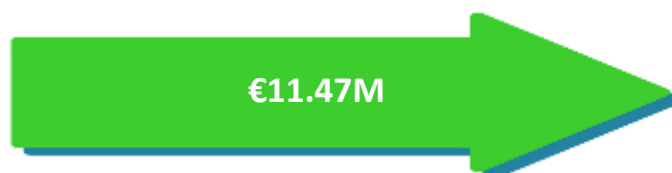
The general commissioning was carried out on 2021/01/28:

- **4** new stations created
- **5.8 km** of tracks created
- Châtelet-Mairie de St-Ouen in 15 min
- **15,000 m<sup>2</sup>** of transit areas
- **14,000 m<sup>2</sup>** of technical areas

Two new stations, Pont Cardinet and Porte de Clichy, serve the new Clichy-Batignolles neighbourhood along with Martin Luther King park and the courthouse.

## Proceeds invested in 2022

€11.47M was allocated in 2022



### Effective allocation of bond proceeds in 2022

*(This data is extracted from the 2022 administrative account)*

## Governance

The extension of line 14 to Mairie de Saint-Ouen is a major project **financed by the State and several local authorities in the Parisian region**. It is co-driven by two project managers: Île-de-France Mobilités and RATP. Île-de-France Mobilités, the authority responsible for organising transport in Île-de-France, is entrusted with monitoring compliance with the programme, schedule and expenditure throughout the project, while the RATP, as the operator of line 14, will design and carry out the extension works.

### **The funding of the infrastructure is provided by several partners:**

- The project, for its 'extension' part, is funded by the Société du Grand Paris (58.85%), the City of Paris (21.31%), the Île-de-France Region (13.62%), the Hauts-de-Seine Departmental Council (3.11%), and the Seine-Saint-Denis Departmental Council (3.11%).
- For its 'adaptation of existing stations' part, to accommodate and evacuate larger passenger flows and improve accessibility, the project is funded by the Société du Grand Paris (30%), the Île-de-France Region (30%), RATP (30%), and the City of Paris (10%).

## Social responsibility

### **Social cohesion**

The new stations will be **accessible to Persons with Reduced Mobility (PRM)**: access to platforms from the street using lifts; all platforms are tangent to enable single-level access to trains.

### **Working conditions & Human Rights compliance:**

Respecting the fundamental rights of workers on site ensures their safety and protection of their health.

### **Communication with users and residents:**

- Residents are given regular updates on the site's implementation and progress, via the organisation of public information meetings, signage and targeted newsletters;
- Local officers act as liaison between residents, elected representatives and the companies involved in the works, with information sessions provided in premises located near the worksite. One of the local officers can also be reached via a "worksite information" telephone number;
- Creation of a specific internet portal;

- Involvement of local authorities and developers throughout the project's design and implementation steps through specific meetings (technical committee, monitoring committees, etc.).

## Environmental responsibility

The RATP's sustainable development policy centres around its commitment to exemplary professional practices, through the management of environmental risks on its industrial sites (e.g. future maintenance and storage site): treatment of polluted land (asbestos, hydrocarbons, etc.) and the infrastructures it operates, through the eco-design of infrastructures, systems and equipment it recommends or designs, and through the purchases it makes.

Since 2001, the RATP has adopted a continuous improvement approach consisting of managing and anticipating all aspects of its responsibilities in terms of resources use and impact on natural environments and residents. This approach resulted in ISO 14001 certification for several metro lines (1, 8, 14) and several maintenance workshops.

## Evaluation of climate benefits

### **Reduction of greenhouse gas emissions**

The number of users per day is estimated at **176,000**.

CO2 emissions avoided through the overall project are estimated at: **7,310 tCO2/year**

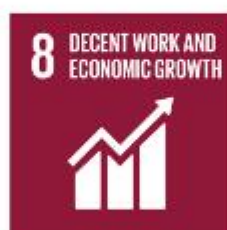
Consequently, emissions avoided thanks to the bond proceeds are estimated at **60.76 tCO2/year**.

*(see methodological note at the end of this report)*

# 1.CLEAN TRANSPORT 2022



## 1.3. PUBLIC TRANSPORT: EXTENSION OF TRAMWAY LINE 3



# Project description

The project to extend tramway T3b between Porte d'Asnières and Porte Dauphine is part of the 2015-2020 Government-Region Plan Contract. In addition, the Government, Île-de-France Region and City of Paris have come together to propose that the remaining financing for T3b's extension to Porte Dauphine be assigned as a priority to the Government-Region Plan Contract.

The extension will be 3.2 km long and includes 7 new stations.

The project has multiple general goals:

- to serve a very dense area in western Paris: the territory passed through has a very dense population, and a range of economic, cultural and sports activities. The project will serve the Berthier-Champerret and Gouvion-Saint-Cyr neighbourhoods, the Palais des Congrès de Paris (17<sup>th</sup> arrondissement), Porte Maillot on the border of the 16<sup>th</sup> and 17<sup>th</sup> arrondissements, and the Paris-Dauphine university (16<sup>th</sup> arrondissement),
- to cement the essential role played by tramway T3, which will have connections to many transport lines: RER C, metro lines 1, 2 and 3, many bus lines and RER E extended to the west (EOLE). It will also provide a new connection to Neuilly-sur-Seine and Levallois-Perret,
- to support urban development: this extension is part of a territory where the redevelopment of Porte Maillot and the extension of the RER E to Nanterre are being carried out (**see the project sheet on the Development of Porte Maillot**).
- to redesign public areas: the extension of tramway T3 to the west is an opportunity to redefine public areas through high-quality landscaping and urban developments. Pavements will be widened to facilitate pedestrian travel and cycle paths will be added along the route.

## Le tracé



## Key data

### Projections :

The aim is to extend the line by **3.2 km**.

**61,753 hours of social integration** are expected to be completed by the end of the work in 2024.

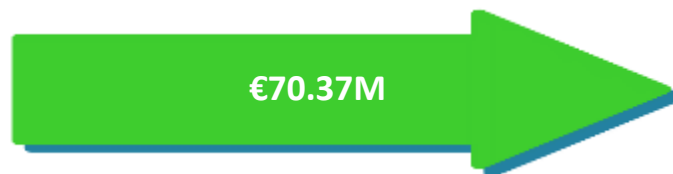
### Achievement :

Works are underway.

**As of 31 December 2022, 46,582 hours of social integration work** had been completed, including 25,416 in 2022.

## Proceeds invested in 2022

€70.37M was allocated in 2022



### Effective allocation of bond proceeds in 2022

*(This data is extracted from the 2022 administrative account)*

## Governance

### **Operational project management:** DVD / Mission Tramway

A dedicated team with a designated project manager has been created within the Department of Roads and Travel (Direction de la Voirie et des Déplacements – DVD) in order to monitor the project and report on its progress:

- through biannual monitoring committees in charge of informing financial partners of the project's progress (Île-de-France Mobilités / RATP / Île-de-France Region / State / City of Paris)
- through an annual presentation to the Paris Council.

# Social responsibility

## **Social cohesion**

**Accessibility of Persons with Reduced Mobility (PRM)** is an intrinsic component of the project, primarily along the route and in close proximity to stations.

According to the Environmental Worksite Terms and Conditions (*Cahier des Clauses Environnementales des chantiers* – CCEc), temporary pedestrian and disabled pathways, and any pre-existing ones modified during works, must comply with all regulations in force, with the roadmap for public roadway accessibility for persons with reduced mobility. These pathways must also comply with the NF P 98-351 of August 2010. For this purpose, clear floor signs will be installed, sufficiently in advance of the proposed changes compared to current installations, with the addition of touch screens (in compliance with legislation) to delineate and secure the transport chain for blind or visually-impaired individuals.

**The Special Administrative Terms and Conditions (Cahier des Clauses Administratives Particulières – CCAP) for roadwork contracts** include an article focusing on the **protection of residents against pollution of all types** throughout the operation.

## **Informing users and residents**

In addition to the daily presence of two local communication officers along the line, a dedicated telephone number and an email address have been set up to answer inhabitants' and merchants' questions with a view to creating ties between inhabitants and the "Tram Mission".

In addition to information channels between users and the tramway (*Flash info*, *T3 Mag*, *website* [www.tramway.paris.fr](http://www.tramway.paris.fr)), regular meetings are also organised to keep residents informed on the project and to answer their questions.

From 1 January to 31 December 2022, the website's pages were visited 194,190 times, by a total of 52,263 users. The project's Facebook page has 3,761 followers. On four sites, "Eglise Sainte-Odile", "Porte de Champerret", "Porte Maillot" and "Porte Dauphine" a timelapse system has been installed.

Explanatory signs have also been installed at unique points on the site (Porte de Champerret, Porte Dauphine).

## **Sustainable procurement and integration**

Clauses on the protection of residents against pollution of any nature during roadworks and on Worker Health and Safety are included in the CCAP as in all City contracts.

The social clauses included in works contracts provide for a total of 61,753 hours of social integration work for individuals distant from employment. In order to ensure the proper performance of these clauses, the City of Paris has entered into a partnership with the Ensemble Paris Emploi Compétences (EPEC) association, a facilitator entrusted with approving the hours completed.



As of 31 December 2022, **46,582 hours of social integration** work had been completed.

### **Working conditions & Human Rights compliance:**

- Combatting discrimination (on employment, gender equality, persons with a disability, etc.)

- Awareness of health and safety issues was improved with a workers' health and safety coordination contract (1<sup>st</sup> category) assigned for a period of 66 months, starting in March 2018 and ending in September 2023, particularly for urban inclusion or support work and for related and administrative operations.

### **Local development**

Several public meetings were held, alongside "worksite coffees" in order to provide residents with information as close to their homes as possible.

## **Environmental responsibility**

### **Eco-design and circular economy**

Introduction of a paving recycling chain with the DVD's Centre for Maintenance and Supply (Centre de Maintenance et d'Approvisionnement – CMA), which supplies Parisian worksites from its Bonneuil-sur-Marne site.

The site manages, among other things, a recycling activity for natural stone materials recovered during construction works (approximately 15,000 to 20,000 tons are extracted each year from the 2.5 million tons of granite in place in Paris).

This includes:

- Granite curbs transformed by splitting them into sample paving blocks or by bush hammering them to recover their original finish.
- Natural stone or concrete materials (curbs, paving blocks, slabs, bollards, dividers, etc.)
- Metal street furniture (bollards, barriers, benches, tree grates, enamel steel signage, etc.)
- Cold mix asphalt.

### **Energy consumption:**

Choosing to develop a tramway line comes partly in response to the "Paris Transport Plan" and "Île-de-France Transport Plan", but also to new local rules on air quality and rational energy use, since it should contribute towards a better distribution of public areas and benefit non-motorised transport (bicycles, pedestrians).

In this context, the T3 extension was traced out so as to create exchange hubs with Metro and RER lines, and with Paris and Parisian suburb bus lines. The basic principle of a project centred around tramway option (choice of materials, operation, speed, safety) consists of redistributing available public areas, in this case at regional level, by reducing the modal share of cars to the benefit of non-motorised travel (pedestrians, bicycles, etc.).

In this regard, improving air quality by **reducing pollutant emissions** is integral to the project.

Special attention is paid to:

- the construction products and materials chosen;
- plant life on the platform, with goals pertaining to the quality of the project's landscape, its positive impact on urban air quality and the cooling of ambient air (reducing the urban heat island effect), and the reduction of noise generated by the tramway.
- eco-responsible water management in order to water the plant-covered platform (using a technical under-irrigation solution which is expected to reduce water consumption, in association with the introduction of plants without watering, such as sedum for the platform's widened areas).

Moreover, measures and requirements will be imposed on the co-contracting parties as well as their potential co-contracting parties and subcontractors (appointment of a Health and Safety Coordinator [Coordonnateur de Sécurité et de Protection de la Santé – CSPS], an Environmental Quality Manager, noise monitoring, etc.):

- measurement of worksite acoustic levels on the edge of the worksite using a sonometer;
- measurement of dust and mud levels;
- measurement of the sound levels emitted by the tools and machines used by companies.

### **Waste management:**

Articles relating to the production of an Environmental Assurance Plan (*Plan Assurance Environnement* – PAE) or Worksite Waste Disposal Organisation and Monitoring Plan (*Schéma d'organisation et de suivi de l'élimination des déchets de chantier* – SOSED) are included in the Special Administrative Terms and Conditions (*Cahier des Clauses Administratives Particulières* – CCAP) applicable to roadworks contracts.

Requirements as to their contents are set out in the corresponding Special Technical Terms and Conditions (*Cahier des Clauses Techniques Particulières* – CCTP). These requirements include:

- Entrepreneurs, when drafting their EAP (Environmental Assurance Plan), must take account of various legislative and regulatory provisions on waste disposal and the recovery of materials, as well as those on Facilities Classified for Environmental Protection. They must also take all useful measures to prevent and prohibit contamination and pollution of any nature, whether to air, land or water, and notably outside of the worksite's boundaries;

- The spilling of equipment cleaning products, drainage products, lubricants or fuel into existing evacuation networks is strictly prohibited.

In addition, the CCAP applicable to roadworks contracts reminds the specific treatment of asbestos-contaminated waste, as part of the contractual obligations incumbent on the holders of asbestos removal contracts.

Prior to starting works on the tramway's infrastructures and engineering works, Tramway Mission led a large operation to remove asbestos from pavement surfaces between June and September 2019.

### **Biodiversity:**

Boulevards are an uninterrupted planted area and an important factor of biodiversity in Paris thanks to grass-covered platforms in regular sections and mineral-covered platforms in front of stations. This project evolved with the requests made by the Bâtiments de France architects to ensure that earthwork be done in addition to maintaining trees.

During the project, 522 trees are expected to be planted, 441 existing trees to be preserved and 260 to be removed, for a total of 2 trees planted for every tree removed.

Over 9,000 m<sup>2</sup> of planted areas will be created (shrubs, flowering meadows, etc.) and over 6,500 m<sup>2</sup> will be dedicated to rainwater management (swales, grass-covered cobblestones, etc.)

The plant palette on the Maréchaux boulevards will be diverse, with a preference for species native to Île-de-France. New species will be introduced, and notably deciduous trees (*Freeman maple*, *Acer × freemanii*, *Tilia cordata*, etc.) or flowering trees.

## Evaluation of climate benefits

### **Reduction of greenhouse gas emissions**

Two modal shifts reducing greenhouse gas emissions are used to calculate the benefits:

1/ Modal shift from cars to the tramway

2/ Modal shift from PC1 and PC3 buses to the tramway

The calculation leads to an estimated saving of **5,643 tCO<sub>2</sub>/year** thanks to the extension of the T3 line.

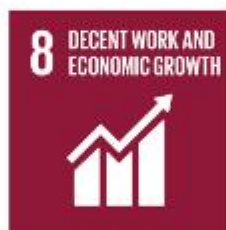
Thus, the emissions avoided thanks to the proceeds of this bond are estimated at **2,481 tCO<sub>2</sub>/year**.

*(see methodological note at the end of this report)*

# 1.CLEAN TRANSPORT 2022



## 1.4. PUBLIC TRANSPORT: REDEVELOPMENT OF PORTE MAILLOT



## Project description

The Porte Maillot development project goes hand in hand with two major transport projects: the extension of the T3 West line between Porte d'Asnières and Porte Dauphine **(see the corresponding project sheet in this report)** and the extension of RER line E to the west, as far as Mantes-la Jolie **(see the corresponding project sheet in this report)**, with the creation of a train station at Porte Maillot.

This redevelopment operations consist of transforming the large traffic roundabout – which was created when the Boulevard Périphérique (ring road) was built – into a trunk road in the continuity of avenue Charles de Gaulle in Neuilly and avenue de la Grande Armée in Paris.

Traditional junctions will be created at entrances to the Boulevard Périphérique and on boulevard Pereire and boulevard Amiral Bruix.

A large area will be recovered for pedestrians, cyclists, and a significant part of this space will be used to extend square Alexandre et René Parodi.

In terms of traffic organisation, three general traffic lanes will be created, along with one bus lane in each direction, a 4-metre-wide two-way path between the south banks of avenue Charles de Gaulle and avenue de la Grande Armée, and a one-way path from Paris to Neuilly, north of the avenue.

The Palais des Congrès forecourt will be expanded and plant life will be added; it will also accommodate the entrances to the future RER E station.



*Before*



*After*

©Empreinte agency, landscapes office / Philippe Guignard – City of Paris

## Key data

### Projections :

#### **End of works scheduled for July 2025**

Expected number of hours of social integration work: **13,564**

### Achievement :

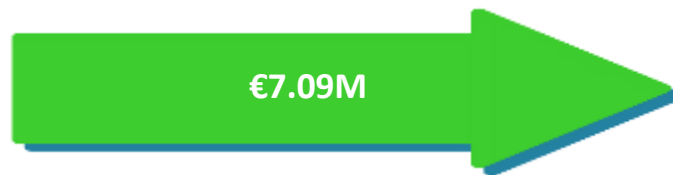
Start of works in October 2016.

The works are half complete.

Number of hours of social integration work completed in 2022: **3,207**

## Proceeds invested in 2022

€7.09M was allocated in 2022



### **Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

## Governance

### **Operational project management**

A dedicated team has been created within the Development and Major Projects Division (Services des Aménagements des Grands Projets) under the Department of Roads and Travel (Direction de la Voirie et des Déplacements – DVD) and is responsible for monitoring the project.

Project management has been delegated to the Local Public Company (Société Publique Locale – SPL) PariSeine.

# Social responsibility

## **Sustainable procurement and integration:**

Clauses on the protection of residents against pollution of any nature during roadworks and on Worker Health and Safety are included in the CCAP as in all City contracts.

The social clauses included in works contracts provide for a total of **13,564** hours of social integration work for individuals isolated from employment. In order to ensure the proper performance of these clauses, the City of Paris has entered into a partnership with the Ensemble Paris Emploi Compétences (EPEC) association, a facilitator entrusted with approving the hours completed.

As of 31 December 2022, **3,207** hours of social integration work had been completed.

## **Social cohesion:**

### **Designing public spaces to incorporate PRM accessibility:**

**Persons with Reduced Mobility (PRM) accessibility** is a component of every public area development project (including during the construction phase).

### **Working conditions & Human Rights compliance:**

This is a category 1 project, which means that an Inter-Company Safety, Health and Working Conditions Committee (Collège Interentreprises de Sécurité, de Santé et des Conditions de Travail – CISSCT) must be set up, and a Health and Safety Coordinator (*Coordonnateur de Sécurité et de Protection de la Santé* – CSPS) must be present on site throughout the project.

In addition, the following documents apply:

- The General Coordination Plan (Plan Général de Coordination -PGC), a prevention document defining the measures to prevent risks on a major site.
- The Special Health and Safety Plan (Plan Particulier de Sécurité et de Protection de la Santé (PPSPS)), a prevention tool for analysing what needs to be planned and carried out on the site.

## **Local development and interaction within territories:**

Prior consultations were organised. Since then, public meetings have been held regularly in the form of Electronic Public Participation (*Participation du Public par Voie Electronique* – PPVE).

Information is provided on the worksite through the dedicated website, informational signs and "Flash info" notices.

## Environmental responsibility

The Local Public Company PariSeine is **ISO 9001, ISO 14001 and EMAS certified**.

### **Biodiversity:**

Over **600 trees** are to be planted as part of square Parodi's extension in particular.

### **Eco-design:**

Eco-design approach: co-contractor Néo-Eco (skilled in reuse) is a part of the project management (PM) venture.

### **Energy consumption:**

Existing lighting is to be disassembled (mast pole with saucers) and replaced with new higher performance lighting.

The Special Administrative Terms and Conditions (*Cahier des Clauses Administratives Particulières – CCAP*) require that the contract holder use construction methods that limit on-site water and energy consumption.

### **Waste management:**

- recycling of asbestos-free road planings,
- recycling of demolished concrete structures through crushing and reuse as backfill
- recycling of metal waste.

## Evaluation of climate benefits

The Porte Maillot redevelopment project is part of the work to extend the Eole RER line and the T3 tramway line. The calculation of the annual environmental benefits it is expected to generate is therefore based on the project's share of the total investment in each extension.

Consequently, the greenhouse gas emissions avoided thanks to the amount invested for this project in the bond issue can be estimated at **15.84 tCO<sub>2</sub>/year**.

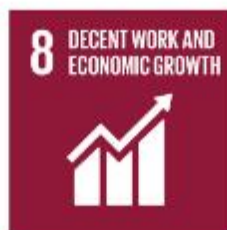
*(see methodological note at the end of this report)*



# 1.CLEAN TRANSPORT 2022



## 1.5. PUBLIC TRANSPORT: ADAPTATION OF LINE 11 METRO STATIONS



# Project description

Line 11 is 6.3 km long and has 13 stations. It currently connects the centre of Paris (Châtelet) to the Mairie des Lilas station (Département of Seine-Saint-Denis, in the north of Paris).

The extension project is located in the Département of Seine-Saint-Denis and meets three goals:

- to promote sustainable mobility
- to improve the public transport network
- to consolidate this territory through optimised coordination between the line extension and development projects.

The project involves extending line 11 over 6 km from its current terminal, Mairie des Lilas, with the creation of six new stations all the way to its new Rosny-Bois-Perrier terminal. The Rosny-Bois Perrier station will ultimately become a connection station with RER E and line 15 Est of the Grand Paris Express.

This project will increase the number of passengers on the current line. It will therefore be operated using a new, higher-capacity equipment with 5 cars per unit instead of the current 4. Consequently, in all existing stations, the operating system is being brought into compliance, and the platforms are raised, reinforced, and their width adjusted to allow better accessibility for the new rolling equipment. The most significant works to adapt existing stations will create new entrances to 9 of the current 13 stations, in order to bring them into compliance with traveller evacuation regulations, and to make the Porte des Lilas and Mairie des Lilas stations accessible to wheelchair users, with the creation of secure waiting areas.



*Computer-generated image*

## Key data

### **Projections :**

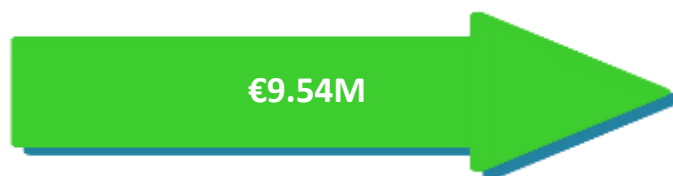
Significant works to modernise and adapt the existing line T1 will be necessary as a result of evolutions to operating systems, the transition from 4 cars to 5 and the expected increase in travellers. Furthermore, platforms will be levelled, and technical areas will be changed or created to adjust to modernised operating systems.

### **Achievement :**

In **2022**, works are underway in the following stations: Pyrénées, Télégraphe, Mairie des Lilas and Porte des Lilas.

## Proceeds invested in 2022

€9.54M was allocated in 2022



**Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

## Governance

### **Operational project management:**

A dedicated team has been created within the Department of Roads and Travel's (Direction de la Voirie et des Déplacements – DVD) Mobility Agency to monitor the project. The project is overseen by the Committee of Financiers.

The adaption of these stations is part of the project to extend metro line 14 **financed by the Government and several local authorities in the Parisian region**. It is co-driven by two project managers: Île-de-France Mobilités and RATP. Île-de-France Mobilités, the authority responsible for organising transport in Île-de-France, is entrusted with monitoring compliance with the programme, schedule and expenditure throughout the project, while the RATP, as the operator of line 11, will design and carry out the extension works.

## Social responsibility

### **Sustainable procurement and integration:**

The RATP being the project manager, the procurement policy applied is its own.

The RATP's purchases contribute towards this approach through its Responsible Procurement policy and its Solidarity Procurement section. They contribute towards public employment and anti-exclusion policies and promote access to employment for individuals most affected by unemployment, due to disability or social difficulties.

The RATP makes solidarity-based purchases:

- by including integration clauses in its contracts (requirement for the holder to entrust a volume of work hours to individuals experienced social and professional difficulties).
- by buying directly from integration and disability structures.

Thus, the RATP is able to meet its needs in terms of services and supplies while supporting the economic activity of structures with the social purpose of supporting individuals experiencing employment difficulties (either due to disability or social difficulties).

Since 2018, the use of integration clauses has focused on cleaning operations and building and public works (line extensions and operations of +10,000 hours in territories experiencing few effects from the Grand Paris Express). These operations generate a large volume of hours that are beneficial to ambitious integration initiatives (promoting the development of skills among individuals doing social integration work and aiming to sustain their employment).

### **Social cohesion**

**Persons with Reduced Mobility (PRM) accessibility** is an intrinsic component of the project.

In general, adaptation works will help to improve accessibility by reducing the arduousness of pathways. In addition, the Porte des Lilas and Mairie des Lilas stations will become **fully**

**accessible** with the installation of secure lifts to ensure the safety of persons with reduced mobility in case of an incident in the station.

**Local development and interaction within territories:**

A prior consultation was held in 2010, and territorial information meetings were organised in 2013 prior to the public enquiry.

**Working conditions & Human Rights compliance:**

Working conditions are those applied to RATP staff, whose teams are project owners and project supervisors for this project.

**Users are central to the project:**

The presence of 3 CIPs (local information officers) is scheduled to act as liaison between the worksites and residents: one for the section relating to the existing line 11 and two on the extended section worksites.

## Environmental responsibility

At the end of the works, the replacement of old MP59 equipment with new MP14 equipment, will reduce energy consumption by -20% thanks to an automatic breaking system with energy recovery, a higher performance engine type and LED lighting. Equipped with five cars in one piece compared to four separated cars currently, these cars are less noisy and more energy efficient and should increase transport capacity by 25% per train.

**Worksite impact management:**

Whether in terms of noise, dust, visual pollution, worksite waste, rainwater, waste water or lorry traffic, all measures have been taken to limit the disturbances caused by the works and to protect the environment.

Access the residential and commercial buildings, shops and public establishments is maintained throughout the works.

In addition, specific signage helps to guide users in case of pedestrian or traffic deviations. Finally, sound protection walls are set up along the worksite, and notably near residential properties, to limit noise disturbances.

Similarly, all efforts are made to limit the worksite's impacts on green areas.

# Evaluation of climate benefits

## **Reduction of greenhouse gas emissions**

The project's traffic studies have shown a **7%** modal shift from road to railway, for a total of 1,330,000 private car journeys avoided per year.

The CO<sub>2</sub> emission report on the operating of the metro 11 extension shows a reduction of **3,255 tCO<sub>2</sub>/year** thanks to the modal shift from private cars.

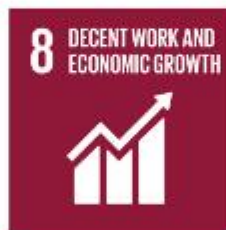
Consequently, the greenhouse gas emissions avoided thanks to the amount invested in the bond issue can be estimated at **19.23 tCO<sub>2</sub>/year**.

*(see methodological note at the end of this report)*

# 1.CLEAN TRANSPORT 2022



## 1.6. PUBLIC TRANSPORT: EXTENSION OF THE RER EOLE LINE



# Project description

Put into service in 1999, RER (train) E currently links Haussmann Saint-Lazare (9<sup>th</sup> arrondissement of Paris) to Chelles - Gournay and Tournan (Département of Seine-et-Marne, east of Paris).

The western extension to Mantes-la-Jolie (Département of Yvelines, west of Paris), referred to as the Eole project, will improve service to the west of Greater Paris by offering an alternative to RER A, whose central section is saturated during peak times. The project consists of redeveloping the line between Mantes-la-Jolie and La Défense and to create a tunnel from La Défense to Haussmann Saint-Lazare. In total, line E will be extended by 55 km. Ultimately, it will be 111 km long. In the Parisian region, it will connect Gare Saint-Lazare to Porte Maillot.

While offloading the central sections of the metro and RER lines crossing Paris, this new East-West line will offer a high-quality service, increased frequencies, better ease-of-use and improved connections, notably thanks to the connection with tramway T3b which will be extended to Porte Dauphine through Porte Maillot. Eole will thus contribute towards turning Porte Maillot into a major metropolitan hub (***see the project sheet on the Redevelopment of Porte Maillot***).

Once completed, line E will be the most interconnected line in Ile-de-France, providing an exceptional network of 26 connections with the other 4 RER lines, 7 train lines, 10 metro lines and 5 tramway lines. It will also ultimately provide interconnection with lines 15 and 16 of the Grand Paris Express.



©Project management EOLE - SNCF Réseau

The west extension of the RER E "EOLE" line aims to:

- Provide direct access to La Défense
- Decongest RER A between Auber and La Défense by 10 to 15%
- Decongest RER B and D between Châtelet and Gare du Nord by 12%
- Reduce travel time between La Défense and Seine Aval
- Improve the regularity of trains in the west of Greater Paris



## Key data

### **Projections :**

The RER E "EOLE" line is expected to carry 650,000 travellers a day (compared to 370,000 previously).

RER E will also be the fastest to travel under Paris. It will run at a speed of 120 km/h, thanks to a new operating system, which will allow for more trains to circulate on the same system, with up to 22 trains an hour during peak times.

Furthermore, 120 new generation trains have been ordered, for a cost of 1.8 billion euros.

### **Achievement :**

- With the new 8-kilometre tunnel infrastructure between Hausmann Saint-Lazare and Nanterre, 3 new train stations are currently being created, including the Porte Maillot train station.
- Work carried out in 2022:
  - End of digging by the "Virginie" tunnel boring machine (Hausmann-Saint-Lazare).
  - Completion of civil engineering and finishing work: Pasquier, Messine, Friedland and Carnot shafts

## Proceeds invested in 2022

€43.00M was allocated in 2022



**Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

# Governance

## **Operational project management:**

The extension of the RER E "EOLE" line to Mantes-la-Jolie is a major project funded by the Government and several Ile-de-France territorial authorities. It is co-driven by two project managers:

- SNCF Mobilités (property held for the operation of transport services)
- SNCF Réseau (national railway network transport infrastructure).

Ile-de-France Mobilités (Idfm), the sustainable mobility authority in Île-de-France, ensures compliance with the programme, schedule and expenditure of the entire project and finances its operation.

## **Funding provided by multiple partners, to the amount of €5,800M (updated amount as of 31/12/2021):**

In terms of infrastructure, the project is financed by the Government (16%), Groupe SNCF (4%), the Île-de-France region (25%), the Yvelines council (7%), the Hauts-de-Seine council (5%), the City of Paris (3%), Société du Grand Paris (SGP) (40%).

# Social responsibility

## **Sustainable procurement and integration:**

With the EOLE project, SNCF has committed to an ambitious and qualitative **professional integration** approach: as such, it requires companies to reserve at least 7% of hours worked on projects to people undergoing professional integration, for the duration of the contract.

Its total commitment to an original 700,000 hours of social integration work has been widely surpassed. This scheme is piloted in collaboration with the Hauts-de-Seine prefecture, with the involvement of the Yvelines and Hauts-de-Seine councils, the City of Paris, and employment and integration stakeholders.

Since this scheme was launched on 10 May 2016 with the signature of partnership agreements between SNCF Réseau, Maison de l'Emploi and Activit'Y, a Hauts-de-Seine and Yvelines integration agency, **over one million hours of professional integration** have been completed on worksites by populations isolated from employment.

In order to put individuals undergoing professional integration into contact with companies and ensure the smooth coordination of initiatives with employment and integration

partners, two leading facilitators have been appointed: ActivitY' for the Yvelines (Yvelines integration agency) and the House of Employment and Training (Maison de l'Emploi et de la Formation – MEF) of Nanterre for Paris and the Hauts-de-Seine.

With this professional integration scheme, **1,241 people were able to work on EOLE project worksites, in a wide range of occupations among which builders, miner-carpenters, formworkers and track installers, surveying engineers.** 1,780 contracts were signed.

Thus, the scheme promotes a return to **sustainable and skilled employment.**

### **Local development**

#### **Promoting appropriate dialogue with internal and external stakeholders:**

Residents have received regular updates on the implementation and evolution of the worksite's phases. Public information meetings were held, and signage and targeted newsletters have been introduced.

Local officers have acted as liaison between residents, elected representatives and the companies performing the works, with information sessions held in a dedicated location near the worksite. These officers were also reachable via a "worksite information" telephone number.

A specific Internet portal was set-up for information on the worksite's progress.

Local authorities and developers were involved throughout the project's design and implementation through specific meetings (technical committees, monitoring committees, etc.).

### **Social cohesion**

The new stations will be accessible to **Persons with Reduced Mobility (PRM)**: pathways inside the station between the road and the platforms will be accessible via lifts on the main access route; platforms will remain tangent to enable single-level access to trains.

#### **Respecting fundamental rights:**

The fundamental rights of workers involved on the worksite were respected, notably ensuring their safety and complying with health protection legislation.

## **Environmental responsibility**

The Eole project has committed to restoring ecosystems in the areas impacted by these railway works as part of an ecological compensation process.

The SNCF will ensure that the ecological environment inhabited by species whose ecosystem has been unbalanced and disturbed by the works is recreated on land in close proximity to these.

The three principles to "Avoid, Reduce and Mitigate" impacts on the environment as from the project design phase are applied:

- Avoid: undertake to always choose the solution that avoids damage to the environment.
- Reduce: undertake to reduce the scope of the project's impacts.
- Mitigate: undertake to recreate damaged ecosystems and implement regular ecological monitoring.

## Evaluation of climate benefits

### **Reduction of greenhouse gas emissions**

The western extension of RER E will provide a new railway transport offer which will result in a modal shift from road to railway.

The greenhouse gas emissions avoided with this modal shift have been calculated using the below databases and assumptions:

- a modal shift of 67 million veh.km in 2020,
- unit emissions of 120g of CO<sub>2</sub> / veh.km and an occupancy rate of 2.5 passengers per vehicle Based on this scenario, the western extension of RER E would avoid, due to the modal shift from road to railway, around **8,040 tCO<sub>2</sub> per year** (2020 value).

Consequently, the greenhouse gas emissions avoided thanks to the amount invested in the bond issue can be estimated at **58.75 tCO<sub>2</sub>/year**.

## 2.ENERGY EFFICIENCY 2022



### 2.1. BUILDINGS: RENOVATION OF HOUSING UNITS



## Project description

The goal of the project is to finance the overall renovation of 5,000 housing units per year. Thus, during the period 2009-2022 over 58,000 social housing units were financed.

**Climate Plan, voted in 2012:** Paris has set itself the goal of supporting social landlords in their energy renovation efforts in order to reduce the social housing energy consumption by 30% by 2020 compared to the 2004 reference year.

**New Climate Air Energy Plan, voted in 2018:** The goal is to achieve a 35% reduction in energy consumption across the social housing by 2030 and a 50% reduction by 2050, compared to 2004 levels.

Since 2018, the target has been a 60% gain in average across all operations presented by landlords, maintaining the maximum target of 80 kWh/m<sup>2</sup>/year and the requirement of meeting the best performance standards such as the Effinergie labels. No less than 5,000 housing units should be renovated each year. However, the health crisis and the energy crisis caused a significant rise in the costs of works, with an impact on social landlords' financial capacities. Furthermore, with the Climate and Resilience Act of 2021 prohibiting the rental of the most energy-intensive housing units, social landlords have financed more small old and energy-intensive properties than large more-recent complexes.

Overall renovation means the energy renovation of all areas in which action is possible. However, the level of performance is adapted to the technical and architectural qualities of buildings, to ensure it benefits all housing stock segments and notably those with heritage value.

Example of renovation work performed in 2022:

The multi-site operation by Elogie SIEMP, a social housing company, is emblematic of today's challenges in renovating old buildings and illustrates the commitment to ending energy-inefficient buildings, in accordance with the French Climate and Resilience Law.

This operation is located in the Paris Centre district, encompassing 122 apartments spread across 10 buildings, that were all built between the late 18th century and early 20th century (except for one dating from the 1980s).

Displayed below, 4 examples from this program:



9 rue du renard,  
75004 Paris



43 rue de l'arbre sec  
75 001 Paris



33 rue de Quincampoix  
75 004 Paris



23-25 rue des deux ponts,  
75004 Paris

The social housing company has implemented a special contract for this complex operation, promoting the efficiency of the work undertaken and its long-term monitoring, a particularly challenging issue regarding individual heating systems. The operation includes multiple technical and architectural constraints, particularly due to the following facts:

- The old buildings are made of stone, brick, and timber framing, making External Thermal Insulation impossible on the street side,
- They may be located in a dense area with neighboring co-owned properties,
- It may be necessary to undertake specific procedures in order to insulate the gables.

However, excellent performances can be reached through the project, allowing label upgrades

	PEC* before renovation (kWhPE/m <sup>2</sup> NFA**/year)	PEC label before renovation	PEC after renovation (kWhPE/m <sup>2</sup> NFA/year)	PEC label after renovation	PEC gain after renovation Financed (%)	Energy Performance Certificate (EPC) – GHG emission before renovation (kgeqCO <sub>2</sub> /living area m <sup>2</sup> /year)	GHG label before renovation	EPC – GHG emission after renovation (kgeqCO <sub>2</sub> /living area m <sup>2</sup> /year)	GHG label after renovation	EPC – GHG gain after renovation (%)
3 RUE DES LAVANDIERES SAINTE OPPORTUNE	426	F	104	C	75,6%	12	C	6	B	50%
7 RUE DES PROUVAIRES	517	G	121	C	76,6%	31	D	8	B	74%
4 RUE PERRAULT	460	G	225	D	51,1%	31	D	25	D	19%
43 RUE DE L'ARBRE SEC	325	E	213	D	34,5%	9	B	6	B	33%
29 RUE MICHEL LE COMTE	388	F	155	D	60,1%	11	C	4	A	64%
23-25 RUE DES DEUX PONTS	440	F	174	D	60,5%	13	C	6	B	54%
87 RUE SAINT MARTIN	409	F	238	E	41,8%	11	C	7	B	36%
9 RUE DU RENARD	357	F	187	D	47,6%	14	C	7	B	50%
33 RUE QUINCAMPOIX	256	E	145	C	43,4%	7	B	4	A	43%
5 RUE DES DEUX PONTS	447	F	239	E	46,5%	13	C	7	B	46%

\*PEC : Primary energy consumption

\*\*NFA : Net Floor Area



## Key data

### Projections:

Renovation of 5,000 social housing units/year:

- ✓ Approach, as much as possible, the primary energy coefficient (PEC) set out by the BBC-Effinergie renovation label, **i.e. 80 kWhPE/m<sup>2</sup>/year.**
- ✓ Improve average energy efficiency by **60%**

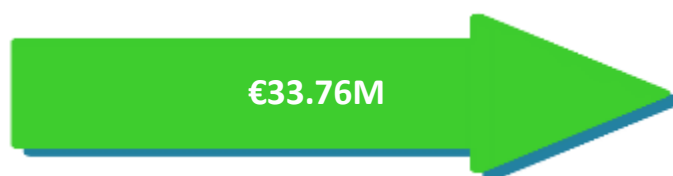
### Achievement:

During the 2009-2022 period, the renovation of **58,169** social housing units was financed, and an additional **3,569** housing units were renovated in 2022, resulting in:

- ✓ **35,092 MWh/year** saved in 2022, equivalent to **3,340 tCO<sub>2</sub>,**
- ✓ **55%** average improvement in consumption (i.e. **149kWhPE/m<sup>2</sup>/year**)

## Proceeds invested in 2022

€33.76M was allocated in 2022



**Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

## Governance

### Operational project management:

A dedicated team led by a project manager within the Department of Housing and Habitat (Direction du Logement et de l'Habitat – DLH) is in charge of monitoring this multi-annual project and its progress:

- On a daily basis, an IT tool fills in the financial and technical characteristics of operations in financial applications as they are received, including for scheduled work lots and the energy performance targeted by the works. The administrative progress of these applications is therefore traced until they are voted on by the Paris Council.
- Monthly quantitative reporting as part of the Department's management to track progress on the goal of funding 5,000 projects per year.
- Annual quality report for the annual housing performance plan (end of year).

## Social responsibility

### **Social cohesion:**

The City of Paris' actions relating to social housing aim to achieve a social mix, thereby giving the project a socially sustainable dimension, notably in terms of social cohesion. Since the primary aim is to improve their comfort, users are central to the project: dialogue with inhabitants (information and discussion meetings with renters voting on the selected project) is ensured in accordance with landlords' regulatory obligation, and the latter prioritise projects based on the actions undertaken under the City Policy and their stated objectives.

PRM access to common areas is scheduled as part of the certification requested.

### **Sustainable procurement:**

Social housing stock energy renovations are financed according to a partnership rationale (involving grants and regular assessments) with housing associations, and does not involve public contracts. Circular financing determines energy operations and financing rules, and ensures that social and environmental responsibility is taken into account by financiers.

- In this respect, certification (see section on eco-design) guarantees **the Responsible Management System (Système de Management Responsable – SMR)** is implemented, including sustainable supply policies for project managers, safety and security.
- Since 2016, financiers must comply to the Codes on public work contracts.

# Environmental responsibility

## **Air quality:**

The **certification obligation** specifically sets out the objectives as regards air renewal in residential properties and VOC (Volatile Organic Compound) emissions from wall coatings installed.

## **Biodiversity:**

In addition to minimising the impacts of renovation operations, including any disturbances generated by the project, actions to bring plant life to buildings are being studied under the **biodiversity** plan and the goal of adding plant life to 150 ha of built property. These developments must meet the technical requirements regarding the addition of plant life to walls and roofs set out by the City of Paris.

In 2022, **15,400 m<sup>2</sup>** of revegetated surface areas were funded.

## **Eco-design:**

Since 2014, **overall certification** is required for all energy renovation operations financed, to the exclusion of small-scale operations, which today only account for 10% of operations (a figure that continues to decline), for example insulation of a gable wall. The certification process is fundamental since it must later be approved by a third party (CERQUAL, PRESTATERRE or PROMOTELEC) in terms of compliance with the "Sustainable Building" commitment (from Quality of life to Environmental compliance and Energy Performance).

## **Energy consumption:**

Similarly, these certifications complete the continuous flow of delivery investigations conducted by financiers. After ensuring compliance with the specifications accepted by project managers and rent-controlled (*Habitations à Loyer Modéré* – HLM) housing organisations, the DLH checks the proper implementation of thermal regulations on delivery, which determines payment of the grant:

- For collective facilities, the financier must ensure the **best possible use of heat production once the works are completed.**

In this case, energy costs may be recovered from property stock renters.

For private facilities, energy consumption is managed by the renter, who often benefits from **information** provided by the landlord on how to best manage the facilities.

## **Waste management:**

Effective operations (of various types in case of renovation) provide for the implementation of waste sorting, in order to recycle wherever possible. This dimension is verified as part of NF Habitat HQE certification. Another topic is relating to dedicated areas for selective waste sorting (introduction of three recycling bins). Finally, the City of Paris' Department of Cleanliness and Water (Direction de la Propreté et de l'Eau – DPE) is constantly working to raise the awareness of landlords and renters alike to this issue.

Due to the nature of the project, **hazardous waste management** is not included. However, where applicable, certification must confirm compliance with specific clauses on waste management.

**Circular economy and low-carbon sites:** The DLH has led various initiatives to promote low-carbon impact sites by recovering and recycling waste. Since 2018, an additional grant is allocated by the City to projects incorporating NF Habitat HQE certification with a circular economy profile.

## Evaluation of climate benefits

### **Reduction of greenhouse gas emissions**

In 2022, it is estimated that **35,092 MWh** were saved with the renovation of 49 sites (for a total of **3,561** units renovated).

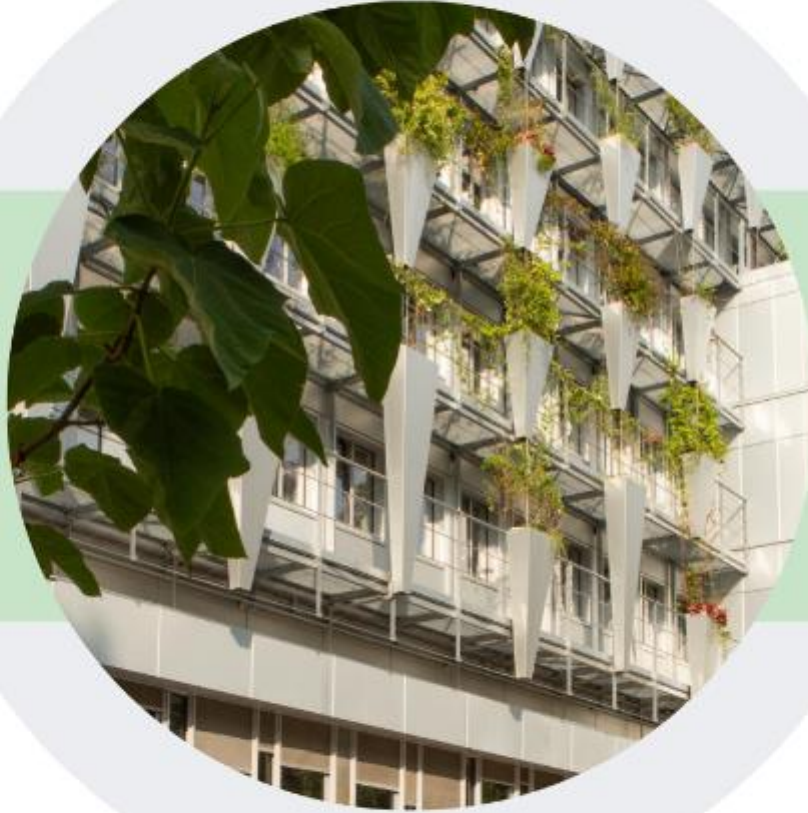
On average, in 2022, primary energy consumption in buildings renovated as part of the project was reduced to **149 kWh/m<sup>2</sup>/year**, against 331 kWh/m<sup>2</sup>/year before the works, equating to **55%** of energy saved.

Consequently, the greenhouse gas emissions avoided thanks to the amount invested in the bond issue can be estimated at **3,340 tCO<sub>2</sub>/year**.

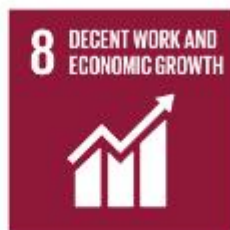
Furthermore, in 2022, **15,400 m<sup>2</sup>** of revegetated surface areas were delivered.

*(see methodological note at the end of this report)*

## 3. ADAPTING TO CLIMATE CHANGE



### 3.1. GREENING PUBLIC SPACES: CREATING, TRANSFORMING GREEN SPACES AND GREENING BUILDINGS



## Project description

Developing nature in cities –by creating green areas - is a powerful means of adapting to climate change: it helps to combat heat islands by cooling the densely built-up area of Paris, and strengthens the soils' capacity to absorb in the event of heavy rain, thereby reducing the risk of flooding. It incorporates plants that help combat greenhouse gases and creates spaces for the development of biodiversity (pollinating insects and other wildlife).

The City of Paris has already delivered more than 62 ha of new green spaces over the last two terms of office between 2001 and 2014, and has completed an ambitious programme creating an additional 30 ha of green spaces open to the public over the 2014-2020 period.

For the 2020-2026 term, the City of Paris plans to:

- ✓ **Revegetate 100 hectares of public spaces** through the joint action of many of the City's departments, in particular through the creation of Oasis courtyards or streets with vegetated schools and the greening of the capital's main thoroughfares or through "Embellir votre quartier" operations. As part of the 100-hectare greening project, the City plans to **create 30 hectares** of new green spaces open to the public (parks, public gardens, squares accessible on foot and by bike).
- ✓ Green **150 hectares of buildings**.



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# Key data

## Projections:

over the 2020-2026 period.

- ✓ **100 hectares of greening of public spaces**, including 30 hectares of new green spaces open to the public
- ✓ **150 hectares of greening of buildings**, including 200 walls or roofs of municipal facilities

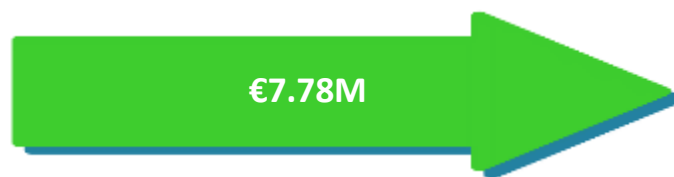
## Achievement:

- ✓ **2.73 ha** for the project to green public spaces + **0.95 ha** for the project to create 30 ha of new green spaces open to the public
- ✓ **136 ha** for the greening of buildings project, **including 2,572 m<sup>2</sup>** (walls and roofs) of various municipal buildings (crèches, schools, colleges, libraries, administrative buildings)

**3.94 ha** created in 2022 enable the sequestration of **14.73 tCO<sub>2</sub>**.

# Proceeds invested in 2022

€7.78M was allocated in 2022



## Effective allocation of bond proceeds in 2022

*(This data is extracted from the 2022 administrative account)*

<b>100 ha of greening of public spaces</b>	<b>2,73 ha*</b>	<b>6 173 521 €* </b>
<b>150 ha of green roofs and walls</b>	<b>0,26 ha</b>	<b>664 898 €</b>

*\*excluding 30 ha of new green spaces open to the public*

The table below shows the **areas delivered** by the end of 2022 as part of the "**30 hectares of new green spaces**" project.

In 2022, **€940,207** was invested in new parks and gardens under this same project (Martha-Desrumaux garden - Caserne de Reuilly, Clichy-Batignolles park - Martin-Luther-King, Debergue garden - Rendez-Vous, etc.).

<b>30 ha of new green areas project</b>				
<b>Jardin de la Folie Titon</b>	75011	84 m <sup>2</sup>	T1 2022	<b>0.95 ha</b>
<b>Square Antoine Blondin</b>	75020	949 m <sup>2</sup>	T2 2022	
<b>Redevelopment of the Léon Serpollet square</b>	75018	714 m <sup>2</sup>	T2 2022	
<b>A square in the heart of Saint Blaise</b> <b>Redevelopment of the Salamandre square</b>	75020	2300 m <sup>2</sup>	T2 2022	
<b>COMETE projects scattered across the municipality</b>	75000	3745 m <sup>2</sup>	T2 2022	
<b>BNF Garden rue Vivienne</b>	75002	1700 m <sup>2</sup>	T4 2022	

In total, **3.94 hectares** will have been created by 2022, enabling the sequestration of **14.73 tCO<sub>2</sub>**, and in the same year, **€7.78 M** will have been invested in this project to green public spaces.



## Governance

These revegetation goals are monitored by the Revegetation steering committee (*Comité de pilotage* – COFIL) which meets three to four times every year, resulting in an overall report presented in the spring. All contributing departments are invited to present their projects.

Furthermore, a reporting tool has been developed under the direction of the City's General Secretariat: Cap Géo mandature. This tool aggregates all data from the Geographical Information Systems (GIS) used by the Department of Green Areas and the Environment (Direction des Espaces Verts et de l'Environnement – DEVE) and Department of Roads and Travel (Direction de la Voierie et des Déplacements – DVD), which themselves incorporate the projects of all other contributing departments (Department of Housing and Habitat [Direction du Logement et de l'Habitat – DLH]; Department of Public Construction and Architecture (Direction des Constructions Publiques et de l'Architecture – DCPA); Department of Finance and Procurement [Direction des Finances et des Achats – DFA]).

## Social responsibility

### **Sustainable procurement and integration:**

Although not specific to these contracts, **social clauses** and **provisions relating to awareness of health and safety issues** are systematically included in public contracts. Moreover, from an operational point of view, the horticultural maintenance of some green areas is entrusted to associations promoting integration through work (integration workshops and sites, or managed by the local authority).

### **Social cohesion:**

**Persons with reduced mobility (PRM) accessibility**, which is part of a **broader approach to improve accessibility for all persons with a disability** (visually-impaired, hearing-impaired, etc.) is always incorporated in all projects to create new green areas as from the design phase.

Creation, and later operation, of these green areas takes account of all **users**:

As from the design phase, the following is provided for:

- Identification of the Parisian population's expectations during consultation sessions: public meetings are organised by arrondissement town halls and are open to all

(neighbourhood associations, collectives, private individuals, etc.). They offer the opportunity to decide on certain uses for the new space: defining the play area (surface area, type of playsets, age range, etc.) layouts, etc.

- Introduction of an interactive app allowing to design future facilities directly online.
- Furthermore, participatory budget systems and "revegetation permits" encourage Parisians to propose projects that will increase the role left to plant life or bring plant life to publicly-owned plots.

#### During the works phase:

Since all green areas have received the QualiParis label (a standard developed in collaboration with AFNOR), although the framework for a better response to users' expectations is still in development, the following is guaranteed:

- User information and attentiveness (www.paris.fr, 3975, etc.),
- Commitment to clear and updated signage on sites,
- Reception and information provided to field officers.



A satisfaction survey is conducted on a regular basis to gather users' opinions.

#### **Local development and interactions**

The DEVE has always been committed to promoting cooperation through public meetings organised by arrondissement town halls. These meetings are open to all (local associations, private individuals, groups). They define the best use for these new spaces: delineating paths, play areas (surface area, types of playsets, age range).

With "Participatory budgets", "revegetation permits" and "revegetation platforms", the City of Paris offers citizens the option of driving projects that increase the surface areas dedicated to green spaces or bring plant life to surface areas that are part of public areas.

## Environmental responsibility

#### **Eco-design and biodiversity:**

By definition, the **creation of green areas** falls under the City's **Biodiversity plan** (green belt). The new green areas are reservoirs of biodiversity since they contribute towards improving ecological continuities which promote the development of fauna and flora in dense urban environments. In addition, as from their design, the creation of green areas incorporates an ecological and sustainable dimension (indigenous plants, water circuit, differentiated management, limitation of lighting, etc.). Thus, 78% of municipal gardens have received the **Ecojardin** label (national label awarded for the first time in 2013, attesting

to the ecological management of the sites in question) and bois de Boulogne and bois de Vincennes have received the **ISO 14001** label.

In the City of Paris' works contracts, **specific clauses** require that project managers and companies comply with obligations as to conduct and results in terms of eco-design. For example, as regards wood used, the clause inserted in contracts is as follows: "The contract holder must provide all certificates and documents demonstrating that the woods proposed are sourced from sustainably-managed forests, with FSC, PEFC, OLB or equivalent **certification**."

#### **Air quality:**

By incorporating more useful plants, **green areas act against greenhouse gas emissions:** plant growth through photosynthesis captures carbon and produces oxygen, thereby reducing greenhouse gas emissions. For example, Bois de Boulogne and Bois de Vincennes' 2,000 ha represent **11,000 tonnes** of "stored" carbon (Source: 2009 City of Paris carbon report).

#### **Waste management:**

During the works phase, the DEVE Department abides by the various legal and regulatory recommendations relating to **waste disposal and the recovery of materials, as well as those relating to facilities classed for environmental protection** (see general sustainable governance indicators).

On top of that, the DEVE optimises on-site reuse of waste produced: the earth extracted when digging out foundations is used as backfill or an addition to shape the terrain.

During the works, the garden operations department recycles over 70% of any green waste produced (mulch, compost, etc.).

Moreover, for **waste from polluted sites** (due to the historical presence of industrial activity), depending on the type and degree of pollution, the DEVE reuses or confines the polluted soil, or sends it to dedicated treatment centres.

## Evaluation of climate benefits

#### **Reduction of greenhouse gas emissions**

In preparation for Paris' carbon report, an assessment method has been developed in order to take account of the impact of wooded areas, parks and new green areas within Paris' territory.

These efforts have shown that one hectare of wooded land has the ability to sequester 11 tCO<sub>2</sub>/year, and that each hectare of wooded land located within Parisian territory is 34% covered by trees (mainly Bois de Vincennes and Bois de Boulogne).

Consequently, every hectare of Parisian parkland has a sequestration capacity of 3.74 tCO<sub>2</sub>/year.

In these circumstances, the **3.94 ha** delivered in 2022 will sequester the equivalent of **14.73 tCO<sub>2</sub>**.

*(see methodological note at the end of this report)*

## 3. ADAPTING TO CLIMATE CHANGE



### 3.2 TREE PLANTING PROGRAMME: 170,000 TREES



# Project description

The City of Paris has a wooded asset base comprised of approximately 500,000 trees. Around 100,000 are located in public street areas, in addition to almost 50,000 in parks and gardens, 33,000 in cemeteries, 14,000 in public facilities and 6,500 on the Boulevard Périphérique (ring road). A further 300,000 trees approximately populate Paris' two woods (Bois de Boulogne and Bois de Vincennes).

The goal of planting 170,000 trees during the 2020-2026 term cements the City's desire to expand and continue to develop its tree cover, by adapting it to climate evolutions, diversifying its species and, lastly, contributing at metropolitan level to land restoration, the improvement of air quality and cooling in urban environments.

Developing nature in the city is a priority focus of the 2020-2026 term.

The planting project includes the following actions:

- Planting in the streets of Paris,
- Planting urban forests, both on public squares and in new or existing green areas,
- Transforming the Boulevard Périphérique into a circular forest,
- Creating new green areas and new plantations,
- Densifying forest zones in Bois de Boulogne and Bois de Vincennes,
- Planting in municipal and sports facilities,
- Renewing plantings,
- Planting on extra-muros municipal land,
- Reinforce, diversify and develop tree production at the City of Paris' Centre for horticultural production,
- Encourage private or public actors to plant.

## **The tree count includes:**

- Dense plantings on the sides of the Boulevard Périphérique (new technique – young small trees),
- New plantings,
- Replantings.



©Jean-Baptiste Gurliat/Ville de Paris

## Key data

### Projections:

- ✓ **Planting of 170,000** trees on Parisian soil

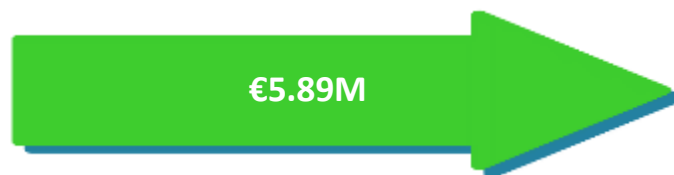
### Achievement:

- ✓ **23,273** trees planted in 2022 of which 4,436 in public areas and green areas, 12,414 on the borders of the Boulevard Périphérique and 6,423 in woods. They are expected to sequester the equivalent of **17,062 tCO2** in their lifetime.
- ✓ **9,196** hours of social integration work were provided in 2022.

*(see methodological note at the end of this report)*

## Proceeds invested in 2022

€5.89M was allocated in 2022



**Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

# Governance

## **Operational project management:**

A dedicated team led by a designated project manager was created within the Trees and Woods Division under the Department of Green Areas and the Environment (Direction des Espaces Verts et de l'Environnement – DEVE) in order to monitor the project and report on its progress, notably by using the geographic information system (GIS-V) which was developed to:

- Identify tree planting potential: 1,200 were identified
- Monitor the evolution of various tree planting projects

# Social responsibility

## **Sustainable procurement and integration:**

Where possible, the procurement department includes **social clauses** that entrepreneurs must comply with. **9,196** hours of social integration work were carried out in 2022, under the supervision of Ensemble Paris Emploi Compétences (EPEC) association.

## **Social cohesion:**

**Persons with reduced mobility (PRM) accessibility** is considered as from the tree planting design phase, ensuring that such accessibility will be maintained after the tree has been planted, as well as during the transition phase.

**Inhabitants are kept informed** through:

- regular ad hoc meetings with inhabitants to present planting projects.
- on-site information posters, information on the website [paris.fr/arbres](http://paris.fr/arbres) relating to all operations involving trees and new plantings.

These arrangements are completed by the **option for users to meet with experts and technicians** during the annual Garden festival. Users can therefore receive better information:

- on works carried out in trees, whether as regards plantings, maintenance work or felling for health reasons.
- reasonable and minimalist pruning of trees and environmentally-friendly treatments (zero plant protection products), measures to protect trees, notably near works,



- principles on tree health surveillance and identification of trees to be felled (reasonable assessment of risks in order to reduce the volume of felled trees while ensuring the safety of users).

- reasons for felling (health reasons), tree replanting operations to replace any felled subjects, pruning campaigns.

In addition to these information procedures, **a call for participation** is made through:

- "revegetation permits": Parisians are invited to take part in planting programmes,

- tree planting events are organised with user schools.

Furthermore, a procedure to **collect user complaints**, specific requests and satisfaction feedback has been implemented on the 3975 hotline (City of Paris call centre), with the commitment to answering all queries.

## Environmental responsibility

### **Biodiversity:**

The programme falls under the Biodiversity plan, with the strengthening of **wildlife corridors** and the planting of indigenous and regional species. Species are chosen based on planting conditions, distances from façades and future pruning requirements, the condition of the young plant or the nature of the soil and water requirements.

Furthermore, when permitted by landscape criteria and the layout of public areas, environmentally-friendly management that takes account of the diversity of the species and their adaptation to the territory is implemented.

### **Air quality and cooling the City:**

Plantings help to combat greenhouse gas emissions: plant growth through photosynthesis captures carbon and produces oxygen, thereby reducing the impacts of greenhouse gas emissions. Moreover, the presence of plant life in the city helps to reduce heat islands.

### **Energy consumption:**

From the design phase to the works phase, the DEVE integrates sustainable energy management (adapted light sources and energy-efficient lighting, rational use of water, implementation of differentiated management). In addition, in its contracts, compliance with environmental standards in force means imposing additional constraints (e.g. the use of NGVs (Natural Gas Vehicles) or recent mechanical equipment on-site and the clean vehicle clause).

### **Waste management:**

Waste production is relatively limited given the nature of the project. As part of a reuse approach in line with the Worksite Waste Disposal Organisation and Monitoring Plan (*Schéma d'organisation et de suivi de l'élimination des déchets de chantier – SOSED*), the DEVE is optimising the on-site reuse of waste produced. For example, the earth extracted when digging out foundations can be used as backfill.

In addition, contractual clauses provide for differentiated treatment depending on the type of waste:

- Coatings: reintroduced into a recycling chain
- Earth: reused in fill zones.

## **Evaluation of climate benefits**

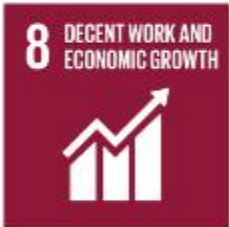
The **23,273 trees** planted in 2022 are expected to sequester the equivalent of **849 tCO<sub>2</sub>** in average and **16,989 tCO<sub>2</sub>** in their lifetime.

*(see methodological note at the end of this report)*

# 4. ACCESS TO ESSENTIAL SERVICES FOR TARGETED POPULATIONS



## 4.1. CREATION OF THE JAMES BALDWIN MEDIA LIBRARY



## Project description

The former Jean Quarré hotel school (19<sup>th</sup> arrondissement), which also housed the first refugee accommodation centre in Paris, will be transformed into a media library, designed based on the "third place" model. It will also provide a place for meetings, exchanges and sharing (of ideas, skills and knowledge).

The future media library will promote the creation of ties between citizens from different generations and social backgrounds. The geographic and social environment of Place des Fêtes nearby is a special incentive to develop the citizenship role of this place and promote connections between inhabitants. The media libraries activities will largely focus on actions developed in partnership or co-developed with associative and institutional stakeholders within the neighbourhood and, more broadly, the arrondissement.

It will be neighbour to the Maison des Réfugiés (House of Refugees), a 1,000 m<sup>2</sup> resource centre which will provide innovative support, from learning French to vocational training and citizen initiatives to facilitate integration.

A multi-purpose room, a cafeteria, co-working areas and urban agriculture will tie the two poles together.

The fact that the media library and the Maison des Réfugiés comprise a single establishment open to the public means that the topic of integration, in its broadest senses must be addressed: social, linguistic and cultural integration.

Providing cultural and educational support to youths is one of the project's main focuses. The future media library is located in a popular neighbourhood opposite a middle school situated in a Priority Education Zone (Zone d'Éducation Prioritaire – ZEP), near many schools and early childhood centres.

It should be noted that, among the sociological characteristics of the territories served by this future facility, almost all schools around the media library are part of a Priority Education Network (Réseau d'Éducation Prioritaire – REP): nursery schools, primary schools and middle schools.

The public using the media library and the people accompanying children (welcoming classes and groups, co-acquisition of documents, participative work on the use of the site, etc.) will come mainly from the population living in the QPV (Quartier Prioritaire de la Ville).

### **Several focuses revolve around cultural, educational and social issues:**

- Providing cultural and educational support to youths.
- Launch of the Deaf hub in Eastern Paris.
- Multiplicity of collections proposed (general, specialising in ecology and sustainable development, parenthood, multilingual documents for adults and children).

- A strong digital presence: for this type of facility to be truly effective and beneficial for the populations concerned, access to digital technologies is essential. This is why six computers connected to the Internet will be available for free access in a dedicated area, as well as three more in the youth area.
- Attention paid to the student population.
- Development of a popular education approach combined with an artistic and cultural education approach.



View of the media library from the small square Interior view of the media library  
(Computer-generated images)

## Key data

### **Projections:**

As the first media library in the arrondissement, the establishment will offer 2,500 m<sup>2</sup> of culture, nestled in 5,000 m<sup>2</sup> of green areas.

Expected number of hours of social integration work: **10,790**

Number of beneficiaries targeted: **40,000**

Opening: Summer 2024

### **Achievement:**

Work in progress

**988** hours of social integration work in 2022

## Proceeds invested in 2022

€5.51M was allocated in 2022



**Effective allocation of bond proceeds in 2022**

*(This data is extracted from the 2022 administrative account)*

## Governance

### **Operational project management:**

A dedicated team within the Department of Cultural Affairs (Direction des Affaires Culturelles – DAC) is in charge of monitoring the project's management and, another within the Department of Public Construction and Architecture (Direction des Constructions Publiques et de l'Architecture – DCPA) is responsible for overseeing the project's operation.

## Social responsibility

### **Sustainable procurement and integration:**

**Persons with Reduced Mobility (PRM) accessibility** has been taken into consideration from the launch of the project; This is a legislative performance constraint (requirement pursuant to French Act no. 2005-102 of 11 February 2005 regarding equality of rights and opportunities, participation and citizenship of persons with disabilities).

### **Social cohesion:**

By involving the inhabitants of the 19<sup>th</sup> arrondissement as early as possible, the Town Hall launched an unprecedented experimental consultation process long before the project's development, before architectural competitions even commenced.

More than **2,500** people took part in this first step towards co-developing the project, using the various tools set up:

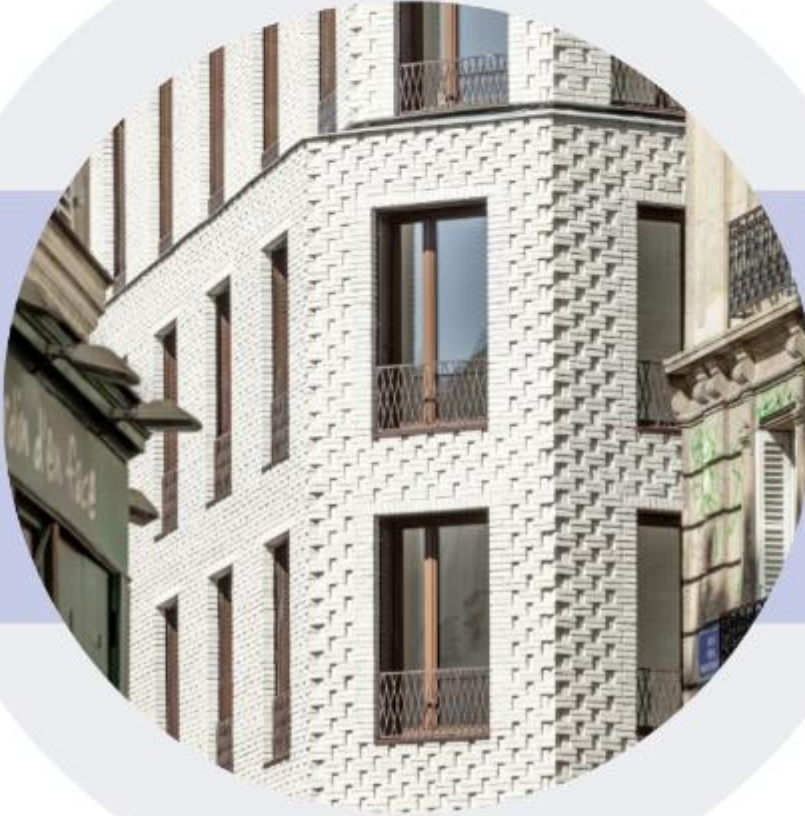
- Two questionnaires:
  - One questionnaire for the general public, available online and in libraries from June to October 2017, which resulted in the participation of 1,053 people;
  - One questionnaire for the arrondissement's year 6 and middle school pupils, which resulted in the participation of 1,669 youths.
  
- Two public thematic round tables allowing discussions with professionals from the cultural sector on their practices and their view of modern and future cultural facilities.

## Environmental responsibility

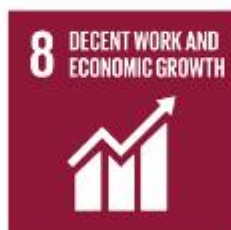
The project complies with environmental and sustainable development issues through the achievement of an iconic and innovative ecological transition operation:

- By retaining as many materials and not adding concrete, to ensure low environmental impact, positive energy and low-carbon building goals (**label E3C2**) will be targeted with the use of **bio-sourced** and/or **geo-sourced** materials (of local plant-based or mineral-based origin), the implementation of natural ventilation and recourse to **circular economy**.
- By adopting the "sustainable Île-de-France building" approach (**Ekopolis**), targeting silver level.
- By considering free areas (approx. 4,500 m<sup>2</sup>) as part of the project, as regards their vegetation in compliance with biodiversity and their uses (**biodiversity label**).

## 5. AFFORDABLE SOCIAL HOUSING



### 5.1. ERADICATION OF SUBSTANDARD HOUSING





## Project description

To combat substandard housing, the City of Paris has called on Soreqa (Old Districts Requalification Company), the operator in charge of overseeing substandard housing across the metropolis. It has the skills to tackle all strategies to reduce derelict housing, either by supporting private owners or managing public property (acquisition, management, rehousing, development and sale).

Two development concessions are in place in Paris:

- ✓ The first one (implemented in 2010) targets around sixty dilapidated blocks where Soreqa's intervention will ultimately provide close to 800 new or renovated social housing units. Since 2019, it also carries out incentive work targeting vulnerable condominiums and also deals with recovery portage arrangements.

In 2022, this concession has been entrusted by the City with the treatment of 59 additional addresses, including 2 addresses under public appropriation and 57 addresses under incentive monitoring. Among the 48 buildings or blocks of run-down housing treated by Soreqa within the public ownership, 13 are in the active phase (24 blocks have been delivered, 11 have been handed over to social landlords and work is underway).

- ✓ The second one (introduced in 2016) targets in-field initiatives, and notably the reconfiguration of "chambres de bonne" (maid's rooms) and the production of social housing. The scope of this concession currently includes 6 addresses which are part of a public property strategy focused on new units production and property surveillance.

On an operational level, almost forty addresses included in the concession before 2016 have already been acquired and their substandard nature has been handled through renovation works or demolition and reconstruction works.

Example of Soreqa's treatment of substandard housing in a structurally fragile building with 7 cramped dwellings



Before/after 87 rue Buzenval Crédits photo ©Serge Detalle

## Key data

### Projections:

In total, the concession is expected to produce **801** housing units, including **787** social housing units.

### Execution:

In 2022, Soreqa's activity remained buoyant under 14 active concession agreements (representing 149 projects). The scope of Soreqa's activities was broadened, mainly in the area of incentive support for vulnerable condominiums as part of the operation to improve run-down housing (OAH) in Paris. However, the year was marked by a sharp rise in costs on several fronts due to:

- ✓ an increase in the purchase price of housing,
- ✓ an increase in the cost of works, particularly demolition, linked to inflation and environmental constraints,
- ✓ and a rise in interest rates, the impact of which was nevertheless limited to new loans.

For the main concession (treatment of derelict blocks), **3** buildings were delivered for a total of **34** social housing units.

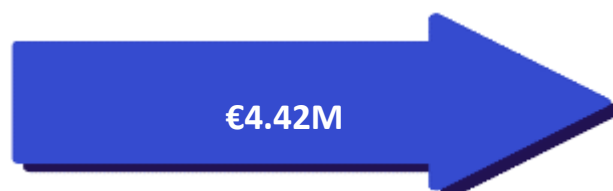
## Proceeds invested in 2022

The concession represents a total amount of expenditure estimated at around €175m, for the period extending up to 31/12/2027.

These expenses are mainly covered by the contributions paid by the City of Paris, which will amount to €104M (59.4%), and the income generated by the sale of properties, which should amount to **€44.6M (25.5%) by 2022**. The balance of the revenue guaranteeing the financial equilibrium of the concession comes from the collection of

interim rents and subsidies paid by other public bodies (in particular the ANAH (Agence Nationale de l'Habitat)).

€4.42M were allocated in 2022



### Effective allocation of the bond proceeds in 2022

*(This data is extracted from the 2022 administrative account)*

## Governance

### **Operational project management:**

**The concession:** Spending under the "grant to eradicate substandard housing" Programme Authorisation (Autorisation de Programme – AP) consists of a contribution to Soreqa as part of the concession, where the operator's expenditure aims only to acquire the land and make the site viable (demolition, securing, etc.) before selling it to a social landlord who will carry out the property project as such. It should also be noted that renovation projects are not always possible and that, in this case, the buildings must be demolished (close to 50% of plots).

**A dedicated team led by a project manager within the Department of Housing and Habitat** (Direction du Logement et de l'Habitat – DLH) is in charge of monitoring this project and its progress.

## Social responsibility

The French Labour Code includes fines that imply a control system, in case of undeclared work or failure to provide the report on diversity.

### **Sustainable procurement:**

To check that works are conducted in compliance with the contractual specifications at least one sample per worksite is taken, to the exclusion of cold bituminous coatings for which at least two samples are taken.

The samples used for the application of any penalties and reductions are taken by the City of Paris' materials testing laboratory **LEM VP**.

### **Social cohesion:**

The concession provides social housing as well as social support to vulnerable individuals living in substandard housing (undocumented individuals, youths, senior citizens, etc.). For many, this is an opportunity to start a residential life by accessing social housing, after an initial often necessary period in a centre. The concession includes **€3M** to cover the operator's responsibilities in terms of rehousing.

In 2022:

- **41** households benefited from social aid;
- **5** households received support from a nurse;

### **Manifesto for the treatment of substandard housing :**

Throughout the second half of 2022, Soreqa worked on finalising a 'Manifesto' containing 44 proposals designed to improve, amplify and accelerate the fight against substandard housing.

Among the 44 proposals, some 'flagship' proposals relate to the consolidation and extension of the Vivien law (passed in 1970 and related to expropriation), to the creation of an expropriation 'fight against substandard housing', to the strengthening of measures against slum landlords, to the extension of accommodation options and to the assistance for private owner-occupiers on intermediate incomes.

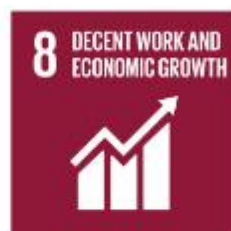
## **Environmental responsibility**

The concession also has environmental benefits since it transforms dilapidated and unusable buildings (often considered "thermal sieves") into social housing compliant with regulations in force (RT2012 thermal regulation), or more ambitious housing in terms of environmental performance (optimised energy consumption and savings rates).

## 5. AFFORDABLE SOCIAL HOUSING



### 5.2. SOCIAL HOUSING PRODUCTION PROGRAMME



## Project description

On 31 December 2022, there were 268,485 social housing units in the Paris area. These represent 23.3% of all primary residences in Paris.

In 2000, the French Act on Solidarity and Urban Renewal (SRU, Article 55) set out the requirement for all cities with over 15,000 inhabitants (1,500 in Île-de-France) to have a housing stock made up of at least 20% of social housing by 2025. In 2013, this was increased to 25%.

In response to this new legal framework, investment towards development social housing was determined by the City's representatives to be one of the priorities of the Mayor's investment programme for the 2021-2026 term. With this, Paris pursues four objectives:

- Reach 40% public housing by 2035, including 30% social housing;
- Rebalance the distribution of social housing across its territory (over 50% of social housing is concentrated in 3 arrondissements in the eastern part of the city);
- Provide units that better meet new requirements (arising from sociological development and new family profiles within the general population);
- Offer different types of units within the same building in order to promote social diversity.

In 2022, the City produced 3,373 units, still below the average for the period 2014-2019 (7,000 units produced each year in average). This can be explained by the tense macro-economic context, which makes investment more difficult for the City and social landlords. The City has also developed a new agreement strategy with social landlords to convert market rate housing into social housing. Meanwhile, using its urban right of pre-emption, the City acquired 337 housing units which represent around 10% of the 2022 programme.

The City of Paris is still on course to meet the SRU Act's goal, i.e. a number of social housing units equivalent to 25% of all primary residence housing by 1 January 2026. In years to come, production could target around 4,500 or 5,000 new social housing units per year.

Overall, the strains on housing production in Paris are growing: unbuilt areas are rare and expensive; projects are the subject of tension and recourse which hinder their completion; requirements relating to plant life and de-densification also limit the number of housing units produced.

## Key data

### **Targeted populations:**

Households with a level of income enabling them to access social housing.

3 categories of housing are created, each accessible to a target portion of the population in return for a specific monthly rental charge per square metre:

Rental Integration Support Loan (*Prêt Aide à l'Insertion Locative* – PLAI, for households earning less than €21.5k/year); monthly rent is capped at €6.18/m<sup>2</sup>.

Social Usage Housing Loan (*Prêt Logement à Usage Social* – PLUS, for households earning less than €35.8k/year); monthly rent is capped at €6.94/m<sup>2</sup>

Social Housing Loan (*Prêt Logement Social* – PLS, for households earning less than €46.6k/year); monthly rent is capped at €13.54/m<sup>2</sup>.

### **Achievement:**

In 2022, 3,373 housing units were scheduled (including 324 units under the Housing Property Account (Compte Foncier Logement – CFL).

Among the €139,7M financed through the CFL, €123,03M were allocated from the proceeds of the Bond.

**In 2022, 69% of social housing financed was intended for individuals with low or very low income falling under the PLUS and PLAI categories.**

### Breakdown of units scheduled in 2022

### Of which units financed under the CFL

Units for families	2 633	77,8% (APUR)	324	96%
Units for students	500	14,8%		
Units for young workers	77	2,3%		
Temporary social residences	163	4,8%		
Other	13	0,3%	13*	4%
<b>Total</b>	<b>3 386</b>	<b>100%</b>	<b>337</b>	<b>100%</b>

\* Housing under a tenancy agreement with Foncière de la Ville de Paris

CFL's share in the 2022 program:  $337 \times 100 / 3386 = 9,95\%$

## Proceeds invested in 2022

Out of a total of **€139.7M** allocated to the 2022 programme by the City under the Housing Property Account, **€123.03M** was financed by the 2022 sustainable bond issue.

These funds are used to feed the two lines of the City's budget voted by elected representatives and dedicated to social housing in Paris, referred to as the "Housing Property Account". They are used to acquire real estate property in Paris (entire properties or condominium lots) in order to carry out social housing projects. Acquisitions are made by applying the urban right of pre-emption, which allows the City of Paris to take priority over potential buyers for most sales completed in Paris. Once the property has been acquired, the City entrusts its management to a social landlord who will then carry out any construction works and allocate the housing units to social housing applicants.

In 2022, the total amount dedicated to the acquisition of real estate properties to support the social housing project programme was **€139.7M**.

The proceeds from the bonds enabled the City to acquire 337 units, or 9.95% of all social housing production in 2022 (3,386 units).



€123.03M were allocated in 2022



### Effective allocation of the bond proceeds in 2022

*(This data is extracted from the 2022 administrative account)*

**Details on the real estate assets purchased and their breakdown according to location, type of unit and sub-category are provided below.**

## Governance

### **Operational project management:**

Each acquisition decision is first analyzed jointly by the Urban Planning Department (Direction de l'Urbanisme – DU), the Housing Department (Direction du Logement et de l'Habitat – DLH) and the Finance and Purchasing Department (Direction des Finances et des Achats – DFA), under the aegis of the General Secretariat (Secrétariat Général – SG), and is made in accordance with the following principles:

- Arbitration by the elected representatives in charge of urban planning, housing and finance.
- Each project is then monitored by a project manager within the housing department.

## Social responsibility

### **Sustainable procurement:**

The properties and collective housing acquired by the City are transferred to social landlords under long-term leases. When carrying out projects, they make their purchases through calls for tenders and must comply with the French Public Procurement Code.

### **Social cohesion:**

Social housing targeting families are given priority, however the City also encourages the production of housing for students, young working adults, persons with disabilities and those involved in an integration programme.

The Housing Property Account is a geographical rebalancing tool that promotes the production of social housing in neighbourhoods in deficit, and notably in central neighbourhoods in which there are no or very few plots available for new builds.

Among the housing scheduled through pre-emptions in 2022, 91% are located in neighbourhoods in deficit.

## **Environmental responsibility**

By transforming existing Parisian properties into social housing, through pre-emption and renovation, the Housing Property Account is part of a more energy-efficient approach than new building.

The works carried out by landlords on these properties must comply with the ambitious rules set out in the Climate Plan, in order to benefit from additional grants from the City of Paris.

Since 2008, Parisian social housing complies with the rules set out in Paris' Climate Plan. Additional support was initially granted to constructions meeting HQE certification; over the years, achieving such levels of performance has become the new norm.

With the implementation of the new Paris Climate Plan in 2018, the construction of new neutral-energy builds is encouraged with additional grant arrangements, and every new build must achieve a maximum energy consumption of 50 kWhEP/m<sup>2</sup>/year.

### **Waste management:**

All works carried out must comply with the selective waste sorting clauses included in all contracts entered into by the City of Paris with builders.

### **List of pre-empted properties:**

The table below displays the split of the proceeds of the bond allocated in 2022 for property acquisitions under the CFL:

<b>Arrt</b>	<b>Address</b>	<b>Housing type</b>	<b>Number of housing units</b>	<b>Amount (€)</b>
2	74 rue de Notre-Dame de Nazareth	Family housing	10	4 400 000
14	31 rue Texel / 22 rue Raymond Losserand	Family housing	5	3 158 000
11	42 avenue Parmentier	Family housing	17	8 000 000
12	88 au 88B avenue Saint-Mandé	Family housing	12	3 400 000
18	203B rue Ordener	Family housing	17	8 704 000
19	42 avenue Jean Jaurès	Family housing	6	700 000
18	13 rue Boinod	Family housing	1	142 000
1	24 place du marché Saint-Honoré	Family housing	14	7 680 000
20	21 rue Belgrand	Family housing	7	5 595 000
3	32 rue Réaumur	Family housing	9	3 950 000
11	41 rue de la Fontaine au Roi	Family housing	16	6 360 000
11	135 boulevard Ménilmontant	Family housing	16	7 700 000
11	6 rue du Commandant Lamy	Family housing	20	9 638 800
11	25 au 27 rue Mercoeur	Family housing	12	5 360 000
18	44 avenue de Clichy	Family housing	22	7 000 000
12	151 rue de Picpus / 20 rue Ernest Lacoste	Family housing	1	166 000*
19	83 au 85 rue de Belleville	Family housing	6	400 000
17	17 rue Dautancourt	Family housing	19	6 996 000
14	46 rue Beaunier	Family housing	14	2 044 800
9	43 rue de la Rochefoucauld	Family housing	15	6 700 240
16	75 bis rue d'Auteuil	Family housing	13	4 925 000
10	1 rue des petites écuries – 71 rue du faubourg Saint-Denis	Family housing	10	5 000 000
11	80 au 82 rue Jean-Pierre Timbaud	Family housing	3	595 350
10	144 boulevard Magenta	Family housing	23	14 420 000
<b>Total number of housing units</b>			<b>288</b>	<b>123 035 190</b>

\*€166,000 from the bond proceeds was allocated to this project, out of a total cost of €333,440.

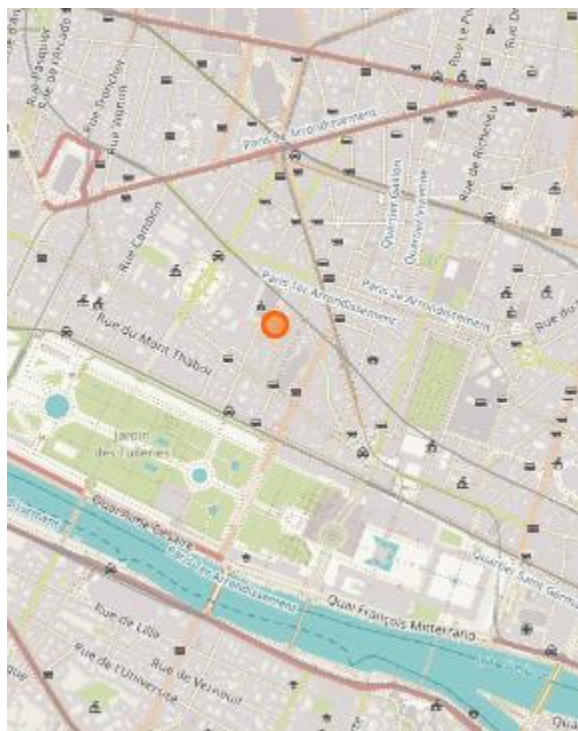
## Example of a project financed under the social housing programme

### Project description

Restructuring and raising the height of a building at 24 place du Marché Saint-Honoré in the 1st arrondissement of Paris, where there is a shortage of social housing. The building comprises 14 flats and 2 shops.



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ODbL

Located in the 1st arrondissement, where social housing totals only 12.4% of all residential housing, the building will comprise 14 homes, including 5 studio flats, one 2-room flat, 2 2-room flats, 1 3-room flat and 1 4-room flat. It will retain its 2 shops.

The operation was processed through a long lease signed with RIVP. The City notified its decision to acquire the property on 26 January 2022 for €7.7M.

### **I - SITUATION PRIOR TO ACQUISITION :**

#### **Location:**

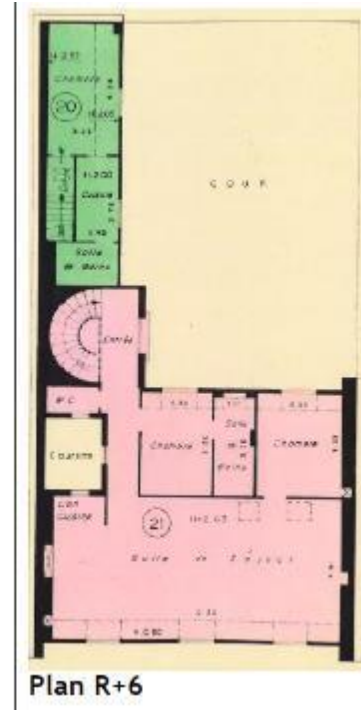
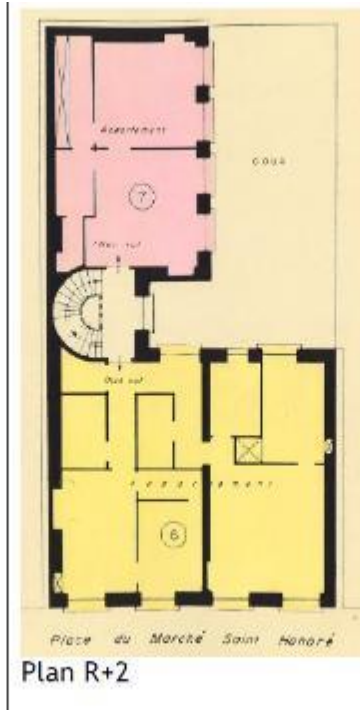
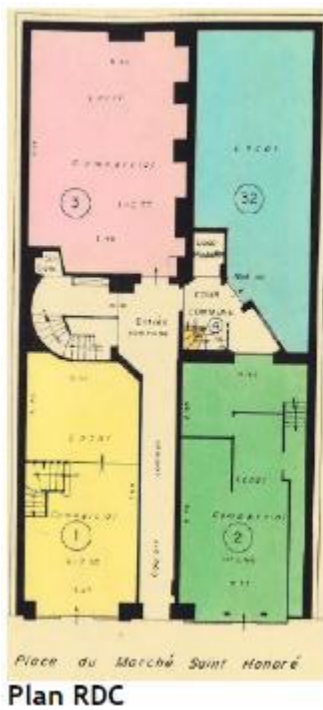
The building is ideally located in the heart of Paris, south of the Opéra Garnier, and north of the Louvre Museum and the Tuileries Gardens. It is just a few blocks from Pyramides metro station and just a short walk from Place Vendôme.

### **Property Description :**

The building was built around the end of the 19th century/beginning of the 20th century, with 6 L-shaped floors, wooden structure and mixed infill. It is close to the Marché Saint-Honoré, a contemporary building designed by Ricardo Bofill in 1990.

The building houses two shops.

The landings are naturally lit and serve 2 or 3 flats. The original solid-wood entrance doors to the flats are heritage features.



## **II - THE PROJECT**

### **Principle retained :**

Maintain the general organisation of the building (by keeping the two shops and the current typology of the dwellings) including :

- Rehabilitation of floors showing signs of disrepair once the flats concerned have been vacated,
- Complete replacement of the various networks and technical installations,
- Complete repair of the roofs and overhaul of the framework, insulation of the attics,
- Refurbishment and internal and/or external insulation of all facades, and structural repair of cracked facades,
- Replacement of all windows with double-glazed wooden windows and installation of blinds in all units,

- Complete refurbishment of the private interiors, bringing all the flats up to current standards and improving the communal areas (entrance hall, storeroom, bicycle/stroller room),
- Installation of mechanical ventilation in wet rooms.



**The programme:**

- Number of social housing units created: 14 units (30% PLAI, 40% PLUS and 30% PLS)
- Surface area of the new social programme

Living space: 605 m <sup>2</sup>	Useable space: 890 m <sup>2</sup>
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- Other areas, premises: 2 commercial premises



## **6. METHODOLOGICAL NOTE**

# Clean transport

## Alternative Modes of Transport: Cycling facilities

The carbon gain from cycling facilities matches the estimated shift from kilometres travelled by car to km cycled by bicycle.

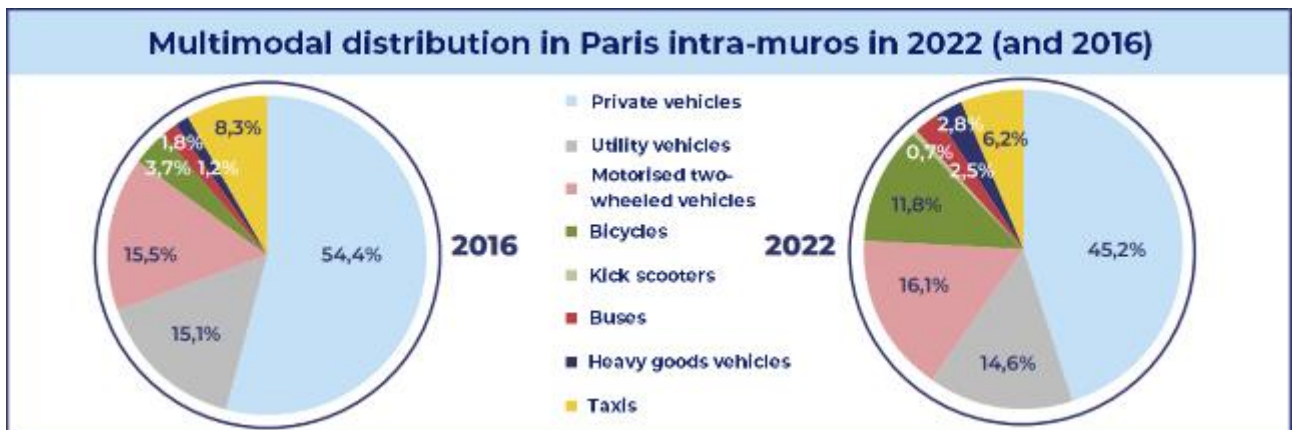
Information required for the calculation:

- Number of km travelled by cars in one year.
- Estimated modal shift from cars to bicycles:
- Length of existing cycling facilities.
- Length of cycling facilities financed by the sustainability bond.

Assumptions:

Number of kilometres travelled by private cars in Paris intra muros (including on the Boulevard Périphérique [ring road]). Data obtained from the Carbon Neutrality Department within the Department of Ecological Transition and Climate (Direction de la Transition Ecologique et du Climat- DTEC ) (Source: Airparif-DVD)

Source: Summary of Movements



The surveys were carried out at specific times and on a single date, but at different points in the city. This inevitably introduces a bias, as certain types of vehicles are used to a greater or lesser extent depending on the time of day (day/night), weather conditions, places of passage, etc.

The breakdown by vehicle type is established on a unit basis and not on the basis of kilometers travelled per vehicle type.

However, this method remains the best way of estimating multimodal breakdown in Paris.



The modal shift from cars to bicycles over the 2016-2022 period is estimated 8.1% (under the assumption that the proportion gain of bicycle is mainly due to modal shift from cars).

Emission factors:

1 km on bicycle = 0 kgCO<sub>2</sub>/km

1 km in a car = we suggest considering the emissions of the average vehicle engine-type (Ademe database V23.2) = 0.231 kgCO<sub>2</sub>/km

Calculation for 2022:

- Number of km travelled by cars in one year: 1,612,544,867 kilometres travelled by private cars in Paris intra muros
- Estimated modal shift from cars to bicycles: 8.1% between 2016 and 2022
- Total number of km of cycle paths: 1,442.4 km
- Number of km of cycle paths financed by the sustainability bond: 38 km

Number of km shifted from car to bicycle (due to the modal shift) = 1,612,544,867 km travelled x 8.1/91.9 = 142, 128, 546 km not travelled by car across the entire cycling network

Number of km not travelled as relates to 1 km of cycling facilities = 142, 128, 546 km/1,442.4 = 98, 536 km not travelled/km of path

Number of km not travelled as relates to length of path financed = 98, 536 x 38 = 3, 744, 368 km

Gain avoided = 3, 744, 368 x 0.231 = 864, 949 kgCO<sub>2</sub>, i.e. 865 tonnes of CO<sub>2</sub> avoided.

Thus, thanks to the 38 km of cycling paths created in 2022, **865 tCO<sub>2</sub>/year** were avoided.

### **Public transport: Extension of metro line 14 to Mairie de Saint-Ouen**

#### **CO<sub>2</sub> emissions avoided through the project:**

Completion of the project to extend line 14 will result in a shift of car users towards public transport to the amount of around 33.69 million veh.km/year. This modal shift will reduce GHG emissions caused by private vehicle travel.

1/ RATP estimates that its trains generate on average 1,042 kgCO<sub>2</sub>/train.km. On average, there should be 877 trips per day on line 14, with the extension being 5.8 km long.

A calculation using this data provides an estimate of 1,953 tCO<sub>2</sub>/year generated by trains over the extension.

2/ 33.69 million vehicles.km/year should therefore be avoided, by using the ADEME factor for urban travel (i.e. 0.275 kg CO<sub>2</sub> vehicle.km), we can deduce that these vehicles generated 9,263 tCO<sub>2</sub>/year without the line 14 extension.

**The emissions avoided can therefore be estimated at 7,310 tCO<sub>2</sub>/year for the overall project.**

All data is extracted from the "Investigation report prior to the declaration of public utility" relating to the line 14 extension (page 451 - <https://pluenligne.paris.fr/>).

The total amount invested in this project is estimated at around 1,380 million euros. The emissions avoided thanks to the proceeds from this bond can therefore be estimated at **60,76 tCO<sub>2</sub>/year**.

### **Public transport: Extension of tramway line T3 – Asnières-Maillot**

Two different modal shifts are used to estimate the reduction of greenhouse gas emissions:

1/ modal shift from cars to the tramway

#### Assumptions used:

- It is estimated that 2% of the 18.3 million annual users will shift from using cars to the T3b extension, avoiding an average distance of 9 km to travel by car every time this vehicle is used.

The average number of people in a car is estimated at 1.29 people.

Thus, approximately 2.55 million vehicles x kilometres will be avoided every year (2.55 = 2% x 18.3 m x 9 km/1.29).

Data are extracted from Annex E "socio-economic assessment" of the public investigation on the tramway extension (page 12 - <https://www.prefectures-regions.gouv.fr/>).

- emission factors used (Ademe carbon database V22)

Identifier: 27 970 Car Average Engine Type 2018: **0.218 kgCO<sub>2</sub>/km**

Before shifting to use of the tramway, the emissions generated by car represented: **557 tCO<sub>2</sub>/year**.

2/ Modal shift from PC1 and PC3 buses to the tramway

#### Assumptions used:

- The shift of former public transport users is estimated at 17,800,000 per year until 2024 (i.e. 97.3% of all tramway extension users) (source: Annex E "socio-economic assessment" of the public investigation on the tramway extension).

- The motorised fleet of PC buses before the extension consisted of 50% of hybrid buses and 50% of diesel buses. (source: Annex D8 "specific chapter on transport infrastructures" of the public investigation on the tramway extension).

- Emission factors used (Ademe carbon database V22)

Identifier 28004 diesel bus = 0.113 kgCO<sub>2</sub>/passenger.km

Identifier 28002 hybrid bus series = 0.0711

Before a user shift to the tramway, the emissions generated therefore represented:

$3.2 \text{ km} \times 17.8 \text{ m} \times (0.5 \times 0.113 + 0.5 \times 0.0711) = \mathbf{5,243 \text{ tCO}_2/\text{year}}$

Estimate of emissions avoided by using these two main modal shifts (covering 98.3% of users)

Emission factors used for the tramway

Identifier 28 148 2019 = 0.00268 kgCO<sub>2</sub>/passenger.km

**Greenhouse gas emissions generated by the tramway in one year = 157 tCO<sub>2</sub>/year(18.3 m x 3.2 km x 0.00268)**

Avoided emissions therefore amount to **5,643 tCO<sub>2</sub>/year**

(557 tCO<sub>2</sub>/year + 5,243 tCO<sub>2</sub>/year – 157 tCO<sub>2</sub>/year)

The total amount invested in this project is **160 million euros**. The emissions avoided thanks to the proceeds from this bond can therefore be estimated at **2,481 tCO<sub>2</sub>/year**.

### **Public transport: Redevelopment of Porte Maillot**

The Porte Maillot redevelopment project is part of the work to extend the Eole RER line and the T3 tramway line. The calculation of the annual environmental benefits it is expected to generate is therefore based on the project's share of the total investment in each extension.

- Total investment to extend the RER EOLE line is estimated at €5,885M according to the last agreement between the City of Paris and the other financiers. The greenhouse gas emissions avoided with this project amount to **8,040 tCO<sub>2</sub>/year** (impact assessment page 578 - <https://www.rer-eole.fr/>).
- Total investment to extend tramway line T3 is estimated at €160M according to the last agreement between the City of Paris and the other financiers. The greenhouse gas emissions avoided with this project amount to **5,643 tCO<sub>2</sub>/year** (impact assessment appendix E).

Consequently, the greenhouse gas emissions avoided thanks to the amount invested in the bond issue can be estimated at **15.84 tCO<sub>2</sub>/year**.

$((8,040 + 5,643) \text{ tCO}_2/\text{year} \times \text{€ } 7\text{M€}/(5,885 + 160)\text{M€})$ .

### **Public transport: Extension of metro line 11: adaptation of metro stations**

Line 11 helps to decongest the road network and reduce the pollution caused by private vehicle travel.

The project's traffic studies have shown a **7% modal shift** from road to railway, **for a total of 1,330,000 private car journeys avoided per year**.

In order to estimate the greenhouse gas emissions generated by private vehicles, per year, we used data from the ADEME database (urban traffic for private vehicles).

This data concerns the global emissions ("well-to-wheel") of the private vehicles considered, they take into account, not only emissions caused during the phase in which the transport is used, but also those generated during the phase of energy production (extraction, transport, distribution).

Greenhouse gas emissions generated by the operation of the line 11 extension amount to **486 tCO<sub>2</sub>/year**.

Travel by private car saved thanks to the shift from road to metro, as specified above, therefore results in a reduction of greenhouse gas emissions equal to **3,741 tCO<sub>2</sub>/year**.

The CO<sub>2</sub> emission report on the operating of the metro 11 extension shows a reduction of **3,255 tCO<sub>2</sub>/year** thanks to the modal shift from private cars.

(Calculations according to the public interest inquiry on the line 11 extension - page 124 - <https://prolongementligne11est.fr/>).

Consequently, the greenhouse gas emissions avoided thanks to the amount invested in the bond issue can be estimated at **19.23 tCO<sub>2</sub>/year**.

We refined our calculation method, compared to the previous reporting, by integrating IDFM's financing of the new rolling stock. This led to a slight reduction in the City's impact on avoided greenhouse gas emissions, while providing an estimate that is closer to reality (considering that the environmental benefits are acquired only for the entire project, i.e. the infrastructure as well as the rolling stock).

### **Public transport: Extension of the RER EOLE line**

The western extension of RER E will provide a new railway transport offer which will result in a modal shift from road to railway.

The greenhouse gas emissions avoided with this modal shift have been calculated using the below databases and assumptions:

- modal shift of 67 million veh.km in 2020,
- unit emissions of 120g of CO<sub>2</sub> / veh.km

Based on this scenario determined by the Public Inquiry conducted in 2010 (page 577 - <https://www.rer-eole.fr/>), the western extension of RER E would avoid, due to the modal shift from road to railway, around:

- **8,040 t of CO<sub>2</sub> per year (2020 value)**
- *290,507 tCO<sub>2</sub> over the 2020-2050 period.*

The total amount invested in this project is estimated at 5,885 million euros, and the emissions avoided thanks to the proceeds from this bond can therefore be estimated at **58.75 tCO<sub>2</sub>/year**.

# Energy efficiency

## Sustainable buildings: sustainable social housing (HQE constructions, thermal insulation)

The calculation of avoided greenhouse gas emissions is based on the Energy Performance Certificates (EPC) produced for each operation financed by the City of Paris.

Taking account of the energy mix used by each building and the corresponding emission factor ratio, we estimate that once the thermal improvement work is completed, it will save **3,340 tCO<sub>2</sub>\*** in 2022 (or **35,092 MWh/year**).

*\*Annual gains in MWh are not proportional to gains in tCO<sub>2</sub>, as they depend on the emission factor of the energy carriers used in the operations financed. For example, the emission factor for gas is high, while that for electricity is low.*

# Adaptation to climate change

## New green areas: 30 new ha of green areas

In preparation for Paris' carbon report, an assessment method has been developed in order to take account of the impact of wooded areas, parks and new green areas within Paris' territory.

These efforts have shown that one hectare of wooded land has the ability to sequester 11 tCO<sub>2</sub>/year, and that each hectare of wooded land located within Parisian territory is 34% covered by trees (mainly Bois de Vincennes and Bois de Boulogne).

Consequently, every hectare of Parisian parkland has a sequestration capacity of 3.74 tCO<sub>2</sub>/year.

The **3.94 ha** delivered in 2022 will therefore sequester the equivalent of **14.73 tCO<sub>2</sub>**.

Année	Nombre d'hectares nouveaux	tCO <sub>2</sub> évitées
2022	3.94*	<b>14.73</b>

Facteur Sequestration tCO <sub>2</sub> /ha/an
3.74

\*The surfaces mentioned, 3.94 ha in total, are those delivered in 2022 as part of the objective of greening public spaces, while the amounts invested (€7.78 M), are related to investments made in 2022 as part of this same objective.

### **Tree planting programme: 170,000 trees**

According to the 2006 IPCC (Intergovernmental Panel on Climate Change) "Guidelines for National Greenhouse Gas Inventories, Volume 4: Agriculture, Forestry & Other Land Use", the average sequestration rate of a tree in a temperate zone is **0.01 tCO<sub>2</sub>/year, i.e. 0.0367 tCO<sub>2</sub>/year** over its maximum 20-year normal growth period. A tree's average sequestration capacity is therefore around **730 kgCO<sub>2</sub>** over its lifetime.

The **23,273 trees** planted in 2022 will therefore sequester the equivalent of **849 tCO<sub>2</sub>/year** on average and **16,989 tCO<sub>2</sub>** in their lifetime.



## **PHOTO CREDITS**

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