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20TH ARRONDISSEMENT OF PARIS

THE EXEMPLARY RENOVATION

OF A DISTRICT

BACKGROUND INFORMATION ON THE ECO-DISTRICTS AND THE ECO-DISTRICT LABEL

The Eco-District Club was formed in 2008, under the leadership of the Ministry of Housing, Territorial Equality and Rural Affairs (MLETR). It brought together all the municipalities that expressed a commitment to the performance-centred approach to sustainable urban development, at the time of the 2009 and 2011 calls for projects.

The Eco-District approach is based on the following:

- A commitment from the municipality, expressed by signing the Eco-District Charter;
- Obtaining the Eco-District Label for projects that are at least 50% complete, based on the national Eco-District reference system;
- Following the Label process through completion of the project and beyond.



The Eco-District reference system is based on 4 dimensions and 20 commitments:

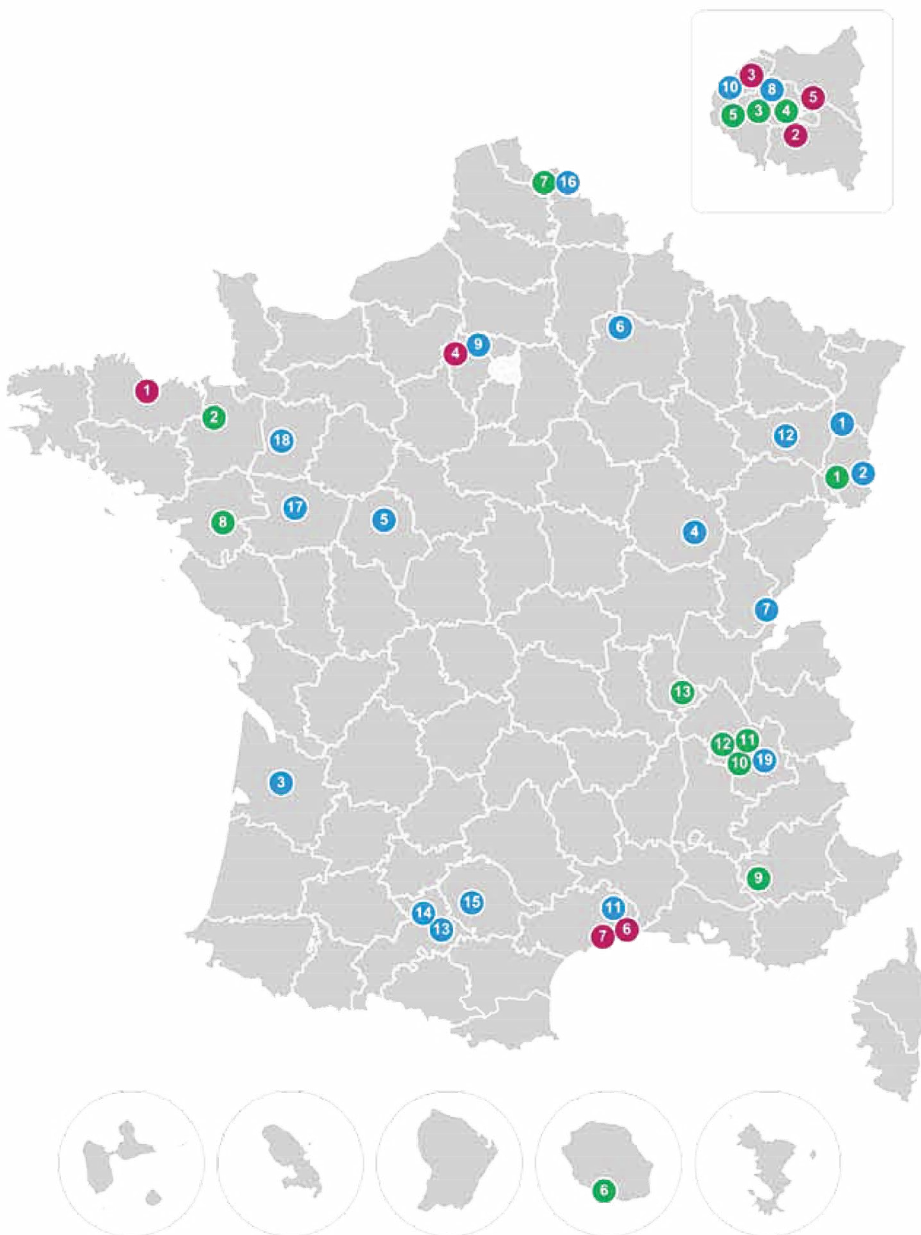
Approach and process: doing projects differently	Living conditions and uses: improving daily life	Territorial development: revitalising the territory	Conservation of resources and adaptation to climate change: responding to the urgent climate and environmental situation
1 Build projects that meet everyone's needs by drawing on the territory's resources and constraints	6 Make a priority of working on the existing city, and propose suitable density to fight against urban sprawl	11 Contribute to local, balanced and solidarity-based economic development	16 Develop urban planning that anticipates and adapts to climate change and risks
2 Formalize and implement a management process and broader governance	7 Implement conditions that favour (social and intergenerational) diversity, social harmony and solidarity	12 Promote functional diversity aimed at creating a territory with short distances	17 Aim for the efficient use of energy and the diversification of energy sources to favour renewable energy and energy recovery
3 Integrate an overall cost approach in investment choices	8 Ensure a healthy and safe living environment	13 Optimise the consumption of resources and materials and develop short, local distribution channels	18 Limit the generation of waste, develop and reinforce waste recovery and recycling facilities
4 Take user practices and manager constraints into account in the choice of design	9 Implement architectural and urban quality that combines density and quality of life	14 Favour «softer» modes of transportation and public transport to reduce automobile dependency	19 Conservation of water, ensuring it is well managed in terms of quality and efficiency
5 Implement ongoing assessment and improvement procedures	10 Enhance and highlight the district's local heritage (natural and built), history and identity	15 Promote the digital transition by facilitating the roll-out of innovative networks and services	20 Conserve and promote biodiversity soil, and natural environments



39 projects obtained the label in 2015 and nearly 100 Eco-districts are working towards obtaining the label



DISTRICTS THAT HAVE OBTAINED THE ECO-DISTRICT LABEL SINCE 2013



2015 WINNERS

- 1 - Saint-Brieuc (Quartier de l'Europe)
- 2 - Ivry-sur-Seine, Grand Paris Aménagement (Plateau Mixed Development Zone)
- 3 - Levallois-Perret (Quartier Eiffel)
- 4 - Mantes-la-Jolie, Urban Community of Mantes in Yvelines, Public Development Establishment for Le Mantois Aval (Quartier du Val Fourré)
- 5 - Montreuil (Bel Air - Grands Pêcheurs)
- 6 - Montpellier (Les Grisettes)
- 7 - Montpellier (Parc Marianne)

2014 WINNERS

- 1 - Sainte Croix aux Mines (Les Coccinelles)
- 2 - Mulhouse (Lefebvre)
- 3 - Bordeaux, Bordeaux Urban Community (Ginko - Berges du Lac)
- 4 - Longvic (Les Rives du Bief)
- 5 - Tours (Monconseil Eco-district)
- 6 - Reims (Croix Rouge Pays de France Eco-district)
- 7 - Morez (Villedieu Le Puits)
- 8 - **Paris (Boucicaut)**
- 9 - Les Mureaux (Les Mureaux urban renovation programme)
- 10 - Nanterre, Public Institution of La Défense Seine-Arche (Hoche)
- 11 - Prades le Lez (Horizons Project: Viala Est)
- 12 - Les Forges (La Ferme Forgeronne)
- 13 - Balma, Toulouse Metropolitan Authority (Vidaillan)
- 14 - Blagnac, Toulouse Metropolitan Authority (Andromède)
- 15 - Graulhet (Les Résidences du Parc Eco-district)
- 16 - Mons-en-Barœul (Le Nouveau Mons)
- 17 - Angers (ZAC Desjardins)
- 18 - Changé (La Barberie)
- 19 - Grenoble (Blanche-Monier)

2013 WINNERS

- 1 - Mulhouse (Wolf-Wagner)
- 2 - Hédé-Bazouges (Les Courtils)
- 3 - **Paris (Fréquel-Fontarabie)**
- 4 - **Paris (Claude Bernard Mixed Development Zone)**
- 5 - Boulogne-Billancourt (Le Trapèze)
- 6 - Saint-Pierre (La Ravine Blanche)
- 7 - Lille (Les Rives de la Haute-Deûle)
- 8 - La Chapelle-sur-Erdre (Quartier des Perrières)
- 9 - Forcalquier (Historic eco-district)
- 10 - Grenoble (Bonne Mixed Development Zone)
- 11 - Grenoble (Bouchayer-Viallet)
- 12 - La Rivière (Cœur de Bourg)
- 13 - Lyon (La Duchère)



THE PROGRAMME

Surface area of the site: 1 hectare
Overall living area: 1,640 m²

- Housing:

- 110 social housing units, 31 of which are currently being renovated (9,200 m²)
- Business premises on the ground floor of the housing buildings: 375 m²

- **Daycare centre:** 1,000 m²

- **Mother and Child Protection Centre (PMI):** 200 m²

- **Garden:** 1,000 m²

- **Footpaths**

THE STAKEHOLDERS

Developer: SIEMP (CPA elimination of substandard buildings)

Investors: SIEMP + Paris Habitat + City of Paris

Coordinating Architect: Eva SAMUEL

Contracting Authority Support:

SIEMP appointed engineering consultancy TERRE ECO as the sustainable development assistant to the contracting authority. The consultancy drew up sustainable development specifications for the operation, which the prime contractors were required to apply, in addition to the urban specifications and the plot data sheets drawn up by the coordinating architect

THE ASSESSMENT PROCEDURE

The test campaign run by the Ministry, in partnership with CSTB and CEREMA, enables the eco-districts that obtained the label in 2013 and 2014 to be assessed based on three commitments from the Eco-District Charter:

COMMITMENT 17 "ENERGY" (8 indicators)

- Energy savings and efficiency
- Develop the production of renewable energies
- Energy management

COMMITMENT 18 "WASTE" (10 indicators)

- Waste prevention
- Reinforcement and development of the eco-district's waste recovery schemes
- The impact of the waste management on urban quality and the district's operations

COMMITMENT 19 "WATER" (9 indicators)

- Inclusion of water in the eco-district's development and operations
- Monitoring pollution caused by run-off
- Conservation and recovery of water resources
- Monitor impermeability, and the flow rates of rainwater and run-off





NUMBER OF INDICATORS ASSESSED

19
out of 27

The national eco-district assessment method is based on a collaborative platform (CEQ*) that helps to define the eco-districts' actual performance during their life stages.

It is based on two stages:

- **The preparation phase**, aimed at defining the district's characteristics and the stakeholders involved in preparing the collection of data;
- **The acquisition stage**, which involves collecting the data that corresponds to the indicators and interpreting the results that are obtained.

The test assessment campaign lasts one year, from 2015 to 2016. It provides an opportunity to reflect on the process to be established for collecting and analysing data, by using a method and a defined scope.

**Campagne d'évaluation des éco-quartiers
(Eco-District Assessment Campaign)*

PARTIAL RESULTS OF THE ASSESSMENT OF THE "ENERGY" COMMITMENT

HIGHLIGHTS OF THE OPERATION REGARDING ENERGY

The operation was involved in pilot experiments for thermal renovation related to the City of Paris Climate Plan.

- **Buildings with very low energy consumption levels:** objective of 50 kWh/m²/year for new constructions (Climate Plan requirement), 65 kWh/m²/year for old constructions (Low-energy building requirement).
- **The operation promotes the use of renewable energies:** 40 to 50% of the residential energy needs are met via renewable energies; use of a ground-coupled heat exchanger, gas heating, photovoltaic solar panels, thermal sensors for domestic hot water, dual flow ventilation system.
- **The technical aspects:** exterior insulation systems for the majority of the buildings, (building envelopes ranging from 25 to 35 cm thick), reinforced insulation of windows and exterior joinery, maximized solar heat gain in housing units by studying the buildings' orientation.

The results of the assessment by indicator:

	Stage completed
	Stage pending additional components
	Stage has been blocked
	Indicator was not taken into account

SCOPE	INPUT METHODS	REFERENCE VALUES	ACQUISITION SCOPE	ACQUISITION METHODS	INDICATOR VALUES	ENTRY STATUS
17_1 BUILDING ENERGY CONSUMPTION						
						85%
17_2 PUBLIC LIGHTING ENERGY CONSUMPTION						
						100%
17_3 ENERGY CONSUMPTION RELATED TO PUBLIC SPACES						
						N/A
17_4 ENERGY CONSUMPTION RELATED TO URBAN SERVICES						
						N/A
17_5 RENEWABLE HEAT PRODUCTION IN THE ECO-DISTRICT						
						100%
17_6 RENEWABLE ELECTRICITY PRODUCTION IN THE ECO-DISTRICT						
						N/A
17_7 PERCENTAGE OF THE CONSUMED RENEWABLE HEAT GENERATED BY THE ECO-DISTRICT						
						85%
17_8 THE OVERALL ENERGY BALANCE FOR THE ECO-DISTRICT						
						85%

A CLOSER LOOK AT THE RESULTS

Total heat consumption (gas):
758,022 kWhpe/year

Total electric consumption:
126,226.5 kWhpe/year

BUILDINGS

Total consumption:

884,248.5 kWhpe/year** (actual data)
84.12 kWhpe/m²/year

Detailed consumption:

- Housing (chauffage):
668,387 kWhfe*/year (actual data, heat)
99.6 kWhfe/m²/year

including passive building:

65,000 kWhfe/year (actual data, heat)
42.6 kWhfe/m²/year

- Public facilities:

138,560 kWhfe/year (actual data, heat and electricity)
109 kWhfe/m²/year

- Paris 2007 références:

New construction: **50 kWhpe/m²/year**

Rénovation : **80 kWhpe/m²/year**

Indicator **Efficient**

PUBLIC LIGHTING

Energy consumption:

10,000 kWhfe/year (actual data)
33.3 kWhfe/PE/year
10,000 kWhfe/ha/year

Indicator **Not applicable** (data do not match with the eco-neighborhood's scale)

PUBLIC SPACES

Energy consumed by public spaces: **Not applicable**

Energy consumed by urban services: **Not applicable**

RENEWABLE ENERGY FACILITIES

Renewable heat production:

46,883.4 kWhfe/year (estimate)
8.8 kWhfe/m²/year

Indicator **Not applicable** (estimate)

Renewable electricity production: **Not studied**

Indicator **Not applicable**

Amount of renewable heat consumed:

46,883.4 kWhfe/year (estimate)
8.8 kWhfe/m²/year

Percentage of consumed renewable heat generated by the eco-district:

46,883.4 kWhfe/year
100% (actual data and estimate)

Indicator **Basic**

ENERGY BALANCE

Overall energy balance:

760,113.6 kWhfe/year (actual data and estimate)
59.8 kWhfe/m²/year

Renewable heat balance (trade with the rest of the territory):

0 kWhfe/year (actual data)
0 kWhfe/m²/year

Indicator **Not applicable**

*kWhfe: kWh final energy consumption

**kWhpe : kWh primary energy

PARTIAL RESULTS OF THE ASSESSMENT OF THE "WASTE" COMMITMENT

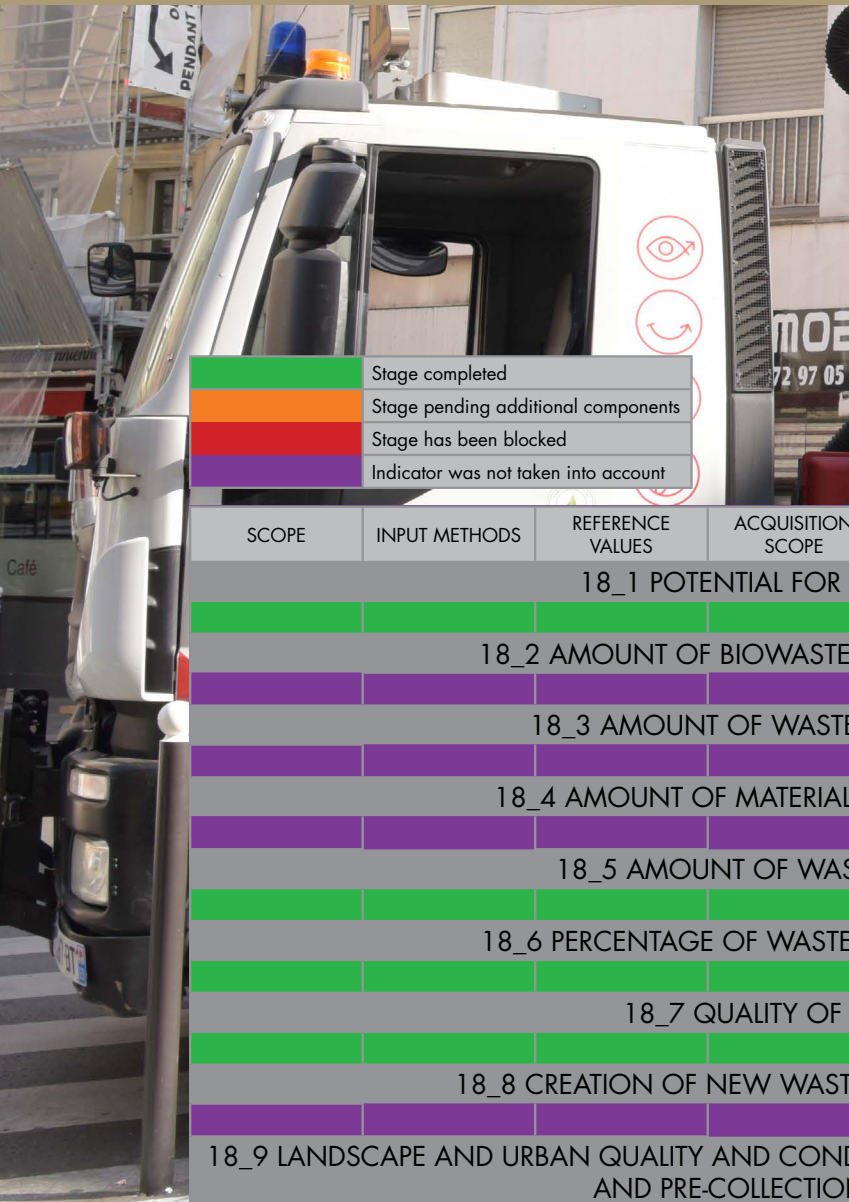


HIGHLIGHTS OF THE OPERATION REGARDING WASTE

A clean worksite charter was established. Demolition waste is pre-sorted on-site, particularly inert, wood and metal waste. Other waste is moved to an exterior sorting platform, before sending all that can be recycled to the designated centres.

Measures have been taken to reduce waste generation in the management stage: each bin area features bins that facilitate selective sorting of waste (household waste, recyclable waste, and glass).

The results of the assessment by indicator:



- Stage completed
- Stage pending additional components
- Stage has been blocked
- Indicator was not taken into account

SCOPE	INPUT METHODS	REFERENCE VALUES	ACQUISITION SCOPE	ACQUISITION METHODS	INDICATOR VALUES	ENTRY STATUS
18_1 POTENTIAL FOR PREVENTION						
						100%
18_2 AMOUNT OF BIOWASTE MANAGED LOCALLY						
						N/A
18_3 AMOUNT OF WASTE THAT IS REUSED						
						N/A
18_4 AMOUNT OF MATERIALS THAT ARE REUSED						
						N/A
18_5 AMOUNT OF WASTE COLLECTED						
						100%
18_6 PERCENTAGE OF WASTE SORTED AT SOURCE						
						100%
18_7 QUALITY OF SORTING						
						100%
18_8 CREATION OF NEW WASTE RECOVERY FACILITIES						
						N/A
18_9 LANDSCAPE AND URBAN QUALITY AND CONDITIONS FOR THE USE OF WASTE STORAGE AND PRE-COLLECTION FACILITIES						
						100%
18_10 WASTE SATISFACTION AND PRACTICES						
						100%

6/10
indicators

A CLOSER LOOK AT THE RESULTS

WASTE COLLECTED

Total amount of waste collected:

91.6 tonnes/year (district estimate)

305.2 kg/PE/year

Paris 2015 references (household waste, including bulky):

1,100,000 tonnes/year

485 kg/hab/year

Indicator **Basic**

BIOWASTE

Total amount of bio-waste managed locally: **Not studied**

Indicator **Not applicable**

WASTE SORTING

Percentage of waste sorted at source:

12.1% (estimate)

Paris 2015 reference: **17%**

Indicator **Basic**

Percentage of recyclable waste contained in the separate collection bin:

28.5 kg/PE/year (estimate at the Parisian's scale)

80.8% (of the total share of the recycle bin)

Indicator **Not applicable**

Creation of new waste recovery facilities: **Not applicable**

WASTE PREVENTION AND RECOVERY

Percentage of household waste that could have been prevented:

291.6 kg/PE/year (estimate at the Parisian's scale)

70% (of the total share of the general bin)

Indicator **Not applicable**

Total amount of reused waste: **Not applicable**

Total amount of reused materials: **Not applicable**

IMPACT OF WASTE MANAGEMENT ON URBAN QUALITY AND THE OPERATION OF THE DISTRICT

Landscape and urban quality, and conditions for the use of the facilities:

Indicator **Very efficient** (actual and sampled data)

Waste satisfaction and practices:

Indicator **Efficient** (actual data)

Note: Data from interviews with guards, visits sites and inhabitants surveys



PARTIAL RESULTS OF THE ASSESSMENT OF THE "WATER" COMMITMENT



HIGHLIGHTS OF THE OPERATION REGARDING WATER

Efficient water management in the buildings: installation of water-saving equipment in all housing units.

The reduction of soil sealing.

Direct infiltration of rainwater: a landscaped swale was installed over the entire length of the planted garden with an approximate area of 1,000 m², full-soil surface areas were created within housing developments, and green roofs were installed.

The results of the assessment by indicator:

	Stage completed
	Stage pending additional components
	Stage has been blocked
	Indicator was not taken into account

SCOPE	INPUT METHODS	REFERENCE VALUES	ACQUISITION SCOPE	ACQUISITION METHODS	INDICATOR VALUES	ENTRY STATUS
19_1 LANDSCAPE AND URBAN QUALITY AND CONDITIONS FOR THE USE OF WATER RELATED AREAS						100%
19_2 SATISFACTION AND PRACTICES FOR WATER RELATED AREAS						100%
19_3 EFFECTIVENESS OF DECONTAMINATION EQUIPMENT						100%
19_4 WATER CONSUMPTION FOR BUILDINGS						85%
19_5 WATER CONSUMPTION FOR PUBLIC SPACES						100%
19_6 RATE OF THE USE OF SOURCES THAT ARE ALTERNATIVES TO DRINKING WATER						100%
19_7 PERCENTAGE OF THE BUILDINGS IN THE ECO-DISTRICT THAT RECOVER WASTE WATER TO PRODUCE ENERGY						N/A
19_8 IMPERMEABILITY RATIO						100%
19_9 PERCENTAGE OF THE ECO-DISTRICT WITH RAINWATER MANAGEMENT SYSTEM BY PLOT						100%



A CLOSER LOOK AT THE RESULTS

BUILDINGS

Buildings' total consumption of drinking water:

16,596 m³/year

41.5 m³/PE/year (actual data)

- Housing:

15,628 m³/year

44.7 m³/PE/year (actual data)

- Facilities (without Mother and Child Protection Centre (PMI)):

968 m³/year

13 m³/PE/year (actual data)

Paris 2015 reference:

43.8 m³/PE/year ou 120 l/inhabitant/day

Indicator **Basic**

Total consumption of sources that are alternatives to drinking water:

Data unavailable

Rate of the use of sources that are alternatives to drinking water:

Data unavailable

IMPERMEABILITY MANAGEMENT

The actual rate of impermeability: **72.14%** (estimate)

Paris 2015 reference: **approximately 70%**

Indicator **Efficient**

Portion of the plots with rainwater managed by plot:

- Private plots: **87.5%** (actual data)

- Public plots: **58%** (actual data)

Indicator **Basic**

PUBLIC SPACES

Total consumption for public spaces:

Data unavailable

Total consumption for public spaces using alternatives to drinking water: **Data unavailable**

QUALITY OF THE PROCESS OF INTEGRATING WATER INTO THE ECO-DISTRICT'S DEVELOPMENT AND OPERATIONS

Landscape and urban quality, and conditions for the use of water-related areas:

Indicator **Very efficient** (actual and sampled data)


Satisfaction and practices for water related areas:

Indicator **Basic** (actual and sampled data)

DECONTAMINATION EQUIPMENT

Effectiveness of pollution control equipment:

Indicator **Not reached** (actual and estimated data)



RESULTS FROM THE RESIDENT SURVEY

To gain
a better understanding
of uses and
assess resident satisfaction

A CLOSER LOOK AT THE RESULTS

PUBLIC SPACES

Development of the garden in heart of neighborhood

Rather satisfactory

NATURE IN THE CITY

Desire to make home gardening or in the neighborhood

Over 60% of respondents

ENERGY

Thermal comfort housing

Efficient

WATER

Effectiveness of water-saving equipment

Rather satisfactory

WASTE

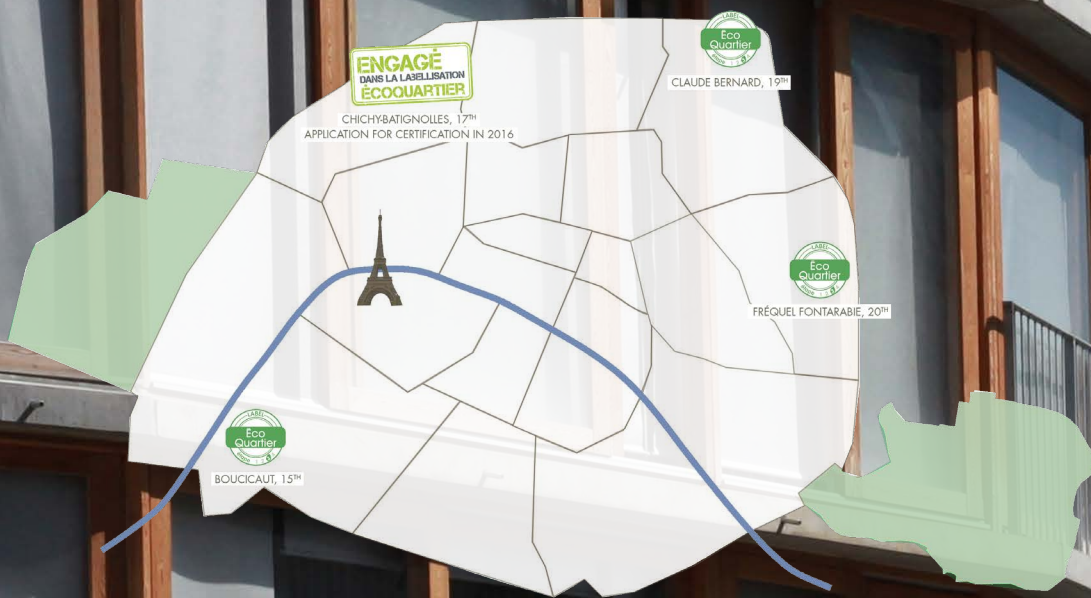
Waste management in the neighborhood

Efficient

Interest in the establishment of compost in each building

Over 70% of respondents

3 PARISIAN ECO-DISTRICTS HAVE OBTAINED LABELS
AND 1 ECO-DISTRICT IS WORKING
TOWARDS OBTAINING THE LABEL



In signing the National Eco-District Charter in 2014, Paris has extended its commitment to promoting the sustainable development of the territory.

The stakeholders involved in the assessment:

MAIRIE DE PARIS

