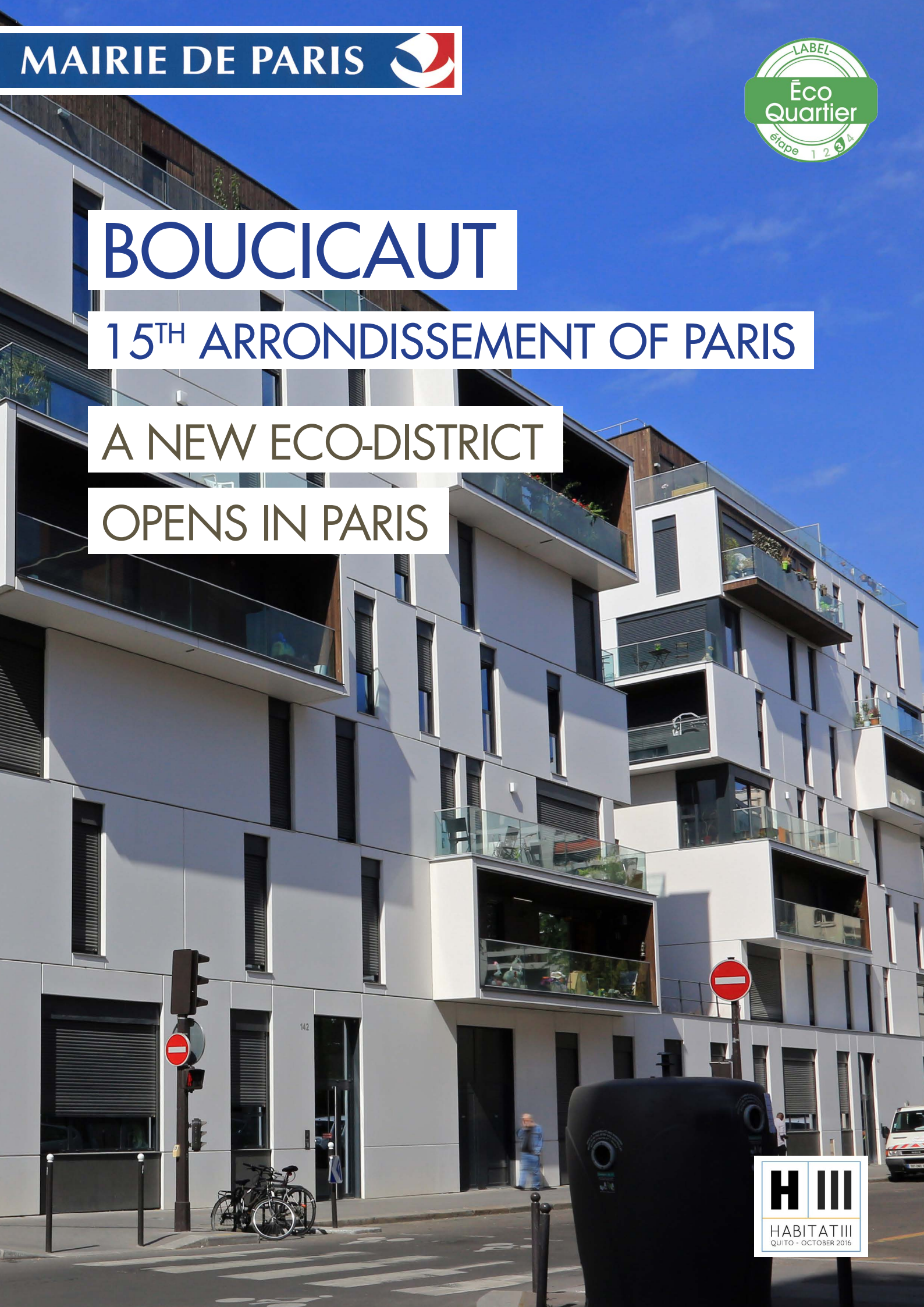
MAIRIE DE PARIS

LABEL Éco Quartier étape 1 2 3 4

BOUCICAUT

15TH ARRONDISSEMENT OF PARIS

A NEW ECO-DISTRICT OPENS IN PARIS



HABITAT III QUITO - OCTOBER 2016

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:

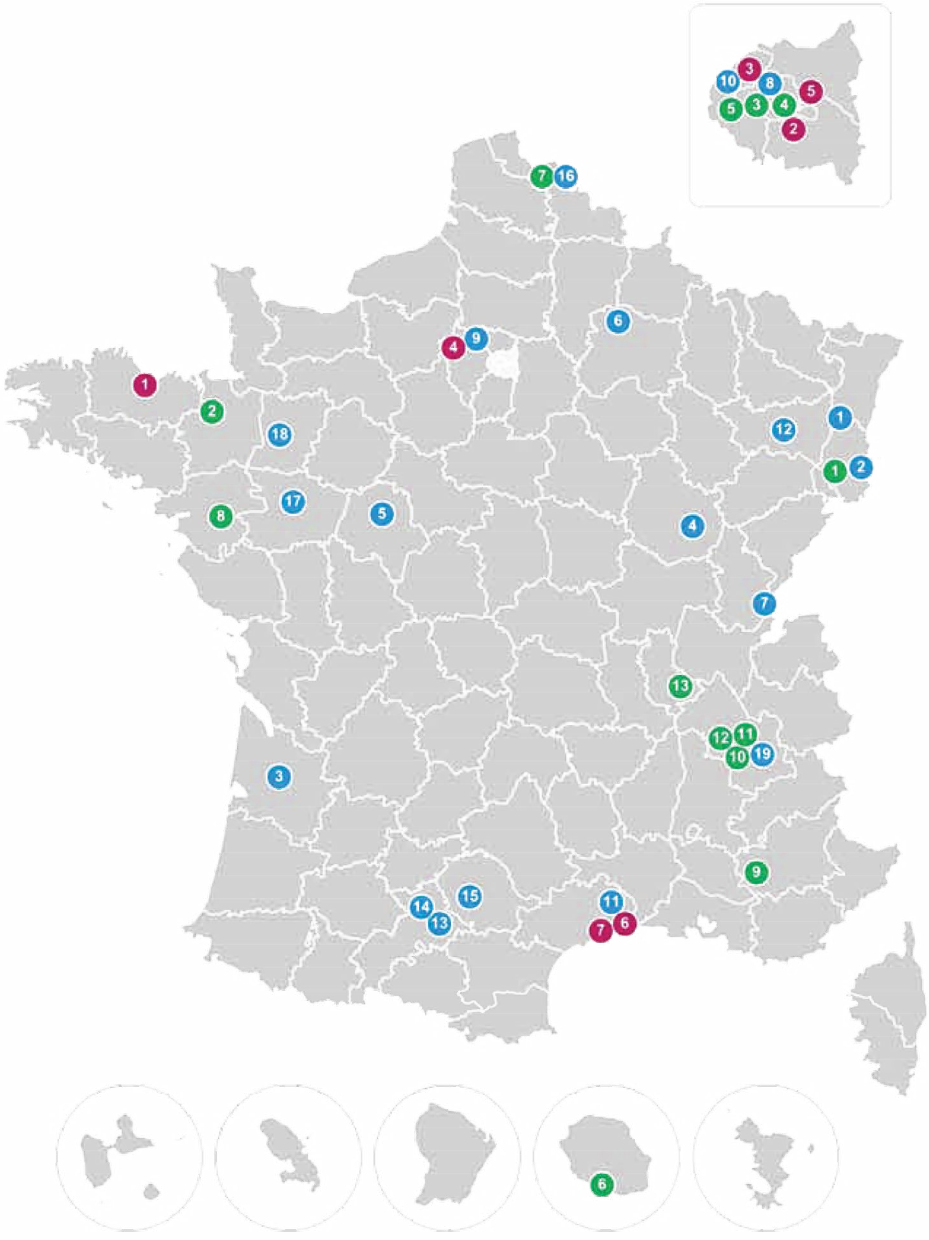
- A commitment from the municipality, expressed by signing the Eco-District Charter;
- Obtaining the Eco-District Label for projects that are at least 50% complete, based on the national Eco-District reference system;
- Following the Label process through completion of the project and beyond.

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 Pêchers)
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 (Vidailhan)
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 ECO-DISTRICT PROFILE

CONTEXT OF THE OPERATION

Boucicaut Hospital, designed by architects Legros Père et Fils at the end of the 19th century, was closed in 2001, freeing up a three-hectare area in the western section of the 15th arrondissement of Paris. Two hectares were used by the Jussieu research laboratories until 2010. The operation was therefore split into two phases.

Beginning in 2003, the city of Paris adopted a development plan for the overall site and opened a school in the former hospital reception centre.

In 2007, a mixed development zone was created to carry out the operation, and in 2009 two social housing buildings, a daycare centre, and a medical/educational institute were completed as part of the first development phase of the zone. At the same time, SemPariSeine was appointed as the developer to carry out the second development phase for the Boucicaut site, which became available at the end of 2010.

OBJECTIVES AND CHALLENGES

The challenge of this operation involved creating a new district that would be a completely pedestrian area, open to its surrounding environment, which residents of the district could make their own. Certain aspects of the architectural heritage of the former hospital were preserved in order to bear witness to the site's history. In the same way that the central reception centre at the former hospital entrance was transformed into a comprehensive school in 2003, the former hospital chapel has been preserved, and two buildings from the former hospital have been transformed into a daycare centre, a business incubator and shops. The central public garden, with its 100-year-old chestnut trees, was conserved and expanded. The programme offers a large variety of housing options: social housing, affordable-rent housing, private rental housing, etc. This diverse programme helps meet the City's objective of making this project one of sustainable and solidarity-based development, while also offering facilities that contribute to the district's development.

L. Bonnet

THE PROGRAMME

Surface area of the site: 3 hectares
Overall living area: 51,000 m²

- **Social housing:** 14,750 m² of social housing, of which 1,500 m² for a social housing residence
- **Affordable rent housing units:** 6,000 m²
- **Private housing units:** 9,000 m²
- **Cultural facilities:** 750 m²
- **Home for adults with disabilities:** 1,100 m²
- **Business incubator:** 6,000 m²
- **Shops:** 840 m²

THE STAKEHOLDERS

Developer: SemPariSeine

Investors: RIVP, Crédit Agricole Immobilier Promotion/Pitch Promotion, Nexity, PERL

Coordinating Architect: AUA Paul Chemetov

Coordinating Landscape Architect: Comptoir des Projets

Sustainable Development Contracting Authority Support: Le Sommer Environnement and 2EI (biodiversity, rainwater)

SemPariSeine

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

17 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)*

Paris City Hall, direction of Urbanism, Jacques Leroy

PARTIAL RESULTS OF THE ASSESSMENT OF THE "ENERGY" COMMITMENT

HIGHLIGHTS OF THE OPERATION REGARDING ENERGY

Innovative measures aimed at limiting energy consumption were implemented to reach a consumption level of 50 kWhpe**/m²/year for new constructions, and 80 kWhpe/m²/year for renovations.

The district was connected to the urban heating network (CPCU), which produces heat through household waste incineration.

Finally, nearly half of the hot water required for housing is produced by solar thermal panels located on the roofs of the buildings.

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%

Total heat consumption (urban heating):
437,663.17 kWhpe/year
Total electric consumption:
2,164,465.2 kWhpe/year

5/8 indicators

A CLOSER LOOK AT THE RESULTS

BUILDINGS

Total consumption:
2,602,128.37 kWhpe/year** (actual data)
110.85 kWhpe/square meter/year
Detailed consumption:
- Housing (lot C only)/New construction:
387,821 kWhfe*/year (actual data, heat and electricity consumption of commons areas)
80.9 kWhfe/m²/year
- Offices/ New construction:
625,935 kWhfe/year (actual data, electricity)
110.9 kWhfe/m²/year
- Public facilities (without IME)/ Rénovation
301,134 kWhfe/year (actual data, heat and electricity)
83.2 kWhfe/m²/year
- *Climate Plan 2007 references:*
New construction: ***50 kWhpe/m²/year***
Rénovation : ***80 kWhpe/m²/year***
Indicator **Efficient**

PUBLIC LIGHTING

Energy consumption:
30,290 kWhfe/year (actual data)
23.3 kWhfe/PE/year
10,096.7 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 (solar panels):
108,500 kWhfe/year (estimate)
8.1 kWhfe/m²/year (estimate)
Indicator **Not applicable** (waiting for installing meters)

Renewable electricity production: **Not studied**
Indicator **Not applicable**

Amount of renewable heat consumed: **Data unavailable** (no return of the urban heating company, waiting for the new energy law)

Percentage of consumed renewable heat generated by the eco-district:
108,500 kWhfe/year (estimate)
100%
Indicator **Not applicable** (no return of the urban heating company)

ENERGY BALANCE

Overall energy balance:
1,329,890 kWhfe/m²/year (actual data and estimate)
84 kWhfe/m²/year
Renewable heat balance: **Data unavailable**
Indicateur **Efficient**

**kWhfe: kWh final energy consumption*
***kWhpe : kWh primary energy*

Paris City Hall, direction of Urbanism, Christophe Jacquet

PARTIAL RESULTS OF THE ASSESSMENT OF THE "WASTE" COMMITMENT

HIGHLIGHTS OF THE OPERATION REGARDING WASTE

A clean worksite charter was established during the construction period to facilitate waste sorting, assess the amount of generated waste, and recover materials and energy from at least 70% of the construction waste.
During the demolition work, 4 buildings on the site were preserved and renovated, which reduced the waste generated by the demolition. In addition, concrete from the demolished buildings was broken down on-site and reused as backfill.
A collective compost bin was also installed on each plot with green spaces, on the ground floor level of the buildings.
The space reserved for this purpose is 2 m^2 for each plot.
In housing buildings, areas were studied to ensure that waste could be sorted and well managed.
An underground glass column is set to be installed in the public space, at the corner of Rue Lacordaire.

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						
						100%
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						
						85%

7/10 indicators

A CLOSER LOOK AT THE RESULTS

WASTE COLLECTED

Total amount of waste collected:
424.6 tonnes/year (district estimate)
326.6 kg/PE/year (new reference value)
Paris 2015 reference (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:
17.8% (district 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** (no items at the eco-neighborhood's scale)

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 **Very efficient** (actual data)

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

Paris City Hall, direction of Urbanism, Jacques Leroy

PARTIAL RESULTS OF THE ASSESSMENT OF THE "WATER" COMMITMENT

HIGHLIGHTS OF THE OPERATION REGARDING WATER

Maximum daily consumption objectives were defined in the environmental specifications handbook as 80 l/resident/day, and specialized water-saving equipment was installed: toilet tanks equipped with a 3/6 litre mechanism and a double flush system, mixer taps, and a pressure reducer (3 bars).

The constraints that applied to the project area, imposed by the City of Paris, stipulated a minimum reduction of 55% of rainwater and 16 mm of rain before it can be emptied into the sewage system.

Appropriate structures were installed in public spaces to favour the natural infiltration of rainwater: natural infiltration of rainwater, drainage trenches, swales along roadways, semi-intensive green roofs, full-soil surface areas, underground infiltration basins...

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						
						N/A
19_2 SATISFACTION AND PRACTICES FOR WATER RELATED AREAS						
						N/A
19_3 EFFECTIVENESS OF DECONTAMINATION EQUIPMENT						
						85%
19_4 WATER CONSUMPTION FOR BUILDINGS						
						100%
19_5 WATER CONSUMPTION FOR PUBLIC SPACES						
						N/A
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%

5/9 indicators

A CLOSER LOOK AT THE RESULTS

BUILDINGS

Buildings' total consumption of drinking water:
22,118 m³/year (actual data)
20.5 m³/PE/year

- Housing (without lots A and B):
11,618 m³/year
28 m³/PE/year (actual data)

- Offices:
1,911 m³/year ou 5.46 m³/PE/year (actual data)

Housing projects goals:
29.2 m³/PE/year ou 80 l/inhabitant/day

Indicator **Very efficient**

Total consumption of sources that are alternatives to drinking water: **535.5 m³** (offices estimate)/ Excluding housing result following a malfunction in the tanks (standing water)

Rate of use of alternative sources (rainwater) to drinking water: **2.4%** (actual data and estimate)

Indicator **Not reached**

IMPERMEABILITY MANAGEMENT

The actual rate of impermeability: **33%** (actual data)

Paris 2015 reference: ***approximately 70%***

Indicator **Very efficient**

Portion of the plots with rainwater managed by plot:
- Private plots: **100%** (actual data)
- Public plots: 51.6% (actual data)

Indicator **Very efficient**

PUBLIC SPACES

Total consumption for public spaces: **Not studied**

Total consumption for public spaces using alternatives to drinking water: **Not studied**

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: **Not studied**

Satisfaction and practices for water related areas: **Not studied**

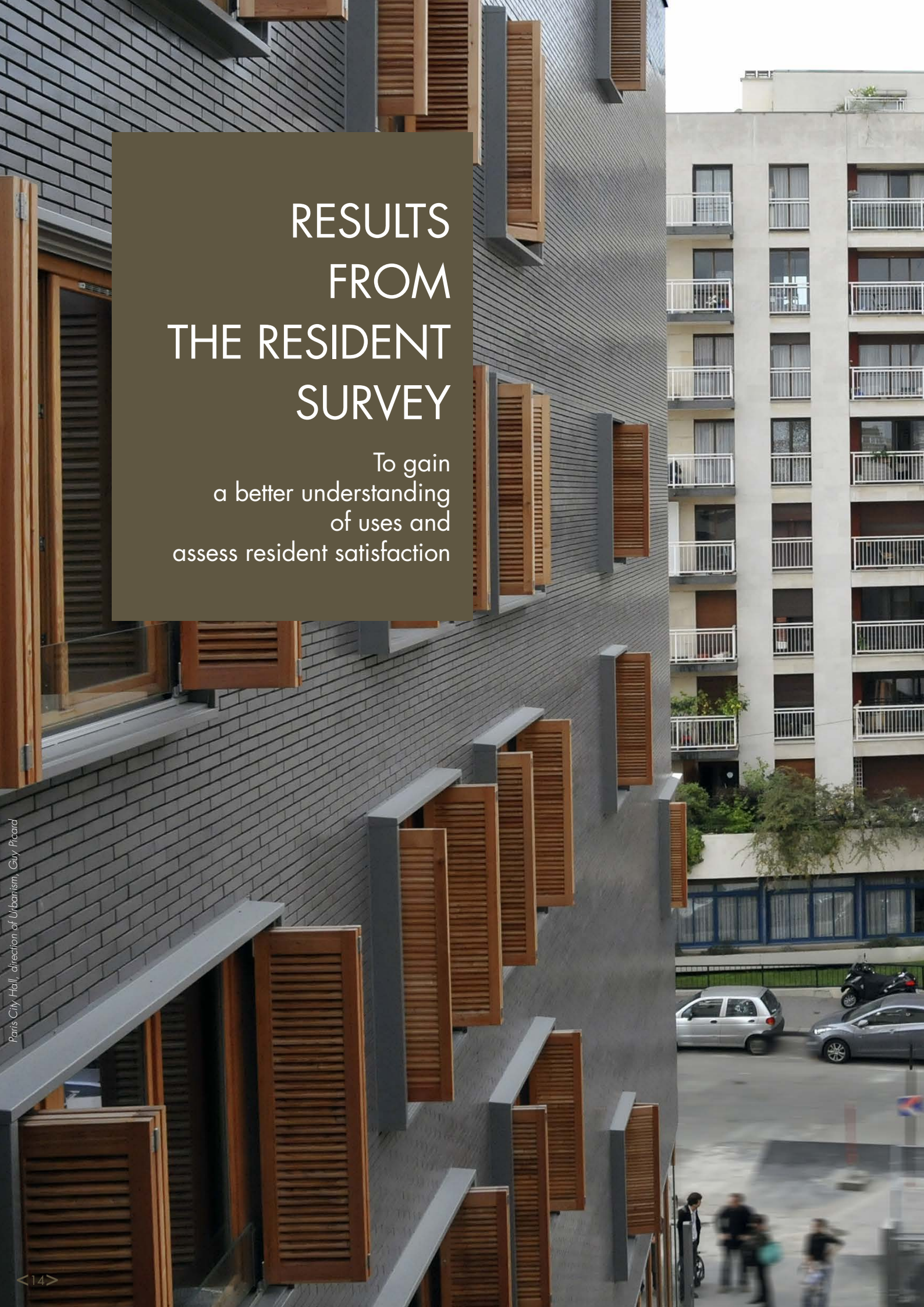
DECONTAMINATION EQUIPMENT

Effectiveness of pollution control equipment: drainage trench under floor
Indicator Efficient (actual data)

Paris City Hall, direction of Urbanism, Jacques Leroy

RESULTS FROM THE RESIDENT SURVEY

To gain
a better understanding
of uses and
assess resident satisfaction



Paris City Hall, direction of Urbanism, Guy Picard

A CLOSER LOOK AT THE RESULTS

PUBLIC SPACES

Development of the walkway Isadora Duncan	**Efficient**

NATURE IN THE CITY

Maintenance of green areas	**Efficient**
Desire to make home gardening or in the neighborhood	**Over 70% of respondents**

ENERGY

Thermal comfort housing	**Efficient** (summer) **Very efficient** (winter)

WATER

Effectiveness of water-saving equipment	**Very efficient**

WASTE

Waste management in the neighborhood	**Rather satisfactory**
Interest in the establishment of compost in each building	**Nearly 80% of respondents**
Practice recycling waste in the building	**90% 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

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
MINISTÈRE DE L'ÉGALITÉ DES TERRITOIRES ET DU LOGEMENT

EIVP
ÉCOLE DES INGÉNIEURS DE LA VILLE DE PARIS
ÉCOLE SUPÉRIEURE DU GÉNIE URBAIN

CSTB
le futur en construction

Cerema

Paris City Hall, direction of Urbanism | Jacques Lacroix

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