



ISSY-LES-MOULINEAUX: LOCAL LOW CARBON ENERGY LOOP

Council

Use of green energy: wastewater heat recovery - Energid'O, surface geothermal energy.

| The challenge

The town of Issy-les-Moulineaux has embarked on an environmental quality approach for the development of the Léon Blum ZAC (Joint Development Zone).

Together with SPL Seine Ouest Aménagement and the ZAC builders, the city has chosen Veolia and its subsidiary Issy Énergies Vertes to build and operate a heating and cooling network covering the energy needs of nearly 800 new housing units, 46% of which are social housing, thanks to a local low-carbon energy loop.

| Veolia's solution

The chosen solution will allow the production and distribution of heat mainly by recovering calories from the wastewater collector via the Energid'O process.

Developed by Veolia Water, this process is located outside the wastewater networks and remains invisible from the outside. The treated water is brought into contact with a heat exchanger, and transfers its energy to a warm water loop.

Each of the buildings will be connected to the loop via a substation, in which a heat pump will be installed to provide the heating, domestic hot water and/or cooling needs.

A back-up heating system is also envisaged which will make use of the geothermal potential of the area. An aquifer thermal doublet will capture heat from the water table located at a depth of about 30 m in the municipality, and will extend the distribution perimeter to a total of 1,270 homes.



Issy-les-Moulineaux, France



Contract Facts:

Concession 20 years from commissioning

RE rate > 70%

53 g of CO₂ / kWh

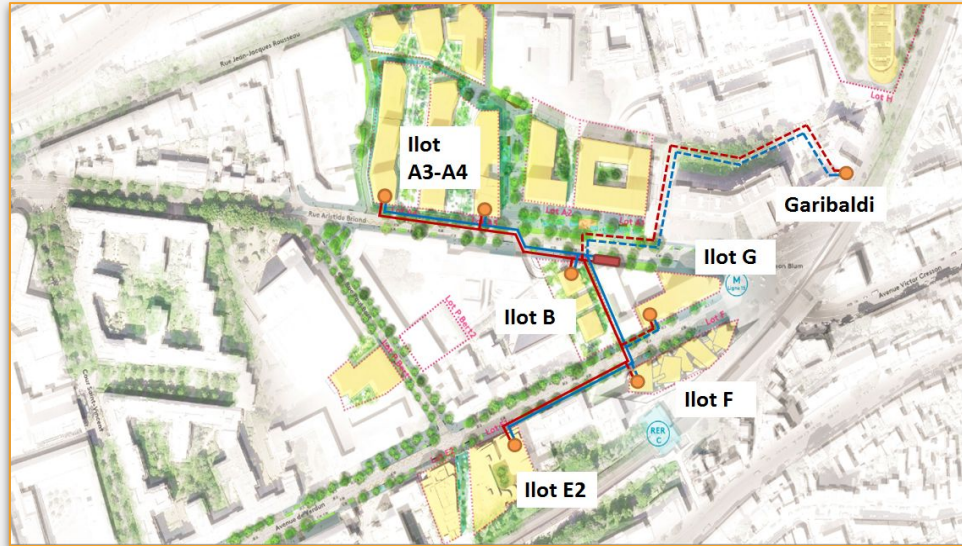
84,000 m²

heated and air-conditioned



Process description

- Renewable thermal energy capacity: wastewater = 1,326 kW + geothermal energy = 950 kW.
- Heat pumps in each building for heating, DHW and cooling.
- Warm water loop (10°C - 25°C depending on the season).
- Gas fired boiler as back-up/emergency.
- Heated area: 84,000 m².



Scope:

Block A3: 2025
Block B: 2023
Block A4: 2028
Block E2: 2023

- + Block G: 2025
- + Block : 2025
- + GARIBALDI 2023

| The benefits

- The heating price will be more stable over time as only a 1/3 of it will depend on the electricity price.
- Renewable energy coverage rate > 70%.
- Decarbonised heat at less than 53 g CO₂/kWh.
- CO₂ savings of 80% per year compared to a 100% gas solution.
- Ademe subsidies for the works.
- Reduced VAT rate of 5.5% for subscribers.
- The city will have local energy that is part of a circular economy.



This new innovative and virtuous project is part of our strategy to adapt the city to the consequences of climate change. After the use of geothermal energy at Fort d'Issy and in the Issy Coeur de Ville eco-neighbourhood and our hydrogen projects, the Issy Énergies Vertes project demonstrates that we can act effectively to achieve carbon neutrality as quickly as possible.

André Santini, Mayor of Issy-les-Moulineaux



VEOLIA'S PURPOSE: committing to a multifaceted performance



SOCIAL

- In total 1,270 homes will be served.



COMMERCIAL

- Deployment of an innovative solution - Energid'O.



ENVIRONMENTAL

- **80% reduction in CO₂ emissions thanks to Renewable Energy.**
- Environmental management system.



HUMAN RESOURCES

- Training passport for each employee.
- Local stakeholders and suppliers.