



Press information
21 July 2021

Issy Cœur de Ville: innovating to bring heating and cooling depending on the season to a district that is an exemplary energy user.

Mandated by Altarea, for several months now the ENGIE Solutions teams have been deploying the future geothermal energy system in Issy-les-Moulineaux, which will bring to all Issy Cœur de Ville residents either heating or cooling depending on the season, based on an innovation: the storage of ice and four thermorefrigerating pumps.

The geothermal energy deployed within Issy Coeur de Ville will supply an entire district with 73% renewable energy on average.

From now on, the cold is no longer a matter of comfort, but of health. In the middle of summer, the highly polluting individual air conditioning infrastructures no longer meet the growing number of environmental and health requirements. Yet heating and cooling networks, for which ENGIE Solutions is a major player, are still often overlooked, even though they are a strategic lever for the transition to a carbon-neutral world and a concrete response to urban heat islands¹.

Since the third quarter of 2020, when the second phase of geothermal energy deployment in Issy Coeur de Ville began, the ENGIE Solutions teams, mandated by Altarea, have been alternating electrical work, with the wiring and installation of high voltage stations (HTAs), and hydraulic work, with the connection of geothermal wells, hot and cold production equipment and 18 sub-stations.

Deploying cooling networks to meet growing requirements

The Multi-annual Energy Plan 2028 has set the target of delivering 3 TWh of cooling energy by the end of the next 8 years in France. This target is a response to the increasing phenomena of heat islands and heatwaves, in the context of an ageing population.

An urban cooling network is an effective and sustainable solution for meeting this ambitious target. This is the purpose of the geothermal energy deployed by the ENGIE Solutions teams in Issy Les Moulineaux.

2009 - 2019: the development of cooling networks in France is to be encouraged²

- + 71% additional cooling networks – 24 cooling networks in 2019
- + 3% cooling energy delivered (0.96 TWh in 2019)
- 239 km in length served in 2019 compared to 131 km in 2009

¹ Localised increase in recorded temperatures, especially the highest temperatures during the day or the night, in urban environments neighbouring rural or forest environments, or compared to the average regional temperatures.

² Results of the national annual survey of heating and cooling networks, SNCU/Amorce, 2020



- + 53% buildings connected, i.e. 1,339 buildings in 2019

Installation of an innovative ice storage device

To bring maximum comfort to the inhabitants and users of the Issy Cœur de Ville district, the innovation lies in the installation of four thermorefrigerating pumps and ice storage, which will make the simultaneous production of hot and cold possible.

Concretely, spherical nodules that can be charged with cold are used to accumulate cooling energy, especially at night, which can then be injected into the network when there is a high demand for cooling, during a heatwave for example.

Similarly, thermorefrigerating pumps will provide residents and shops with both heating and cooling energy depending on the season or users' requirements.

Through the ongoing work in the future Issy Cœur de Ville ecodistrict, very low-energy geothermal energy will allow the stable temperature of the groundwater to be used to produce, as well as heating in winter, cooling in summer, making all the buildings cooler. With low greenhouse gas emissions, this geothermal energy project makes it possible to develop local energy, which is immediately available and renewable because it is pumped and then re injected into the soil with no loss.

This innovative project benefits from ADEME support in the amount of €532,000.

Progress report: how does the deployment of geothermal energy and its network currently stand?

In July 2021, 8 sub-stations at the foot of buildings (apartment blocks, offices) have already been equipped and connected by the ENGIE Solutions teams. More than half of the networks between the power generation rooms and the sub-stations at the foot of buildings have been put in place.

The work in the production room containing both the geothermal energy heat exchangers and the thermorefrigerating pumps is 80% complete. This room is where the ice will later be stored, in an innovative device that will optimise the cooling of premises during a heatwave.

Buildings to be connected to the Issy Cœur de Ville heating and cooling network in future:

- 627 housing units
- More than 40,000 m² of offices that will house the future headquarters of CNP Assurances
- 7 cinemas
- Shops
- Public facilities (school, nursery, community hall)

About ENGIE Solutions

ENGIE Solutions supports towns, industries, and companies in the tertiary sector in their transition to carbon neutrality, helping them to consume less energy and greener, carbon-free energy.



ENGIE Solutions' activities bring together all of the ENGIE Group's areas of expertise in France: heating and cooling networks, on-site production of electricity and heat (solar power systems and cogeneration/heating plants), carbon-free mobility (electric, BioNGV and hydrogen), public lighting and operations/maintenance and energy efficiency services.

In France, ENGIE Solutions is supported by more than 15,000 employees and generates €4.9 billion in turnover.

Read more: <http://www.engie-solutions.com>



About Altarea - FR0000033219 - ALTA

Altarea is the leading real estate developer in France. Both a developer and an investor, the Group is present in the three main real estate markets (Commercial, Residential and Corporate real estate) making it the leader for major mixed urban renewal projects in France. For each of its activities, the Group has all the know-how required to design, develop, market and manage tailor-made real estate products. In Commercial real estate, Altarea manages, as of December 31, 2020, assets worth €5 billion (€2.8 billion in Group share). Altarea is listed on segment A of Euronext Paris.

www.altarea.com

About the ADEME

At the ADEME - the Agency for Ecological Transition - we are firmly committed to combating global warming and the depletion of resources.

On all fronts, we mobilise citizens, economic actors and territories, and empower them to advance towards a resource-efficient, low-carbon, fairer, and more harmonious society. In all areas - energy, air, circular economy, food waste, waste, soils... - we advise, facilitate and support the funding of many projects, from research to solution sharing. At all levels, we place our expertise and foresight capabilities at the service of public policies.

www.ile-de-france.ademe.fr

About the town of Issy-les-Moulineaux

A town in perpetual movement, Issy-les-Moulineaux shows determination and audacity in all its projects. Behind the driving force of its mayor André Santini, Issy-les-Moulineaux (Hauts-de-Seine), with 70,000 inhabitants, has become an active digital hub in France and also abroad.

Pioneering, with innovative companies present (Microsoft, Cisco, Capgemini, Nestlé, and soon Orange), Issy-les-Moulineaux has moved to the forefront of the world's 'smart cities'. It is the only French town to have been ranked three times in the Top 7 Intelligent Communities.

Its credo: putting new technologies at the service of residents to improve quality of life and the efficiency of public services.

Press Contact:

ENGIE Solutions:

Cécile de Bentzmann

cecile.de-bentzmann@engie.com

06 03 18 97 73

Altarea:

Nicolas Leviaux

nleviaux@altarea.com

07 60 75 17 14