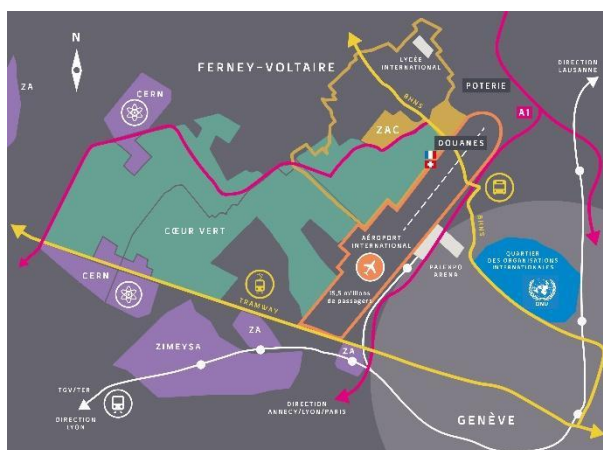


## ZAC Ferney Genève Innovation

**The Celsius Energy consortium wins tender for France's largest geothermal probe project**

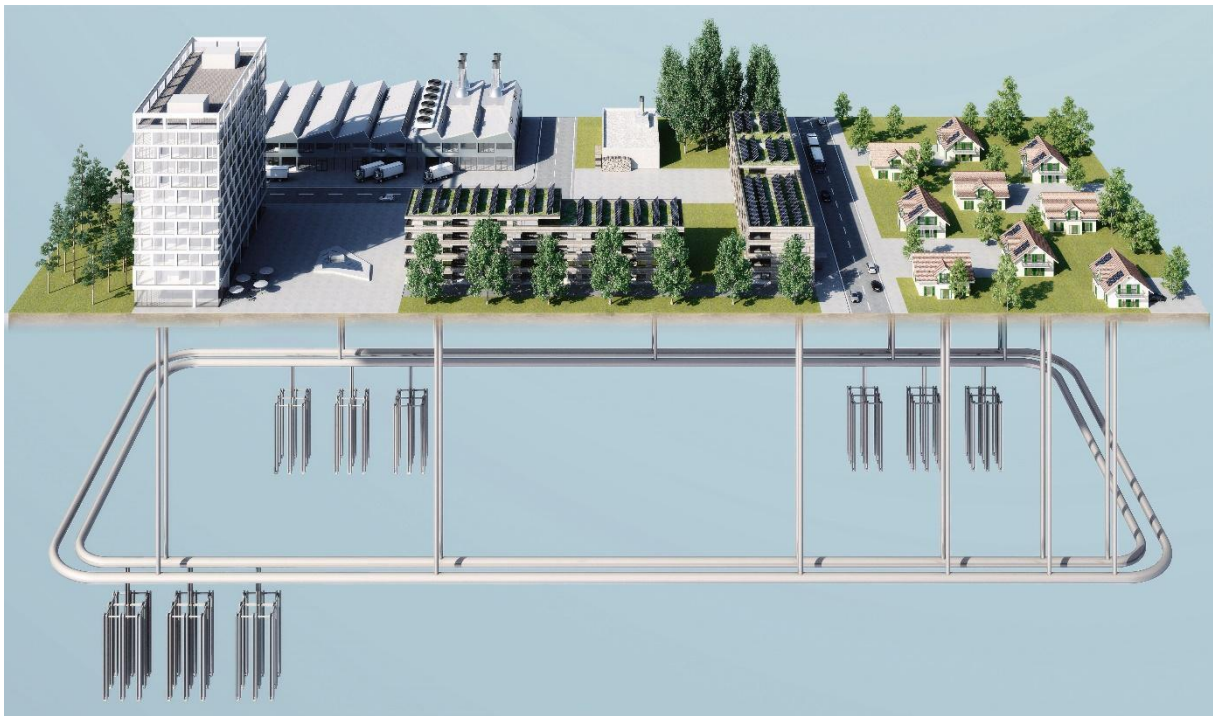


The consortium, led by Celsius Energy, has just won the public tender for the ZAC Ferney Genève Innovation, an ambitious 65-hectare Franco-Swiss urban development project focusing on innovation and the energy transition. The consortium was chosen in particular for the quality of its work, its operational ability to respond to the scale of the project, while respecting time constraints, and for its innovation in drilling on inclined probes. The consortium will be responsible for the design and construction of 40,000 linear meters of geothermal probe fields, the largest project in France in terms of linear meters. Site construction is scheduled to begin in June 2023.

### **ZAC Ferney Genève Innovation: an exemplary model of sustainable cities**

Within the framework of a development concession, SPL Terrinnov, a publically-owned project, was commissioned by the Pays de Gex Agglo with the aim of developing a 65-hectare Zone d'Aménagement Concerté (ZAC) at the entrance of Geneva's international airport. This ambitious urban project won the "Sustainable City Demonstrators" call for expressions of interest launched by France 2030. It is also part of the Cercle de l'Innovation, which is a new economic hub that is an integral part of the Franco-Vaud-Geneva metropolitan project approved by the French and Swiss authorities. A mixed-use project, the ZAC will include **195,000 m<sup>2</sup> of business space** (hotels, offices, cultural center, shopping center, conference center, sports and wellness center), **2,500 housing units** and **15,000 m<sup>2</sup> of public facilities** by 2030. The ZAC is also expected to generate **over 4,500 additional jobs**.

In addition to its economic and urban ambitions, the ZAC will include a **major environmental component**, based on innovation and aligned with the national low-carbon strategy. Particular emphasis will be placed on **soft mobility** and the deployment of **an innovative heating network: the geothermal tempered water loop**, or anergy network.



### Focus on an innovative heating network

A pioneering energy project that is unprecedented in France, the anergy network for the Ferney Genève Innovation ZAC was proposed by the Franco-Swiss engineering firm Amstein + Walthert.

The goal: to recover the waste heat generated by CERN's particle accelerator, the most powerful of its kind with a circumference of 27 km, to supply the heating needs of neighboring buildings via a tempered water loop.

The buildings in the ZAC will then be able to draw on the heat from heat pumps according to their needs. As public demand for heating is much higher in winter than in summer, the surplus heat produced during warmer weather will be stored underground until it can be used in the colder months, thanks to geothermal probes installed and controlled by Celsius Energy at depths of up to 230 meters.

The 5 km-long anergy network will also link the CERN interchange to the Génilac network. A production plant and several substations will be installed to distribute 20 GWh of heat and 6 GWh of cold to the future ZAC. Ultimately, it will save the equivalent of 5,000 tonnes of CO<sub>2</sub> emissions per year compared with a carbon-based heating solution.



## Celsius Energy: at the heart of the ecosystem

To meet the challenges of the Ferney Genève Innovation ZAC project, Celsius Energy formed a consortium, including co-contractors - Augsburg Géothermie SA and Auvergne Forage for geothermal drilling - and subcontractors - Plantier for structural engineering, Ménard for geotechnical engineering and Nabaffa for earthworks and external works - and won the tender for the design and construction of the geothermal probe fields. A total of three probe fields will be connected to the geothermal tempered water loop.

The probe fields will be used to regulate the loop's temperature and store part of the heat, or to call on it as needed.

The scale of the project is unrivaled: 40,000 linear meters of borehole fields, the largest in France.

Celsius Energy was chosen for this project not only because of the consortium's operational capacity to meet the scale of the project and the challenges of the schedule, but also because of the quality of its expertise, the longevity of our proposed solution, and its innovative technology, particularly in regard to inclined probe drilling technologies, as well as digital advancements.

Cindy Demichel, CEO and co-founder of Celsius Energy, added: "*We're delighted and proud to be part of this exceptional project, an exemplary model of a sustainable city, and to be able to put our know-how at Terrinnov's service to make virtuous, low-carbon energy accessible to everyone* ».

### About Celsius Energy:

A subsidiary of SLB, Celsius Energy is a cleantech industrial actor specialized in surface geothermal energy, drawing on 96 years of expertise in subsurface profiling and intelligent systems. By combining and optimizing existing proven processes, Celsius Energy connects buildings to the Earth's energy to reduce their CO2 emissions by up to 90% and cut their energy bills by an average of 50%. The Celsius Energy inclined probe solution is one of more than 1,000 approved by the Solar Impulse Foundation. Active in France as well as in the United States and the United Kingdom, the company currently has over 100 customer references and around 100 employees.

### About Auvergne Forage:

Founded in 2007, Auvergne Forage specializes in drilling and laying geothermal probes. Qualiforage-certified, the company works on private and public geothermal projects assisted by heat pumps. The company installs approximately 40,000 linear meters of geothermal probes per year, representing 2 MW of 100% renewable thermal energy, and will have 5 drilling workshops entirely dedicated to geothermal

probes by the end of 2022. The company has grown rapidly in recent years to become France's biggest player in this specialty. It was acquired by Celsius Energy in 2022. [Auvergne Forage](#)

**About Augsburger Géothermie SA :**

Augsburger Géothermie is a subsidiary of the Grisoni Group, a major player in the Swiss construction industry. Founded in 1998 by Gérald Augsburger, Augsburger Forages (renamed Augsburger Géothermie in 2018) quickly became a key actor in French-speaking Switzerland for the installation of geothermal probes at depths of up to 800m. Since its acquisition by the Grisoni Group, the company has also strengthened its presence in the fields of water exploration and medium-depth geothermal energy. With an operational capacity of 12 drilling rigs ranging from 5 to 40 tonnes, the company is regularly called upon for major projects such as the Geneva Airport, where 150,300 meters of probes were installed. Since its creation, its teams have installed over 3.5 million meters of geothermal probes, an average of 140,000 meters per year.

**About Nabaffa:**

Nabaffa is a French company specializing in large-scale earthworks, pipelines, roadworks, demolition and civil engineering. In 2020, Nabaffa was awarded the Prix Moniteur de la construction 2020 in the Public Works category. It will handle all earthworks for the installation of the probe fields.

**About Ménard France:**

Ménard France is the leading player in soil improvement in France. Its knowledge of local geological conditions makes Ménard France the specialist in fundamental solutions based on soil improvement and reinforcement technologies. Its role in the group: handling the geotechnical aspects of the project.

**About Plantier:**

The Plantier design office, a subsidiary of the EGIS group, specializes in reinforced concrete and wood and metal structural studies throughout the design and execution phases. Its role in the consortium is to carry out structural studies, in particular the stability of buildings after the installation of probe fields.

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