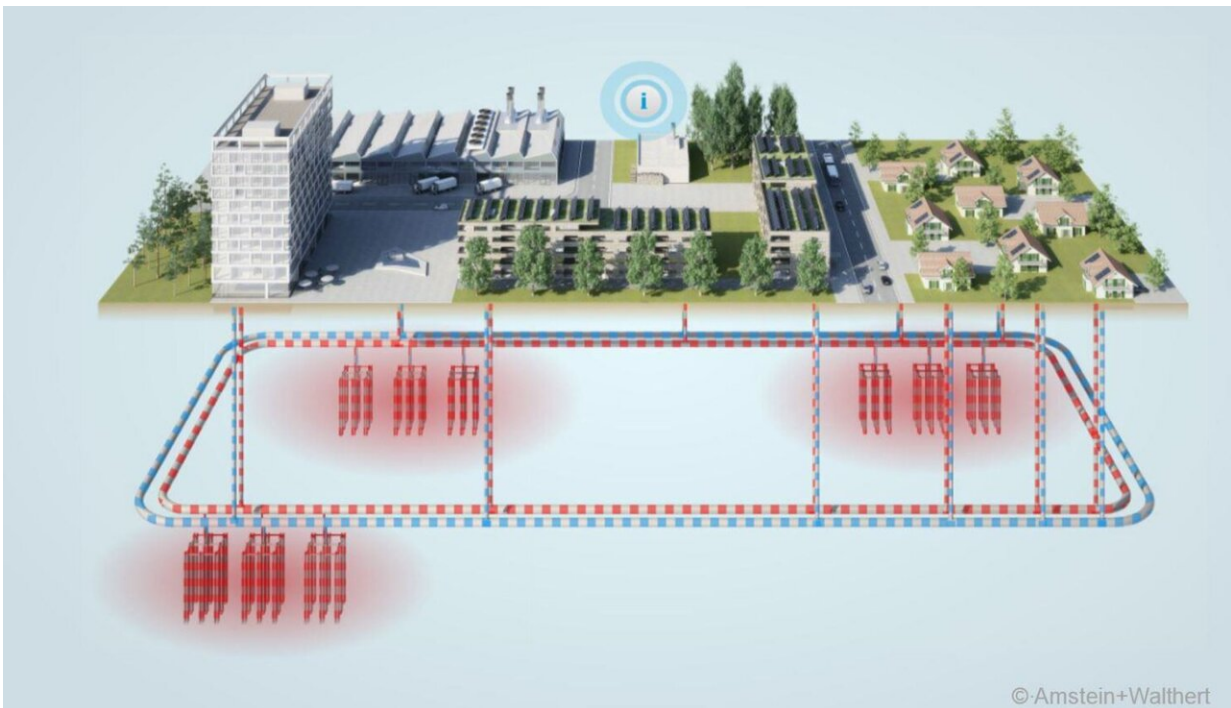


# CERN facility heat will warm households in neighboring Ferney-Voltaire

July 23 2019, by Anaïs Schaeffer



Geothermal probes implanted in the ground under the new area (the nine red “bunches” on the image) will store heat, compensating for temperature fluctuations in the network. Credit: Territoire d’Innovation

Can fundamental physics keep you warm in winter? Using neurons, maybe? Think bigger! Like some industrial sites, scientific facilities can be used to heat living spaces. CERN is taking the first steps in this direction.

On 26 June, the Laboratory signed an agreement with the French local authorities concerning the collection of heat from its facilities. From 2022 onwards, some of the hot water from the Large Hadron Collider's (LHC) cooling system at Point 8 will be diverted and made available to the neighboring commune of Ferney-Voltaire.

"At CERN, many systems and installations (cryogenics, electronics, ventilation, etc.) are cooled using water: [cold water](#) is injected into the cooling circuit and the hot water produced is then collected and cooled by cooling towers, before being reinjected into the circuit," explains Serge Claudet, CERN's energy coordinator. "The hot [water](#) leaving the circuit can reach a temperature of 30°, which is very useful in the context of energy recovery."

With energy recovery in mind, some of the [hot water](#) collected at LHC Point 8 will be diverted to a parallel circuit that will supply the heating system of a new area currently under construction in Ferney-Voltaire (the new zone d'aménagement concerté (urban development zone, ZAC)). Thanks to CERN, up to 8000 people's homes will be heated at a lower cost and with reduced CO<sub>2</sub> emissions.



In blue, the new zone d'aménagement concerté (ZAC) currently under construction in Ferney-Voltaire. In red, the heat recovery network that will link LHC Point 8 to this new area. Credit: Territoire d'Innovation

"We have performed several studies and discovered that the same could also be done at other points of the LHC," says Serge Claudet. "Notably, Points 2 and 5 could also provide heating for the neighboring communes, and we are looking into the possibility of using heat collected at Point 1 to heat the buildings on CERN's Meyrin site."

The work on the CERN side to connect Point 8 to the commune of Ferney-Voltaire has already begun and is scheduled to be completed by the end of the second long shutdown. "CERN is handling the construction of the heat recovery circuit up to the boundary of its site," says Serge Claudet. "Beyond that point, the Communauté

d'agglomération du Pays de Gex will take over and will install 2 km of pipes between CERN and the new ZAC." Initial tests of the [heat](#) recovery network will be performed in 2021, with a view to coming into operation in 2022.

Provided by CERN

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