

Recovering calories from wastewater

In the Cap Azur eco-district of Roquebrune-Cap Martin, in southern France, heat is recovered from a wastewater treatment plant and used for heating and hot water in the district's 300 households. The solution was designed and implemented by EDF subsidiary EDF Optimal Solutions. Before the treated water is discharged into the sea, exchangers recover the heat – at between 12 °C and 24 °C – and transfer it in a completely watertight system to water at a moderate temperature. Heat pumps installed in the buildings raise or lower the temperature of the water that then feeds the heating system (45 °C), hot water system (65 °C) and air conditioning system.



Thanks to this smart heat network, including its central computer system, 70% of the district's energy is renewable. More specifically, the energy is used for central heating in homes, preheating the swimming pool water and providing air conditioning in community areas. This system has halved tenants' power bills⁽¹⁾ and cut carbon emissions by 85%. Today, Cap Azur is the first eco-district in France to recover the heat in wastewater for heating.

(1) Compared with the solution initially considered by the client using solar thermal and natural gas.

KEY FIGURES

70% of the heat produced comes from renewable energy

85% reduction in in CO₂ emissions

For every kilowatt-hour of electric power the heat pumps consume to recover the calories for use in the warm water loop, they produce 4 kWh of heat and/or 4.5 kWh of cooling.

INTERESTING FACTS



A smart grid heat network

The various components in this heat network are managed by a central computer system that continuously optimises energy performance. It constantly adjusts the production of heat and cold in response to the buildings' actual needs. The system

also manages the eco-district's energy demand during peak periods by temporarily interrupting supply to certain units (a process known as "load management"), but without any consequences for the residents.

See all our solutions on:
edf.fr/en/cop21

**50 SOLUTIONS
FOR THE CLIMATE**

