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PRESS RELEASE

ENERGY EFFICIENCY - URBAN HEATING

CNIM to optimize renewable heat production for Nantes district heating

This project consolidates CNIM's status as a major player in district heating system optimization using heat pumps connected to waste to energy plants. The Group has forged a European reputation for its expertise and know-how in this area.

CNIM, a French international industrial equipment manufacturer and integrator, has entered into an agreement concerning the energy efficiency optimisation at the waste-to-energy plant serving the cities of Nantes and Saint Nazaire, in the North West of France. Under the terms of this agreement, CNIM will install an absorption heat pump to boost the supply of hot water to Nantes.

The delivery is scheduled for October 2019. The new system has been designed to inject 3.1 MW of heat energy into Nantes' district heating system.

2018: Two contracts to upgrade heat networks in France and Switzerland

Prior to this agreement, CNIM won two other major contracts to upgrade the energy efficiency of waste-to-energy plants in France and Switzerland, and to supply district heating networks with renewable energy.

- Supplying 30 MW to Basel's district heating network by recovering heat from flue gases

The first of these two contracts was awarded by **IWB**, the organization that operates **Switzerland's largest district heating system, in Basel**. IWB had issued a European request for proposal to enhance the efficiency and environmental performance of its heat network. CNIM's solution consists in installing two **absorption heat pumps** able to **produce 30 MW of heat** with a performance factor of 1.7. CNIM had demonstrated its ability to adapt the dimensions of its heat pumps to comply with very demanding requirements in terms of space and input data. As a result, CNIM's solution has been chosen, and is scheduled for delivery during the second quarter of 2019.

Photo: the two heat pumps for the city of Basel, installed at more than 6,5m high; their dimensions have been specially adapted to the plant. © CNIM

- Recovering low pressure steam from a turbine and supplying 13 MW of heat energy in Brive

The second contract was won by a consortium led by CNIM regarding the energy efficiency optimisation of the waste-to-energy plant of Saint-Pantaléon de Larche (Nouvelle-Aquitaine, France), by connecting it to the district heating system under construction in the town of Brive. CNIM will achieve this goal in 2019 by supplying and installing a heat exchanger and **a heat pump injecting 13 MW to the heat network**. The system will be supplied with high-pressure steam (15 bars) from the plant's boilers and low-pressure steam from the turbine. In accordance with the Order of 15 March 2000, the heat pump's steam generator will be extractable, facilitating maintenance operations.

This solution is designed to recover "trapped" heat, i.e. thermal energy contained in fluids at too low a temperature (40°C) to be reused directly. Using this trapped energy to heat water to 80°C enables it to be recovered and reinjected into Brive's district heating system. *"Trapped heat is generally released into the atmosphere. Recovering it, as we are doing, increases heat pump efficiency and decreases steam consumption by 40%. As part of this contract, the heat pump has the particularity of being directly connected to the low pressure circuit, which is a first in this sector."* notes Jimmy Ettori, Director of CNIM Centre France.

Above photo: Manufacturing in progress of the heat pump for Saint-Pantaléon's waste-to-energy plant (France) © CNIM

CNIM has been improving energy efficiency for more than 60 years

CNIM supplies **1 MW and larger custom heat pumps and chillers** to tackle energy efficiency challenges at industrial facilities in numerous sectors, including the oil, petrochemicals, chemical, energy and shipping industries.

This **turnkey offering**, covering design, construction and maintenance services, dovetails with those of other CNIM Group entities and subsidiaries in areas such as heat process engineering, waste-to-energy and biomass-to-energy solutions, flue gas treatment, thermal power plant renovation projects and industrial boiler plants.

As well as absorption heat pumps & chillers, CNIM provides **heat storage systems** for district heating operators. These are based on steam or pressurised water tanks that store heat during peak production and release it to the network during peak demand. *"This solution smooths the demand curve, ultimately yielding significant savings. At CNIM, we leveraged the expertise of its subsidiary Bertin Technologies, which has extensive experience with heat storage technologies. These innovations are enabling CNIM - already a leader in waste-to-energy plants - to expand its offering relating to the energy transition"* notes François-Xavier Catelan, Director of the Thermal Systems business line at CNIM Industrial Systems.

ABOUT THE CNIM GROUP

Founded in 1856, CNIM is a French multinational industrial equipment manufacturer and integrator. The Group supplies products and services to major public and private sector organizations, local authorities and national governments in the Environment, Energy, Defence and High Technology markets. Technological innovation is at the heart of the equipment and services designed and produced by the Group. They contribute to producing cleaner and more competitive energy, limiting the environmental impacts of industrial activities, making sensitive facilities and infrastructures safer and protecting individuals and nation states. Listed on Euronext Paris, the Group has a stable, majority family-shareholder base, committed to its development. The Group employs 2,613 staff and reported revenues of €689.8 million in 2018, 62.1 % of which was from exports. **www.cnim.com**

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