

Wood heating renewable energy

Interreg
North-West Europe



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RE-Greenhouse

GREENHOUSES HEATED WITH WOOD

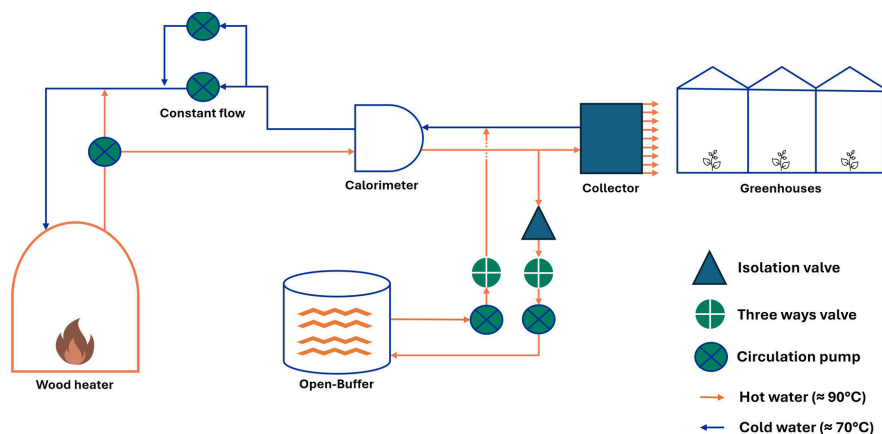
Soupe Horticulture, located in France, Ain department, is a production site for ornamental and vegetable plants. Production takes place in 2.5 hectares in glass and plastic greenhouses.

The site has 17 independent greenhouses, all heated by a wood-fired boiler fuelled by wood chips from crushed wood pallets collected near the production site. The wood chips are transported by truck (10 minutes drive), then stored on site, and fed into the boiler continuously during the heating season. It provides an energy output of 1.4 MW (extended to 2.4 MW with the Open Buffer hot water tank). The boiler burns 1,200 tonnes of wood each year.



Wood heater at Soupe Horticulture

HEATING SYSTEM EXPLANATION



The combustion of the wood chips heats the water, which reaches a temperature of around 90°C. This hot water passes through the main circulation pump, which maintains a constant flow rate. It is then taken to the collector located upstream of the greenhouses, where circulators relay the hot water to the different circuits, to supply each greenhouse independently. Unit heaters are used to control the temperature in each greenhouse, which is maintained at between 8°C and 22°C depending on the crop and the development cycle.

An isolation valve, which opens in 12.5% increments, lets some of the hot water to be sent into a 100 m³ Open Buffer (stored at 95°C). It releases its heat at the end of the day. The open-buffer is generally used between early March and late April.

RE-Greenhouse is an Interreg NWE project aimed at accelerating the transition from fossil fuels to renewable energy in greenhouse horticulture. Follow the project website for more information.

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