

## The energy that unites

**This is the slogan adopted by ACinque Energy Greenway, the Italian committent that has commissioned works on the construction of a vast district heating network powered by exclusively renewable non-fossil sources to the Lecco-based company Bonacina srl. The protagonist on site is the Yanmar SV100-7 midi excavator, the first to be sold in Europe by the Japanese manufacturer.**

In the Lecco, Malgrate and Valmadrera areas, in the province of Lecco (Italy), important works are being carried out to extend the district heating network on behalf of ACinque Energy Greenway; a company set up in 2022 with the aim of creating - with a 33-year concession - an energy system that involves all the realities of the territory, in order to maximise the energy integration of all the subjects that can interact with the network itself, such as producers or consumers. The works, entrusted to contracting company Bonacina srl of Galbiate (Lecco), range between the supply and laying of pre-coupled pipes; the execution of connections to the utility substations; related civil works, excavation and backfilling, the construction and demolition of buildings or road pavements; and more.

*“Since 1966, care and commitment have been the keys to our success,”* explains Luca Bonacina, Alessandro's son and currently a partner in the company, in which sisters Paola and Antonella and brothers Stefano and Massimo are also involved. *To guarantee the highest quality, it has a large fleet of vehicles, which since last summer also includes the Yanmar SV100-7 10-tonne midi excavator, in the single-arm version. “We purchased our SV100-7 from our local dealer Canziani Macchine of Saronno (Varese) to 'raise the bar' of our excavator fleet in terms of weight, as we needed a more performing machine to tackle certain types of work such as the project currently underway, which will be completed by the end of 2026,” shares Luca.*

This is the first SV100-7 sold by Yanmar in Europe, and Luca and the Lecco team are very proud of it: *“I am very satisfied with the performance offered by this machine. We initially chose this model because it is a perfect combination of new generation technology and design innovation, capable of delivering the performance of a large machine but with the benefits of the smaller footprint of a much more compact model. The SV100-7 is, in practice, a combination of performance, versatility, comfort and reliability”.*

Currently, Lecco is constructing district heating networks, in double pipes, with an average nominal diameter of 200-300 mm, laid at a depth of around 1.5-2.5 m, for an excavation width of around 2 m, carried out by equipping the machine with a 1 m wide excavation bucket. For the project at hand, the SV100-7 excels; thanks to its prime combination of robustness and power (provided by a 51 kW, 4-cylinder, Stage V engine with torque of 283 Nm at 1,365 rpm and 3,318 cm<sup>3</sup> displacement), adaptability and precision, offering the versatility needed to optimise productivity on the job site.

Lecco is required to work around the clock to turn ACinque Energy Greenway's vision into a reality, meaning operator comfort - and safety - are prime considerations. Fortunately, the SV100-7 features a very comfortable cab - equipped with a 7" high-resolution colour display that offers real-time visibility of the machine's status and rear camera images - and provides ample visibility on all sides, as well as an extremely efficient hydraulic system - *“a true strength of the Yanmar brand”*, as stated by Luca. *“The excavator is also very agile and stable, even in rough terrain, comparable or even superior to conventional machines in the same weight class,”* he continues,

Once completed, the underground network will distribute thermal energy using hot or superheated water as the vector fluid, circulating between the Civate (Lecco) power plant and the various user substations. The operating temperature in continuous operation will vary between 70°C and 115°C, the peak temperature in occasional operation will be 120°C. The nominal design conditions of all components will be 16 bar maximum pressure and 120°C maximum temperature. In total, we are talking about 16 km of network laid, 49 million euros of investment, 20,000 inhabitants served when



fully operational, 35 GWhe transferred to the national transmission grid, 61 GWht for the district heating network, and 700,000 of CO2 avoided in the concession arc.

It is also worth mentioning that the activity related to this machine is supported by Canziani Macchine, a Yanmar dealer for 30 years and active in the sale and rental of earthmoving, construction and road machinery in several strategic areas of northern Italy.

Ends.

**In the picture:** Luca Bonacina, partner of Bonacina srl