



On the road to energy self-sufficiency

Cavalese, Italy – 4 100 inhabitants

Biomass - Solar – sustainable architecture

The small village of Cavalese has combined sustainable energy processes and architectural quality, while aiming to achieve energy self-sufficiency.



CREDITS: RODRIGO DANIELE, DOLOMITI TV

Project in a Nutshell

Cavalese has been using a district heating system since the 1990s: local sawmills were producing a lot of waste that had to be transported to the nearest paper mill. This required around 2 000 truck trips per year that were avoided with the construction of a district heating power station. The village is also producing electricity thanks to around 100 solar photovoltaic roof installations (1,1 MW), a biogas plant (1 MW), a biomass plant (in cogeneration - 1 MW electric 23,5 MW thermal) and a small hydroelectric plant that was upgraded in 2013. Thanks to a recent €500 000 investment, Cavalese also enlarged the old power station, inaugurating a new building in 2016.

Impact & Next steps

By 2010 the district heating power station had produced around 37,35 GWh, covering 80% of Cavalese's thermal energy consumption. This allowed around 24 000 tonnes of CO₂ to be saved. With the upgrading of the hydroelectric plant, the village was able to reach energy self-sufficiency in 2013, using clean energy to cover 90% of its needs.

Thanks to this system, Bioenergia Fiemme, the local energy company, can reuse both the woodchips generated in the valley but also food waste collected in the village, which is also performing very well in terms of separate waste collection percentage. Bioenergia distributes the thermal energy whilst the municipality, owner of the electricity grid, takes care of electricity distribution.

Replicability: Challenges & Success Factors

All local stakeholders are involved in this project: Bioenergia Fiemme, the energy provider, is an investee company where both the municipality and the company owning the forest hold stakes, together with the sawmill company, the citizens as users and the local bank Cassa Rurale di Fiemme.



Additionally, with the expansion of the old power station, Cavalese managed to combine modern design with sustainable processes and energy efficiency. The new building perfectly integrates with the surrounding environment and also hosts a photovoltaic plant through which it can cover its electricity needs and feed the extra energy back to the local network.

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