In a way, says one of the four farmers who co-own a woodchip district heating system that serves a growing clientele in the rural Austrian town of Buchkirchen, the system owners are like doctors. They take turns being on call.

“None of us spend much time at the plant—the system is fully automatic,” says farmer/owner Gerald Jungmair. “If anything goes wrong, the system calls us on our cell phones. We rotate being on call. Just like doctors!”

The new system, commissioned in 2007, was created by the farmers, and now provides hot water heat to 25 local customers—the town’s kindergarten and school, its municipal hall and other public buildings, an events hall, some multi-family housing, and several single-family homes. The heating plant’s two biomass boilers produce 650 thermal kW and 150 kW respectively, for a total of 2.2 MMBtu/hour and 500,000 Btu/year.

“This system took three to four years to put together,” Jungmair recalls. “The municipality was very interested, but it was really us four farmers who made it happen. We asked other farmers in town to join us, but in the end it was the four of us who formed the company and built the project. Now we operate it and sell heat.”

The engineer who the farmers hired to design the system called for an undersized woodchip boiler, with significantly less capacity than would be needed to meet peak demand, with an oil boiler to back it up. During the system’s first year of operation, the farmers felt they were burning more oil than they wanted or needed to—so they installed the second, smaller chip boiler and sidelined the oil unit. Today they burn no oil at all.

Their system uses 3,500-4,000 cubic meters (1,200-1,400 US tons) of woodchips per year. Its distribution network of pipes, buried in trenches in town, extends 1.8 kilometers (about one mile).

“We contract out when we need to extend our piping system,” Jungmair says. “We own everything right through the heat exchange station in each building on the system. Every heat exchange station has a sticker with the names and phone numbers of the four of us. We want them to call if there is a problem!”
Infrastructure Is in Place for Expansion

The farmers share their heating system’s business functions. One manages wood supply procurement, a second processes invoices, a third takes care of bookkeeping, and the fourth handles sales to new customers. In their town of 4,000 people, they hope to add about five new customers each year. They already serve most of the larger local buildings, and have the distribution system installed to serve more.

Overall, the heating system cost €1 million ($1.3 million US). The farmers secured incentive funding from the Austrian national government that contributed 30 percent of their budget. The farmers put up 15 percent of their own money.

Fifteen to twenty percent of the project funding came from the connection fees that new customers paid. A government program subsidizes those connection fees.

The farmers borrowed the balance of the project cost as a bank loan. They anticipate about a 15-year payback on the overall system investment.

Another of the four owners says the plant has helped boost the farm economy in a way that benefits more than just their own cash flow.

“This is a farming region, not a forested area,” says co-owner Karl Kammerl. “Farmers own only small woodlots, maybe averaging five hectares (about 12 acres). My woodlot is a little bigger, a six-hectare lot plus some smaller patches of woods. The four of us who own the plant supply a lot of the wood, but we also buy from our neighbors. We always have enough wood!

“Our woods need thinning, but farmers have neglected this, until now. Now that we have a market for woodchips, more farmers are going back into their woods to do thinning and improve the quality of their forests.”