Across Scandinavia, and in Austria as well, many small, wood-fired district energy systems that were developed by farmers are serving communities. Some of these systems run as cooperatives. One of those is in the small town of Lundsbrunns, in central Sweden near Jönköping, where several farmers own, manage, and supply wood for a woodchip-fired system that sells heat to a single customer: the local municipality.

“There are five of us farmers who own this company. Each owns shares, and each of us has a role in running it,” explains co-owner Tomas Anderson. A grain farmer, Anderson is the co-op’s chief financial officer. He also stops by the heating plant, twice a day, to check on it—once after bringing his child to school in the morning, then in the afternoon after picking his child up.

“One partner manages the wood supply,” he adds. “One does the books and billing, one does repairs on equipment, and one is business manager.”

Farmer-owned energy co-ops are common in Sweden. “Back in the early 1990s, there was a problem with agricultural overproduction, and farm land was taken out of use,” says consulting forester Björn Vikinge. “Farmer energy co-ops were created to make up for lost farm income.” Although the Lundsbrunns system is a shareholder corporation, Vikinge says its creation in 1995 was part of that general movement.

‘This Is a Good Business’
The Lundsbrunns heating plant was built earlier, by a local farmers’ association in 1982, with three electricity-powered boilers. When the five farmers created their corporation in 1995, they bought the plant and invested 1.1 million Swedish kronor ($130,000 US) to install a woodchip boiler with 250 thermal kW capacity (850,000 Btu/hour). With the distribution piping already in place, the farmers took on a 15-year contract to supply heat and hot water to five buildings owned by the municipality.

“We have just one customer,” Anderson affirms. “We send out one bill every month. This is a good business.” The buildings that they heat include the kindergarten, a school, the municipally owned senior housing, and a nursing home.

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In all, the company sells 1,000 MW hours (3,400 MMBtu) of heat each year—an annual sales volume of 650,000 SEK ($80,000 US). Its sale price for the district heat is 0.65 SEK per kWh ($23 per MMBtu). The single meter that measures their system’s billable output is right inside the heating plant.

For fuel, the farmers buy wood from themselves. Their company pays each one according to how much they supply. If the farmers can’t harvest enough wood from their own lands, they can easily locate other area suppliers. “We know everybody in town,” Anderson says, who also runs an excavator business. “Getting more wood takes just a few phone calls.”

From the company, each farmer also draws a salary, along with a share of the profits. Administration of the plant requires, Anderson estimates, a total of five hours per month.

The heating plant has a backup oil boiler. “Even though the oil boiler supplies only seven-to-eight percent of our heat output, oil is almost our biggest operating expense,” Anderson says. “We’re thinking about putting in a wood pellet boiler, so that we could use 100 percent biomass.”

While this is a good business for Anderson’s company, he says that to be a really good business it would have to sell about twice as much heat as the farmers are selling now. But it hasn’t been easy to get other potential customers interested in the concept of a farmer-run woodchip heating system.

The farmers tried to develop a small woodchip plant for a spa with an indoor swimming pool that needed a lot of heat, but the business decided to put in its own pellet boiler. Lundsbrunns kommun went out to bid to build a biomass plant for district heating in another area of the municipality, but chose wood pellets over a woodchip system.