This is a study of how one leader, equipped with good information and the determination to act on it, can shape a pioneering, practical energy choice for a vital institution in a struggling economy.

Jim Bishop, the self-effacing CEO of Harney County District Hospital in Burns, Oregon, doesn’t tell the story of Harney’s 2007 installation of a wood-pellet heating system quite that way. But others do.

“As a rural hospital, how do you put together the deals that will result in a new energy system that will save you money in the end?” asks Larry Swan, a US Forest Service (USFS) forest products utilization and marketing specialist based in Klamath Falls. “This whole thing worked for a small rural hospital in part because they had someone like Jim.”

East of the Cascade Range in Oregon, Harney County covers more territory than the Commonwealth of Massachusetts, but has only 7,500 people. The high-desert landscape has vast patches of Ponderosa Pine, a declining wood-products industry, and 20 percent unemployment. The hospital in Burns—the county’s largest employer—first hired Bishop, a former international wood-products consultant, to turn its finances around as chief financial officer.

When Bishop next became CEO, he faced the need to replace the hospital’s 1949-vintage physical plant. He asked his friend Swan for advice about advanced-technology pellet heating. Swan passed along information about KÖB, an Austrian manufacturer that delivers its boiler systems preassembled in shipping containers.

“The architect was very skeptical about using wood for a hospital,” Bishop recalls. But the CEO’s calculations showed biomass to be a cheaper fuel source, long term, than oil or propane. (He figured on a 15-18-year payback, compared to oil prices. Steep increases in oil prices have since reduced the payback period to just three years.)

“His board was very open to considering it,” adds Swan, “because they had a strong, historical tie to the wood products industry, which was rapidly dissipating. Jim understood how to work with the board on this.”

“Finally,” Bishop says, “the board and I just told [the architect], ‘You know, we’re really going to do this.’ The architect then said, ‘Okay.’ They designed the pellet boiler into the system: It heats water, and the water goes to water-source heat pumps. The architect did a beautiful job of giving us a great system.”

‘Super-Quiet’ and ‘Trouble-Free’

Harney Hospital financed its $269,000 system with a USDA loan, Medicare reimbursements, and local bank loans. It also sought and received an $80,000 state tax waiver.

“The installation literally took two days. Everything came pre-assembled ... basically, we unloaded the container onto the slab,” Bishop says. The new facility took up four spaces on the hospital parking lot.

The pellet system provides both heat and hot water. The hospital has been using propane to heat its air-intake system and its sidewalks in winter.

“We’re in a really cold climate—we use a lot of heat,” Bishop notes.

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The pellet system runs seven days a week, all year round, providing hot water in the summer. Annual fuel costs: about $9,000 for wood pellets, which meets 80-90 percent of the heating needs, plus $30,000 for propane. The system is using about 45 tons of wood pellets per year, delivered at $200 per ton from five hours away by Bear Mountain Forest Products, which runs two Oregon pellet plants.

The hospital is now shifting its air-intake and sidewalk-warming systems to pellet heat as well. “My guess is that a year from now, after we convert, we’ll be down to $15,000 for propane and $11,000 for pellets,” says Bishop. “Anything we can do to save money. We have to be sensitive to the fact that we’re a nonprofit hospital in a very poor county.”

So far, the cost savings from using pellet fuel have been enough to make the hospital’s payments on its MRI scanner, said Randy Brinkley, supervisor of facilities services.

The storage silo is just 12 feet in diameter by 15 feet high. The fuel-supply system is highly automated, and the combustion produces about 30 gallons of ash every couple of months, which the hospital donates to local gardeners.

As for the system’s operation, “It’s super-quiet,” Bishop says. “It’s so trouble-free that it’s good if somebody just glances at it.” Operators use the hospital’s computers to check in daily with the pellet system controls.

“There’s no odor at all,” says the CEO. “Because the boiler burns so intensely—it’s just really hot—and the pellets are compressed wood, it’s almost like burning coal. It’s very difficult to see anything at all, when it’s running.

“Everybody seems to be worried that it’s going to break down. I think we’ve had two hours of unscheduled downtime in two years of operation.”

The Oregon Department of Environmental Quality reviewed the installation. “They concluded that they don’t have to regulate our installation because it meets all standards,” Bishop recounts.

“As far as I know, we’re the first hospital in the United States that uses some kind of pellets,” he adds. Even so, Bishop hasn’t had many inquiries from other hospitals.

“I am talking to a lot of people from schools, school districts, colleges, universities. This makes infinite amounts of sense for anybody that’s burning heating oil, for any reason. The tradeoff is so clear.”

“I like it,” adds facilities supervisor Brinkley. “I’m an old woodsman, used to run big industrial wood boilers. This [system] is just a little guy, and he does real good.”

“The federal stimulus money has provided $5 million to build a pellet manufacturing plant in our county or an adjacent county,” Bishop adds. “If this happens, we will be getting even cheaper pellets due to transportation savings.”

The projected pellet plant will use salvage wood from thinning operations in the national forests that both improve forest health and reduce fire danger.

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