

CASE STUDY

BIOMASS HEAT BRINGS DIVINE SAVINGS

Efficient Wood Pellet Boilers Help Two New Brunswick Churches Curb Heating Costs

In Northwestern New Brunswick, two Roman Catholic churches, Très Saint-Sacrement in Saint-Quentin and Notre-Dame-des-Prodiges in Kedgwick, faced with rising energy costs, decided to shop local for their heating needs. The churches invested in heating systems fueled by sawmill residues converted into wood pellets at the Group Savoie pellet mill just a few kilometres away.

"The churches are saving money and supporting their local communities, providing jobs for church members. The industry is helping local institutions remain viable by providing a dependable, low-carbon cost-efficient heating source," said Jonathan Levesque, General Manager, Biomass Solution Biomasse (BSB). BSB provides turn-key service to both churches, installing the heating systems, providing on-call service, annual maintenance and scheduling automatic fuel delivery.

PAYBACK FASTER THAN ANTICIPATED

Très Saint-Sacrement was opened in 1948 after fire destroyed an earlier church. The facility replaced its oil-fired boiler system in 2013 with two 56 kW Maine Energy System auto-pellet boilers featuring internal pellet storage.

"A new heating system for the church was a big investment, but the cost of home heating fuel was steadily climbing. Initially, the church leaders were skeptical about the calculated payback of five to six years," Jonathan said. "They were surprised to see it was paid off quicker, in four to five years."

The system requires minimal maintenance, and church leaders are happy with the savings, especially during the 2022-2023 heating season when oil prices skyrocketed.

"The average savings for Très Saint-Sacrement is about \$24,000 a year compared to home heating fuel," Levesque said. "At the time, the system was installed without any incentive programs. We estimated the total savings over 11 years at \$260,000. It's a huge savings for a small church, money that stays in the community to help make the town a better place for everyone."



Notre-Dame-des-Prodiges Church converted its oil-fired boiler to economical wood pellets, saving thousands of dollars annually. Photo: Mark Rickard.



The nave, sanctuary and altar inside the Très Saint-Sacrement Church. The church replaced its oil-fired boiler system in 2013 to two 56 kW Maine Energy System auto-pellet boilers with internal pellet storage. Photo: Mark Rickard.

'MINI' DISTRICT HEATING SYSTEM

Notre-Dame-des-Prodiges in Kedgwick faced a larger energy bill. The complex includes a presbytery, a community centre and the house of worship, all heated by one system. At one time, a parishioner donated wood to heat the facilities, and the boiler system was maintained day and night by a host of volunteers. In 2020, the church opted to replace the wood system with an oil-fired boiler to take advantage of low fuel prices. But oil price volatility meant the cost became unmanageable just three years later.

In 2024, BSB installed a Herz 150 kW system, equipped with an external silo capable of handling the heating load. Herz units are relatively new to North America, but they are well-established throughout Europe and globally.

A successful church fundraiser covered the cost for the biomass system and the church's outstanding fuel oil bill. The facility is projected to consume about 80 tonnes of pellets annually, reducing the church's heating bill by about 50 percent. The church members are very happy with the new system.

A SaveEnergyNB energy efficiency program paid 25 percent of the equipment and installation costs for the new system. This program is available to any commercial or institutional building in New Brunswick looking to replace an oil-fired heating system.

BIOMASS OFFERS ENERGY INDEPENDENCE

"Northwestern New Brunswick has cold winter weather, and many churches are historical structures with high heating needs. A modern system requires minimal maintenance, emptying the ash containers once a week, and an annual overhaul for preventive maintenance. Automatic bulk delivery ensures the facilities never run out of fuel. Transitioning from oil to wood pellet heating would be a seamless endeavour for many churches," Jonathan said.

"There is a potential for many churches and other community centres in Eastern Canada to make a transition to biomass, with a lower carbon footprint and support local jobs. New Brunswick has five pellet mills, Quebec has numerous mills, and Nova Scotia has two. There is a reliable source of biomass near every church in the Maritimes."

Levesque said the momentum of adopting biomass heating solutions for New Brunswick public spaces is increasing. Governments and communities are recognizing the benefits of wood pellets at schools, hospitals and other facilities.

"Biomass can offer Maritimers energy independence from imported fossil fuels. In the case of churches and other not-for-profit groups, fuel savings can go directly to serving their communities," Levesque said.