



Fink Enderby District Energy – Enderby, BC

Background

Fink Enderby District Energy is the first privately-funded biomass district energy system operating as a Private Utility under 1 MW in western Canada. The district system currently serves 11 commercial, institutional and residential customers while maintaining capacity for future growth.

The Viessmann Solution

A Viessmann Pyrot KRT-540 wood-fired boiler (rated at 540 kW) was commissioned as the system's primary source of space heating, domestic hot water and pool heating. The fully-automatic Pyrot utilizes the industry's most advanced combustion technology, triple-pass heat exchanger and modulating output control to achieve an efficiency of up to 85% while keeping emissions to a minimum. Its state-of-the-art system monitoring and safety equipment ensure safe and reliable operation. A 300 kW gas-fired boiler provides backup and additional capacity during peak loads.

Installation Details

A custom-built timberframe boiler house includes a district fuel bunker with a capacity of 50 tonnes, which allows two 53-foot trailers to unload simultaneously. An automated walking floor delivers fuel from the storage bunker to the Pyrot's feed auger. When fuel gasification and combustion are complete, an automated deashing system extracts ashes from the combustion chamber and transfers them to an ash bin. An ash removal auger extracts the ashes into a large external container once they have cooled.

The Pyrot boiler feeds an 8,400 L water buffer tank before distributing heated water to transfer stations and customers through a 640-metre main line consisting of three-inch insulated Urecon PEX pipe.

Fink Enderby District Energy's carbon neutral, wood biomass fuel is supplied by local sawmills, wood product manufacturers and wood waste diverted from landfills and businesses within a two-hour radius. Area landfills are now modifying their material recycling facilities to create wood biomass fuel.

The Results

Once fully operational, the system is expected to consume 800 tonnes of renewable wood fuel annually while helping to mitigate approximately 425 tonnes of greenhouse gases.



Courtesy of Carrie Bearss – Imedge Photography
Custom-built boiler house with wood chip fuel storage bunker and walking floor feed system



Courtesy of Carrie Bearss – Imedge Photography
Fully-automatic feed system ensures consistent fuel supply and reliable operation

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By utilizing biomass fuel, an energy source largely independent of today's wide energy price fluctuations, Fink Enderby District Energy can provide its customers with economical, safe and environmentally-responsible heating for years to come.

Project Details

Project Year	2011
Equipment	Pyrot KRT-540 Custom Control System
Rated Output	1843 MBH / 540 kW
Timberframe Construction/ District Line Installation	Fink Machine Inc., Enderby, BC www.finkmachine.com
District Line	Urecon, Oakville, ON
Concrete Foundation	Ocana Construction, Armstrong, BC
Laminate Beams	Structurlam Products, Penticton, BC

Projected installations through 2012

- 1** Tony's Tire (35 kW)
- 2** Edwin D. (15 kW)
- 3** Enderby Autobody (35 kW)
- 4** Parkview Place (120 kW)
- 5** Enderby Lions Pool (80 kW)
- 6** Royal Inn (DHW) (15 kW)
- 7** Cedar Solution (60 kW)
- 8** Fink Machine (85 kW)
- 9** Boiler House (Pyrot 540)
- 10** ENFAB (90kW)
- 11** Marvin's Mechanical (20 kW)
- 12** CNC (45 kW)

