

# Wood Pellet Boiler

## Yellowknife Arena, Curling Club & Ruth Inch Memorial Pool

### System Overview:

In December 2008 a BINDER 750 kW Wood Pellet Boiler was installed to provide district heating to the Yellowknife Arena, Curling Club and Ruth Inch Memorial Pool. The system was installed by Arctic Green Energy (AGE) at a cost of \$530,000. While the City of Yellowknife owns the boiler AGE are operating the system for its first year of Service and the City is buying the produced heat instead of wood pellets. The cost of heat is purchased at a 17% premium over the price of wood pellets. In December 2009 the City will take over operation of the system and begin purchasing wood pellets to fuel the boiler.



Commercial Wood Pellet Boiler behind YK Arena

The previously installed oil fired boilers are still in place and are used as a back up to the Wood Pellet system.

### Performance Data:

Since installing the 750 kW Wood Pellet Boiler the City of Yellowknife has reduced its municipal operations Green House Gas (GHG) Emissions by approximately 20%. Comparing the months of January to August in 2008 to 2009 the City of Yellowknife has saved \$19,000 using wood pellets instead of traditional heating oil.

**Boiler Rated Output: 750 kW (2,560 MBH)**

**Equivalent Annual Oil Amount: 300,000 L**

**Expected Annual Pellet Usage<sup>1</sup>: 590 tonnes**

**Annual GHG Reduction: 850 tonnes CO<sub>2</sub><sup>eq</sup>**

The reduction in GHG emissions is equivalent to removing 155 midsize passenger vehicles from the roads.

<sup>1</sup> Estimation based on City of Yellowknife Equivalent Oil values