



## Sempa Power Hybrid Heating System



Contrary to what the name may suggest, the work done by Sempa Power Ltd. has nothing to do with warming up your Prius. Instead, Sempa Power Ltd is an innovative company that has developed an intelligent heating system for buildings. The system automatically switches between fossil fuel and clean electricity to economically decrease greenhouse gas emissions from space heating and water heating. As part of this offset project, some of the most prestigious resort and hospitality properties in British Columbia and Manitoba have been retrofitted with this proprietary technology.

### **HOW IT WORKS**

The Sempa Power Hybrid Heating System™ is designed to improve the efficiency of energy consumption in a building's central heating infrastructure while reducing the greenhouse gas emissions associated with the burning of fossil fuels. It provides heat and hot water to commercial buildings by using high efficiency appliances powered by hydro-electricity. Sempa Power's intelligent software monitors the consumption of electricity and automatically adjusts, in real time, the heating output of the Hybrid Heating system according to the thermal and electrical load of the building. This fuel switch from natural gas to a less carbon intensive energy source, like hydro electricity, reduces GHG emissions significantly, especially during marginal and intermittent loads when the fossil fuel boilers operate very inefficiently.

### **PROJECT SITES**

Whistler, BC: Aspens, Cascade Lodge, Intrawest Glacier Creek, Intrawest Roundhouse Lodge, Four Seasons Residence, Four Seasons



Resort, Fairmont Chateau Whistler Sun Peaks, BC: Nancy Green Cahilty  
Lodge Winnipeg, MB: Winnipeg Convention Centre

### **CARBON OFFSETS MADE IT HAPPEN**

Because of the capital investment required to retrofit existing properties with the Sempa Power Hybrid Heating system, carbon offset funds help to make these projects economically feasible. Additionally, Sempa Power's technology is not yet common practice and the support provided through the purchase of carbon offsets will help to bring innovations like this into the mainstream.

### **OTHER BENEFITS OF THE INSTALLATION**

Clients and building supervisors can monitor and adjust heating levels by using a web-based interface, which provides feedback about the operation of the Sempa Power Hybrid Heating system, as well as historical data showing monetary savings, energy consumption reduction, and reduction of greenhouse gas emissions.

### **PROJECT AT A GLANCE**

Project Location:	8 sites in BC and 1 in Manitoba, Canada
Project Type:	Avoided CO <sub>2</sub> emissions from natural gas and propane combustion
Standard:	BC Emission Offset Regulation*
Credits generated per year:	Up to 3,902 tCO <sub>2</sub> e
Equivalent # of cars removed from the road annually:	Up to 746** ( <a href="#">Based on EPA GHG Equivalency Calculator</a> )
Verifier:	Envirochem
Project Start:	2005
Technical Longevity:	13-15 years