

Bosch Contributions to Canada's EcoPlusHome Generate Significant Energy Savings

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- ▶ Family of six prove “net zero,” emission-free house can be comfortable and affordable
- ▶ State-of-the-art Bosch Thermotechnology, Solar Energy and Home Appliances help generate more energy than that consumed

Bathurst — Can a family of six live their everyday life without dependence on fossil fuels for an entire year? By integrating its leading efficient geothermal, solar and home appliance technologies, Bosch helped Canada's [EcoPlusHome](#) demonstrate that today's modern family can live a net zero existence without compromising comfort or cost. Through the use of both passive and active eco-friendly efforts, the 285-square-meter (3,067-square-foot) home in Bathurst, New Brunswick provided comfortable and affordable living year-round.

In order to prove that an average consumer's home can achieve net zero status at a reasonable price of about \$275,000 USD, Bosch designed the EcoPlusHome in partnership with Tight Lines Productions, Maple Leaf Homes and local partners in New Brunswick, Canada. Between December 2009 and December 2010, a family of six – while living in the EcoPlusHome consumed approximately 14,000 kilowatt hours (kwh). At the same time, the home generated roughly 15,000 kwh - more electricity than it consumed. Reducing reliance on fossil fuel, EcoPlusHome emitted few emissions and helped promote a healthier living space and cleaner air.

“By providing a highly efficient geothermal heat pump, solar thermal system, photovoltaic panels and home appliances for the EcoPlusHome, we have demonstrated that climate protection pays off and that net zero living can be achieved comfortably and affordably,” said Peter Marks, chairman, president and CEO, Robert Bosch LLC and member of the Bosch Board of Management. “As a leading technology company, Bosch is committed to supplying innovative solutions that help conserve resources and protect the environment.”

Bosch technologies help achieve net zero energy in residential homes

According to the U.S. Energy Information Administration, the residential sector consumed 22 percent of the nation's primary total energy in 2009.

As energy costs continue to rise, the need for a cost-affordable net zero home is more critical than ever. As the most energy-efficient home in Atlantic Canada, EcoPlusHomes using Bosch's alternative technologies continue to be built and sold across the region, as well as British Columbia and Saskatchewan. Currently 12 homes are in construction and pre-sold. The first modular EcoPlusHomes recently arrived in Dartmouth, Nova Scotia, Moncton and Bathurst, New Brunswick.

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With the support of Bosch technologies, the New Brunswick home withstood extreme temperatures ranging from -31 degrees Fahrenheit (-35 degrees Celsius) in winter, and up to 95 degrees Fahrenheit (+35 degrees Celsius) in summer. The overall reduced dependence on fossil fuel makes EcoPlusHomes virtually immune to fluctuating fuel prices that can increase during peak demand seasons, allowing a more accurate forecast of the homeowner's budget. The end result: energy-efficiency at an affordable price.

Included in each home is a complete line of Bosch alternative technologies that enabled the EcoPlusHome test house in Bathurst to generate as much energy as it consumed. Bosch geothermal heat pumps provide homes with advanced heating and cooling capabilities by tapping into naturally occurring energy stored in the earth. Ground and water temperatures below the earth's surface remain relatively consistent throughout the year in virtually any climate. With a coefficient of performance (COP) of up to 4.7 and an energy efficiency rating (EER) of up to 27.8, Bosch geothermal heat pumps generate more energy than they consume both in heating and cooling modes. Geothermal heat pumps provide residents eco-friendly heating and cooling, as well as quiet operation, lower operating costs and reliability.

[Bosch Thermotechnology](#) systems are designed to work as a collective heating, ventilation and air conditioning system versus individual components. A heat recovery ventilator (HRV), in tandem with a passive pre-heating and pre-cooling system, provides control air exchanges to ensure high indoor air quality and protect the home from moisture damage. For hot water heating, Bosch provided the EcoPlusHome test house with solar thermal technology. Solar thermal collectors harvest the sun's energy for heating of the hot water tank. An electric backup element ensures year-round hot-water comfort even on a cold or cloudy day.

To generate the needed electricity to run home appliances, to power lights and other plug-in units, [Bosch Solar Energy](#) supplied 52 mono-crystalline photovoltaic solar modules for the EcoPlusHome, providing high yields even when the intensity of solar radiation is minimal. Bosch offers high-grade photovoltaic products to generate electricity from sunlight, which protects the environment and combat climate change. In addition, [Bosch Siemens Home Appliances](#) supplied the home with its ENERGY STAR® Home Appliances, including a washer and dryer, oven,

microwave, refrigerator, dishwasher and even a coffee maker, which are all highly efficient and reduce water and energy consumption significantly.

Known for raising standards in appliance efficiency and quietness, Bosch is the only U.S. appliance manufacturer with entire product lines of ENERGY STAR® qualified dishwashers, washers and refrigeration.

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In May 2010, EcoPlusHome earned the prestigious [Premier's Award for Energy Efficiency](#) for a new residential home with an EnerGuide rating of 96 out of 100, which is unprecedented in New Brunswick. The award was developed by Efficiency NB, a governmental organization dedicated to advancing energy solutions and managing expenses in the residential, community and business sectors in the region, to recognize companies, organizations and individuals for their innovation and achievement in the field of energy efficiency. Earlier this month, EcoPlusHome was presented with [Scotiabank's EcoLiving 2011 Innovation Award](#). Supported by Green Living Enterprises, the awards program recognizes businesses, innovators and students across Canada for excellence in the development of home energy efficiency products, services and solutions. The EcoLiving Awards are Canada's premier prize for home energy innovation.

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