

PINNACLE OF ENERGY EFFICIENCY

Owens Corning Canada and team of five leading builders have partnered to build affordable net-zero homes in five communities across Canada

The future is now for net-zero housing in Canada.

Owens Corning was the proponent of a national demonstration project launched by Natural Resources Canada (NRCAN) made possible through funding from the federal government in 2011, to support energy technology innovation to produce and use energy in a clean and efficient way.

Owens Corning Canada worked with five leading builders in this project to design and build 20 net-zero energy (NZE) homes along with one net-zero multi unit project in Canada. The scope of the project was to design and build affordable net-zero homes using current technologies with production builders in a community setting.

The five innovative builder partners were Mattamy homes with their net-zero project in Calgary, Alberta, Reid's Heritage Homes with their net-zero project in Guelph, Ontario, Minto Communities with their net-zero project in Kanata, Ontario, Provident Developments with their net-zero project in Bedford, Nova Scotia, and Construction Voyer, which built the first net-zero multi-unit (six-plex) project in Laval, Quebec.

Each of the builders worked with Owens Corning, local energy consultants and experts to build affordable homes designed with sustainable features. Owens Corning helped the builders implement high performance building envelope systems in their designs to help them meet their goals bringing building science to the field in a house-as-a-system approach.

The knowledge gained from this pilot project will allow builders to move to offering net-zero ready as a standard which is the springboard to full net zero, providing Canadians with comfortable and energy-efficient housing.

"Net-zero is the pinnacle of energy efficiency," says Salvatore Ciarlo, Owens Corning's National Technical Services & Specifications Leader, Canada. "It's definitely the future of the Canadian housing industry. Net-zero homes provide the ultimate homeowner living experience."



"Affordability is achieved through conservation first before generation," says Ciarlo, noting that the key components of a NZE home are: outstanding insulation, a tight building envelope with high-performance windows and, right-sized efficient mechanical systems for heating and cooling.

Then all we need are the renewables (solar panels) to generate the energy to offset what we the occupants are using to get to a net-zero annual energy bill.

"Owens Corning solutions help turn building science into building genius by addressing the three principal building science principles" says Andy Goyda, Owens Corning's Market Development Builder Leader, Canada. "Those are heat flow, air flow and moisture flow, and they are dealt with in one application with Owens Corning's innovative exterior Air Barrier System."

All five builders across Canada opened their NZE homes in 2015. The goal wasn't just to demonstrate that this building team was capable of building one NZE home, but that it can build entire net-zero communities in a large-scale setting at an affordable price.

Subsequently, Reid's announced that, by the end of 2016, all future communities of their single detached homes will be solely NZE-ready homes, making them the first builder in Canada to make such a commitment. The company has a history of building energy-efficient homes, dating back to 2007, when it built the first LEED Platinum home in Canada.

"It's not question of *if*, but *when*, affordable NZE homes will be the standard." Goyda stressed.

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