



EQilibrium™ Housing Pilot Demonstration Project Alstonvale Net Zero House: A Custom EQilibrium Home in Hudson, Quebec

A New Approach to Energy-Efficient Healthy Housing™

Faced with rising energy costs, greater concern for the environment and an increased focus on the health of their families, more Canadians than ever are beginning to look for housing options that are healthy, energy-efficient, environmentally friendly – and less expensive to operate and maintain.

EQilibrium™ housing is a national housing initiative, led by Canada Mortgage and Housing Corporation (CMHC), that brings the private and public sectors together to develop healthy homes that produce as much energy as they consume on an annual basis. Focusing on the core principles of occupant health and comfort, energy efficiency, renewable energy production, resource conservation, reduced environmental impact and affordability, EQilibrium™ homes will offer potential home buyers such benefits as:

- Lower energy bills in every season;
- Healthier and more comfortable homes;
- A reliable, renewable supply of power;
- A greatly reduced environmental impact; and
- Vital and sustainable communities for generations to come.

Real-World Case Studies – Proven Results

To establish a clear vision of the long-term benefits of EQilibrium™ housing, CMHC invited builders and developers to submit proposals to take part in a unique pilot project.

A total of 72 teams responded to the challenge, and after an intensive selection process, 12 teams were chosen to build EQilibrium™ demonstration homes. In addition to receiving technical, marketing and financial support, the builders will take a lead role in spearheading the spread of housing that is healthy, affordable, sustainable and energy-efficient.

Once they are complete, the demonstration homes will also offer a unique opportunity to measure the performance of EQilibrium™ housing under real-world conditions on a national scale and to plan the next steps of a wider deployment of this initiative.

Alstonvale Net Zero House

The Alstonvale Net Zero House is a single-family detached house in the village of Hudson, Quebec, on the southwest banks of the Ottawa River. Rather than simply adding energy-efficient features to a conventional design, the Alstonvale Net Zero House incorporates considerations for the environment, the building site and the efficient use of resources into every stage of the design and construction process.

Project Highlights

- Name: Alstonvale Net Zero House
- Type: Single-family detached house
- Location: Hudson, PC

Project Features

- Air-tight and well-insulated building envelope
- Extensive passive heating and cooling techniques
- Air-to-water heat pump heating system
- Solar thermal panels
- Inclusion of natural habitat areas for wildlife

The Team: Montréal ZERO

Team Montréal ZERO is led by Sevag Pogharian Design (SPD), a full-service design-build firm specializing in custom homes. Focusing on building custom-designed homes that are as energy-efficient as they are marketable and affordable, the Montréal ZERO team also includes such multi-disciplinary experts as the HVAC firm Concept R Inc., structural consultants EGP Group, and other specialists in a wide variety of housing-related fields.

To minimize energy loss and consumption, the home relies on an airtight and well-insulated building envelope combined with extensive passive heating and cooling techniques

The Project: Changing the Way Home Builders Think About Residential Housing

The goal of the Montréal ZERO team is nothing less than changing the way builders and developers approach the design, construction and marketing of residential housing in Quebec.

To minimize energy loss and consumption, the home relies on an airtight and well-insulated building envelope combined with extensive passive heating and cooling techniques, such as large south-facing windows, sunscreens and natural sources of shade.

During the winter, heat will be supplied through an air-to-water heat pump, which extracts heat from an array of solar panels and stores it in a water reservoir. The heated water can then be distributed throughout the house with an in-floor radiant system. The air to water heat pump can also be used to heat the home's hot water tank whenever required.

In addition, a large portion of the site will be left undisturbed, to act as a natural habitat for the local wildlife.

Environmentally friendly, affordable and energy-efficient, the Alstonvale Net Zero House is a true milestone in the Canadian home building landscape.

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For more information and updates on the EQUilibrium™ housing initiative, visit www.cmhc.ca