



## New Housing for a Changing World

### There is a Fundamental Change in the Way Canadians Think About Their Homes.

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

CMHC's **Equilibrium** initiative offers builders and developers across the country a powerful new approach to meet this growing demand and establish a reputation for building sustainable, premium quality homes that will meet the needs of Canadians now and well into the future.

**Housing accounts for 17 per cent of secondary energy use in Canada and 16 per cent of the country's greenhouse gas (GHG) emissions.**

Natural Resources Canada, Energy Use Data Handbook August 2006: Secondary Energy Use and GHG Emissions, Residential Sector, 2004.

### What is EQUilibrium Housing?

Equilibrium is a national housing initiative, led by Canada Mortgage and Housing Corporation (CMHC), that brings the private and public sectors together to develop homes, and eventually communities, that address occupant health and comfort, energy efficiency, renewable energy production, resource conservation, reduced environmental impact and affordability.

Equilibrium housing integrates a wide range of technologies, strategies, products and techniques to reduce a home's environmental impact to an absolute minimum. At the same time, EQUilibrium housing also features commercially available, on-site renewable energy systems to provide clean energy to help reduce annual consumption and costs.

The ultimate goal is a highly energy-efficient, low environmental impact house that provides healthy indoor living for its occupants, and produces as much energy as it consumes on a yearly basis.

Equilibrium homes are flexible in design and style. While there is no one fixed model, EQUilibrium housing generally includes such features as:

- Climate- and site-specific design;
- Energy- and resource-efficient construction;

- Integrated renewable energy systems such as photovoltaics, solar thermal and ground-source heat;
- Passive solar heating and cooling;
- Energy-efficient appliances and lighting;
- Natural daylighting;
- Water conservation and re-use;
- Land and natural habitat conservation; and, eventually
- Sustainable community design and green infrastructure practices.

All of these practices have already been proven effective on their own. The difference is that EQUilibrium is a unique Canadian sustainable housing initiative that combines and integrates these design and building practices into practical solutions that meet the needs of both occupants and builders alike.

### Meeting a Growing Demand

Developers in the Netherlands, Japan, Germany, the United Kingdom, and the United States are already building and successfully selling homes targeting zero energy consumption measured on an annual basis. Now, a rapidly growing demand for environmental features and greater energy-efficiency here at home is providing Canadian builders and developers with a unique opportunity to create communities that will shape the Canadian housing landscape of tomorrow.



Initially, an EQuilibrium house is expected to cost more to build than conventional housing. But this higher purchase price will be offset to some extent by the significantly lower energy and operating costs of the home.

In addition, as the value and quality of EQuilibrium houses are recognized and demand rises, it is anticipated that the costs of construction will fall, making them available to more Canadians.

### Towards A Viable Alternative

The goals of the EQuilibrium housing initiative are to:

- 1. Develop a clear vision and approach** to promote low-impact healthy housing and educate consumers on the benefits of owning an EQuilibrium home;
- 2. Build the capacity** of Canada's home builders, developers, architects and engineers to design and build EQuilibrium homes and communities across the country;
- 3. Achieve market acceptance of EQuilibrium** houses and sustainable communities; and
- 4. Enhance Canada's domestic and international leadership** in sustainable housing design, services and technologies.

## Equilibrium Demonstration Homes across Canada

<i>Project Name</i>	<i>Team Name</i>	<i>Location</i>
Abondance le Soleil	Équipe EcoCité-Sodero	Montréal (Verdun), QC
EcoTerra™	Les Maisons Alouette Homes	Eastman, QC
Alstonvale Net Zero House	Sevag Pogharian Design	Hudson, QC
Avalon Discovery 3	Avalon Master Builder	Red Deer, AB
Echo Haven	Echo-Logic Land Corporation	Calgary, AB
Inspiration The Minto EcoHome	Minto Developments Inc.	Ottawa, (Manotick) ON
Now House™	The Now House™ Project Inc.	Toronto, ON
Riverdale NetZero Project	Habitat Studio and Workshop Ltd.	Edmonton, AB
The Laebon CHESS Project	Laebon Developments Ltd.	Red Deer, AB
Top of the Annex TownHomes	Sustainable Urbanism Initiative (SUI)	Toronto, ON
Urban Ecology	Winnipeg Housing Rehabilitation Corporation (WHRC)	Winnipeg, MB
YIPI! Net Zero Footprint Housing	Nexus Solar/Spruce Home RTM Builders Ltd.	Regina Beach, SK



Several significant steps have already been taken to make these goals a reality. In May 2006, CMHC invited builders and developers to submit their ideas for housing that is healthy, affordable, sustainable and highly energy-efficient. A total of 72 teams from across Canada responded to the challenge, and after an intensive two phase selection process, 12 of these teams have been chosen to build EQuilibrium demonstration homes in their regions.

In addition to receiving technical, marketing and financial support, these builders will also acquire the experience and expertise to access new business opportunities and spearhead the spread of EQuilibrium homes across the country.

## The Benefits: Good for Home Buyers, Good for the Environment – Great for Business

### Benefits for Home Buyers

The EQuilibrium housing approach offers home buyers a wide range of benefits and advantages. These include:

- *Lower energy bills* – net zero energy consumption annually means dramatically lower energy bills and protection from fluctuations and increases in future energy prices.
- *A reliable source of energy* – integrated on-site renewable energy systems can be designed to continue functioning even during blackouts.
- *Healthier living* – EQuilibrium homes feature better indoor air quality and non-toxic, healthy materials and finishes.

- *Greater comfort* – an energy-efficient building envelope with even temperatures, more natural light and better acoustics ensures a comfortable environment all year round.
- *Reduced pollution and CO<sub>2</sub> emissions* – better building design and reduced energy demand will significantly lower greenhouse gas (GHG) emissions and minimize the detrimental environmental impact of housing on water, land and air.
- *Affordable sustainable development* – The longer term vision includes vital and healthy communities characterized by efficient infrastructure, attractive green spaces and vibrant neighbourhoods that combine places to work, live and play.

### The Advantages for the Housing Industry

In the beginning, EQuilibrium housing is expected to represent a niche market. But as consumer needs and values change, it is expected to emerge as a leading initiative for planning and building Canadian homes and eventually entire communities.

The demonstration homes will offer a chance to measure the performance of EQuilibrium housing under real-world conditions. Current market research shows that Canadian home buyers are already interested in purchasing housing that is energy-efficient and healthy. The demonstration homes will provide direct market experience of the advantages and benefits of owning an EQuilibrium home, and will help build the case that the benefits and long-term cost savings of owning such a home will offset the higher initial investment.





## Joining Forces – Working to Build Canada’s Future Together

The vision for the EQuilibrium housing initiative is that of an active partnership between all levels of government and industry.

CMHC and its partners will play a key role in making sure Canadian home buyers understand the immediate and long-term value, benefits and savings associated with owning an EQuilibrium home. We are also committed to helping industry members develop their capacity with EQuilibrium building principles and practices when it is time to launch a broader initiative beyond the 12 demonstration homes. This help will include:

- Providing the knowledge and support Canada’s housing sector needs to design, develop and build EQuilibrium houses; and

- Facilitating an integrated design and multi-industry approach to support the development of sustainable housing and community solutions.

The EQuilibrium housing initiative represents a significant step forward in reducing the energy intensity of Canada’s housing sector, supporting our growing need for renewable energy solutions and helping Canada maintain a clean and healthy environment.

With the support of industry and government, EQuilibrium will help ensure the future success of Canada’s housing industry both at home and in increasingly competitive markets around the world. It will also help to ensure that Canadians have clean air to breathe, clean water to drink and healthy, vital and sustainable communities to live in for generations to come.

For more information and updates on the EQuilibrium housing initiative, visit [www.cmhc.ca](http://www.cmhc.ca)

## THE RESULTS ARE IN!

CMHC recently carried out market research with Canadians who are expecting to buy a home in the next five years. According to the findings:

- 90% of respondents are interested in the EQuilibrium housing initiative, most frequently citing concern for the environment as the reason for their interest;
- The majority of respondents are particularly interested in how to make their residence more energy efficient and a healthier place to live;
- The majority recognize the need for this type of housing, with about half willing to pay between \$5,000 and \$25,000 (and an additional 15% willing to pay more than \$25,000) for an EQuilibrium home with the expectation that the savings from reduced energy costs will offset the extra initial expense over a reasonable time period;
- Respondents overwhelmingly cite four significant factors as important when considering the potential purchase of an EQuilibrium home:
  1. It is the right decision for the environment.
  2. It is the right decision for future generations.
  3. The health of my family is most important.
  4. The operating cost savings are significant.