



CURRENT & COMPLETED RESEARCH

Policy & Research

Presentation to the Full Committee of the
National Housing Research Committee

May 6, 2009



Sustainable Housing

Duncan Hill, P. Eng.

Manager

Sustainable Housing Policy and Research

Sustainable Housing: Current Research

EQquilibrium Status

- 6 projects completed
- 2 under construction
- 1 site preparation
- 3 rejigging their projects



Sustainable Housing: Current Research



CANADA MORTGAGE AND HOUSING CORPORATION



Sustainable Housing: Current Research

2nd RFP Results

- On February 13, Simultaneous Announcements and Press Releases for Winners of 2nd RFP for EQuilibrium projects in BC and the Atlantic Region:

Sustainable Housing: Current Research

The Moncton VISION Home

Team:

AlternaHome Solutions Inc.
Avide Developments
Vision Lands Development

Moncton, New Brunswick



The Green Dream Home

Team:

Canadian Home Builders
Association, Central Interior
Thompson Rivers University

Kamloops, British Columbia



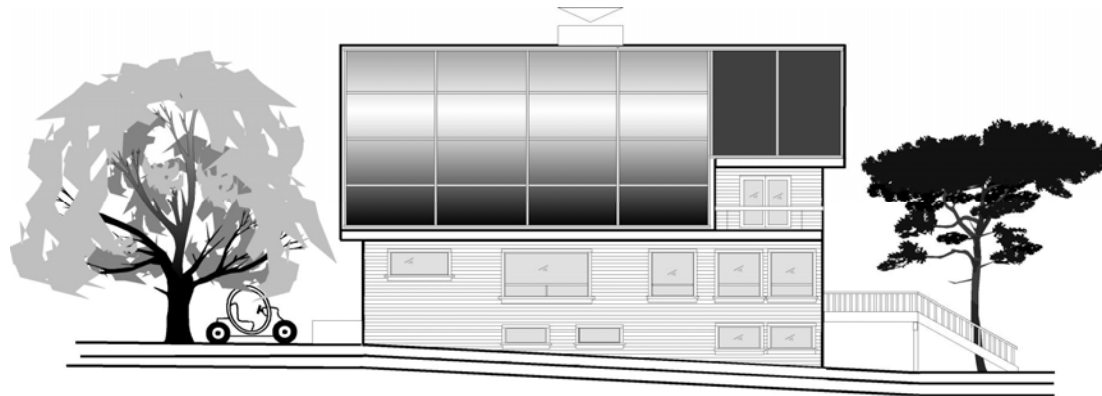
Sustainable Housing: Current Research

The Harmony Home

Team:

Habitat Design + Consulting Ltd
Insightful Building Technologies

Burnaby, British Columbia



Sustainable Housing: Current Research

Fact sheets on technologies, products and practices

EQuilibrium builder chosen

Subject:

Envelope

HVAC

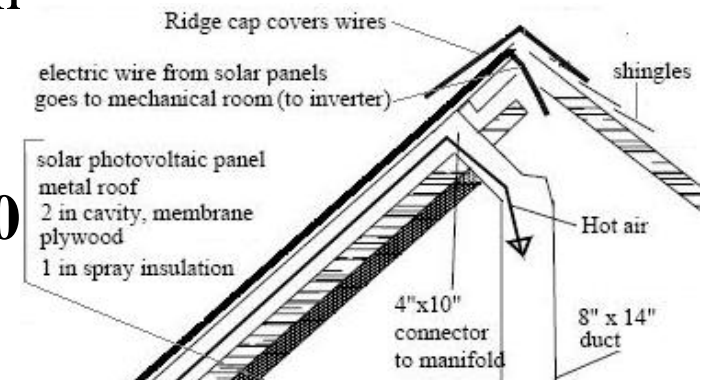
Thermal Heat/Photovoltaic systems

Materials and Finishes

Resource conservation

Target: 5-10 fact sheets per EQuilibrium house

EQuilibrium Builder Forums – Fall 20



Sustainable Housing: Current Research



The Tr'ondek Hwech'in/CMHC Northern Sustainable House:

- Construction completed February 08
- One Year monitoring underway
- Initial energy data shows performance that is 15% better than R2000

The Nunavut Housing Corp/CMHC Northern Sustainable House:

- Two versions (double wall construction and SIP's) are being shipped to Arviat, Nunavut on the 2009 Sealift
- Houses will be monitored for one year to compare the energy performance of each unit, and with present construction standards



The NWT Housing Corp/CMHC Northern Sustainable House

- Design Charrette to be held in Inuvik, NWT and house design to be completed in Spring 2009
- Demonstration duplex to be constructed in Inuvik for the Northern Housing Forum, March 2010
- Energy performance target of 70% better than the MNECH

Sustainable Housing: Current Research

Building Envelope Retrofits for Existing Houses

Builders' fact sheets will describe energy-wise envelope retrofits to existing houses

- Information for common energy upgrades
- Affordable and buildable envelope upgrades that optimize energy performance:
 - Moisture
 - Air leakage
 - Insulation
- Green' retrofit alternatives
- Aligned with EnerGuide for Houses
- Best practice details



Performance Analysis of Residential Hot Water Efficiency Devices

- Objective: Determine range of energy and cost savings of tankless hot water systems vs conventional hot water tanks
- 50-100 house survey in collaboration with utilities
- Will assess energy and costs before retrofit with conventional equipment and after with tankless system



Sustainable Housing: Current Research

Exterior Window Shading Devices for the Canadian Climate

- Objective: To identify exterior window shading devices that can improve comfort and reduce household energy consumption in the Canadian climate.
- Existing technologies will be assessed for:
 - durability
 - ease of integration with building envelope element and
 - user friendliness.
- Energy savings potential will be modelled to project savings potential for different Canadian climatic conditions, including the North.

Payback Period for "Green" Building Features in Single Family Detached Dwellings

- Objective: To build a framework to profile estimates on the payback periods of different green features available for single family detached dwellings.
- Generic green features will be profiled to increase the understanding of the costs and benefits of "building green" in the single family market.
- It will enable consumers and the home building industry to objectively evaluate "green" features that they wish to incorporate into their homes.



Sustainable Housing

Recently Published Research:

- Research Highlights:
 - Seabird Island Monitoring
 - Longterm Performance of Slab on Grade House Foundations in Regina, Saskatchewan
- A Guide to Residential Wood Heating



Sustainable Communities Policy and Research

Mark Holzman

Manager

Sustainable Communities Policy
and Research



Sustainable Communities

Examples of Completed Research:

- Assessing Travel and Environmental Aspects of the Fused Grid
- Government-Imposed Charges On New Housing in Canada
- Inventory of Sustainable Community Best Practices
- Smart Growth, Livable and Sustainable Communities for Seniors



Sustainable Communities

- ACT – Affordability and Choice Today
- ICURR – Inter-governmental Committee on Urban and Regional Research
- TECEU – Technical Committee on Urban Energy Characterization
- CPHI – Canadian Population Health Initiative
- Sustainable Urban Transportation Working Group



Sustainable Communities

Examples of Current Research:

- Specification of indicators and Selection methodology for a potential Community Demonstration Project
- Sustainable Community Planning and Design Charettes:
 - Rivergreen Ecovillage - Saskatoon
 - Choosing Our Future - Ottawa
 - Sustainable Waterfront Development Plan - Dryden
- Sustainable Planning and Development Workshops for Small Communities



Housing Finance & Capital Markets

Steven Ehrlich

Manager

Housing Finance & Capital Markets

Examples of Current Research

- Finance Mechanisms in Support of Sustainable Housing
- Mortgage Market Information for Consumers



Housing Needs Policy and Research

Ian Melzer

Manager

Housing Needs Policy and Research



Housing Needs Policy and Research

Examples of Completed Research:

- 2006 Census series of Research Highlights on housing conditions
 - 2. Geography of core housing need
 - 3. Adequacy, Suitability and Affordability of Canadian housing, 1991-2006
- Housing in Canada Online (HiCO) updated
- 2008 Housing Observer (feature article on Dynamics of core housing need, based on SLID)



Housing Needs Policy and Research

- Examples of Completed Research (Cont'd):
- Low-income urban households not in core housing need (SLID-based)
- 2001 Census series completed:
 - 12. Housing conditions of visible minority households
 - 13. Housing conditions of women & girls
 - 14. Housing mobility
- Affordability trends 1981-2001: An analysis of selected metropolitan regions



Housing Needs Policy and Research

- Examples of Completed Research (Cont'd):
- Settling in: Newcomers in the Canadian housing market, 2001-2005
- Affordability challenges and rental market dynamics in small Nova Scotia communities with community college campuses
- Adapting your home to living with dementia – a resource book for living at home & guide to making home adaptations



Housing Needs Policy and Research

Examples of Current Research:

- Housing persons with an intellectual disability in intentional communities: Identifying relevant physical and governance structures
- Impact of business cycles on core housing need
- Profile of the Housing Conditions of Canadians Aged 15 Years and Older with a Mobility and/or an Agility Disability



Aboriginal Housing Policy

Michel Blondin

Manager

Aboriginal Housing Policy



Aboriginal Housing Policy

Examples of Completed Research:

- Preconditions Leading to Market Housing on Reserve



Aboriginal Housing Policy

Examples of Current Research:

- Linking Economic Development Opportunities to Aboriginal Housing



Information Transfer and Outreach

Nancy Walker
Manager,
Information Transfer and Outreach

Information Transfer and Outreach

Responsive Programs

- **External Research Program (ERP)** – Grant recipients announced at end of April
 - 2010 Guidelines and application form expected to be available on website by end of July
- **Housing Awards Program (HAP)** – *Best Practices in Affordable Housing*
 - CMHC sponsors the winners to present at housing related events; So far in 2009 – 18 presentations have been made/planned at 12 Events
- **Housing Studies Achievement Award (HSAA)** – Deadline for applications May 8, 2009, 5:00 p.m. (local Ottawa time)
 - Award Winners will be announced at the Awards Dinner November 3, 2009



Information Transfer and Outreach

E-Newsletters

- **Housing Technology** : Provides information on Canadian housing technology research findings and events. More than 5,800 subscribers
- **Housing Research**: Provides information on the latest socio-economic housing research findings and events. More than 3,500 subscribers

EQuilibrium Social Media Campaign planned