



NZEH Update From Canada

Robin Sinha



Players Involved in NZEH

- Canada Mortgage and Housing Corporation
- Natural Resources Canada
- Industry Canada
- Environment Canada

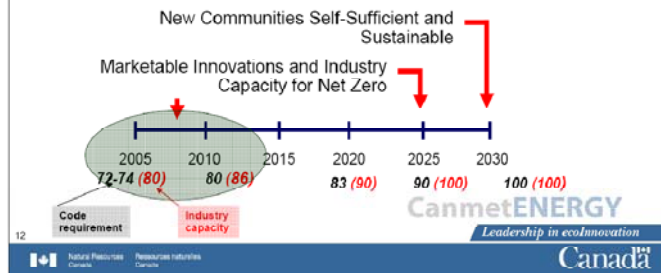


Natural Resources Canada

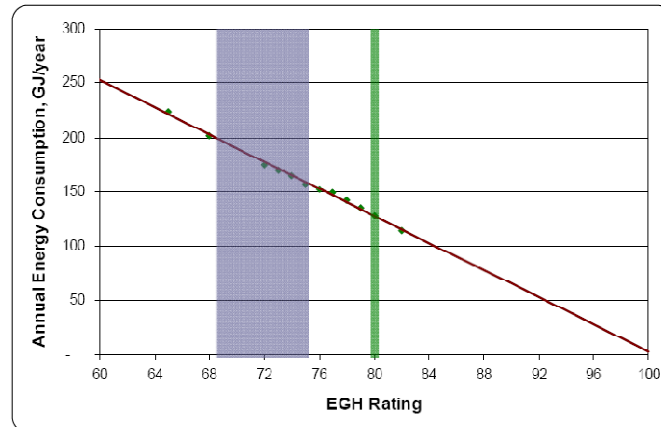
Definition

Path to Net-Zero ...

❖ A home that produces as much energy as it uses on an annual basis (**All energy used in a home**, including that for heating, hot water, ventilation, air conditioning and all miscellaneous electrical consumption)



EnerGuide Rating and Energy Consumption



Each ERS point is about 3.5 to 6.5 GJ

CanmetENERGY

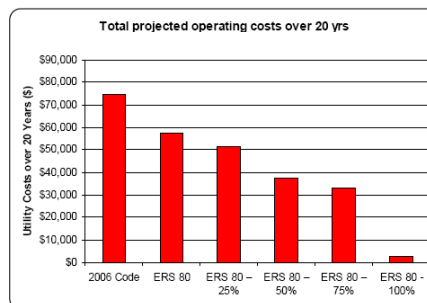
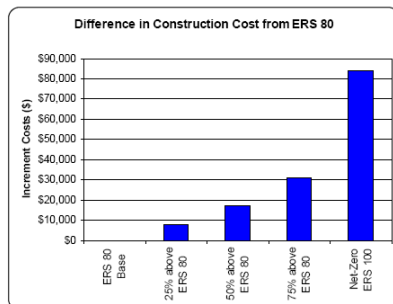
Leadership in ecoInnovation

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Natural Resources Canada / Ressources naturelles Canada

Canada

Costs



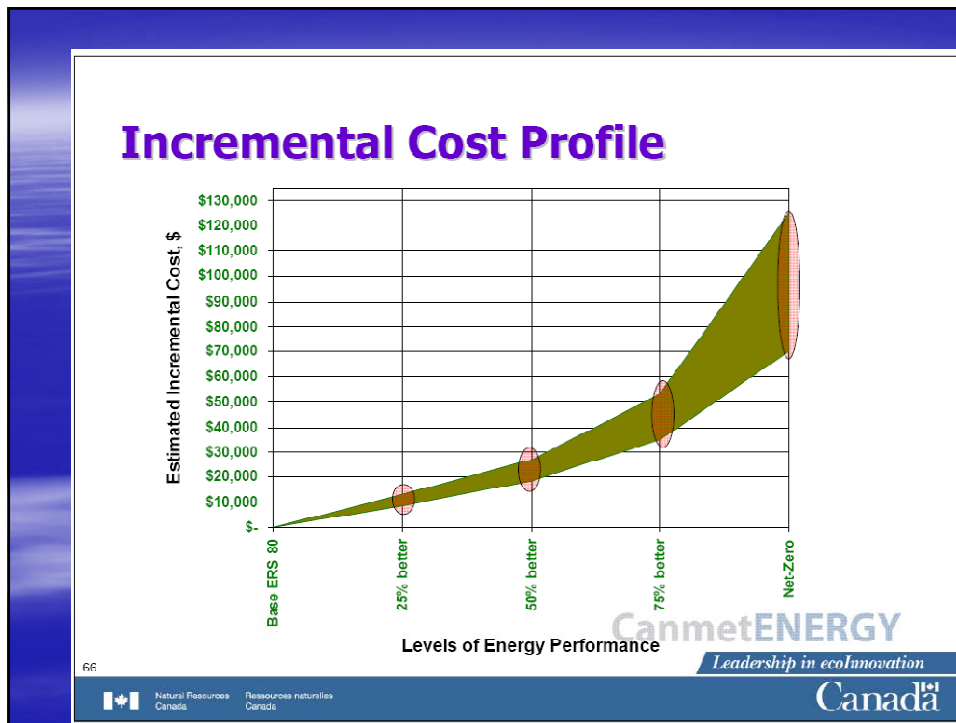
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Environment Canada

- APP Flagship
- International Demonstrations
- Value Chains
- Roadmaps





Core Values

Stewardship.

The careful and responsible management of something entrusted to one's care.

With respect, integrity and commitment we are responsible educators.

Innovation.

The introduction of something new.

We bring advancements into practice.

Collaboration.

To work jointly with others or together.

We inclusively engage all stakeholders in the creation of solutions.

Objectivity.

Expressing or dealing with facts or conditions as perceived without distortion by personal feelings, prejudices, or interpretations.

We are a trusted and credible source of unbiased and reliable knowledge.



Mission and Vision

Mission.

Operating within our core values we will work with partners and stakeholders to move the residential building sector toward a net-zero energy target using all available tools.

Vision.

All new home construction meeting a net-zero energy standard by 2030.

04-Nov-2010

NZEH Coalition

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Members

- | | |
|--|---|
| 1. Alberta Energy Efficiency Alliance (AEEA) | 13. Emercor |
| 2. BASF Canada Inc. | 14. Howell-Mayhew Engineering Inc. |
| 3. BC Hydro | 15. Hydro Ottawa Limited |
| 4. Canadian Energy Efficiency Alliance (CEEA) | 16. Jigsaw Homes |
| 5. Canadian Residential Energy Services Network (CRENET) | 17. Mindscape Innovations |
| 6. Canadian Solar Industries Association (CanSIA) | 18. NAIMA Canada |
| 7. Canadian Solar Solutions Inc. | 19. NRCan, CanmetEnergy |
| 8. Carleton Sustainable Energy Research Centre (CSERC) | 20. PFB Corporation |
| 9. Climate Change Central | 21. Procan Modular Group |
| 10. ClimateCHECK Corporation | 22. SAIT Polytechnic |
| 11. DuPont Canada Inc. | 23. Seveg Pogharian Design |
| 12. EcoTerra Walls | 24. Solar Buildings Research Network (SBRN) |
| | ...and growing... |



Board of Directors

Board Member	Position	Representative Organization
Simon Knight	President	Climate Change Central
Gordon Shields	Vice President	NA (Previous Executive Director)
Frank Baker	Secretary/Treasurer	PFB Corporation
Bob Armstrong	Director	BASF Canada
Bruce Bibby	Director	Hydro Ottawa Limited
Gary Hamer	Director	BC Hydro
Cory Krygier	Director	Jigsaw Home Builder
Paul Locke	Director	DuPont Canada
Sonja Winkelmann		Executive Director

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Strategic Priorities

1. Definition and Metrics
2. Monitoring and Verification
3. Integrated Design Process
4. Building Envelope Systems
5. Energy Simulation and Design Tools
6. Renewable Energy Systems
7. Training and Education
8. Market Information and Education
9. Financial Frameworks

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Priority Issues NZEH Coalition Key Activities

1. Definition and Metrics

- Develop an industry endorsed national net-zero energy home definition with quantifiable metrics.
- Undertake a market study of existing labelling and certification programs.

2. Monitoring and Verification

- Work with partners currently undertaking NZEH R&D to ensure current performance monitoring and verification tools are evaluated, gaps are identified, and additional tools are developed.
- Coordinate collaborative performance data gathering and monitor, document and disseminate performance and cost information.

3. Integrated Design Process

- Define the components/approach to the Integrated Design Process.
- Create builder and designer expertise by employing an integrated design process for the optimization of performance and minimization of costs:

4. Building Envelope Systems

- Work with partners currently undertaking NZEH R&D for next-generation building envelope to establish protocols, performance and durability standards. Facilitate interaction among stakeholders.
- Develop business cases to incorporate new technologies and support deployment of next generation products and systems (through demonstration and trials) for widespread adoption of low-cost, high-performance building envelope systems that drastically reduce home heating loads.

Priority Issues NZEH Coalition Key Activities

5. Energy Simulation and Design Tools

- Work with NRCAN to validate HOT3000 for NZEH capacity - assessing strengths and limitations of that software.
- Broaden industry (builders and designers) modelling and simulation software/tool capacity through existing infrastructure (NRCAN) to accurately determine energy impacts of low-energy homes (load reduction/ energy efficiency) and renewable energy production strategies and systems.

6. Renewable Energy Systems

- Develop business cases for packaged energy-efficient renewable energy-based systems that are cost-effective to install and operate, and are widely available and adopted.
- Work with partners currently undertaking NZEH R&D for the creation of integrated renewable energy systems to identify cost-reducing technologies through third-party testing, simulation and dissemination, and to develop and implement testing protocols and standards.

7. Training and Education

- Develop and provide formal and informal NZEH training and related materials for primary and secondary industry stakeholders.
- Develop and provide information and materials related to the operation and maintenance of NZEHs for homeowners.

8. Market Information and Education

- Perform baseline consumer market research.
- Undertake a general marketing campaign.
- Develop methodologies and tools for home builders to educate buyers and stimulate demand so NZEHs have a clear market preference with consumers.
- Capture and disseminate best NZEH practices for all to use.

9. Financial Frameworks

- Work with partners to develop new and innovative financial frameworks and business models so costs and benefits of NZEHs are considered and distributed across impacted stakeholders.
- Examine, develop and implement short-term partnerships and incentives for NZEHs.

Canada and Australia Moving Forward

- Formal invitation for:
 - Information Sharing
 - Cross link Web-sites
 - Enhancing brand recognition in the marketplace
- Formal MOU