

Asia Pacific Partnership BATF Net-Zero Energy Homes Project



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Overview

- Review of Net Zero Energy
- Achievements to Date
- Canada's Proposal to BATF



Achieving a Sustainable Future



- Simply increasing energy supply will not solve the current energy supply and security situation and associated environmental problems.
- Radical improvements in the energy performance and use of renewables in buildings are required.
- Net zero energy is a critical component of “green” or sustainability goals
- Net zero energy resonates with end-users
- Provides an inspirational yet achievable goal – more understandable than sustainability

Drivers for NZEHs

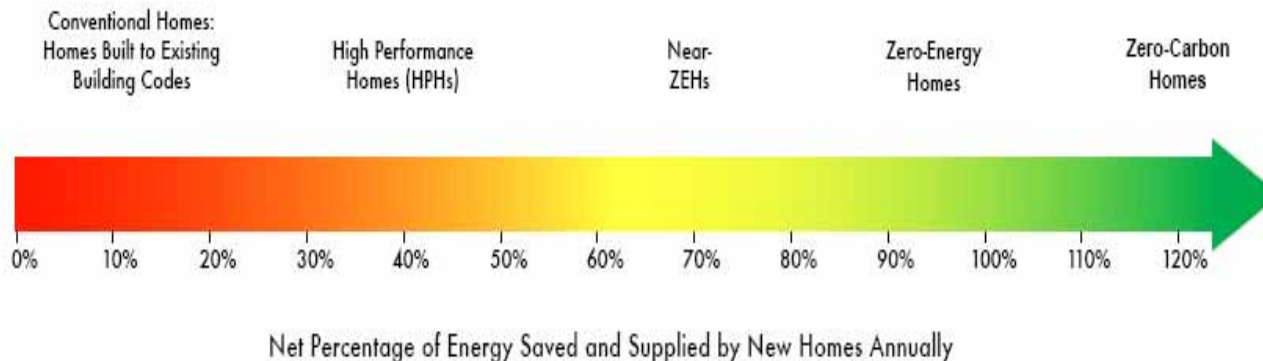
- Recent energy price increases has heightened concerns related to energy security not seen since the 70's
- Supports distributed generation strategies – building as a power plant
- Reduced dependence on expensive imported peak electricity. Peak load shaving.
- Reduced need for transmission and distribution infrastructure
- An integrated approach to facilitate consideration of renewables now or in the future



What is a Net-Zero Energy Home

A net-zero energy home is capable of producing, at minimum, an annual output of renewable energy that is equal to the total amount of its annual consumed/purchased energy from energy utilities.

Net Zero Energy Home Coalition Vision:
All new home construction meeting a Net-Zero Energy Home Standard by 2030.



Net Zero Energy Homes and Buildings

- Several countries have adopted this vision as a long-term goal of their building energy policies
- What is missing is
 - a coordinated approach at an international level that could inform “zero energy” building policies, programs and industry adoption.
 - a critical mass of projects to attract investment by key supply chain stakeholders
- APP member countries represent and can create that coordinated approach and critical mass

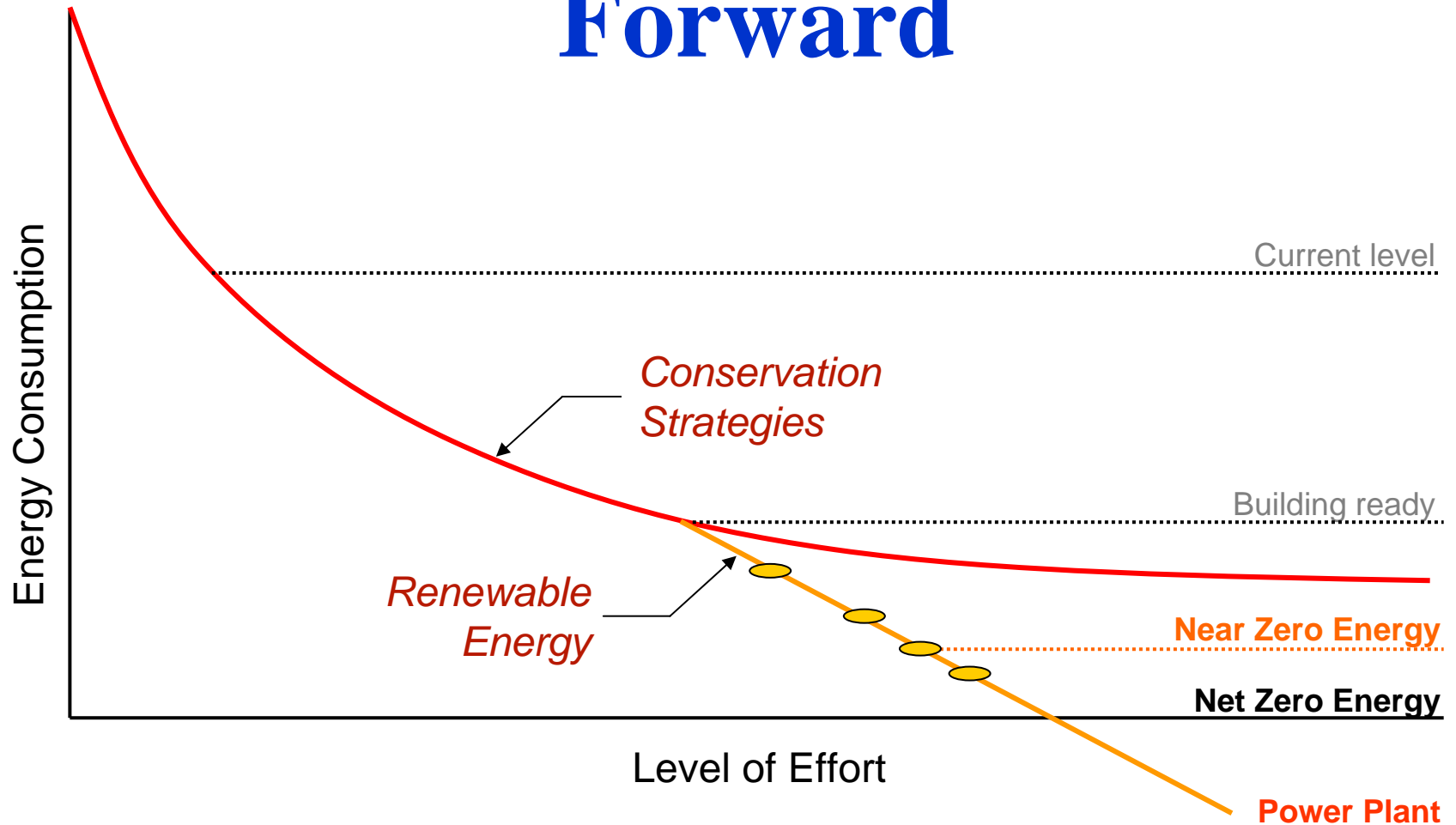
Where are we now?

- Research is underway in many countries and some net zero energy homes and buildings have been built
- Generally prototypes and demonstrations have been built but are not yet ready for broad market adoption
- Major cost barriers exist in the supply chain – many key supply chain components are controlled by multi-nationals
- Integration with utilities is beginning
 - big push on smart grids
 - attractive incentives for grid connection of renewables in some jurisdictions
 - smart meters, Time of Use Rates
- Increased concern about energy security

A Path Forward

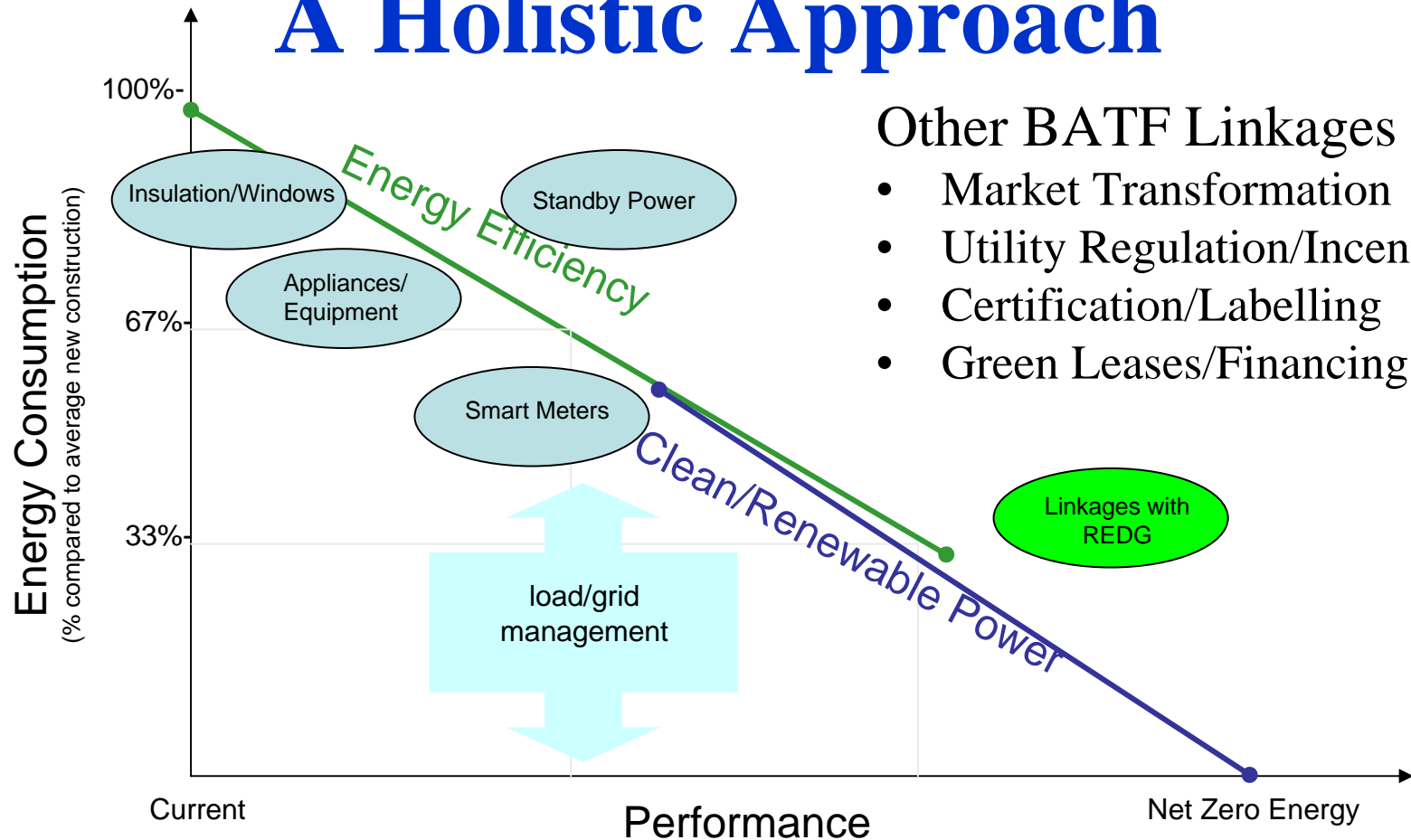
- To achieve market adoption, what is needed is:
 - a clear definition and agreement among a large community on measures of building performance that would inform “net zero” policies, programs and industry building practices
 - sufficient volume/engagement of multi-nationals to drive down key component costs quickly
 - A step-wise path forward to our ultimate goal that engages a larger community of stakeholders i.e net zero ready, near net zero
- International collaboration will be essential to:
 - create the confidence for local policy and programs to consider net zero energy concepts
 - create the environment that supports a critical mass and volume of projects to attract the requisite R&D industry investment
 - help to drive down cost and increase adoption throughout the net zero energy supply chain more effectively than each country by itself

Cost Effective Path Forward



NZEBs BATF Linkages

A Holistic Approach



Other BATF Linkages

- Market Transformation
- Utility Regulation/Incentives
- Certification/Labelling
- Green Leases/Financing

Achievements to Date

BATF NZE Collaboration

- Spring 2008 - Canadian Industry Consultation
- September 2008 - Net Zero energy workshop at BATF6 hosted in Melbourne on margins of SBC
- November 2008 – Industry presentation US/Canada at PIC
- February 2009 – Australia hosts Canadian industry Coalition



Findings from Melbourne/Brisbane for consideration by the International Dialogue/Coalition

- Definition (s) (energy, water?, carbon?, carbon trading, community, etc)
- Cost (incremental, utility, level playing field, value of non-energy attributes such as DG, energy security, etc)
- International information sharing, workshops of best practices (regulatory, design, policy, capacity building, etc)
- Need scale (developments, clusters, integration with commercial, bundling of individual savings)
- Industry driven- stepwise solutions, marketable, realistic but inspirational
- Engaging multi-nationals in key supply chain elements (linkages also to REDG, cement, etc)
- Engaging utilities, financial institutions, international funding bodies
- Does not need to be limited to industrialised countries (principle can be applied to rural, remote, developing countries)
- Celebrate success, branding-leverage APP brand, international awards

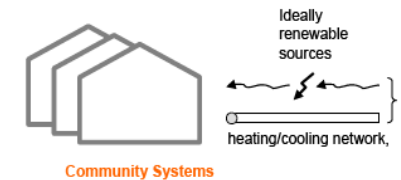
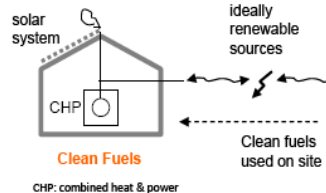
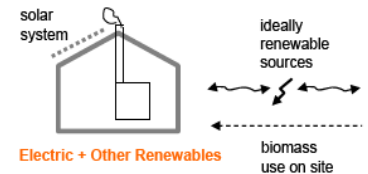
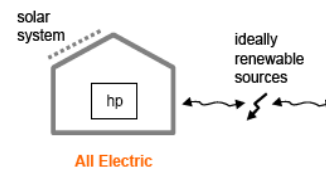
Canada's Project Proposal to BATF

- Co-chair: US Public and private sector
- Establish a collaborative international partnership focused on net zero housing that will:
 - accelerate the identification of optimal solutions
 - improve conditions for innovation; and
 - transform the market.
- Project Deliverables
 - Establishment of an industry driven International Coalition or Dialogue
 - NZE Workshops/Technology transfer
 - Design Charettes for new promising projects
 - Roadmap Report
- Platform for bi-lateral and multilateral demonstration projects
- Scale will be important – solicit projects that involve clusters of housing (and buildings)
- Vehicle to link with other BATF projects, REDG and Cement Task Force

International NZEH Coalition / Dialogue

- Vision/Mission Statement built around a Net Zero Energy Definition, framework, or set of guiding principles
- Enhance networking, technology transfer and international branding of net zero energy home

Some NZEB Options



Note: Adapted from Professor Karsten Voss, University Wuppertal, Department Architecture, Building Physics and Technical Services.

International Net Zero Energy Awards



**ASIA PACIFIC PARTNERSHIP ON CLEAN DEVELOPMENT & CLIMATE
BUILDINGS AND APPLIANCES TASK FORCE
7th Meeting, New Delhi, 8-10 April, 2009**



Next Step

Canada Hosted NZE Workshop

June 8-10, 2009 – Montreal, Canada

To be hosted by Canada's NZEH Coalition

Co-sponsored by NRCan, EC and US DOE

Developed in partnership with NAIMA & Alliance to Save Energy

Event will be held on margins of the annual Canadian Green Building Council Conference (CaGBC) www.everybuildingcanbegreen.ca

Why you should attend!

Workshop Goals

- Establishment a critical mass of public and private sector interests involved in Net Zero Energy projects
- Develop a framework where this network through APP can develop and promote Net Zero Energy projects

Program Overview

Date	Morning	Afternoon	Evening
Saturday June 6th	APP Delegates Arrive in Ottawa		
Sunday June 7th	Net Zero Energy Home Tours in Ottawa		Depart for Montreal
Monday June 8th	Net Zero Energy Home Tours		Net Zero Energy Home Coalition Awards Ceremony
Tuesday June 9th	Net Zero Energy Home Workshop		Net Zero Energy Home Workshop Participants Reception
Wednesday June 10th	Net Zero Energy Home Workshop	CaGBC Session (Optional)	Free Time
Thursday June 11th	Optional Green Building Tours		Free Time / Optional Departure for Home
Friday June 12th	Delegates Return Home from Montreal		

Country and Project Leads

- Encourage/support industry members in your countries to participate
- Identify key public and private stakeholders for the international network
- Join us in Montreal and help champion the path to Net Zero Energy



Promising projects under development

- Spring – 2009: Canada-China Net Zero Energy Demonstration Home – EXPO 2010
- Fall 2009: Canada-Korea Net Zero home – part of energy efficiency and sustainable urban development
- 2010: Canada-US collaboration - Canada Net Zero Energy Home Coalition and Build America/Alliance to Save Energy
- 2010: Canada-Japan Net Zero Demonstration project - Nagoya

Closing Remarks

- Canada is committed to NZE as our contribution to BATF
- Provides opportunities to integrate many BATF activities
- Provides concrete linkage with REDGTF (and Cement Task Force)
- Opportunity for high profile multi-lateral projects to tell compelling APP BATF stories

Acknowledgements

- Franck Portalupi, Environment Canada
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(Laura Van Wie, Jeff Harris), NAIMA (Ken Menzter)
- Michael Green, Department of Industry, Tourism and Resources



Thank You



DEVELOPMENT & CLIMATE
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