



Sustainability and Energy Efficiency in Canada

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NEB Panel Discussion on Consumer
Response to High Energy Prices

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Outline

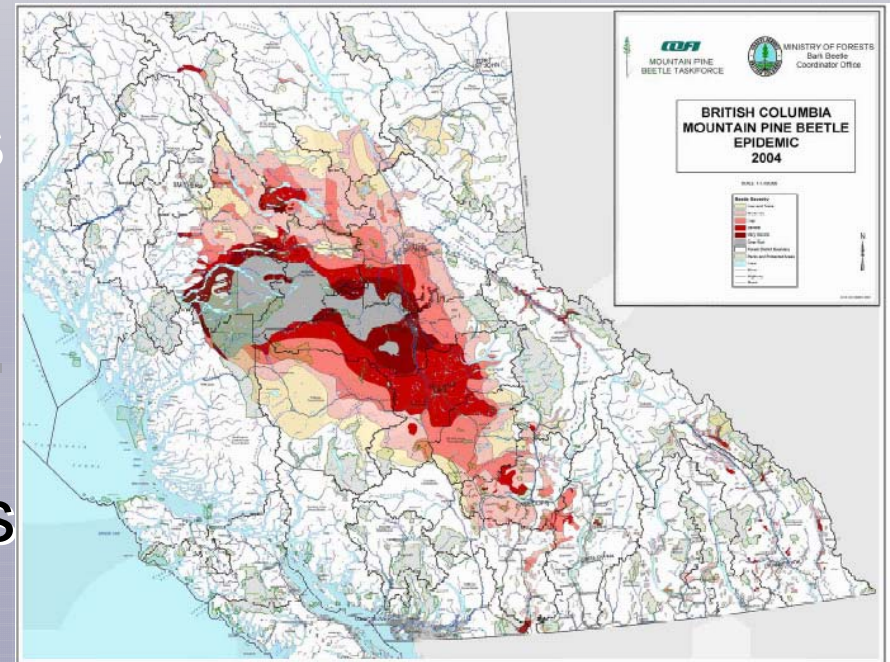
- **Drivers – climate change, local impacts, fuel poverty**
- **Actions in other regions – CA and UK**
- **What Canada can do**
- **Prices are one component – public reaction to high prices and other concerns in calling for government actions are other components**

Climate Change Demands Action

- **“The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. . . . Failure to implement significant reductions in net greenhouse gas emissions now, will make the job much harder in the future. . . .”**
- ***National science academies of Brazil, Canada, China, France, Germany, India, Italy, Japan, Russia, the United Kingdom and the United States, June 2005***

Climate Change Impacts

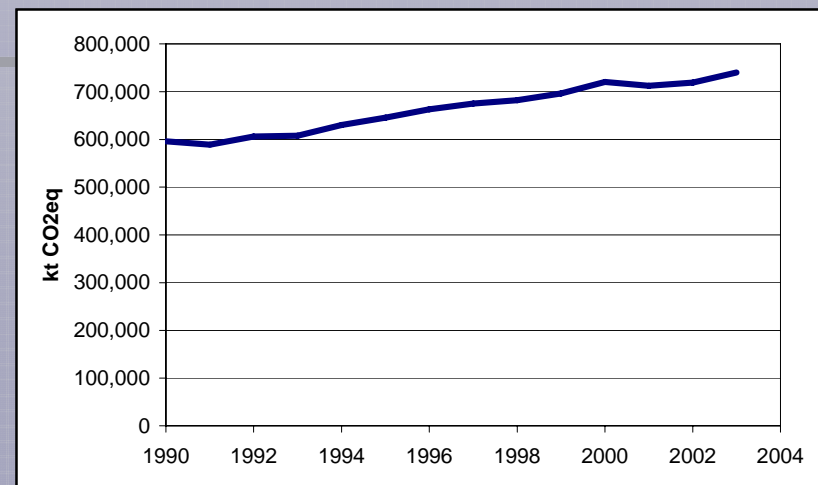
- Health – flooding, drought, diseases... least-privileged population are most susceptible
- Economic risks – costs of pine beetle, prairie drought, reduced salmon
- Vulnerable ecosystems – arctic, prairie



Reductions needed

- To avoid “Dangerous” climate change -- rise of 2°C above the pre-industrial level
- Need to stabilize GHG concentrations at 400 ppmv of CO2 equivalent.
- Requires global GHG emissions to fall to 30-50% below the 1990 level by 2050

Canada's GHG Emissions
(Environment Canada 2005)



Local Impacts of Energy

- **Smog in cities**
- **Energy development – water use and pollution from oil sands and other conventional energy development**
- **Destruction of mountain tops for coal mining**



Energy Poverty in Canada

- **Direct link with high energy prices**
- **4.2 million low-income population at increased risk**
- **Groups calling for national low-income energy efficiency policy**



What are others doing?

- ***High energy prices and environmental concerns are challenging other countries and regions.***
- ***Their response has been leadership and innovation***
- ***Many US states now re-focused on energy efficiency***
- ***Plans to limit climate change being adopted throughout the world***

California

- ***Energy efficiency is the resource of first choice for meeting California's energy needs. Energy efficiency is the least cost, most reliable, and most environmentally-sensitive resource, and minimizes our contribution to climate change. California's energy efficiency programs are the most successful in the nation and we want to continue to build upon these successes.***
- **- From California's Energy Action Plan II (2005), p 3**

California

■ Energy Efficiency

- Appliance Standards- updated every 3 years
- Building Codes – updated every 3 years
- Utility Demand Side Management – energy savings requirements set for each utility 2006-2008, continue to 2011
- Targets for existing state buildings - 20% more efficient by 2015, encourage private sector to meet same
- GHG emission standards for vehicles

www.pewclimate.org



United Kingdom

- **Four goals for our energy policy:**
 - To put ourselves on a path to cut the UK's CO2 emissions - by 60% by 2050, with real progress by 2020;
 - To maintain the reliability of energy supplies;
 - To promote competitive markets in the UK and beyond; and
 - To ensure that every home is adequately and affordably heated.
- ***“Energy efficiency is likely to be the cheapest and safest way of addressing all four objectives, while also strengthening energy security and improving our industrial competitiveness as we develop cleaner technologies, products and processes.”***

■ UK Energy White Paper, Our energy future - creating a low carbon economy (2003)

United Kingdom

- Energy Efficiency
 - Utility Demand Side Management – energy savings requirements set for each utility
 - Goals for 2004-2006 were exceeded
 - Goals for 2006-2008 are double
 - New goals being developed for 2008-2011
 - 50% of energy savings must be from low-income
 - Building codes and labeling for more efficient homes
 - Supported by strong government commitment
 - Monitoring and verification are integrated into energy efficiency requirements – plus independent audits

What Canada Can Do...

Many options for leadership and innovation

...including energy efficiency

Types of Energy Efficiency Strategies

- Appliance Standards Building Codes
- Efficiency programs / Demand Side Management
- Market Transformation Public Sector
- Canada's experience in all these areas show need for long term commitment, regular updates, develop important synergies
- High energy prices are ineffective means for encouraging energy efficiency in most sectors

New Approaches

- Public Benefits Funds – 19 US states, long term funding for activities
- Mandatory energy saving requirements – utility, 3rd party (Oregon, Vermont), tradeable permits?
- Local Improvement Charges

Climate Change

- Emissions Caps / Charges being set ...
 - Regional Greenhouse Gas Initiative in Northeast US
 - California, Washington, Oregon
- Or favoured
 - Duke Energy, Exelon, Shell
- Canada signed Kyoto Protocol

Summary

- Challenges of climate change, conventional energy development, and energy poverty require dedicated government programs – all issues are likely to increase in next ten years
- Government must play key role in setting long term goals, providing funding, ensuring commitments are met

Summary

- Energy in next ten years depends on a number of actions – many influenced by higher energy prices
- For forecasting – scenario approach can help capture impact of potential actions

Sources

- California Energy Action Plan
http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF
- UK Energy White Paper
<http://www.dti.gov.uk/energy/whitepaper/ourenergyfuture.pdf>
- American Council for an Energy-Efficient Economy
 - Five Years In: An Examination of the First Half-Decade of Public Benefits Energy Efficiency Policies 2004
 - America's Best: Profiles of America's Leading Energy Efficiency Programs 2003
 - Energy Efficiency Resource Standards: Experience and Recommendations 2006
- Canadian Energy Efficiency Alliance
 - 5th National Report Card - 2004
 - Survey of Utility DSM Energy Efficiency Programs in Canada, 2004
- Pew Center on Climate Change
 - www.pewclimate.org