



CANADIAN

Energy Efficiency Alliance

ENERGY EFFICIENCY AS AN OPPORTUNITY FOR THE NATURAL GAS INDUSTRY



**CANADIAN GAS ASSOCIATION
2003 ANNUAL EXECUTIVE CONFERENCE**

PETER LOVE

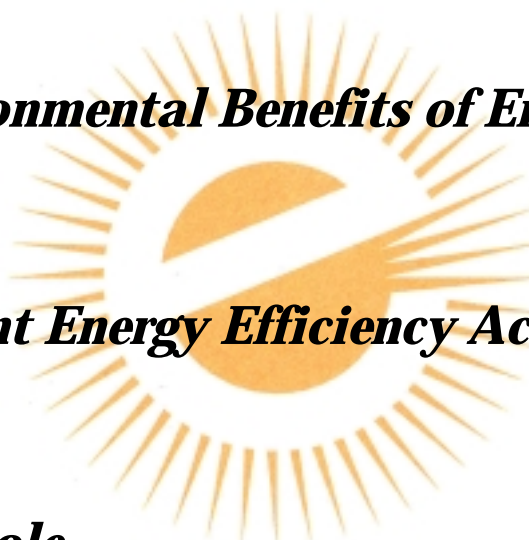
Executive Director

Canadian Energy Efficiency Alliance

June 25 – 28, 2003

St. Andrews, New Brunswick

TOPICS TO BE COVERED

- *Background on the Alliance and Energy Efficiency*
 - *Economic & Environmental Benefits of Energy Efficiency*
 - *Summary of Current Energy Efficiency Activities*
 - *Future Potential Role*
 - *Conclusions*
- 

BACKGROUND ON THE ALLIANCE

Mission

- The leading independent voice in Canada to promote and advance energy efficiency and its related benefits to the economy and the environment

Members

- Leading utilities, manufacturers, energy consultants, associations, consumer and environmental groups from across Canada
- Corporate Leaders include: Enbridge Gas Distribution, Manitoba Hydro and Union Gas; Gaz Metropolitan are Corporate Members



OBJECTIVES

- Engage with governments to develop & improve policies, programs, codes & standards
- Monitor & report on government activities
- Assist members in their energy efficiency activities
- Support, develop & deliver select energy efficiency approaches
- Raise public profile of energy efficiency
- Identify & work on human resources aspects of energy efficiency

CLARIFICATION OF TERMINOLGY

➤ **Energy Conservation**

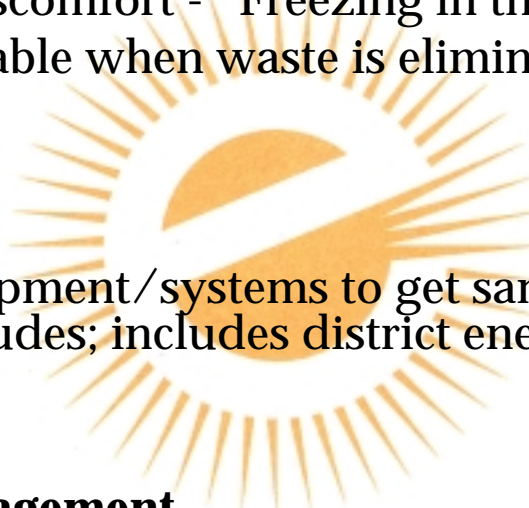
- Reduce energy use and may include reducing services
- Can result in discomfort - “Freezing in the dark”
- Generally desirable when waste is eliminated

➤ **Energy Efficiency**

- Improving equipment/systems to get same or more output with less energy includes; includes district energy

➤ **Demand Side Management**

- Includes above plus load management, fuel switching and district energy



ECONOMIC & ENVIRONMENTAL BENEFITS OF ENERGY EFFICIENCY

➤ *Direct:*

- Reduced bills for consumers
- Reduced CO₂ and other emissions
- Greater efficiency of supply system

➤ *Indirect*

- Job creation -36.3 jobs/\$1 million, 2-3 times that for energy supply
- Income effects – equivalent to tax cut
- Advancement of new technologies
- Contribution to a sustainable economy
- Enhanced energy security

POTENTIAL IMPACT ON THE ECONOMY

➤ ***Tellus Institute***

- \$1.6 billion/year net savings by 2012
- 52,000 net increase in jobs; \$2 billion increase in GDP

➤ ***Industry Canada***

- \$90 billion in infrastructure sales; includes \$46 bill for energy efficiency

➤ ***Pembina Institute***

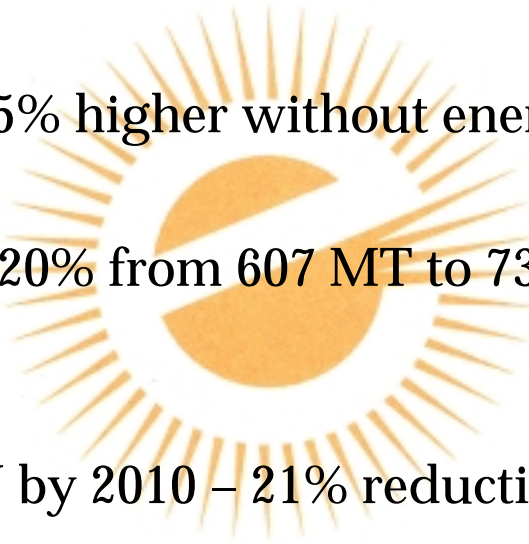
- 36.3 jobs/millions invested (coal plan 4.1)

Source: Alliance, "Benefits of Energy Efficient Investment"

1990 – 2000

CANADIAN STATISTICS

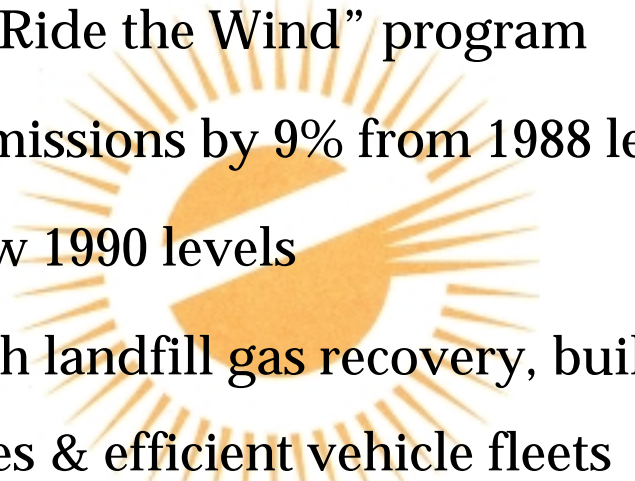
- Secondary energy use up 17% to 8,164 PJ
- Would have been 25% higher without energy efficiency
- GHG emissions up 20% from 607 MT to 730 MT (down to 720 MT in 2001)
- Kyoto target 571 MJ by 2010 – 21% reduction from 2000
- Energy represents 81% of GHG emissions; others sources are industrial processes, agriculture, waste and land use change/forestry (-ve impact)



SUCCESSFUL GHG EMISSION REDUCTION PROGRAMS

- BP – 10% below 1990, 8 years ahead of target, at no net cost
- Cdn Chemical Producers – 39% below 1992 levels
- Dofasco – 22% below 1990 levels
- DuPont – 45% reductions worldwide
- Dow – 14% reductions over 1990, 50% in per unit emissions
- GM – 37% below 1990 levels; target 565 by 2005
- IMB – 255 reductions worldwide saving \$527 million
- Mining Assoc. – members reduced emissions by 25% below 1990

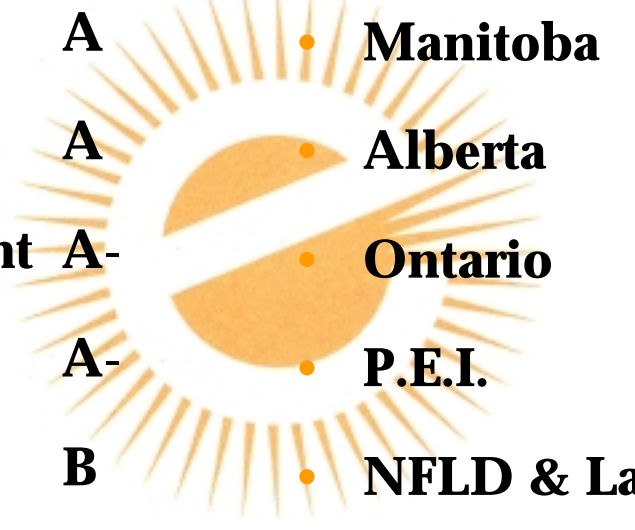
SUCCESSFUL GHG EMISSION REDUCTION PROGRAMS (CONT'D)

- Calgary – 6% target achieved ahead of schedule & at 50% cost
 - includes novel “Ride the Wind” program
 - Regina – reduced emissions by 9% from 1988 levels
 - Toronto – 67% below 1990 levels
 - achieved through landfill gas recovery, building retrofits, street lighting upgrades & efficient vehicle fleets
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Source: Alliance, “Benefits of Energy Efficient Investment”

ALLIANCE REPORT CARD ON FEDERAL/PROVINCIAL PROGRAMS

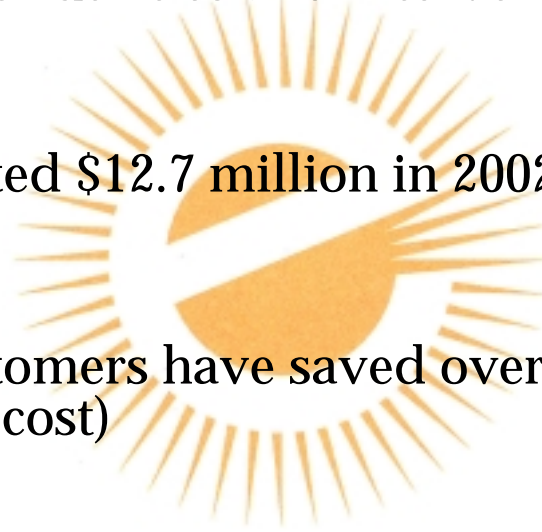
2002 Report Card Results



• Quebec	A	• Manitoba	B-
• Yukon	A	• Alberta	C+
• Federal Government	A-	• Ontario	C
• N.W.T.	A-	• P.E.I.	C
• New Brunswick	B	• NFLD & Labrador	D
• British Columbia	B+	• Saskatchewan	D
• Nova Scotia	B	• Nunavut	N/A

EXPERIENCE WITH REGULATED EE IN NATURAL GAS DISTRIBUTION SECTOR IN ONTARIO

- Required under Ontario Energy Board regulations, based on generic hearing with utilities and interveners in 1993
- Two utilities invested \$12.7 million in 2002
- Estimated that customers have saved over \$500 million in total costs (includes gas cost)



POTENTIAL FOR ENERGY EFFICIENCY IN CANADA

➤ Residential

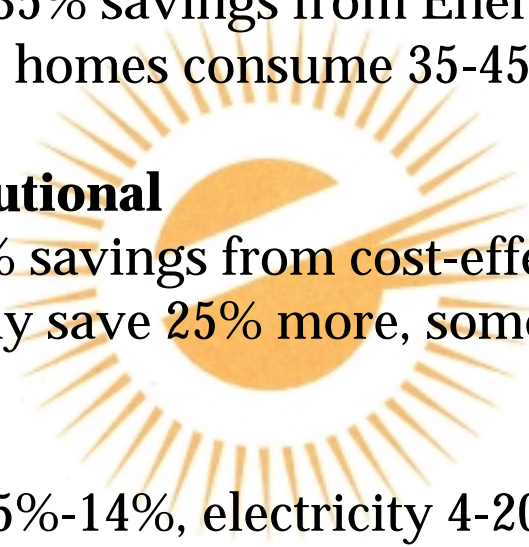
- Existing – 25-35% savings from EnerGuide for Houses upgrades
- New – R-2000 homes consume 35-45% less than code built

➤ Commercial/institutional

- Existing – 30% savings from cost-effective measures
- New – Many save 25% more, some 50%, one 73%!

➤ Industrial

- Fossil fuels 7.5%-14%, electricity 4-20%



TOTAL POTENTIAL FOR ENERGY EFFICIENCY IN CANADA

Likely to be similar to estimates for the US:

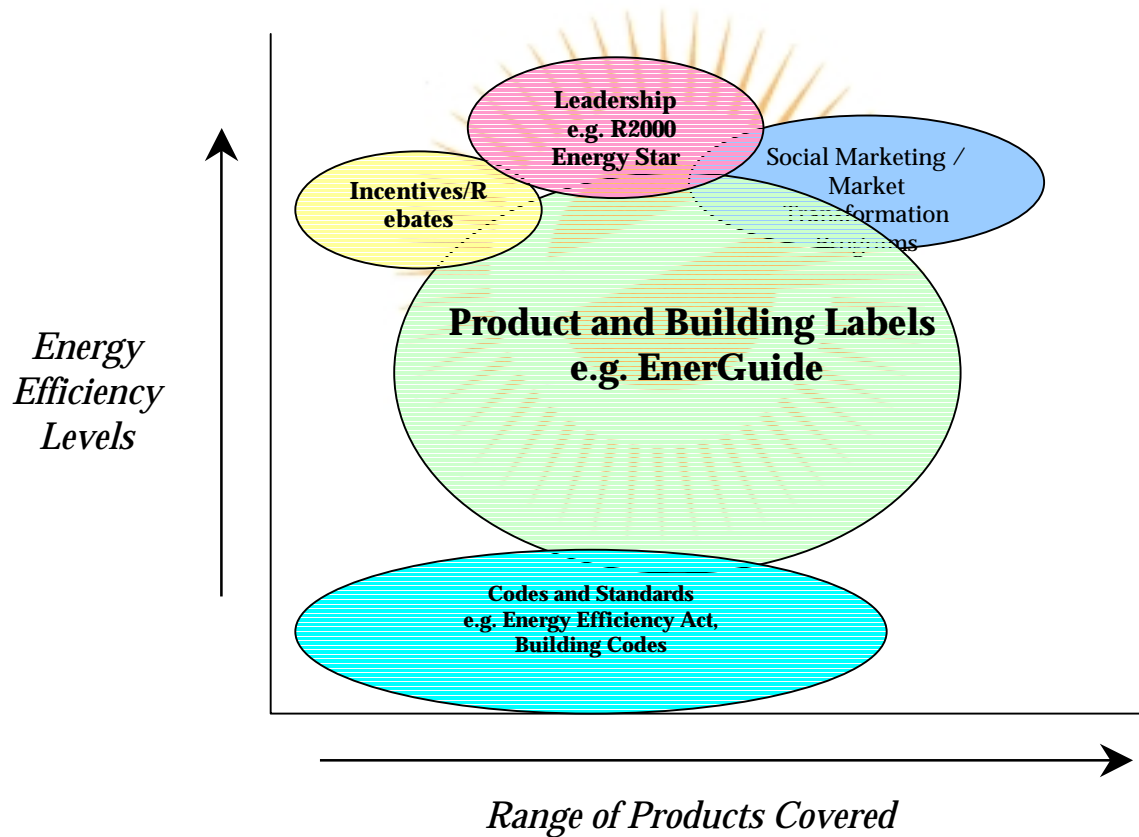
➤ **ACEEE:**

- 18% lower national energy use by 2010, 33% by 2020 using cost-effective policies/measures
- 9 specific policy recommendations would reduce energy consumption by 11% by 2010 and 26% by 2020

➤ **DOE:**

- 10% by 2010 and 20% by 2020

ROLE OF VOLUNTARY VS REGULATED PROGRAMS



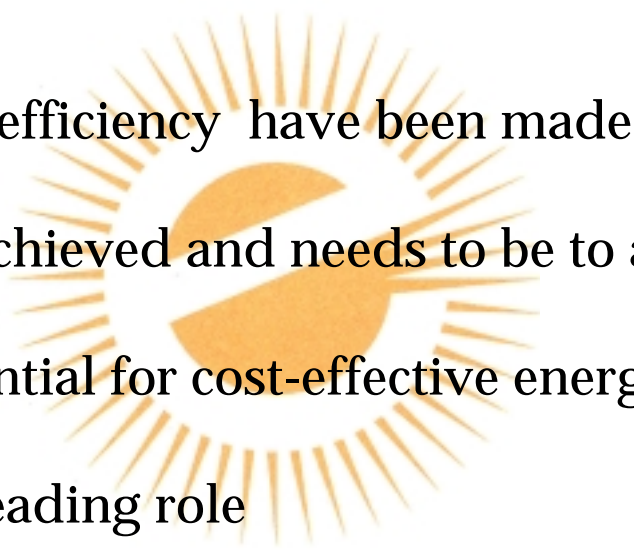
Source: Alliance, "Facilitating Energy Efficiency in Ontario's Competitive Electricity Market"

BENEFITS TO UTILITIES OF EE PROGRAMS

- Builds/strengthens customer relationships & loyalty
- Strengthens the company brand by demonstrating environmental action
- Lowers energy bills & other value benefits for customers
- Results in environmental benefits with potential revenues from sale of emission credits
- Increases competitiveness of natural gas & opens door to fuel switching opportunities
- “Shared Savings Mechanism” enhances shareholder return



CONCLUSIONS

- There are many economic & environmental benefits of energy efficiency
 - Advances in energy efficiency have been made in the past
 - Much more can be achieved and needs to be to achieve Kyoto targets
 - There is a large potential for cost-effective energy savings
 - Utilities can play a leading role
 - Many co-benefits for utilities to develop/manage successful programs
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Related sites:

EnerQuality Corporation

Sustainable Buildings Canada

www.r2000.org

www.sbcanada.org