



Natural Resources Canada

Office of Energy Efficiency

Kelowna, March 2005



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Order of presentation

1. Community Action on Energy Efficiency
2. Marketing Energy Efficiency
3. Office of Energy Efficiency
4. CBIP Program (new buildings)
5. EII Program (existing buildings)



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Community Action on Energy Efficiency (CAEE)

- Joint initiative of OEE and BC Ministry of Energy and Mines
- Financial support from City of Kelowna and Fortis BC
- Aims to support the implementation of energy efficiency measures in the built environment
- Chosen communities must have established community energy planning processes
- A “bridging mechanism” to overcome barriers to EE



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Marketing Energy Efficiency

- **Building Labeling**
 - LEED
 - Energy Star
 - GB Tool
 - BOMA Go Green
 - Green Globes
- **Equipment**
- **R2000/C2000**



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Office of Energy Efficiency

- **Objective:**
To strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change
- **Commitments:**
Climate Change Plan for Canada, Kyoto Protocol, and other international agreements

"Leading Canadians to Energy Efficiency at Home,
at Work and on the Road"



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Related EE Programs

- **NEW BUILDINGS: CBIP** - Commercial Building Incentive Program for new commercial and institutional buildings
- **EXISTING BUILDINGS: EII** - Energy Innovators Initiative for existing commercial and institutional buildings
- **RENEWABLE ENERGY: REDI** (25% of purchase and installation costs, up to a maximum of \$80,000)
- **IBIP** – Industrial Building Incentive Program



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What types of buildings are eligible for assistance?

- New and existing buildings in the following sectors:
 - Commercial
 - Institutional
 - Municipal and provincial
 - Multiple unit residential buildings



CBIP Eligibility Criteria

- Building permit issued between April 1998 and March 2007
- Buildings must comply with all of the MNECB's mandatory provisions
- Energy efficiency at least 25% higher than the MNECB



CBIP and MNECB

- Program based on the 1997 Model National Energy Code for Buildings (MNECB)
- The MNECB proposes minimum efficiency standards:
 - where a specific regulation is in force, the regulation takes precedence



Mandatory requirements

- Building envelope
- Heating, ventilation and air conditioning
- Lighting
- Service water heating systems
- Electrical



CBIP financial assistance

- Double the demonstrated energy savings
- Up to a maximum of \$60,000 per building
- Up to 6 projects per organization or a maximum of \$250,000
- In 2 instalments (80% upon acceptance and 20% when the project ends)



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6 Factors for Success

- ☑ Set Design Goals
- ☑ Have committed design team and owner
- ☑ Use integrated and experienced design team
- ☑ Be open to new concepts and systems
- ☑ Optimize design for cost and performance
- ☑ Continually review design documents to avoid slippage



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CBIP Success Indicators

- 💾 \$22.1 million in incentives
- 💾 2.9 million m² in projects built
- 💾 Projects are 35.4% over MNECB on average
- 💾 Average energy savings \$/m² = \$10.53
- 💾 Annual energy savings > \$16.8 million
- 💾 Annual reduction of 114 kilotonnes of CO₂



Discovery Bay Strata Council

- 4 Condo buildings
- All 6 storey from 3,957 m² to 8,768 m²
- Between 60.5% and 64.4% better than MNECB





Discovery Bay Strata Council

- Energy savings: \$18,279 to \$32,236 annually
- 115 to 161 tonnes GHG saved annually
- GSHP technology



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Discovery Bay Strata Council

- Building 5 – Pool, Offices and Parking
- 12,101 m²
- 57.3% better than MNECB
- \$16,468 saved annually
- 49.21 tonnes GHG saved annually



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Kelowna Projects

- Kelowna Secondary School 25.3%
- Rutland Elementary School 54.9%
- First Lutheran Church 48.8%
- Landmark Campus 35%



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Industrial Building Incentive Program

- **Program:** April 1, 2002 to March 31, 2006
- **Incentive:** Up to \$80K, or total design costs, calculated at twice the annual energy savings compared to the reference design
- **Contact:** Radian Gurov 613 996-3191
rgurov@nrcan.gc.ca



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Energy Innovators Initiative (EII)

Objectives

- To encourage the owners of existing buildings in the commercial, institutional and municipal sectors to reduce operating costs and energy use through cost-effective investments in energy efficiency retrofits.



- lower costs
- reduce energy consumption
- improve productivity

**Reduce GHG
emissions**



Energy Innovators Initiative (EII)

oee.nrcan.gc.ca/eii

Services

- Financial Incentives
- Sector Specific workshops and seminars
- Technical information, including fact sheets,
- Benchmarking and best practices guides
- Newsletters, case studies and other publications
- National recognition awards



Energy Innovators Initiative (EII)

oee.nrcan.gc.ca/eii

Eligibility Factors

- Must be an Energy Innovator
- Ownership/management of buildings in Canada
- New Project
- Must be completed within 12 months
- Project must receive NRCan conditional approval
- Must be a new project for which no work has been started or contracted.



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Energy Innovators Initiative (EII)

oee.nrcan.gc.ca/eii

Energy Retrofit Assistance (ERAP) for Retrofit Planning

- Energy audits
- Feasibility studies
- Energy management plans
- Other project facilitation services

50% of eligible costs up to 1\$ per GJ of energy consumption to a maximum of \$25,000



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Energy Innovators Initiative (EII)

oee.nrcan.gc.ca/eii

Energy Retrofit Assistance (ERA3) for Implementation Projects

- Project development and management related costs
- Capital costs
- Monitoring and tracking systems

\$7.50 per GJ saved up to of 25% of eligible costs to a maximum of \$250,000 (1 GJ = 277.8 ekwh)



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Energy Innovators Initiative (EII)

oee.nrcan.gc.ca/eii

EII - How to Apply?

- 1 – *Get in contact with your EII Officer*
- 2 – Letter to the Minister
- 3 – Prepare an action plan
- 4 – Submit your proposal
- 5 – Sign your contribution agreement



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Energy Innovators Initiative (EII)

oee.nrcan.gc.ca/eii

Kelowna Projects

- Okanagan University College
- School District 23 – Central Okanagan
- Lodge Motel

- Savings between 11% and 20%



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Calgary Co-op

Concern for the community is a guiding principle for the Calgary Co-operative Association Limited (Calgary Co-op), one of the largest retail co-operatives in North America.

That's one of the reasons Calgary Co-op is slashing its energy use by up to 20 percent and, in doing so, reducing its greenhouse gas (GHG) emissions.



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Calgary Co-op

- Lighting and refrigeration upgrades were a prime focus, since refrigeration accounts for over 50 percent of the electrical load.
- Replacing reach-in freezers in the grocery and meat departments with new glass-door freezers is projected to save about \$17,000 per year .
- Installing head pressure reduction controls on the refrigeration compressor system should reduce energy costs by a further \$10,000 a year.



Calgary Co-op

- On doors to the walk-in freezers and coolers, alarms are being installed that sound and flash blue light after the door has been left open for more than 15 minutes.
- With these changes, refrigeration compressor run time is reduced, resulting in a substantial reduction in maintenance costs and potential savings of \$15,000 per year.





Calgary Co-op

- Overlit areas to be de-lamped
- Timers and occupancy sensors to be installed
- Energy efficient lighting to be used
- Power regulators to be used on inside and outside lighting
- Programmable thermostats installed

- Above measures to save up to \$14,500 per year



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Calgary Co-op

- Calgary Co-op is researching ways to recover heat from refrigeration systems.
- In the spirit of co-operation, Calgary Co-op is involving its 3500 employees in efforts to become more energy efficient.
- Some of the energy efficiency ideas came from employee participation.



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Performance Indicators

CBIP in British Columbia:

- 69 projects
- \$3.5 million in assistance

EII in British Columbia:

- More than 100 projects
- \$5.2 million in assistance



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Thank you!



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