



Industrial EE Programming in Canada

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ACEEE 2007 Rountable



Energy Use - a Strategic Business Issue

- Cost, Price, Consumption, Environment

Barriers to Energy-Efficient Actions

- Lack of awareness, information, expertise
- No confidence in outcomes
- Lack of time
- Insufficient capital
- Restrictive hurdle rates
- Low priority for EE and GHG mitigation

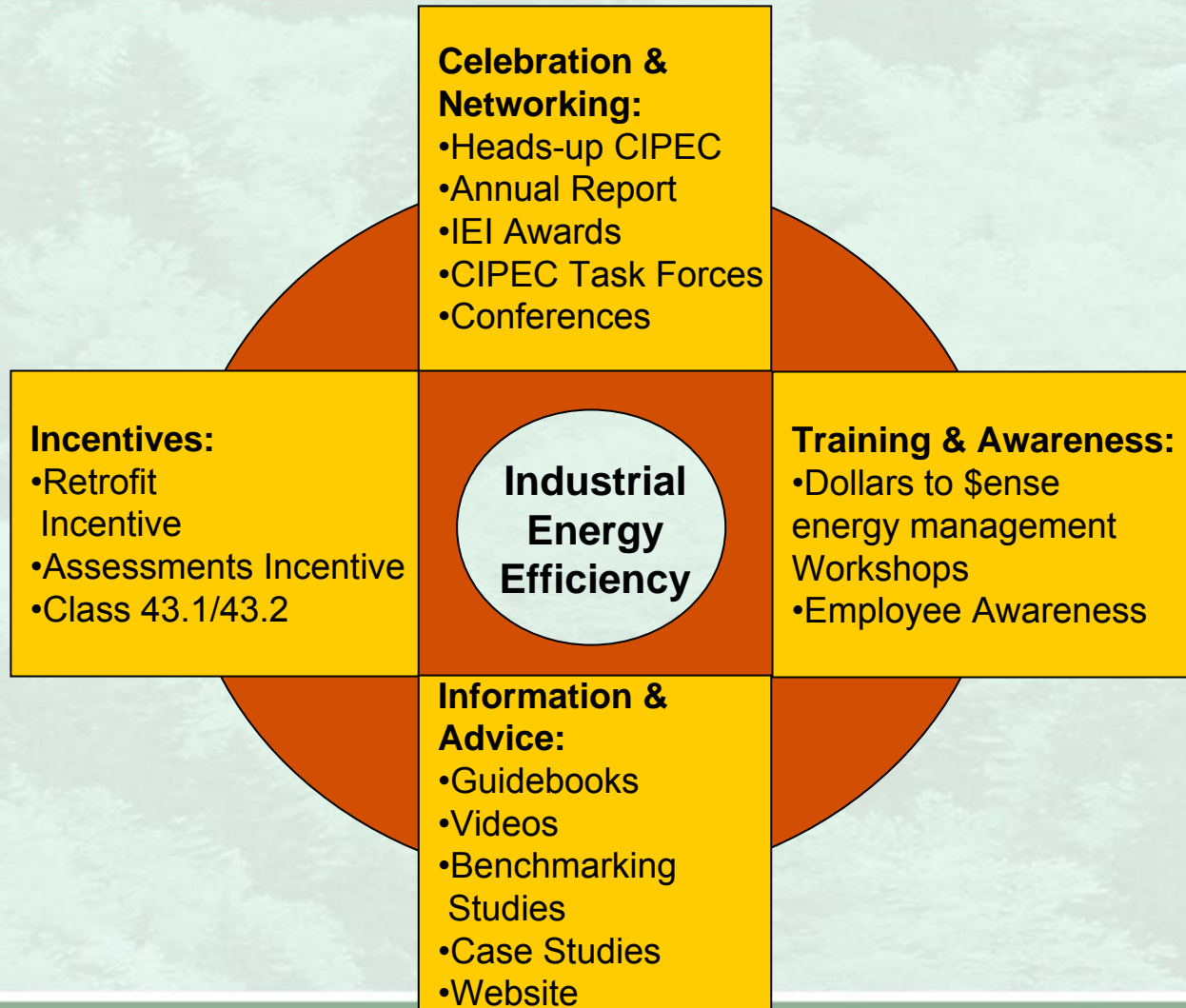
- Focus on Manufacturing, Mining, Forestry, Construction & Energy Producers
 - Covers 98 percent of secondary industrial energy demand in Canada
 - Partnerships with 52 industry associations that represent more than 5,000 companies
- CIPEC Structure
 - 27 sector task forces (including 4 regional) – energy managers from various companies & associations
 - Task Force Council – 25 member council of Chairs from each sector to operationalize strategic priorities
 - Executive Board -- 22 CEOs and Senior VPs provide strategic direction
- > 1000 Industrial Energy Innovators - industrial facilities that have made a written voluntary commitment to become more energy efficient and support Canada's climate change initiatives

CIPEC Toolbox

...More than Just Funding



ecoENERGY
an ecoACTION initiative



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Build Awareness & Knowledge

- **NRCan Dollars to \$ense workshop**
 - “Energy Master Plan”
 - “Spot the Energy Savings Opportunities”
 - “Energy Monitoring and Tracking”
- **NRCan employee awareness materials**
 - “Team Up for Energy Savings”

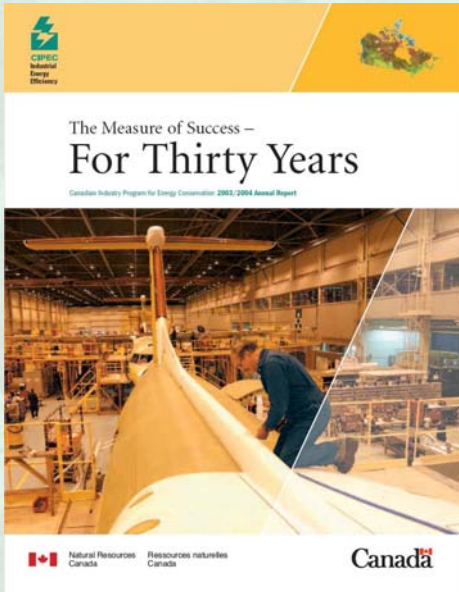


Customized Textiles Workshop:

« enjoyed the entire day – it has left me with numerous ideas for improvement! »

David Savage, Lincoln Fabrics

Networking & Celebration



- **Task Force meetings**
 - 27 task forces meet between 2-6 times a year
 - represent industrial associations and companies
 - set targets & devise action plans
 - 60+ meetings a year lead to EE solutions

- **Heads Up CIPEC**
 - Bi-weekly e-news letter
 - 8,000 readers



- **CIPEC Annual Report**
- **Conferences & Awards**
 - 2 day industrial energy efficiency conference & awards dinner, held every 2 years

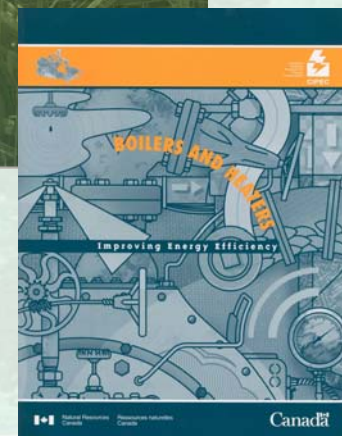
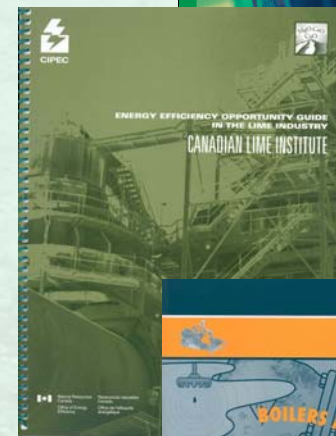
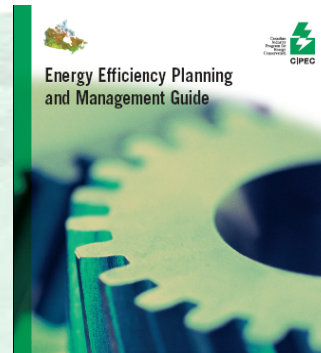
ENERGY 2005

Energy 2007



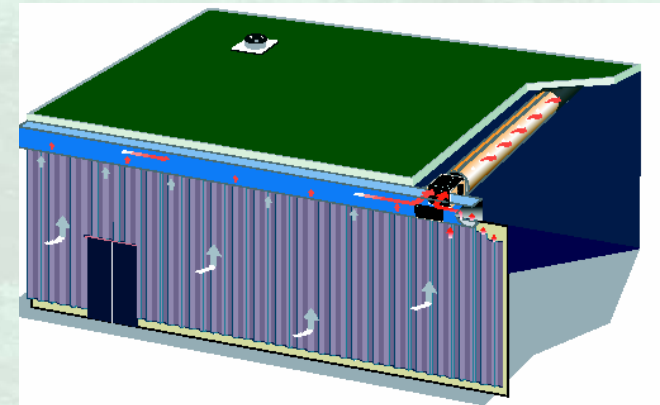
Information & Advice

- **Technical Guidebooks**
 - Energy Management & Planning Guide
 - System Guidebooks
 - Sector Guidebooks
- **Energy Benchmarking and Best Practices**
 - Program launched 2001
 - Process Integration pilot added in 2004
 - Benchmarked 12 sectors (18 sub-sectors)
 - ✓ Auto Parts Manufacturing Assoc – Panel 3 (Thursday morning @ 10:30)
 - ✓ Textiles Benchmarking – Panel 6
- **Web-site:** www.oeenrcan.gc.ca/industrial
- **Case Studies & Videos**
 - Bitumar, Maple Leaf Foods
 - Compressed Air & Variable Frequency Drive Videos

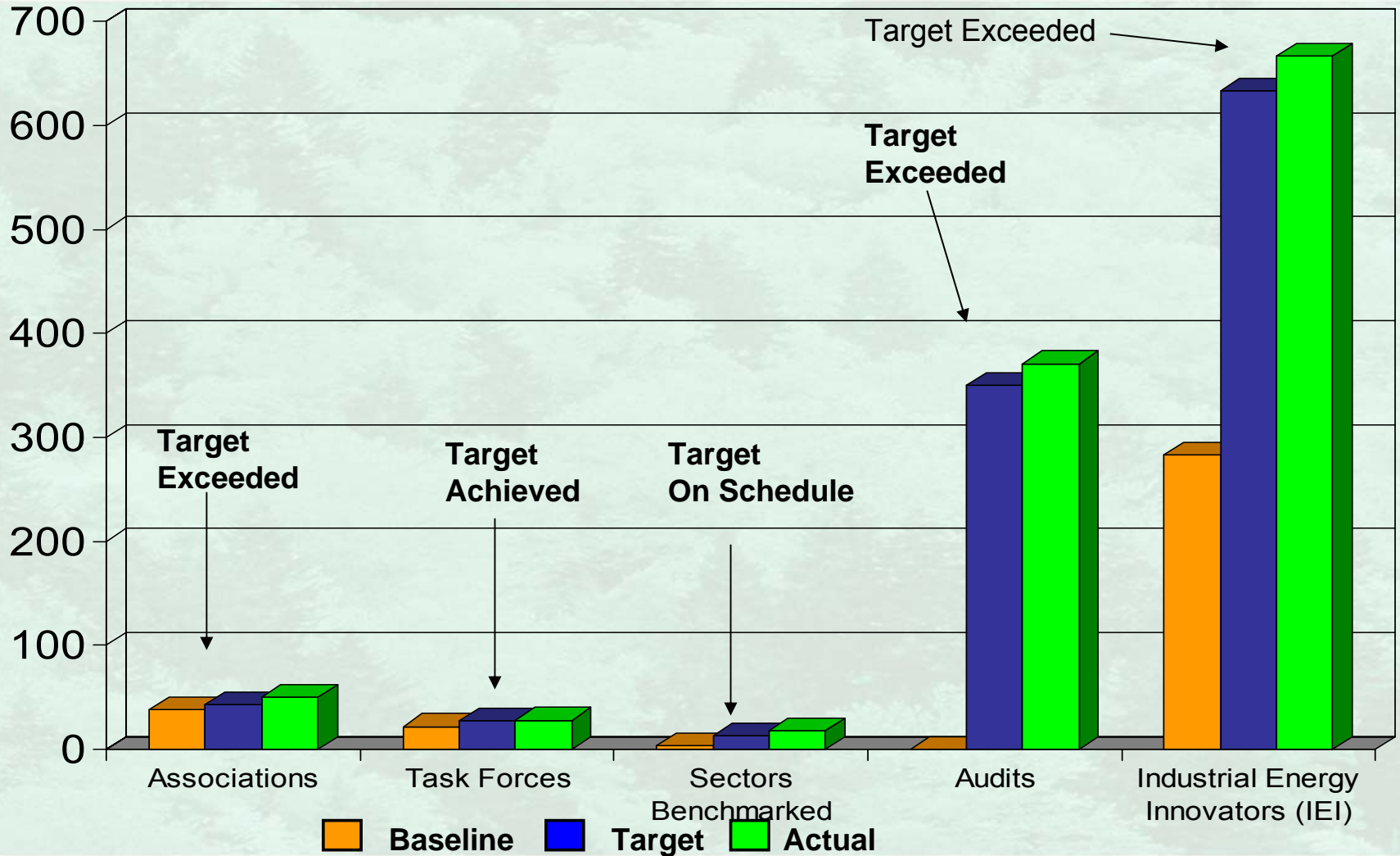


ecoENERGY Renewable Heat Program** (formerly known as REDI)

- Will support non-emitting, renewable thermal energy technologies used for space heating, cooling, water heating through a mix of incentives and support.
- \$36M over 4 years

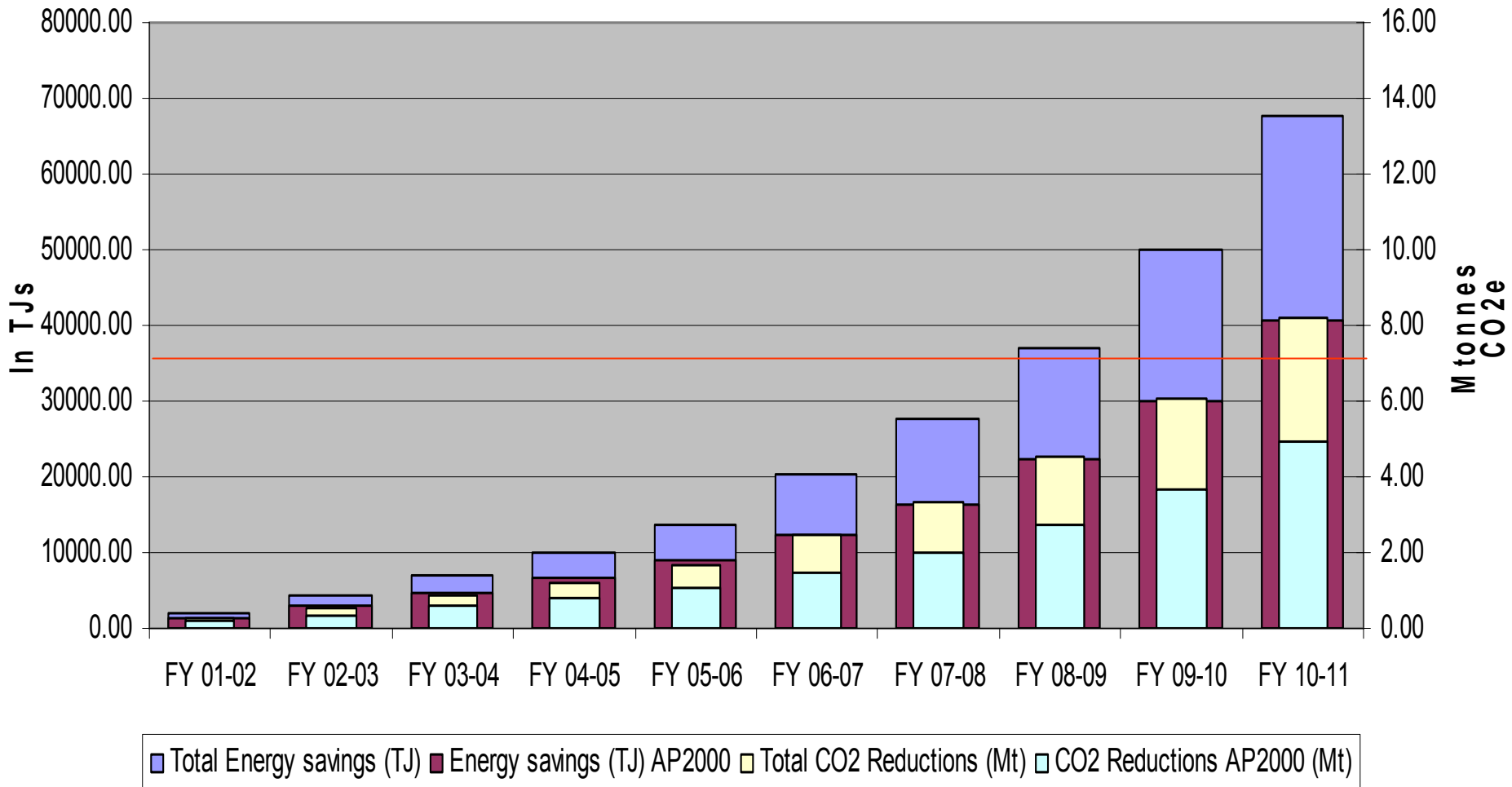


Output Targets & Results



Outcome Results

GHG and Energy Savings Impact





Action Plan 2000 Achievements

- 5 Industry cross-cutting measures
 - Expansion, Awareness, Benchmarking, Audits & Data
- Program achieved 84% of long term 5.8 Mt target (by 2010)
 - Total 4.92 Mt (0.9 net of LFE)
 - D2\$ Workshops: 1.02 Mt (0.26 net LFE) = 93%
 - Audits: 1.2 Mt (0.59Mt net LFE) = 240%
- GHG emissions Outcomes (March 31-05)
 - Total: 0.81 Mt (0.15 net of LFE)
 - D2\$ Workshops: 0.22 Mt (0.06 net LFE)
 - Audits: 0.45 Mt (0.15 Mt net LFE)
- Program expenditures
 - 2001-05: \$22M
 - Avg: \$4.5M/Yr

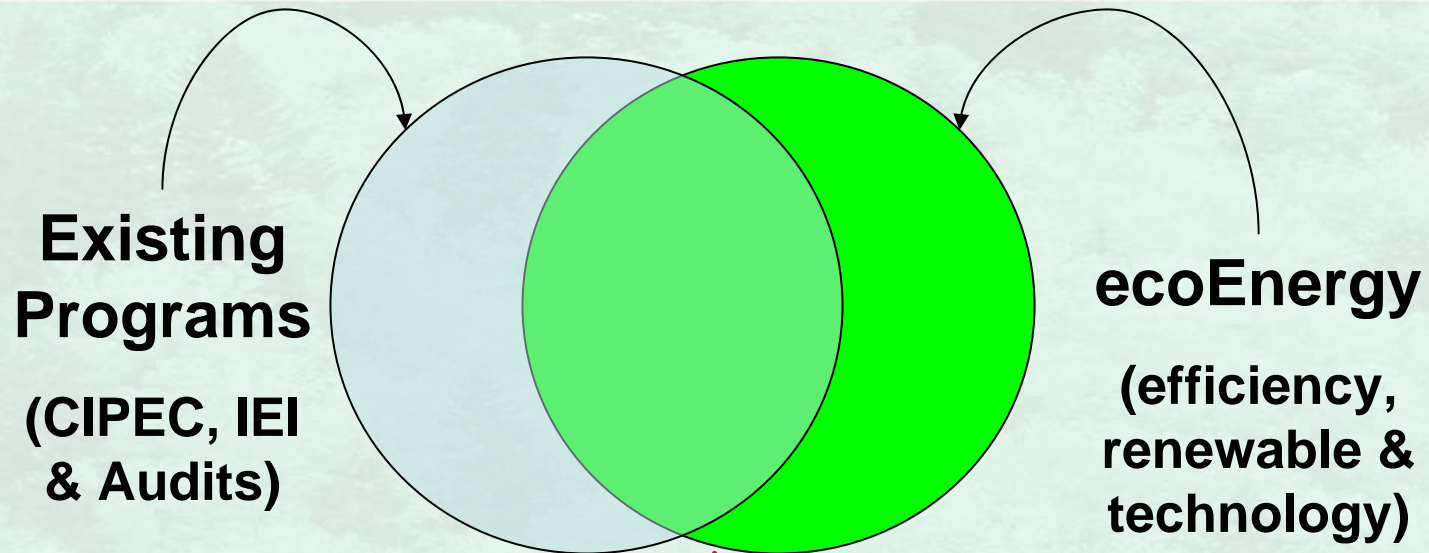


Future Activities

ecoENERGY



2007 & Beyond



- Some program elements will continue to exist, under a new name
- New programs launched in Spring 2007
 - ecoENERGY for Industry
 - ecoENERGY Retrofit for SMO



ecoENERGY for Industry

- **Objective:**

- To help all of industry:

- Improve energy intensity (i.e. energy in / product out)
- Improve competitiveness
- Reduce GHG emissions and air pollution

...by supporting activities that help industry develop the capacity to identify and implement energy saving practices and projects.

- **Delivery Mechanism:**

- Delivered through the long-standing and successful *Canadian Industry Program for Energy Conservation (CIPEC)*

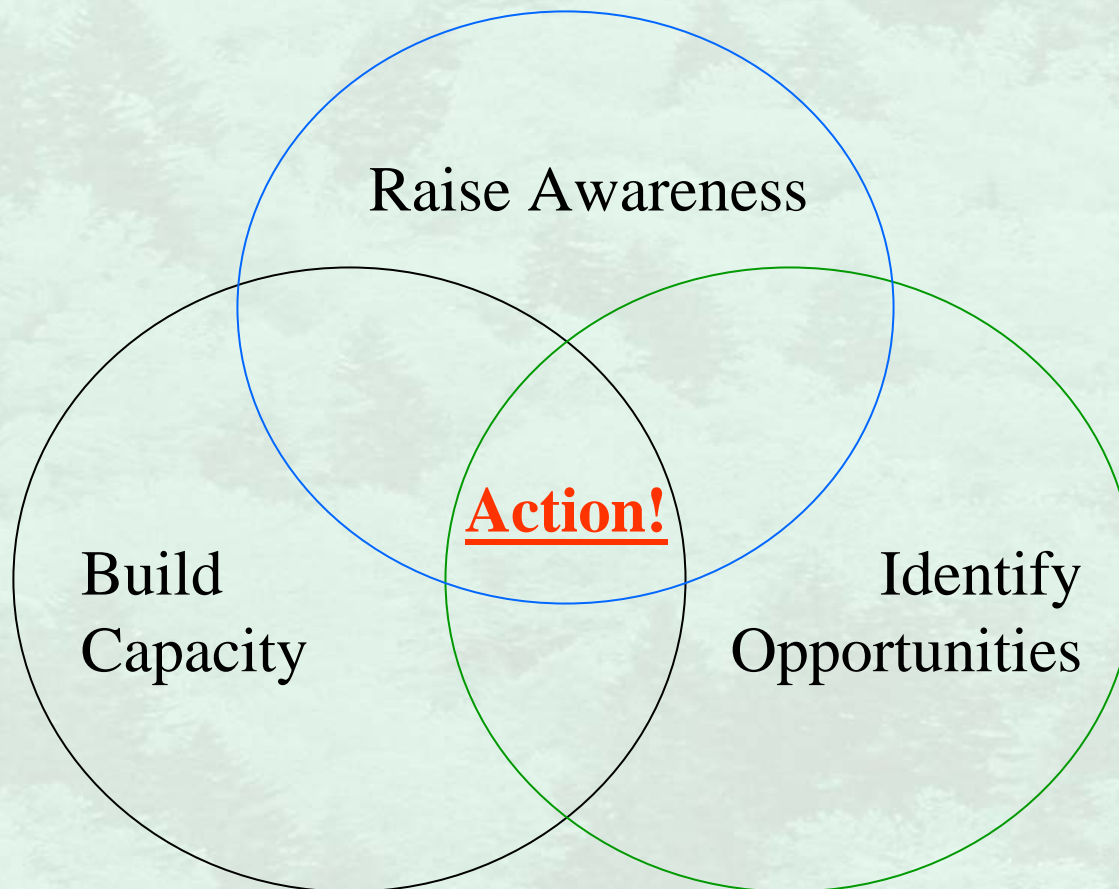
- **Consultation Results:**


- Supported use of well recognized and respected CIPEC program
- Confirmed approach and elements identified





ecoENERGY for Industry Approach





ecoENERGY for Industry

How It Works



- 1) **Raise awareness** ... of the benefits of energy efficiency, new technologies and best practices through:
 - **Communication products** such as case studies,, *Heads Up CIPEC* e-newsletter
 - **Leadership networks** that enable industry to share energy efficiency best practices, experiences and the latest technology developments.

- 2) **Build Capacity** ... within industry to identify energy saving projects and practices through:
 - Energy management **training** workshops
 - **Tools** such as technical guides and benchmarking studies

- 3) **Identify Opportunities** ... by cost-sharing up to 50% of an **energy assessment** study to help companies overcome the hurdle of identifying energy saving opportunities in complex operations
 - Includes complex process integration studies and combustion efficiency modeling





ecoENERGY Retrofit Incentive



Objective

- Provides a financial incentive to help **small and medium-sized** organizations implement energy saving projects.
- Save energy, reduce GHGs and air pollution

Funding Amount

- \$10/GJ to a max of 25% of project costs or \$50,000
- Can be combined with funding from other sources (e.g. utility or provincial government)
- Limited to \$ required to reduce the simple payback period to 1 year (after taking into account funding from other sources)
- The incentive is capped at corporate max of **\$250,000** in total.





Eligibility Criteria

Organization Eligibility Criteria

- Industrial facilities with ≤ 500 employees operating in a sector not subject to emissions regulations
(e.g. Pepe's Mexican Food at 100 employees or Simpson Automotive at 385 employees)
- Commercial and institutional buildings $\leq 10,000$ m²
(e.g. Regina Street Public School at 3000 m² or a McDonald's franchise at 350 m²)

Project Eligibility Criteria

- Involve capital expenditures that modify or upgrade building envelope or existing equipment/systems.
- Project must result in a measurable and verifiable reduction of energy use
- Have a simple payback period of greater than one year, after taking into account funding from other sources



Worked Example

<p><u>Example:</u> Waste heat recovery project</p>	<p><u>Incentive is the lowest of the 3 following calculations</u></p> <p>A) <i>GJ Saved</i> = 380 x \$10 = \$ 3,800</p> <p>B) <i>25% of Eligible Project Costs</i> = (\$20,000 - \$3,000) x 0.25 = \$ 4,250</p> <p>C) <i>Payback Period Reduction</i> = \$12,000 x $\left\{ \frac{(\\$20,000 - \\$3,000) - 1}{\\$12,000} \right\}$ = \$ 4,992</p> <p>Maximum amount possible: \$50,000</p>
<p>Retrofit Cost: \$20,000 Est. Savings/yr: \$12,000 Annual GJ Savings: 380 GJ Utility funding: \$3,000</p>	

Therefore:	Company's contribution:	\$ 13,200
	Utility Contribution:	\$ 3,000
	NRCan's contribution:	\$ 3,800





Application Process

1. Obtain a Retrofit Incentive Application
 - For Buildings: a call for proposals will be issued to accommodate for broad construction periods for building retrofits
 - For Industry: applications accepted throughout the year to accommodate for operational shutdowns that vary by sector and company
2. Complete a energy analysis of the retrofit project(s)
3. Have the project certified by a P.Eng or Certified Engineering Technologist (CET).
4. Submit the completed application to NRCan for approval
5. Once approval obtained, sign the Contribution Agreement prepared by NRCan
6. Complete the project
7. Upon completion, send in your claim for reimbursement.
8. NRCan verifies results prior to issuing payments



Results to date

- Over 12,000 readers of bi-weekly newsletter *Heads-Up CIPEC*
- New Financing workshop to roll out in Fall 2007
- Energy 2007: From Ideas to Action
 - Nov 13 & 14 in Ottawa, ON
- 30 Industrial Retrofit applications since April 25.
 - Worth >\$500,000 in potential incentives
 - Lighting, HVAC and Boiler retrofit projects
 - Average size of company : 111 employees
 - Average incentive: \$22,000
- Renewed IEI initiative: *CIPEC Leaders*

Results - Case Study



Attended a D2\$ workshop



**Discussions with
Office of Energy Efficiency**



Presentation made to corporate
senior management by OEE



Registered as an IEI corporately
(covering 117 facilities)

Joined Food & Beverage Task
Force

Received
information on
Audit Incentive and
PI at Task Force
meeting



Completed 6 energy audits

Organized 8 customized workshops

Participated in 1 PI for SMEs pilot

Implementation of energy efficiency projects

2004: Savings of \$ 3.5 Million and 355,000 GJ





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an ecoACTION initiative

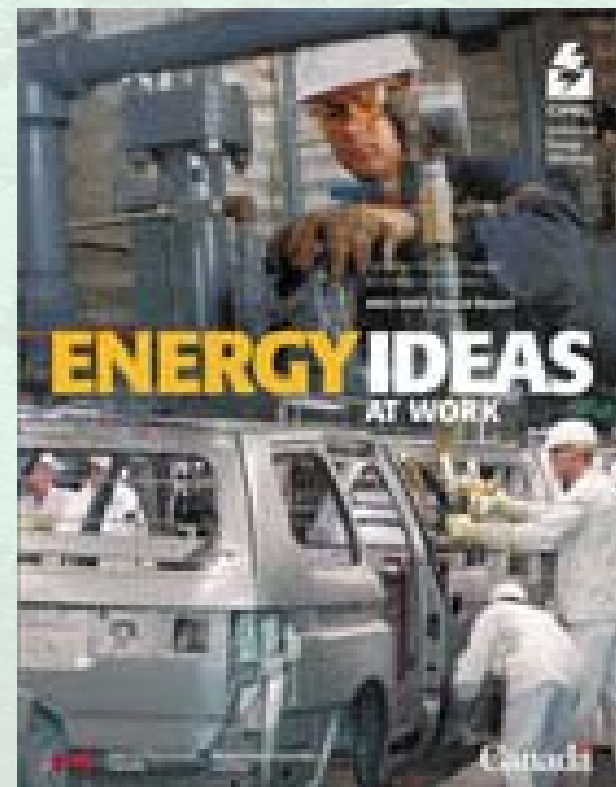
Thank You!

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CIPEC

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