



Municipalities :

Future Sustainability Leaders

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Dawson Creek ,BC

Introduction

- I. Light House
- II. Buildings: Energy Intensive
- III. Incentives & Programs
- IV. Partnership

What is Light House ?

Our Mandate:

- I. Light House
 - II. Buildings:
Energy
Intensive
 - III. Incentives &
Programs
 - IV. Partnership
- a. Independent information
 - b. Community Engagement and
Partnerships
 - c. Education & Outreach
 - d. Consulting
 - e. Research
 - f. Program support

What is Light House?

2006 Founding Partners:



I. Light House

II. Buildings:
Energy
Intensive



Environment
Canada

Environnement
Canada

III. Incentives &
Programs



Western Economic
Diversification Canada

Diversification de l'économie
de l'Ouest Canada

IV. Partnership



SIMON FRASER
UNIVERSITY



What is Light House ?

Light House Team:

- I. Light House
- II. Buildings:
Energy
Intensive
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Programs
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- Architects
- Professional Engineers
- Engineers in Training
- Building technologist
- Graphic designer
- Residential Contractor
- Planners
- Economist
- Public Policy
Consultant

Plus Volunteers

What is Light House ?

Energy Services:

- I. Light House
- II. Buildings:
Energy
Intensive
 - a. Education and Outreach
 - b. Energy Assessment
 - c. Energy Modeling:
 - Screening Services
 - RETScreen evaluation
 - EE4 modeling
- III. Incentives &
Programs
- IV. Partnership

Buildings: Energy Intensive

Buildings' Share of Energy & Materials Usage

- I. Light House
- II. Buildings: Energy Intensive
 - a. 38% of total Canadian secondary energy use
 - b. 30% of total Canadian greenhouse gas emissions
 - c. 40% (3 trillion tonnes annually) of raw materials use globally
- III. Incentives & Programs
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Buildings: Energy Intensive

Green Building Economic Benefits

- I. Light House
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- a. Reduce Operating costs
 - b. Enhance asset value & increase profits
 - c. Optimize life cycle economic performance
 - d. Reduced liability risk

Buildings: Energy Intensive

Case Study: Small Commercial

- I. Light House
- II. Buildings:
Energy
Intensive
 - a. Prince George Climate conditions
 - b. Three Stories
 - c. Steel Frame construction
 - d. Natural Gas boiler + Fan coil
 - e. 9,000 ft² conditioned space total
- III. Incentives &
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Buildings: Energy Intensive

Case Study: Small Commercial

MNECB:

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- a. Windows: average double pan
- b. 40% Fenestration Wall Ratio
- c. Wall: R12
- d. Roof: R24 (Trusses & Joists)
- e. 80% gas furnace / boiler

Buildings: Energy Intensive

Case Study: Small Commercial

Space Heat Loss Distribution:

- a. 40 % Windows
- b. 35% Ventilation
- c. 10% Wall
- d. 5% Roof
- e. 7% Other

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Buildings: Energy Intensive

Case Study: Small Commercial

Measure:	Incremental Cost:	Annual Savings	LCC Payback
High performance low-e argon windows U=0.30	\$5,700 (\$4 per sqf)	6.4%	15 years
Add R11 on Wall (Concrete wall)	\$24,680	38%	2.9 years
Add R5 on Wall (steel frame)	\$9,900	5%	3.9 years
50% effective heat recovery	\$10,000	28.4%	5 years

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Buildings: Energy Intensive

Do-it-yourself

- a. Self assessment using:
NRCan Screening tools
<http://cbipscreen.nrcan.gc.ca>
- b. Discover the impact of different upgrades
- c. Try different scenarios

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Incentives & Programs

BC Hydro: Product Incentives Program

- a. Replace inefficient product
 - High Efficiency Lighting
 - Lighting Control

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- b. Incentives per quantities
- c. Minimum of \$100 in incentives

Incentives & Programs

BC Hydro: High Performance Building

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- a. Identify energy saving strategies early in the design process
 - b. Evaluate alternative design options and make a business case for the high-performance design
 - c. Offset the incremental costs, if any, of the energy-efficient measures in the high-performance design
 - d. Required Commercial Rate

Incentives & Programs

Canada-BC Municipality & Rural Infrastructure Fund (MRIF):

Numbers:

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- \$150 million invested in BC
- \$51 million from both federal & provincial governments
- Deadline: January 31st, 2007
- Decisions made by summer 2007
- Projects completed by March 31st, 2010

Incentives & Programs

MRIF:

Purposes:

- Improve municipal infrastructure
- Sustainable, competitive & healthy centres of economic growth

Targets:

- 60% green infrastructures
- 40% other infrastructures

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Incentives & Programs

MRIF:

Green Buildings Projects:

- Water Projects
- Wastewater Projects
- Public transit projects
- Environmental energy improvement projects

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Incentives & Programs

MRIF:

Qualification Criteria:

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- a. Building size must exceed 11,000 ft²
- b. 25% below the Model National Energy Code for Building (MNECB)
- c. Building below 50,000 ft² (most applications):
CBIP Screening modeling
- d. Building over 50,000 ft²:
EE4 modeling

Incentives & Programs

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Incentives & Programs

Light House: Programs

MRIF: underwritten by MEMPR

- Screening Services
- Design advice

I. Light House

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CAEE: Energy Saving Plan

- 100 CBIP Screenings (31st March 07)
- 10 EE4 for new large ICI / MURB (31st March 07)
- First Stop Shop

Partnership

Light House: Objectives

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 - a. Accelerate transformation to Sustainable Building construction and operation
 - b. Partnership between:
 - a. Federal / Provincial / Local Governments
 - b. Associations
 - c. Financials Providers
 - d. Non-profits Companies
 - e. Manufacturers
 - f. Consultants / Contractors
 - g. ...

Partnership

Light House: Expertise / Strength

- I. Light House
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 - a. Education and outreach
 - b. Non-biased information
 - c. Dialogue with builders, developers and owners
 - d. As assessors and modelers, we deliver the numbers:
Costs / Saving / Financial Benefits

Partnership with Municipalities

Municipalities may become the future Sustainable Leaders ?

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- a. Your leadership on water conservation measures helped establish new water usage standards in BC buildings.
- b. MEMPR believes municipal leadership will help establish new energy standards for BC buildings.
- c. Education and outreach will play a key role together with advocacy

Questions?

- What are municipalities' needs?
- How can Light House assist you?
- Who else can help?
- ...

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Thank You !

Questions?

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- How can Light House assist you?
- Who else can help?
- Other questions ...

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