



Ministry of Energy, Mines and Petroleum Resources

Energy Efficiency Act regulations for Windows, Doors and Skylights

BOABC Education Seminar Workshop
Richmond, BC
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Outline of Presentation

- **Energy Efficient Buildings Strategy (EEBS)**
- **Energy Efficiency Act Overview**
- **Compliance and Implementation strategies**
- **Enforcement measures**
- **Next Steps**

ENERGY EFFICIENT BUILDINGS STRATEGY: MORE ACTION, LESS ENERGY





EEBS Targets

HOMES

- Reduce average energy demand per home 20 per cent by 2020.

COMMUNITIES

- Complete energy conservation plans for all B.C. communities.

COMMERCIAL/INSTITUTIONAL BUILDINGS

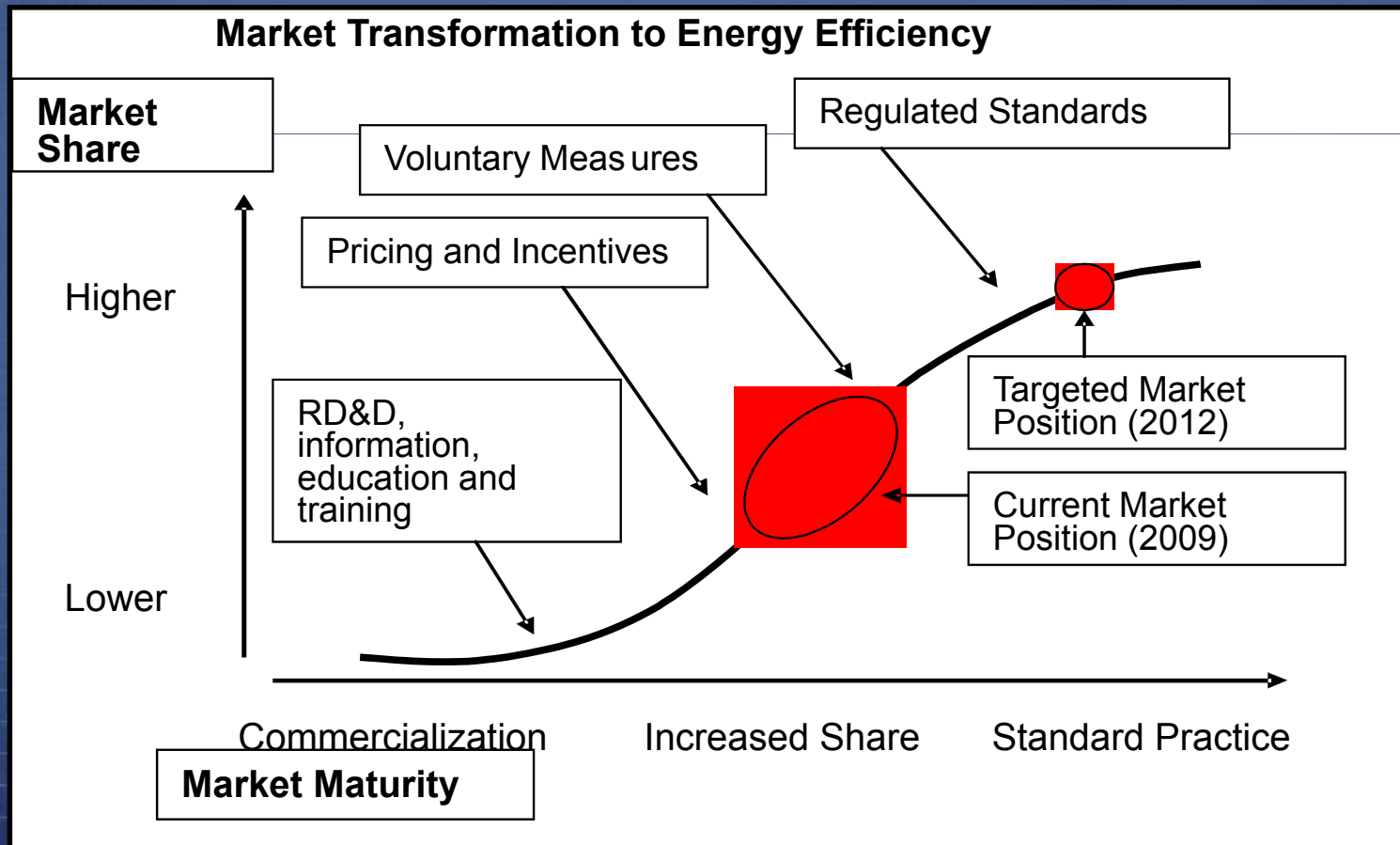
- Reduce energy demand at work by 9% per square metre by 2020.

GOVERNMENT

- Make public sector buildings carbon neutral by 2010.



Energy Efficiency Act – Market Transformation Process





Roles and Responsibilities for Energy Efficiency Regulations

BC Energy Efficiency Act

Residential Windows

Commercial Boilers

Furnaces

Insulation

Dishwashers

Glazing for high-rise

BC Building Code

Federal Energy Efficiency Act



Energy Efficiency Act: Overview

- Provincial *Energy Efficiency Act* applies to products purchased and sold in BC;
- *(1) A person must not manufacture, offer for sale, sell, lease or otherwise dispose of an energy device to which this Act applies...*
- *(2) A person must not affix a prescribed label to an energy device to which this Act applies unless the energy device meets the prescribed efficiency standard for that energy device.*
- *(3) Subsection (1) does not apply to*
- *(a) an energy device that is manufactured on or before a prescribed date...*



Energy Efficiency Act: Overview

- **Energy Efficiency Standards Regulation (EESR) regulates over 40 products – recent improvements include replacement furnaces in existing homes, fluorescent ballasts and windows, doors and skylights**
- **EESR amendments require Cabinet approval.**



Energy Efficiency Act: Compliance and Implementation

1. **Raising awareness and promoting compliance with EEA regulated standards**
 - **Tools:**
 - **Enforcement Bulletins**
 - **Presentations and Q+A sheets**
 - **MEMPR Website and Newsletter articles**



Energy Efficiency Act: Inspections

- **Inspection powers under the EEA:**
 - (1) The minister may designate in writing a person as an inspector for the purposes of this Act.*
 - (2) An inspector designated under subsection (1) may at any reasonable time enter a place where an energy device to which this Act applies is manufactured, offered for sale, sold, leased or otherwise disposed of*
 - (a) to inspect and examine an energy device in the course of manufacture or an energy device in the stock of a manufacturer, wholesaler, lessor or dealer,*



Energy Efficiency Act: Inspections

- **Inspection powers under the EEA:**
 - (b) to remove an energy device to another place, upon the giving of a receipt for it, for the purpose of testing to ensure that the energy device complies with the provisions of this Act, and the inspector must promptly return the energy device upon completion of testing to the place from which it was removed,*
 - (c) to request information or production for inspection of documents or things that may be relevant to the carrying out of an inspection or test on an energy device to which this Act applies, and*
 - (d) to remove documents or things produced pursuant to a request under paragraph (c), upon the giving of a receipt for it, for the purpose of making copies or extracts and the inspector must promptly return them to the person who produced them.*



Energy Efficiency Act: Enforcement Actions

2. Options for enforcement actions by MEMPR staff include:

- **Follow up on complaints, with documentation (i.e. quotes)**
- **Submission of a written non compliance plan, signed by senior company official, to guarantee 100% compliance by fixed date.**
- **Monitoring of commitments in compliance plan.**



Energy Efficiency Act: Enforcement Actions

3. Options for enforcement actions by MEMPR staff include:

- Formal letter of non-compliance.

Offence

5 (1) A person who contravenes a provision of this Act or the regulations commits an offence.

(2) If a corporation commits an offence under this Act, a director or officer of the corporation who authorized, permitted or acquiesced in the offence commits an offence even if the corporation has been prosecuted or convicted.



Energy Efficiency Act: Enforcement Actions

- **Consequences for non-compliance can include:**
 - **Being charged under the *Offence Act* provisions of the *Energy Efficiency Act***
 - **Fines up to \$2,000**
 - **Possible list of non-compliant companies on MEMPR website.**



Energy Efficiency Act: Recent standards

- **High-efficiency gas furnaces required for replacement units in existing construction (effective December 31, 2009)**
- **Matching federal energy efficiency standards for fluorescent ballasts, one year prior to federal implementation (effective January 1, 2009)**
- **Phase out of inefficient incandescent light bulbs (effective 2011 and 2013) (one year prior to federal implementation)**
- **Improved standards for electric and gas water heaters (effective September 2010)**



Standards for Windows in Low-Rise Buildings and Skylights: performance

- **Flexibility provision for windows that are designed for a specific building for structural support purposes, and fall outside the scope of existing certification programs:**
 - **the actual size of the product may be used for calculating the U-value of that product using test standards; and,**
 - **the performance standard can be met by demonstrating that the overall average U-value of all manufactured fenestration products in the building is the standard**
 - **professional engineers and architects can test and verify products for these buildings**



Standards for Windows in Low-Rise Buildings and Skylights: labels

- **Permanent label with trademark, wordmark or symbol of the certification organization:**
 - on the frame, visible at all times; or
 - on the frame or sash, visible when the sash is open; or
 - on the glass as a transparent adhesive label; or
 - etched into the surface of the glass.



Standards for Windows in Low-Rise Buildings and Skylights: labels

- **Effective June 1, 2009, a removable label is required in metric units with:**
 - **verified overall U-value for single operator type, or**
 - **for a combination or composite fenestration product composed of two or more operator types, each of which has a different U-value, either the overall U-value of the product, or the individual U-value for each of the operator types in the product.**



Standards for Windows in Low-Rise Buildings and Skylights: exemptions

- **Decorative glass windows that have stained glass panels, iron inserts or blinds, contained in a sealed insulating glass unit**
- **Windows installed in buildings designated as heritage buildings or included on heritage registries by the provincial government or local government (*Local Government Act, Vancouver Charter, Heritage Conservation Act, Islands Trust Act*)**
- **Glazing replacements in existing sash and frame**



Standards for Windows in High-Rise Buildings: performance

- Includes windows, sliding glass doors, but not skylights (as they are covered in another part of the regulation)
- Metal framed curtain wall, window wall and storefront products, with or without thermal break: U-value ≤ 2.57 W/(m²•K), effective January 1, 2011
- Windows with framing materials other than metal, with or without metal reinforcing or cladding: U-value ≤ 2.0 W/(m²•K), effective Jan 1, 2011



Standards for Windows in High-Rise Buildings: labelling

- **Permanent label, as per terms for low-rise buildings, and**
- **Removable label, as per terms for low-rise buildings, OR**
- **A certificate setting out the verified U-value of each manufactured fenestration product provided for a specific building project,**
 - **provided by the supplier of the products; and**
 - **posted in plain view at the building project for a period of at least 120 days after the last product is installed at the building project.**



Standards for Windows in High-Rise Buildings cont...

- **Exemptions:**
 - **Windows installed in buildings that are compliant with ASHRAE 90.1 (2004 or 2007) Energy Standard for Buildings Except Low-Rise Residential Buildings**
 - **Glazing replacements in an existing sash and frame**
- **Flexibility provision for structural windows that fall outside the scope of existing certification programs – as per terms for low-rise buildings**



Standards for Glazing in Doors

- **Prescriptive standards:**
 - **Multiple glazed with low-E coating between glazing**
 - **90% argon gas fill level with a compatible edge sealant system**
 - **Spacer bars other than non-thermally broken aluminium box spacer bars**
- **Effective date June 1, 2009**
- **Permanent label, developed in cooperation with WDMA BC, as per terms for low-rise windows**



Standards for Glazing in Doors

- **Exemptions:**
 - glazing installed in hung door assemblies that have a maximum U-value of $2.0 \text{ W}/(\text{m}^2 \cdot \text{K})$ tested with NFRC 100-2004
 - decorative glazing that has stained glass panels, iron inserts or blinds, contained in a sealed insulating glass unit



Standards for Door Slabs

- **Door panels must be insulated with products rated to a thermal resistance $\geq 0.875 \text{ (m}^2\cdot\text{K)/W}$ (R-5)**
- **Effective date June 1, 2009**
- **Permanent label, on the slab so that the label is visible at all times or on the edge of the slab so that the label is visible when the slab is open**
- **Exemption for solid wood door slabs**



Regulations for Persons and Agencies Designated to Test and Verify Manufactured Fenestration Products

- **Accredited by the Standards Council of Canada as a certification organization**
- **Accredited by the NFRC as independent certification and inspection agencies**
- **Professional engineers and architects, for the purpose of the flexibility provision for structural windows that fall outside the scope of existing certification programs**



Next Steps: Implementation of Standards

- **Supporting implementation of certification for door slab standards**
- **Working with industry participants to communicate current standards for low-rise and Jan 2011 effective date for high-rise**
- **Continue education and compliance efforts**
- **Consult re improvements to standards going forward.**



Next Steps: Potential Legislative Amendments

- **Authority to levy administrative penalties (tickets)**
- **Regulate water efficiency as well as energy efficiency**
- **Regulate across a class of products (i.e. standby loss standards for electronics)**
- **Cost recovery for compliance and enforcement activities**
- **Other ideas?**



Open discussion

www.empr.gov.bc.ca/EAED/EnergyEfficiency/Pages/EEAct.aspx

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