Ministry of Energy, Mines and Petroleum Resources

British Columbia Energy Efficiency Act: Regulations for Windows, Glazing, Doors and Skylights

BC Building Envelope Council
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Andrew Pape-Salmon, P.Eng, MRM

BRITISH COLUMBIA

Overview

- **BC Energy Efficient Buildings Strategy**
- **Regulations for Windows, Doors, Skylights**
- **Compliance and Enforcement**

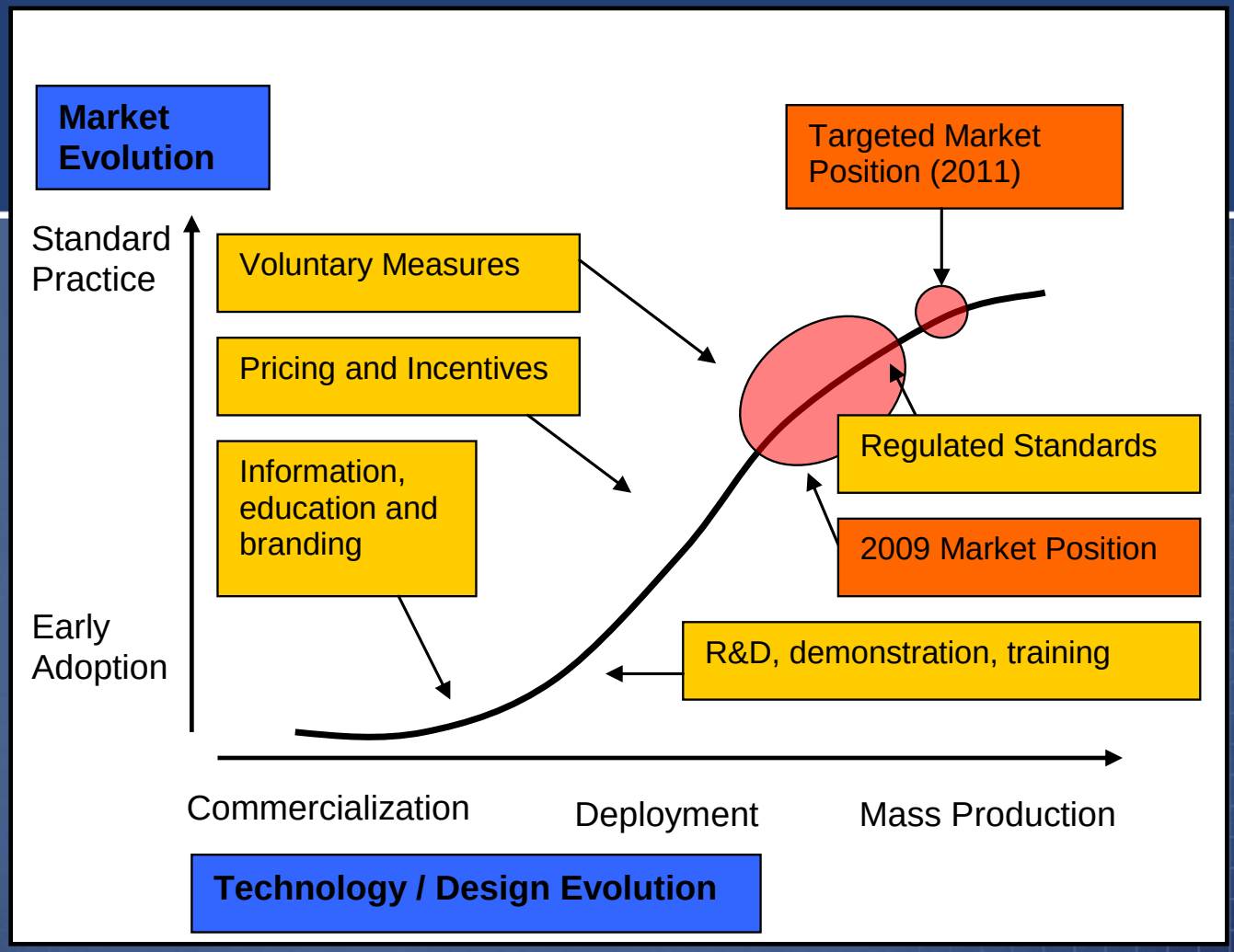
ENERGY EFFICIENT BUILDINGS STRATEGY:
MORE ACTION, LESS ENERGY

BRITISH COLUMBIA

Key Actions under the Energy Efficient Buildings Strategy

- **Develop new energy regulations and performance targets for windows and doors by 2012**
- **LiveSmart BC: Efficiency Incentive Program – rebates for air sealing and ENERGY STAR windows and doors, including bonus for higher zone**
- **PST exemption through to March 31, 2011**
- **Target Energuide 80 for all new homes by 2010 and the revised MNECB for all new buildings by 2012**
- **Construct net zero energy homes and buildings**

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…***

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

- **"Low-rise" = houses of 4 stories or less, other buildings less than 600m^2 of floor space**

Product	Maximum U-Value in W/(m^2•K)	Effective Date
Vinyl and fibreglass windows and sliding doors	2.0	March 1, 2009
Wood windows and sliding glass doors	2.0	January 1, 2011
Metal windows and sliding glass doors	2.57 2.0	June 1, 2009 January 1, 2011
Skylights (for low-rise and high-rise)	3.1	March 1, 2009

Tested with CSA A440.2-04 or NFRC 100-2004

Standards for Windows: flexibility provision for low-rise and high-rise

- **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 verify products for these buildings using the same test standards**

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

- **Permanent label with trademark, wordmark or symbol of the certification organization:**
  - **on the frame or spacer bar, 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.**
- **WDMA-BC is developing a "standardized label"**

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 by the provincial government or local government**
- **Glazing replacements in existing sash and frame**

Standards for Windows in High-Rise Buildings: performance

- **Includes windows, sliding glass doors, but not skylights (as their standard is the same as for low-rise buildings)**
- **Metal framed curtain wall, window wall and storefront products, with or without thermal break: U-value <= 2.57 W/(m^2•K), effective January 1, 2011**
- **Windows with framing materials other than metal, with or without metal reinforcing or cladding: U-value <= 2.0 W/(m^2•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 also applies for structural windows that fall outside the scope of existing certification programs (see earlier slide)**

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, 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 W/(m^2•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 >= 0.875 (m^2•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**

Energy Efficiency Act: Compliance and Implementation

1. **Raising awareness and promoting compliance with EEA regulated standards**
    - **Tools:**
        - **Utility bill-stuffers**
        - **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 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**

Next Steps: compliance and enforcement

- **Work with WDMA to ensure widespread distribution of enforcement bulletins, circulars and Q+A sheets**
- **Work with public utilities to promote compliance**
- **Propose MOU with BOABC on communicating EEA standards and enhanced information sharing with local government building officials**

Energy Efficiency in British Columbia

For More Information, please contact:

Andrew Pape-Salmon
Director, Energy Efficiency
Tel: 250-952-0819
Email: Andrew.PapeSalmon@gov.bc.ca

http://www.energyplan.gov.bc.ca/efficiency/
http://www.livesmartbc.ca

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