



Ministry of Energy, Mines and Petroleum Resources

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

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Overview

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

ENERGY EFFICIENT BUILDINGS STRATEGY: MORE ACTION, LESS ENERGY

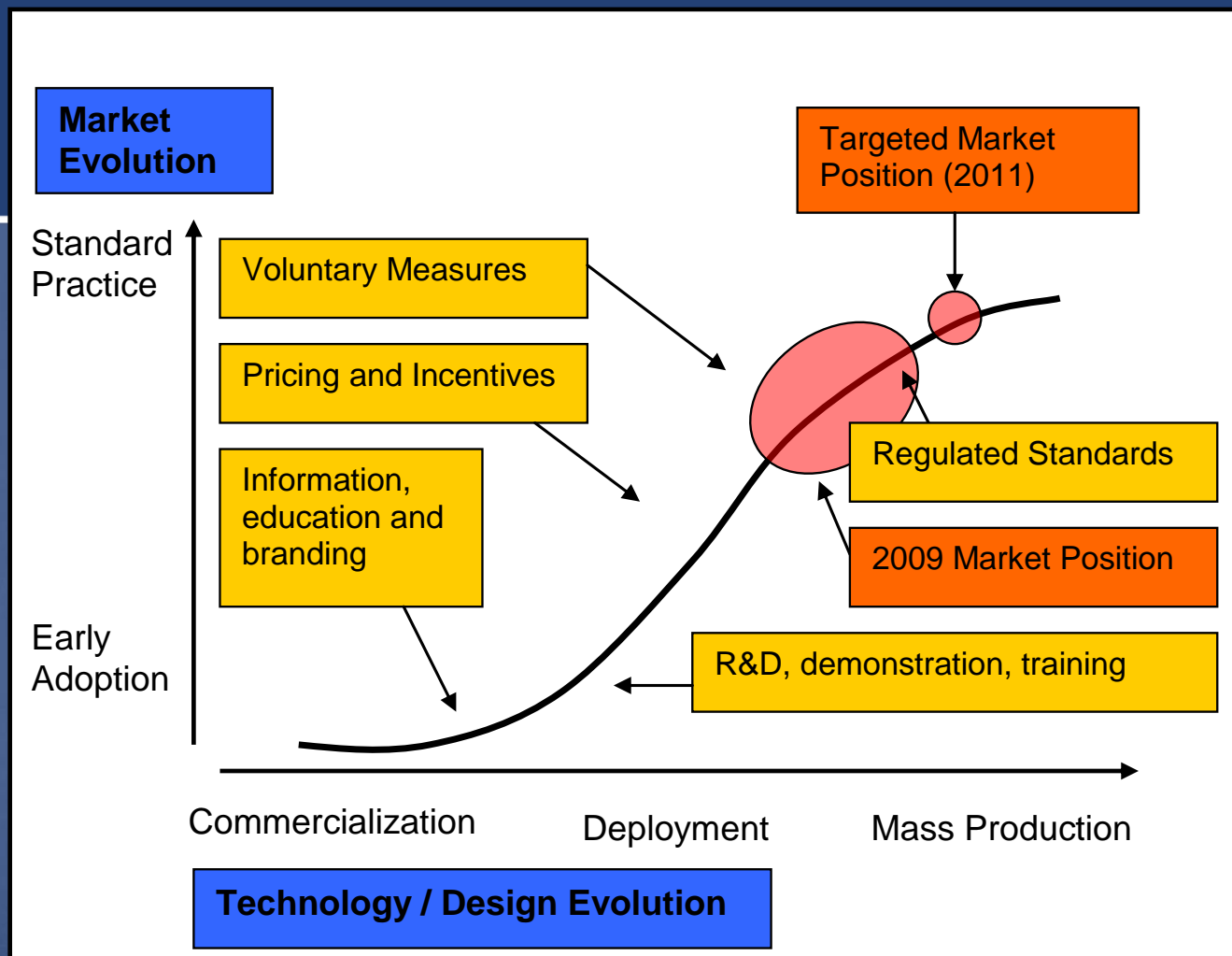




Key Actions under the Energy Efficient Buildings Strategy

- **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**
- **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



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

- **“Low-rise” = houses of 4 stories or less, other buildings less than 600m² of floor space**
- **Vinyl, fiberglass: U-value ≤ 2.0 W/(m²•K), effective immediately**
- **Wood: U-value ≤ 2.0 W/(m²•K), effective Jan 1, 2011**
- **Metal: U-value ≤ 2.57 W/(m²•K), effective June 1, 2009, U-value ≤ 2.0 W/(m²•K), effective January 1, 2011**
- **Skylights: U-value ≤ 3.1 W/(m²•K), effective immediately**
- **Tested with CSA A440.2-04 or NFRC 100-2004**

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 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 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, 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**

Compliance and Enforcement

- **Utilities will educate consumers on the permanent and removable labels**
- **The Ministry has the power to designate an inspector for the *Energy Efficiency Act***
- **The Ministry will host a workshop in summer 2009 with window and door manufacturers to discuss specific enforcement strategies**



Energy Efficiency in British Columbia

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<http://www.energyplan.gov.bc.ca/efficiency/>

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