



Contact IRCC

ICC/IRCC Workshop

International Perspectives on the Role of Building Regulation in Responding to the Challenges of Climate Change

International Code Council (ICC)

Inter-jurisdictional Regulatory Collaboration Committee (IRCC)

20 October 2010, Boston, MA USA



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Overview

- About the IRCC
- Publications and Papers
- Summits and Workshops
- This workshop

Inter-jurisdictional Regulatory Collaboration Committee (IRCC)

- Purpose: advance framework, guidance, and support documents relative to PB building regulatory systems
- Focus: identify broad public policy, regulatory infrastructure, education, and technology issues related to managing the successful implementation and continuation of PB building regulatory systems.

IRCC

- Intent: to advance a common understanding of the international regulatory environment, to promote the exchange of information, and to facilitate a more open environment of inter-jurisdictional commerce in the areas of building design and construction

- **Australian Building Codes Board (ABCB), Australia**
- **Austrian Institute of Construction Engineering (OIB), Austria**
- **Building and Construction Authority (BCA), Singapore**
- **China Academy of Building Research (CABR), China**
- **Department of Building and Housing (DBH), New Zealand**
- **Department for Communities and Local Government (DCLG), England and Wales**
- **Institute for Research in Construction, National Research Council (NRC), Canada**
- **International Code Council (ICC), USA**
- **Ministry of Housing (MOH), Spain**
- **Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan**
- **National Board of Housing, Building and Planning, (Boverket), Sweden**
- **National Institute for Land and Infrastructure Management (NILIM), Japan**
- **National Office of Building Technology and Administration (NOBTA), Norway**
- **Scottish Government Directorate for the Built Environment (DBE), Scotland**

IRCC Publications and Papers

- Guidelines for the Introduction of Performance-Based Building Regulations (1998)
 - Technology, Education, Public Policy, Support Framework and Process Management
- Guidelines Update
 - Principles and Experiences (2010)
 - Emerging Issues and Approaches
 - www.irccbldingregulations.org

IRCC Publications and Papers

- Numerous publications and papers, alone and in conjunction with CIB
 - Impact on International Trade (2000)
 - Acceptable Solutions (2001)
 - Qualitative vs. Quantitative (2001)
 - Performance System Model (2003)
 - Role of Standards (2003)

Summits and Workshops

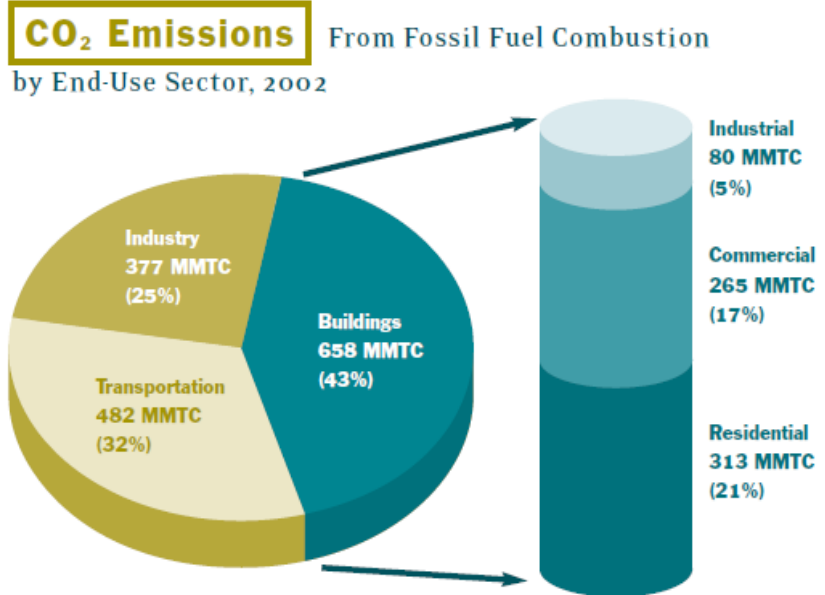
- *Global Policy Summit on the Role of Performance-Based Building Regulation in Addressing Societal Expectations, 2003*
- *IRCC Summit on Sustainability, 2005*
- *IRCC Workshop on the Use of Risk Concepts in Regulation, 2006*
- *IRCC Workshop on Performance Requirements and Criteria for Safety in the Case of Fire, 2007*
- *IRCC Workshop on CO₂ Emissions, 2008*

Summits and Workshops

- *IRCC Workshop on Architectural Heritage and Performance-Based Building Codes: Approaches and Experiences, 2008*
- *CEBC/IRCC Workshop on Compliance Matters, 2009*
- *NRCC/IRCC Workshop on Objective- and Performance-Based Codes: Lessons Impacts and Learned, 2009*
- *MLIT/IRCC Workshop on Building Code Requirements on Aged Care Facilities and Housing and Building Products in Building Code and Inspection, 2010*

Climate Change & Building Regulation

- Buildings contribute significantly to GHG emissions through energy use and energy embodied in building products, and steps are needed to reduce the contributions to climate change

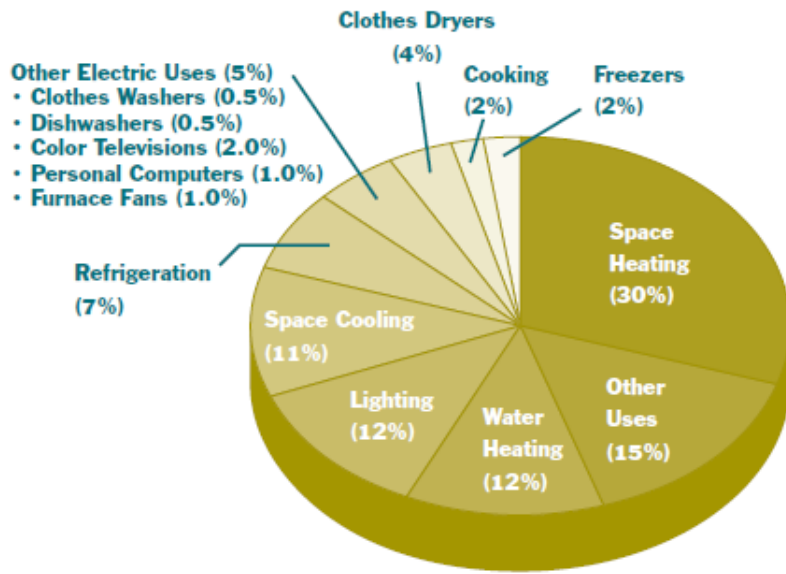


Units are in million metric tons of carbon (MMTC), assuming 40 MMTC per quadrillion BTU (quad) of energy consumed in industrial buildings. The total emissions for all sectors is 1,516 MMTC (excluding 13 MMTC for U.S. territories). Sources: U.S. Environmental Protection Agency. 2004. U.S. Greenhouse Gas Emissions and Sinks: 1990–2002. EPA/430-R-04-003 (2004). U.S. EPA, Washington, DC, 3-7, table 3-6. Pacific Northwest National Laboratory. 1997. An Analysis of Buildings-Related Energy Use in Manufacturing, PNNL-11499, Pacific Northwest National Laboratory, Richland, WA table 4.1.

http://www.pewclimate.org/global-warming-in-depth/all_reports/buildings

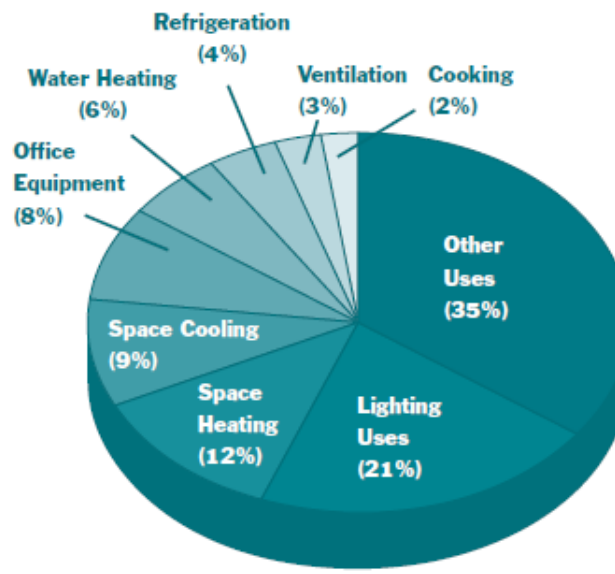
Primary Energy Consumption

in Residential and Commercial Buildings, 2002



Residential Buildings
(Total Quads: 20.9)

Note: Other energy uses in the residential sector includes small electric devices, heating elements, and motors; such appliances as swimming pool and hot tub heaters, outdoor grills, and outdoor lighting (natural gas); wood used for primary and secondary heating in wood stoves or fireplaces; and kerosene and coal.



Commercial Buildings
(Total Quads: 17.4)

Note: Other energy uses in commercial buildings include service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, emergency electric generators, combined heat and power in commercial buildings, and manufacturing performed in commercial buildings.

Source: Energy Information Administration. 2004. Annual Energy Outlook 2004. DOE/EIA-0383, p. 139-142, tables A4 and A5. EIA, Washington, DC.

http://www.pewclimate.org/global-warming-in-depth/all_reports/buildings

Climate Change & Building Regulation

- Buildings will need to adapt to changes in climatic conditions, including new weather patterns, rising sea levels, and increased storm frequency and severity



Climate Change & Building Regulation

- From a building regulatory perspective,
 - Current measures are largely targeted at new construction, and existing building stock presents a far bigger impact and challenge.
 - Various approaches are being pursued, each with challenges with performance metrics, mandatory versus voluntary requirements, and enforcement.
 - For prescriptive codes, new systems, components and types of construction may pose challenges.

Climate Change & Building Regulation

- Is the current the focus on new construction sufficient, or should building regulation better address existing buildings, and if so, how?
- Can existing challenges be resolved with prescriptive regulation or is performance regulation required?

Climate Change & Building Regulation

- Should there be new performance targets, or new types of performance criteria, and if so, how should they be reflected in the regulations?
- Is better coordination needed between energy / resource policies and building policies for more holistic solutions?
- Which decisions should be left to the market?

Presentations and Discussion

9:00-9:15	Welcome, Introductions and Workshop Overview
9:15-9:45	Mr. David Eisenberg , Executive Director, Design Center for Appropriate Technology, Tucson, AZ, USA, “ Emerging Climate and Energy Realities Require Evolutionary Regulatory Change ”
9:45-10:30	Mr. Nils Larsson , Executive Director, international initiative for a Sustainable Built Environment (iiSBE), “ Assessment, Labeling and Certification Systems: Where We Have Been and Where We Might be Going ”
10:30-10:40	Break
10:40-11:00	Ms Cindy Jacobs , Senior Advisor, Commercial and Industrial Buildings Branch, Climate Protection Partnerships Division, US EPA Office of Air and Radiation, “ Evolving Energy Codes from Prescription to Real Performance: The Need for Whole Building Target-Based Codes ”
11:00-11:20	Prof. Dr. Jean Carassus, Ph.D. , Professor at Ecole des Ponts ParisTech, Paris, France, “ The 2010 European Energy Performance of Buildings Directive (EPBD) and its Implementation in France ”
11:20-12:00	Panel Discussion and Q&A – Brian Meacham, Moderator
12:00-13:00	Lunch

Presentations and Discussion

13:00-13:20	Mr. Javier Serra , Deputy Director General for Innovation and Quality in Building, Ministry of Housing, Spain, Dr. Jose A. Tenorio , Senior Engineer, Torroja Institute, Spain, "Educational and Regulatory Approaches in Buildings to Meet the Climate Change Challenge in Spain: Solar Decathlon Europe 2010 and 2012 and Steps to a Tighter Energy Code by 2011"
13:20-13:40	Mr. See Ho Ong , Deputy CEO, Building Construction Authority, Singapore, "Development Policy, Building Regulation and a Sustainable Built Environment – A Singapore Perspective"
13:40-14:00	Massachusetts Official (tentative)
14:00-14:20	Break
14:20-14:40	Dr. IJsbrand van Straalen , TNO Built Environment and Geosciences, The Netherlands, "Adaptation of the Dutch Building Sector to Climate Change"
14:40-15:00	Dr. Ulrich Forster , Rhomberg Bau GmbH, Austria, "Energy and Resource Efficient Prefabricated Multi-storey Timber Houses"
15:00-15:20	Mr. Darren B. Meyers , PE, CEM, GBE, Technical Director, Energy Programs, International Code Council, Architectural & Engineering Services, USA, "Codifying the Minimum Tenets of Sustainability Is Harder Than You Might Think!"
15:20-16:00	Panel discussion and Q&A – Jon Traw, Moderator
16:00-16:15	Summary and close



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Thank you for your participation!