



Energy in Buildings and
Communities Programme

BECWG NEWS

EBC Building Energy Codes Working Group

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This newsletter is published on a quarterly basis to communicate items of general interest and is part of a broader BECWG goal to encourage improvements and innovation in practices in building energy codes worldwide. In this issue, we highlight recent working group activities, emerging research, and opportunities to contribute.

Current Working Group Activities

BECWG 5th Annual Symposium

The Energy in Buildings and Communities (EBC)'s Building Energy Codes Working Group (BECWG) will hold its fifth annual symposium on November 14, 2023. The symposium will be held alongside the 2023 EBC Executive Committee meeting in Beijing, China. The symposium will delve into various cutting-edge topics related to building energy codes. It will explore the integration of new technologies into building energy codes and the issue of performance gaps. By addressing these topics, the event aims to tackle the challenges at the forefront of building energy codes implementation and development.

For more information and if you would like to participate, please contact Siddarth Durga (siddarth.durga@pnnl.gov) or Meredydd Evans (m.evans@pnnl.gov).

Scan of Code Requirements to Address Greenhouse Gas Emissions

Buildings account for 27 percent of total energy sector emissions. To achieve the goal of net zero emissions by 2050, numerous countries have made commitments to reduce greenhouse gas (GHG) emissions. While building energy codes have proven effective in reducing GHG emissions, their primary focus has been on enhancing energy efficiency through energy use regulations. However, building codes also present an opportunity to limit carbon emissions.

Our newly published BECWG report, led by Canada, offers a comprehensive scan of building codes to explore how different jurisdictions address the challenge of carbon emissions limitations. This insightful report provides a detailed perspective on code requirements that support GHG reduction targets.

By expanding the scope of building codes to encompass carbon emissions, jurisdictions can tackle both operational emissions and the embodied carbon found in construction materials. Our report sheds light on the various approaches taken by different jurisdictions, paving the way for more sustainable building practices.

Please access the full report using the following link:

<https://www.pnnl.gov/sites/default/files/media/file/Scan-of-Code-Requirements-061223.zip>

Incorporating Resilience and New Technologies in Codes

The BECWG is actively working on developing two additional reports: 1) an Australian-led report focusing on energy code resilience, and 2) a Japanese-led report highlighting new technologies in energy codes. These reports are scheduled to be released in fall/winter 2023. We're pleased to announce that the Australian team has completed the initial draft of the "resilience in energy codes" manuscript and has shared it with the working group for review. If you're interested in accessing the manuscript and providing valuable feedback, please don't hesitate to reach out to us. In collaboration with the Australian team, BECWG is planning a webinar on "Building Energy Codes and Resilience" to take place on September 20, 2023, at 9 am (Canberra Time). Please click [here](#) to register for the webinar.

Research Highlight: Ukraine works to improve its building energy codes in line with the European Building Performance Directive

Ukraine has inherited Soviet-style buildings where energy efficiency was not a priority because of the artificially low energy prices. Ukraine has made several important steps towards improving the regulation of energy efficiency. It began updating its Soviet era construction norms, focusing on specific energy systems, like the building envelope and lighting. Each norm covers a different system, and the norms are not connected in a way that allows designers to consider simulated whole building performance. In 2017, Ukraine also adopted a Law on Energy Efficiency in Buildings, which creates a building energy rating system aligned with the European Energy Performance in Buildings Directive. It also defines a calculation method for estimating the building ratings.

The Ministry for Communities, Territories and Infrastructure Development of Ukraine is working on improving energy efficiency regulation for buildings. Specifically, it is working to align Ukraine's buildings regulations with the requirements of the Energy Performance in Buildings Directive, which was last updated in 2010. The European Union (EU) and Ukraine signed an Association

Agreement in 2014, and Ukraine has been an EU candidate country since June 2022. The Ministry for Communities, Territories and Infrastructure Development has been developing new regulations to comply with European legislation (acquis) regarding energy efficiency, including for buildings. In buildings, the most important areas that Ukraine is working on to align with EU legislation include requirements that all cost-optimal measures are mandated in new buildings, and that all new buildings consume nearly zero energy (assuming the measures are cost-optimal).

The Ministry is currently working on defining both cost-optimal and nearly zero energy requirements for buildings. The Ministry for Communities, Territories and Infrastructure Development of Ukraine is collaborating with many NGOs, businesses, and technical assistance partners from the European Union and the United States to develop analytical tools and legislative instruments to finalize these requirements and further promote energy efficiency in buildings. Beyond adopting these new requirements, an important task is also strengthening inspections of building designs and construction. In addition, Ukraine is also working to enhance its policies for existing buildings, including new requirements for energy performance certificates when buildings are sold or rented, and enhancing its Energy Efficiency Fund for residential retrofits.

This research highlight was provided by Dr. Nazar Kholod, a scientist at Pacific Northwest National Laboratory and the Ukraine national coordinator for the Net Zero World Initiative.

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Working Group Leadership |

Jeremy Williams, U.S. Department of Energy, United States (Co-Chair)

Meli Stylianou, Natural Resources Canada, Canada (Co-Chair)

Michael Donn, Victoria University of Wellington, New Zealand (Co-Chair)

Meredydd Evans, U.S. Pacific Northwest National Laboratory, US (Operating Agent)

Participant Countries |

Australia, Brazil, Canada, China, India, Ireland, Italy, Japan, New Zealand, Portugal, Singapore, Sweden, Turkey, United Kingdom, United States

Further Information | <https://www.iea-ebc.org/working-group/building-energy-codes>

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