

IEA Energy in Buildings and Communities Technology Collaboration Programme Overview

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The International Energy Agency (IEA)

- Founded in response to the 1973 / 74 oil crisis: initial role was to secure oil supply through the release of emergency oil stocks.
- Today the IEA works to ensure reliable, affordable and clean energy for its 30 member countries and beyond.
- Main areas of focus: energy security, economic development, environmental awareness, and engagement worldwide.
- 38 Technology Collaboration Programmes (TCP's) carry out research, innovation, development, demonstration and dissemination

The IEA EBC R&D Programme

- Energy in Buildings and Communities (EBC)
- International Technology Collaboration Programme
- Energy research + innovation, development, demonstration and dissemination
- Open innovation approach
- 24 member countries
- 80 Annexes and 5 Working Groups established
- 17 Annexes and 2 Working Groups ongoing

Scope of the EBC Programme

R&D Projects

**Knowledge Deployment
and Demonstration**

R&D Strategies

Buildings



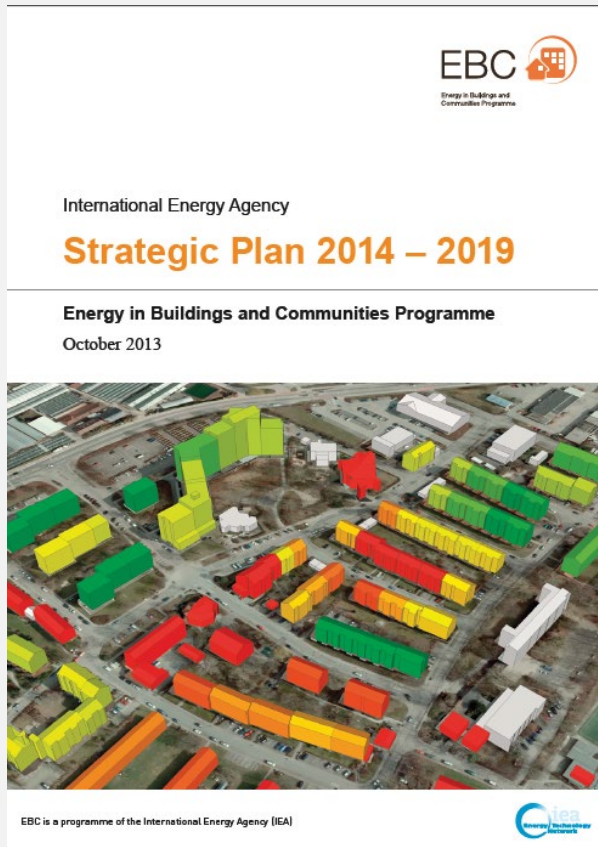
Communities



EBC Mission

→ Energy efficiency is key

To accelerate the transformation of the built environment towards more energy efficient and sustainable buildings and communities, by the development and dissemination of knowledge and technologies through international collaborative research and innovation.



24 Participating Countries

- Australia
- Austria
- Belgium
- Canada
- P.R. China
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Ireland
- Italy
- Japan
- Republic of Korea
- Netherlands
- New Zealand
- Norway
- Portugal
- Singapore
- Spain
- Sweden
- Switzerland
- UK
- USA

80 Annexes and 5 Working Groups established

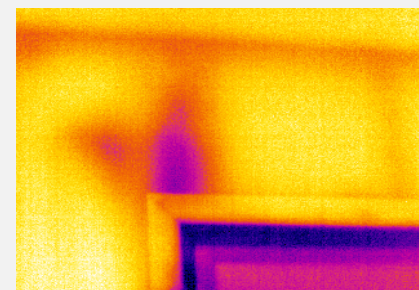
17 Annexes and 2 Working Groups ongoing

High Priority Themes

- Theme #1: Integrated planning and building design
- Theme #2: Building energy systems
- Theme #3: Building envelope
- Theme #4: Community scale methods
- Theme #5: Real building energy use

#1: Integrated planning and building design

- Integrated Solutions for Daylight and Electric Lighting (SHC Task 61 / EBC Annex 77)
- Deep Renovation of Historic Buildings Towards Lowest Possible Energy Demand and CO₂ Emissions (SHC Task 59 / EBC Annex 76)
- Assessing Life Cycle Related Environmental Impacts Caused by Buildings (Annex 72)
- Indoor Air Quality Design and Control in Low Energy Residential Buildings (Annex 68)
- Energy Flexible Buildings (Annex 67)



#2: Building energy systems

- Air Infiltration and Ventilation Centre AIVC (Annex 5)
- Supplementing Ventilation with Gas-phase Air Cleaning, Implementation and Energy Implications (Annex 78)
- Resilient Cooling (Annex 80)
- HVAC Energy Calculation Methodologies for Non-residential Buildings (Working Group)



#3: Building envelope

- Long-Term Performance of Super-Insulating Materials in Building Components and Systems (Annex 65)



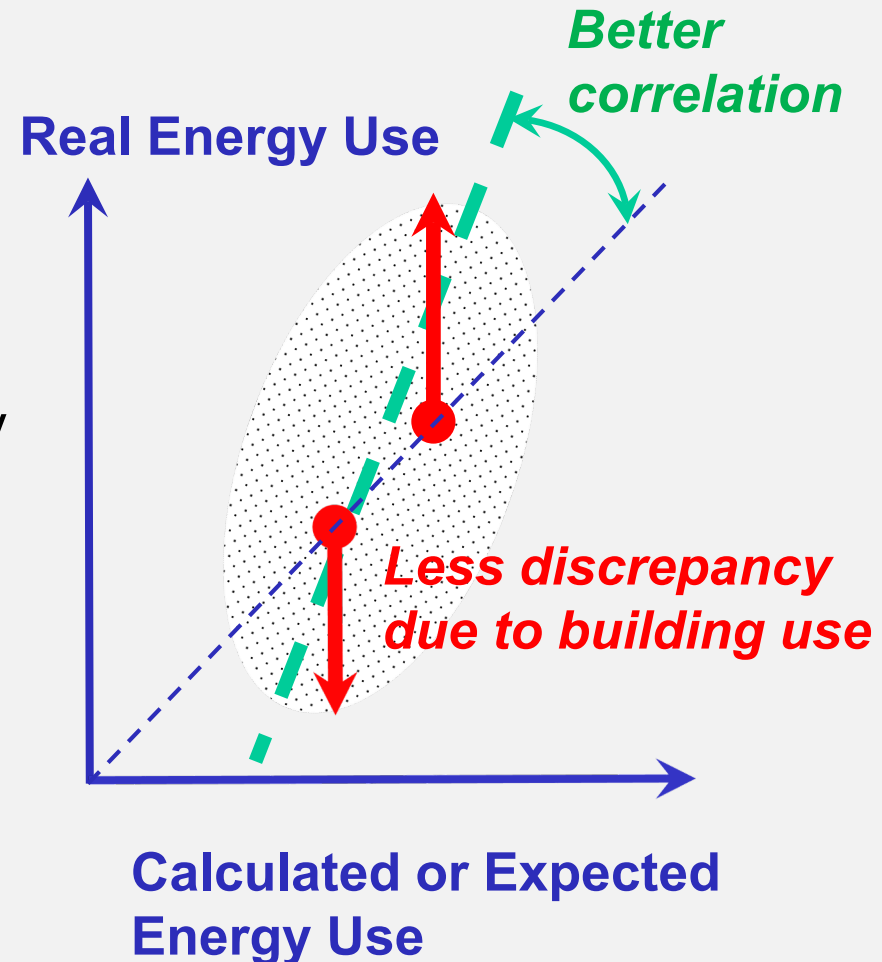
#4: Community scale methods

- Cost-effective Building Renovation at District Level Combining Energy Efficiency and Renewables (Annex 75)
- Towards Net Zero Energy Public Communities (Annex 73)
- LowEx Communities - Optimised Performance of Energy Supply Systems with Exergy Principles (Annex 64)
- Implementation of Energy Strategies in Communities (Annex 63)
- Cities and Communities (Working Group)



#5: Real building energy use

- Adaptive Thermal Comfort in Low Energy Buildings (Annex 69)
- Building Energy Epidemiology: Analysis of Real Building Energy Use at Scale (Annex 70)
- Building Energy Performance Assessment Based on In-situ Measurements (Annex 71)
- Occupant Behaviour-Centric Building Design and Operation (Annex 79)



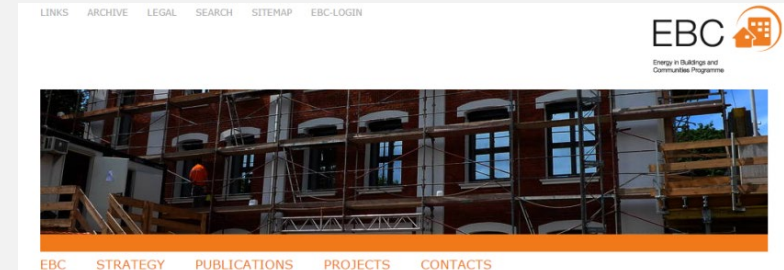
Outcomes and Achievements 2014-2019

- 31 guides for practitioners and 45 technical reports were produced by 14 Annexes, and 171 conferences / workshops were organized with 7,915 participants
- Reliable quantitative information on energy saving and realistic solutions with cost effectiveness have been approached aggressively and produced under the slogan of “real building energy use”
- Outputs are utilized for international and national standardization works
- Outputs are utilized for design and construction practices, as well as for building product development

Dissemination & Outreach

www.iea-ebc.org

- Scientific Reports (website and bookshop)
- Newsletter
- Annual Report
- Conferences / seminars
- Demonstration
- AIVC



Welcome to the International Energy Agency's Energy in Buildings and Communities Programme

The IEA-EBC Programme is an international energy research and innovation programme in the buildings and communities field. It enables collaborative R&D

Contact
EBC Secretariat (ESSU)
Mr. Malcolm Orme



Further Information

Thank you

twitter.com/IEA_EBC 

Email list sign-up
www.iea-ebc.org/publications/ebc-news