

Best practices on affordable climate-neutral housing [3-4 minutes] Jonatan Duwyn, UNEP

Title and objective of the best practice

GlobalABC: Buildings and construction roadmaps (actions and targets)

How has the best practice evolved over time (for example, changes in stakeholders, available resources, legislation, regulations, etc.)?

- Despite the fact that buildings are responsible for almost 40% of global energy-related CO₂ emissions and 35% of final energy demand.
- And embodied carbon i.e. the carbon footprint of materials, makes up for almost 10 per cent of the sector's emissions
- Buildings in NDCs lack ambitious targets, concrete measures, and certain topics energy efficiency is most common area addressed and cooling, heating and building design are not covered.
- Driving down emissions will entail a triple strategy:
 - aggressively reducing energy demand in the built environment (energy efficient design and energy efficiency),
 - while decarbonizing the power sector (renewables, RE integration)
 - and implementing materials strategies that reduce lifecycle carbon emissions (material efficiency strategies - it is estimated that greater material efficiency could save up to 80% of embodied carbon emissions)
- This requires a comprehensive approach to emission reductions from the built environment along the full life cycle and engaging all value chain stakeholders
- Stakeholders along the buildings and construction value chain must work together to overcome the fragmentation in the sector and ensure collective action for ramping up the level of ambition and implementation
- The GlobalABC has sought to influence the global trajectory through the development of global, regional, and national roadmaps; it currently counts more than 20 regional or national roadmap processes completed or under way.
- These roadmaps are developed in collaboration, with government and regional organizations and with many hundreds of stakeholders around the globe.
- The Global Alliance for Buildings and Construction recommends that strategies and roadmaps for decarbonizing the sector cover eight themes which are:
 - **urban planning:** Urban planning key to decarbonizing buildings and vice versa Countries/Cities need to integrate building sector actions with urban land-use planning (NBS)
 - **new buildings:** countries need to prioritise high efficiency standards for new constructions (design) – make this the BAU

- **existing buildings:** countries need to accelerate action on building retrofits
- **building operations:** countries need to encourage proper maintenance and building management
- **appliances and systems:** countries need to stimulate demand for energy efficient appliances (MEPS...). U4E: household appliances MEPS and financial mechanisms for affordability
- **materials:** countries need to promote the use of low carbon materials (locally sourced, use waste, circularity, bio-based...)
- **resilience:** countries need to build-in resilience for buildings and communities
- **and clean energy:** countries need to accelerate the decarbonisation of electricity and heat
- With such a holistic approach value chain stakeholders in countries can:
 - Increase the scope of existing (or set ambitious) building energy regulations that include a greater proportion of building types, particularly housing, and to renovation projects;
 - Increase energy performance standards for building envelopes, heating, cooling and ventilation systems, and appliances;
 - Integrate building sector actions with urban land-use planning to enable the decarbonisation opportunities of sustainable mobility choices, reducing urban heat island effects, and providing scale for integration of distributed renewable energy supply.
- **Data remains a major challenge (from experience with regional roadmaps and national roadmaps).**
 - Collecting data not only contributes to enhancing understanding of the design, make-up, management, operation and the end-of-function of buildings but also increases transparency and trust, improving policy and financial decision-making and realizing an optimum use of resources.
 - GlobalABC developed practical guidelines for countries to introduce Building passports and UNEP is piloting a prototype in Morocco with gvt and Al Omrane the social housing developer (more countries in the pipeline). Aim is to develop an action plan for institutionalizing buildings passports for all buildings in Morocco.
 - Buildings passports for capturing, administering and managing building related data and information across the whole life cycle are now seen by policy makers and market participants alike as a way of overcoming current data gaps and data-related barriers.
- **What advice would you offer to policymakers from another country if they were seeking to adapt or replicate your examples of best practice?**

Establish national buildings and construction alliances and develop roadmaps with clear targets and milestones to implement the GlobalABC 10 key measures:

1. Establish and implement an ambitious energy code for buildings
2. Support the use of integrated design
3. Promote deep energy renovation
4. Lead by example by decarbonizing public buildings
5. Use energy information and behaviour change to drive energy efficiency
6. Promote financing for energy efficiency
7. Enable easy access to information on the carbon footprint of materials
8. Develop public procurement policies that incentivize materials with low carbon footprints
9. Integrate nature-based solutions into urban planning, buildings and construction
10. Develop integrated resilience strategies and plans for the built environment