The Global Alliance for Buildings and Construction (GlobalABC)

Towards a zero-emission, efficient, and resilient buildings and construction sector
Buildings: A Growing Opportunity

The equivalent of Paris is added in floor space every 5 days!
The Road to Success

- Highlighting the buildings and construction sector potential
- Encouraging conducive policy frameworks
- Promoting performance-based, mandatory building codes
- Enhancing financial incentives
- Raising ambition levels
- Mobilize all actors along value chain

- 4.9 GtCO2 emissions abatement potential

Achieving Market Transformation
With 125 members, including 29 countries, the GlobalABC is the leading global platform for governments, the private sector, civil society and intergovernmental and international organizations to increase action towards a zero-emission, efficient and resilient buildings and construction sector.
Key Activities

Forging a pathway to low-carbon buildings and construction
- Global Roadmap
- NDC guide

Facilitating regional knowledge exchange
- Regional Roundtables

Keeping the buildings and construction sector under review
- Global Status Report

Shaping the global agenda
- High-Level Events and Local Alliances

5 Work Areas
- Awareness & Education
- Public Policies
- Finance
- Market Transformation
- Building Measurement, Data and Information
Example Work Area 2, Public Policies: Engagement in National Strategies

Key points:
- Global roadmap
- Develop a National strategy
- Measure progress
- Consult stakeholders (national alliance)

Ex: Launch of the Mexican Alliance for Buildings and Construction
Mexico, June 2018
Global Status Report

- Global Roadmap
- NDC guide
- Regional Roundtables
- 2018 Global Status Report
- High-level events and local alliances
2018 Global Status Report

Examines the status of:
- Nationally Determined Contributions (NDCs)
- Building codes and standards
- Buildings certification
- Investment in the buildings sector

Examines progress achieved in key themes:
- Human factors
- Technology solutions
- Architectural solutions
- Material solutions
- Resilient buildings
- Urban solutions
- Clean energy transition
- Circular economy
Global Roadmap

- Regional Roundtables
- High-level events and local alliances
- Global Status Report
- NDC guide
Regionalizing the Roadmap
Forging regional pathways towards a zero-emission, efficient, and resilient buildings and constructions sector 2020-2050

**Aim:** Raise ambition levels in regions - roadmaps and the targets outlined can be used as benchmarks for developing national policies or roadmaps. Developed jointly with the International Energy Agency IEA
Africa Roadmap for Buildings and Construction

- Draft plan (pending additional stakeholder insights):
  - Potential sub-regional insights:
    - Central Africa
    - Eastern Africa
    - Northern Africa
    - Southern Africa
    - Western Africa
  - Potential country insights:
    - Egypt
    - Morocco
    - Nigeria
    - South Africa
African Roadmap – Nairobi May 2019

- 25 experts “efficiency for affordability” in housing
- Purpose: develop a common vision for the future:
  - Objectives: Identify priorities, pillars and milestones for a regional roadmap and facilitate peer to peer learning among participants
  - Context: rapid growth of population and floor area in Africa, few mandatory building energy codes in place, EE remains a small portion of overall spending
  - Concerns: improve circularity, capacity building, systems, energy security, implementation, value chain
  - Discuss achievable and aspirational targets

A collaboration of the IEA (Clean Energy Transitions and Energy Efficiency in the Emerging Economies programmes) and the Global Alliance for Buildings and Construction
**African Roadmap – Nairobi May 2019**

- Key stakeholders

<table>
<thead>
<tr>
<th>Key stakeholders</th>
<th>Additional stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy makers (national and sub-national)</td>
<td>Sustainable service providers</td>
</tr>
<tr>
<td>Implementing and enforcement agencies/actors</td>
<td>Sustainable product/material providers</td>
</tr>
<tr>
<td>Building authorities and housing associations</td>
<td>Researchers</td>
</tr>
<tr>
<td>Architects and engineers</td>
<td>Financial institutions</td>
</tr>
<tr>
<td>Property developers</td>
<td>Training and capacity institutions/providers</td>
</tr>
<tr>
<td>Utility companies and municipal service authorities</td>
<td>Local community groups and business associations</td>
</tr>
</tbody>
</table>
African Roadmap – Nairobi May 2019

Low-emission, efficient & resilient buildings

- Air quality
- Energy savings
- Energy security
- Energy prices
- Safety and security
- Health and well-being
- Poverty alleviation
- Economic
- Productivity
- Employment
- Asset value
- Resource efficiency
## Roadmap for Buildings and Construction

<table>
<thead>
<tr>
<th></th>
<th>Short-term (2030)</th>
<th>Medium-term (2040)</th>
<th>Long-term (2050)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban planning</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>New buildings</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Existing building retrofits</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Existing building operations</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Systems</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Resilience</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Clean energy</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Multiple benefits</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
<tr>
<td><strong>Capacity building</strong></td>
<td>Achievable target</td>
<td>Achievable target</td>
<td>Achievable target</td>
</tr>
</tbody>
</table>

### 8 main actions:
- Urban planning
- New buildings
- Existing building retrofits
- Existing building operations
- Systems
- Materials
- Resilience
- Clean energy

### And 5 key topics:
- Policy
- Technology
- Finance
- Capacity building
- Evaluation

Source: IEA. All Rights Reserved.
**Urban planning policies.** Enact urban planning policies that take into account the long term goal of decarbonising the building sector.

**District energy planning.** Enable a systemic approach that can plan for integrating energy demand and supply at district level to deliver more efficient and low-emission solutions.
Develop and implement mandatory codes. Transition from voluntary to mandatory codes that set the minimal efficiency in new buildings.

Strengthen building codes. Ensure that there is a building code improvement cycle that strengthens the performance requirements every 3-5 years with aspirations of achieving zero emission and net zero energy codes.

Integrate renewable energy in new building design. Achieve net zero emissions or net zero energy through the integration of renewable energy.

Enable sustainable building investments. Enable increasing design and construction of sustainable buildings by increasing access to and use of finance to enable private investment.

Governments lead by example. Develop policies that ensure all new government buildings are low-emission and efficient.
### Key actions

**Increase renovation rates.** Renovation rates in industrialized countries to reach 2% on average of the existing stock per year by 2025 and 3% by 2040. Renovation rates in developing countries reaching 1.5% by 2025 and 2% by 2040.

**Increase the depth of renovation.** Enable deep energy renovations that reduce energy consumption of existing building by at least 50%.

**Enable renovation investments.** Enable increasing renovation rates by increasing access to and use of finance to enable private investment in renovations.

**Governments lead by example.** Develop policies that ensure existing government buildings are renovated to be low-emission and efficient.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;X% buildings renovated each year to be sustainable</td>
<td>Achieve: X% renovation</td>
<td>Achieve: X% renovation</td>
<td>Achieve: X% renovation</td>
<td>Achieve: X% renovation</td>
</tr>
<tr>
<td></td>
<td>Aspire: X% renovation</td>
<td>Aspire: X% renovation</td>
<td>Aspire: X% renovation</td>
<td>Aspire: X% renovation</td>
</tr>
</tbody>
</table>
**Baseline status (2019)**: Minimal use of sustainability and energy management

**Short-term (2030)**: Achieve: X% coverage  
Aspire: X% coverage

**Medium-term (2040)**: Achieve: X% coverage  
Aspire: X% coverage

**Long-term (2050)**: Achieve: X% coverage  
Aspire: X% coverage

---

**Building operations**

**Key actions**

- **Energy management systems.** Train on energy management systems and use energy management processes in all buildings, particularly non-residential buildings.

- **Human resources:** Hire and support the capacity building of sustainability and energy managers.

- **Smart controls.** Deploy temperature, lighting and ventilation systems controls, sensors and energy metering.

- **Information.** Provide data and information that will improve the decision making for building operators and occupants.

Enable investment in clean systems. Enable increasing use of sustainable products by increasing access to and use of finance to enable private investment.

Governments lead by example. Develop policies that ensure all government buildings invest in low-emission and efficient systems.
## Key actions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Significant energy, emissions and global warming potential</strong></td>
<td>Achieve: X% GHG + GWP decrease</td>
<td>Achieve: X% GHG + GWP decrease</td>
<td>Achieve: X% GHG + GWP decrease</td>
<td>Achieve: X% GHG + GWP decrease</td>
</tr>
</tbody>
</table>

**Circular economy.** Developing cradle to grave or cradle to cradle life-cycle approaches in the building sector to enable a systemic, material-neutral and performance-based approach and business models.

**Purchase low-energy and low-emission products and materials.** Implement policies that enable improved purchasing decisions based on embodied carbon and energy.

**Reduce demolition.** Implement policies that support improved decisions on the impact associated with building demolition rather than re-use.

**Recycle construction materials.** Support the development of material recycling processes for products and materials that can reduce the lifecycle embodied energy and emissions.

**Phase out high global warming potential (GWP) refrigerants.** Implement policies and technology evolution that enables a phase down and then phase out of refrigerants that cause global warming emissions.

**Information and awareness.** Promote information on low-carbon materials and technologies (e.g. wood and earth constructions, innovative concrete) amongst professionals involved in the building design and construction process.

**Government lead by example.** Develop policies that ensure all government buildings invest in low-emission and efficient materials based on lifecycle analysis.
**Baseline status** (2019)

**Short-term** (2030)

**Medium-term** (2040)

**Long-term** (2050)

**Resilience**

- Minimal adaptation
- Achieve: X% new buildings
- Aspire: X% of all buildings
- Achieve: X% new buildings
- Aspire: X% of all buildings
- Achieve: X% new buildings
- Aspire: X% of all buildings

**Key actions**

**Urban planning risk zoning.** Use data and information to document the potential risk exposure by location to enable improved decision making during the building and infrastructure design process.

**Wind and seismic resistant construction.** Implement policies and use best practice design and strong materials to enable buildings to be resistant to natural disasters and extreme weather events.

**Storm water management.** Require improved retention of storm water within properties to reduce the negative impact of water flowing to other properties and to surging waterways.
### Key actions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant use of fossil fuels and carbon-based electricity</td>
<td><strong>Achieve</strong>: X% zero on-site emissions</td>
<td><strong>Achieve</strong>: X% zero on-site emissions</td>
<td><strong>Achieve</strong>: X% zero on-site emissions</td>
<td><strong>Achieve</strong>: X% zero on-site emissions</td>
</tr>
<tr>
<td><strong>Aspire</strong>: X% clean energy</td>
<td><strong>Aspire</strong>: X% clean energy</td>
<td><strong>Aspire</strong>: X% clean energy</td>
<td><strong>Aspire</strong>: X% clean energy</td>
<td></td>
</tr>
</tbody>
</table>

**Integration of on-site renewable energy.** Include building integrated photovoltaic (BIPV), solar thermal and micro-wind renewable energy projects in the planning and design of buildings and neighbourhoods.

**Eliminate on-site fossil fuel burning equipment.** Replace systems with equipment that use clean energy, including heat pump technology.

**Connect buildings to low-emission district energy systems.** Support the clean energy transition for district energy systems by connecting buildings when districts commit to systems upgrades with clean energy.

**Purchase green power.** Support the electric grid clean energy transition through the purchase of only green power.

**Zero carbon policies.** Implement energy policies that support the clean energy transition based on the lifecycle benefit of the measures.
Regionalizing the Roadmap

**Process:** Insights are collected in an integrative and iterative manner through stakeholder consultations (in-person and webinars). Survey to collect regional insights. Participants have the option of responding in one or several of the 8 categories depending on their expertise.

1. Identifying potential stakeholders and experts in each region: national and local authorities, private sector, international/regional organisations, academia, industry

2. Divulgation of the project objectives and feedback on strategy

3. Identification of key actions, policies, technologies and goals for the short, medium and long term through stakeholder consultations and surveys

4. Draft of regional roadmaps, discussions of preliminary results and feedback from stakeholders

5. Preliminary version of regional roadmaps by December 2019 at COP25

6. Ongoing revision and updating of the "living" documents through 2020
Join the GlobalABC

Become a member and advocate for a zero-emission, efficient, and resilient buildings and construction sector globally

➢ Shape the rapidly changing buildings and constructions sectors
➢ Be a part of the global transition to a climate compatible path
➢ Contribute to climate change mitigation and adaptation and sustainable development
➢ Gain access to a fantastic network of likeminded champions
➢ Increase visibility of your actions and actively shape key messages and tools

The surface area of habitable space on Earth will double by 2060

Buildings-related CO2 emissions have continued to rise by around 1% per year since 2010
THANK YOU!

Learn about or join at GlobalABC.org
Contact the Secretariat: Global.ABC@un.org