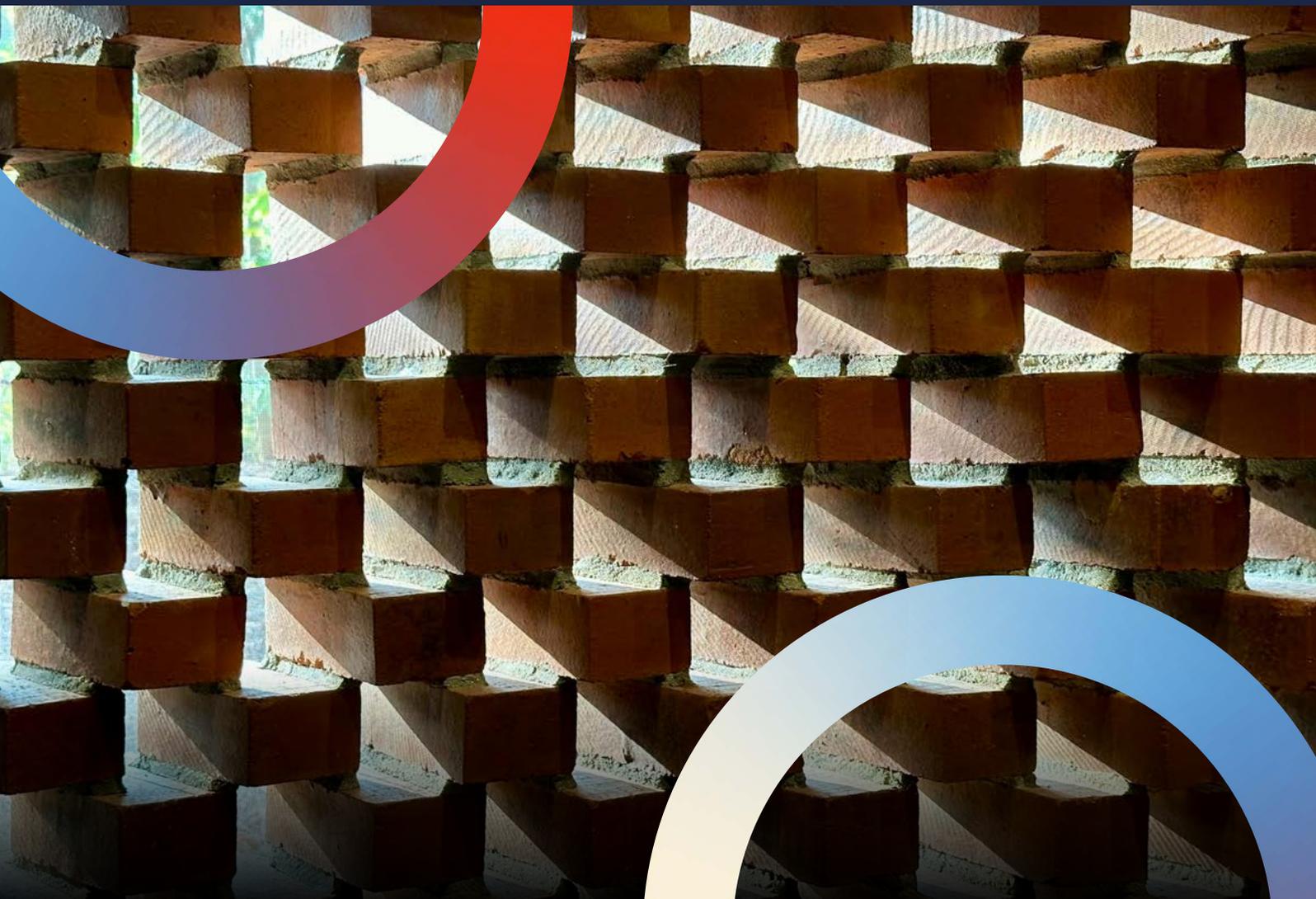




Deploying Established Climate Technologies and Solutions for Buildings

Key messages and recommendations from the policy brief



Executive Summary

Key Messages

The Technology Executive Committee (TEC) highlights the following key messages drawn from the findings in this policy brief, “Deploying Established Climate Technologies and Solutions for Buildings,” prepared in collaboration with the Global Alliance for Buildings and Construction (GlobalABC) and the Massachusetts Institute of Technology Climate Policy Center:

- **Buildings account for nearly 40% of global energy-related greenhouse gas emissions.** Yet significant disparities exist among countries in access to proven climate technologies, with developing countries, especially Small Island Developing States (SIDS) and Least Developed Countries (LDCs), facing particular challenges due to resource constraints, inadequate policy frameworks, and limited technical capacity, therefore, scaling up established climate technologies in buildings is essential to achieving global climate goals while addressing rapid urbanisation.
- **A wide array of high-impact, cost-effective, market-ready climate technologies have demonstrated effectiveness in reducing emissions and enhancing resilience across diverse climatic zones, and their impact is greatest when applied in an integrated manner.** This means combining hardware solutions (advanced heat pumps, highly-energy efficient cooling systems with climate- and environmentally friendly refrigerants, high-performance insulation), software measures (energy management systems), and orgware approaches (green building codes, traditional knowledge). Solutions range from nature-based approaches like green roofs to advanced technologies like modular construction and renewable energy systems.
- **Traditional building practices rely on low-specification materials and energy-intensive systems, missing opportunities to leverage cost-effective solutions.** While the importance of sustainable buildings in climate strategies is recognised at the national level, there is a limited integration of specific climate technologies in national planning documents, such as Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and other national climate strategies. Therefore, the gap between recognition and implementation highlights the need for targeted technical assistance and capacity-building support.
- **Access to affordable financing remains a critical barrier, particularly in developing countries.** Innovative mechanisms—including green bonds, revolving loan funds, public-private partnerships, and pay-as-you-save models—have proven effective in reducing barriers and enabling adoption. Long-term financing mechanisms are key to overcoming high upfront costs and scaling integrated climate technology solutions.
- **Community-based approaches integrating traditional knowledge with modern technologies demonstrate superior acceptance, particularly in developing countries, especially in SIDS and LDCs.** Technologies utilising locally available materials, such as treated bamboo, rammed earth, and traditional passive cooling, leverage traditional knowledge while creating affordable solutions, and thereby address resource constraints while supporting local economies.
- **Despite technology availability, adoption faces obstacles including outdated building codes, limited expertise, and insufficient stakeholder engagement.** Successful deployment requires comprehensive enabling environments with robust regulatory frameworks

and inclusive approaches prioritising gender equity and social considerations. Creating enabling environments through supportive policies and capacity-building is essential for overcoming persistent barriers to deployment.

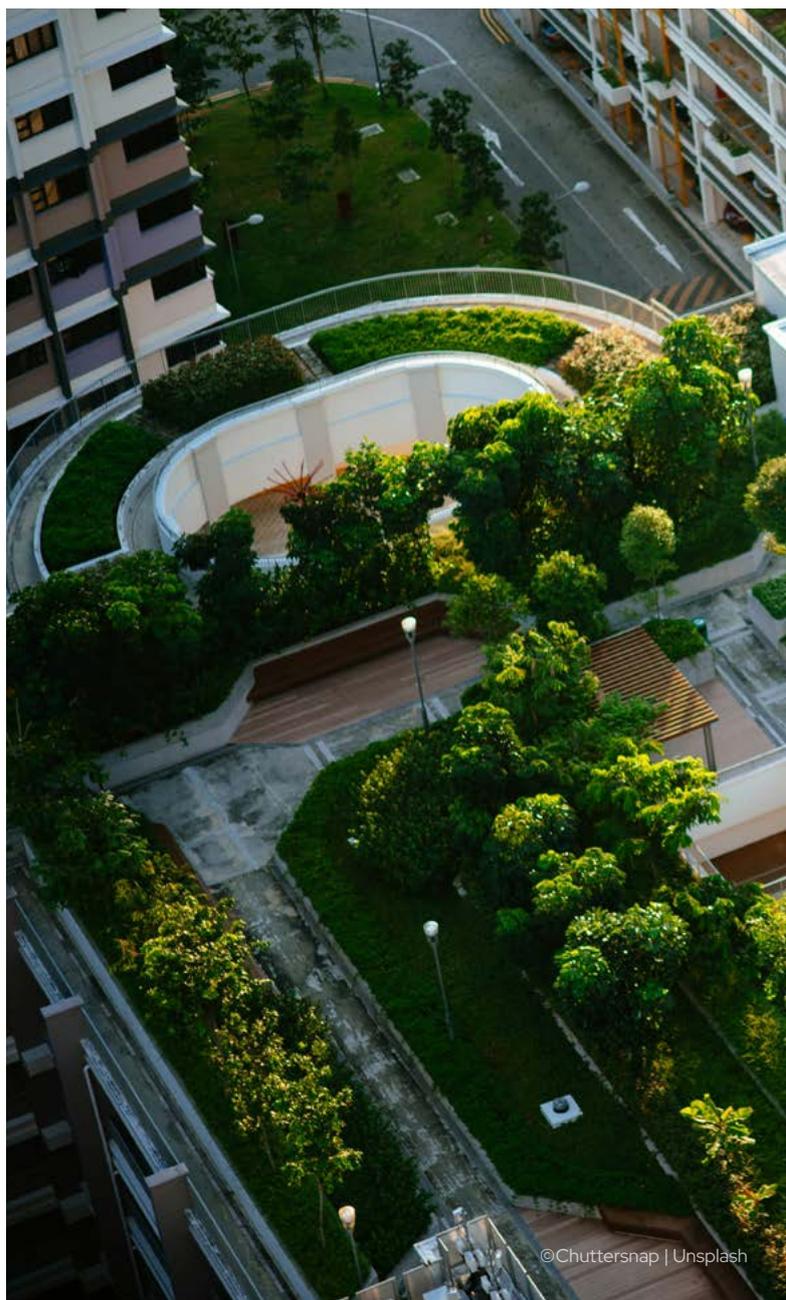
Recommendations

To accelerate the deployment of climate technologies and solutions in the buildings sector, the TEC recommends that the COP and the CMA encourage Parties, international organisations and stakeholders, as relevant, to:

- **Consider climate technologies for buildings when preparing and updating national climate policies, strategies and plans**, where appropriate, prioritising the development and implementation of comprehensive green building codes.
- **Mobilise scalable financing solutions by leveraging resources from climate funds, development banks, and innovative financial instruments**, including green bonds, revolving loan funds, green public procurement programmes, national taxonomies integrating standard low- and net-zero-emission buildings, and public-private partnerships that reduce upfront cost barriers and support green building code compliance.
- **Leverage international cooperation and technology transfer initiatives** to strengthen institutional capacity for developing and implementing green building codes, facilitate knowledge sharing on best practices, and enable access of developing countries, especially in SIDS and LDCs, to cutting-edge climate technologies.
- **Support the integration of traditional knowledge with modern climate technologies** through updated green building codes that recognise locally available materials, technologies and climatic conditions, thereby

creating affordable pathways that enhance community ownership and long-term sustainability.

- **Build comprehensive enabling environments** through robust green building codes with clear enforcement mechanisms, institutional coordination, and digital monitoring systems that ensure compliance while addressing regulatory gaps and streamlining implementation processes.
- **Promote inclusive and equitable deployment** through green building codes that prioritise affordability and social justice, ensuring that climate technology benefits reach marginalised communities through targeted subsidies, microfinance mechanisms, and community-based implementation models.





United Nations Climate Change
Technology Executive Committee



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