COP 30 Presidency Roadmap on the Transition Away from Fossil Fuels in a Just, Orderly and Equitable Manner

Global Alliance for Buildings and Construction (GlobalABC)

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(a) *What are the most critical barriers — whether physical, economic, financial, institutional, technological or social— preventing a transition away from fossil fuels?*

1. Economic & financial barriers

- **High upfront costs** of energy-efficient, electrified, and climate-resilient buildings, especially in emerging markets
- **Insufficient focus on envelope-first, low-cost, measures** (external solar shading, external insulation, careful design of openings for natural ventilation, including shafts with openings at high level, which require just investing a little more time at design stage)
- **High cost of capital** and perceived investment risk in EMDEs
- **Fragmented and insufficient finance flows**, with limited use of risk-sharing instruments (guarantees, equity, blended finance)
- **Weak pipeline of bankable projects**, due to limited project preparation capacity
- **Underinvestment in building retrofits** despite their high mitigation and adaptation potential
- **Insufficient adaptation finance** and underdeveloped insurance mechanisms

2. Policy & institutional barriers

- **Inadequate or misaligned building codes**, often not consistent with objectives of achieving low "*energy needs for heating and cooling*" by designing a good envelope, as the first affordable step towards low-emission, whole-life carbon, or resilience (see e.g. 3 min video at COP30 on indicators)
- **Lack of enforcement capacity** for existing regulations
- **Fragmented governance** across ministries (energy, buildings, finance, urban planning, environment, etc.)
- **Lack of integrated approaches** linking buildings with urban planning, land use, transport and energy systems
- **Lack of coordinated phaseout of fossil fuel** infrastructure leading to lock-in and higher network prices for those remaining
- **Continued approval of buildings** with high "*energy needs for heating and cooling*", creating long-term lock-in, now into carbon intensive supply and in the future in oversized infrastructure for renewable collection, storage and transport.
- **Misaligned policies, standards and taxonomies**, reducing investor confidence and cross-border investment

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- **Limited integration of climate risk (physical and transition)** into planning and investment decisions

3. Market & demand barriers

- **Weak demand signals** for low-emission and resilient buildings (e.g. lack of mandatory green procurement/Sustainable Public Procurement or performance standards)
- **Inconsistent and inadequate financial support to lowest upfront cost**, create sustainable markets and benefit from lifecycle performance, resilience, and co-benefits
- **Low consumer awareness** of long-term benefits/co-benefits (health, comfort, resilience) and persistent myths and misinformation due to entrenched interests
- **Split incentives** (e.g. landlord vs tenant)
- **Policy uncertainty** discouraging and slowing private sector investment
- **Continued growth in floor area** and urban sprawl offsetting efficiency gains

4. Technical & data barriers

- **Lack of appropriate use of existing metrics and methodologies,** especially the indicator of energy demand due to envelope features, "*energy need for heating or cooling*". and the entire set of indicators and definitions, as available in EN-ISO 52000, from "needs" to "*total* or *non-renewable primary energy*".
- **Lack of harmonization of metrics and methodologies**, especially for whole-life carbon and resilience; comparability might be improved by use of the existing common nomenclature offered by International Standards
- **Limited data availability, quality and transparency**, including performance of *building envelope* and of *technical building systems*, embodies carbon, finance flows
- **Limited interoperability of digital tools, platforms and data systems, lack of use in those tools of common definitions and common terminology of International Standards**
- **Lack of smart meters**

5. Supply-side & technological barriers

- **Underdeveloped local supply chains** for low-carbon materials (including bio or geo based) and building technologies
- **Limited knowledge by construction companies about high impact - low cost solutions** (such as reasonable window to wall ratio, efficient external solar protections, ceiling fans, geometry facilitating natural ventilation for cooling, low flow certified water devices…, heat recovery on ventilation and waste water)
- **Slow scale-up and cost barriers** for high-impact solutions (low-tech passive solutions as well as heat pumps, low-carbon cement, etc.)
- **Limited adoption/deployment of circular construction practices** and material efficiency approaches
- **Resource-intensive construction practices** contributing to biodiversity loss and environmental degradation

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6. Capacity & social barriers

- **Significant skills gaps** across the building value chain (design, construction, regulation, finance)
- **Limited knowledge by construction companies about high impact low cost solutions (**such as reasonable window to wall ratio, efficient external solar protections, ceiling fans, geometry facilitating natural ventilation for cooling, low flow certified water devices…)
- **Limited institutional capacity** for implementation and enforcement
- **Insufficient integration of local and indigenous/vernacular knowledge**
- **Equity concerns**, including affordability and access to finance
- Persistent **housing inadequacy and informality** in many regions

(b) *What potential levers, whether economic, financial, institutional, social or technological, exist for accelerating the implementation of the transitioning away commitment?*

1. Strengthening policy and regulatory frameworks

- **Adopt and enforce codes and standards with clear** objectives of achieving low "*energy needs for heating and cooling*" by designing a good building envelope, on which to build low-emission, whole-life carbon, or resilience objectives. Prescriptive approaches targeting key physical features of the envelope can be effective and easy to implement and monitor.
- I**ntroduce clear phase-out timelines** for fossil fuel-based heating and cooling systems and infrastructure (i.e. networks)
- **Align national and regional standards, taxonomies and definitions** to improve comparability and investment confidence. The language of International Standards should be used at least as translation bridge and reference, eg EN-ISO 52000
- **Integrate climate risk and resilience into regulations and planning systems.** Cost optimal regulation as a methodology to set minimum efficiency standards should always include environmental costs into calculation, and adopt social discount rates (rather than private ones)
- **Strengthen integrated urban planning linking buildings, land use, mobility and infrastructure.** (a first example in the direction of integration is EPBD, with its mandate for active mobility infrastructures, e.g. mandated parking space for bicycles inside buildings)
- Create markets that value flexibility and promote time-of-use tariffs and locational pricing of electricity

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2. Creating strong demand signals

- **Scale public procurement commitments** and implementation for low-emission and resilient buildings, prioritising whole-building performance approach, protective envelopes and passive means, low-carbon materials and components, and low-emitting equipments, systems and appliances
- **Introduce mandatory standards (in prescriptive or performance mode) and long-term regulatory trajectories**
- **Promote sufficiency approaches**, including building reuse, space optimisation, including availability of common spaces indoor and outdoor, and limiting unnecessary new construction
- **Leverage corporate, financial sector and city-level commitments**
- **Consistent and effective subsidy support with a focus on vulnerable households**

3. Advancing standards, data, and transparency

- **Adopt interoperable definitions, metrics, and indicators** for buildings with low "*energy needs for heating and cooling*", low-emission and resilient , taking into account the common nomenclature and definitions set up in International Standards, e.g. EN-ISO 52000
- **Scale open data platforms,** building performance disclosure and benchmarking tools
- **Standardise methodologies for whole-life carbon and lifecycle performance**

4. Scaling deployment of available solutions and technologies

- **Promote and prioritise deep retrofits and passive design strategies** to reduce energy demand, as quantified by the indicators "*energy need for heating, cooling and hot water*", energy use for lighting,...
- **Accelerate uptake of mature high-impact solutions** (energy efficiency, electrification, renewables)**Promote climate-adaptive and nature-based** design approaches
- **Support innovation in low-carbon materials and circular construction**
- **Promote demonstration projects and replication models**
- **Deploy smart meters**

5. Strengthening capacity and institutions

- **Invest in priority workforce and institutional capacity development (including institutional capacity for enforcement, planning and finance mobilisation)**
- **Embed principles for buildings with low "*energy need for heating and cooling*", low emissions and resilient into education and training systems**
- **Promote international cooperation and peer-learning platforms**

6. Enhancing supply chains

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- **Scale manufacturing and local availability of key technologies and materials**
- **Promote circular economy approaches and material/resource efficiency and waste reduction**
- **Support development and uptake of bio-based, geo-based and carbon-storing materials**
- **Align product standards and certification systems globally**

7. Improving system-wide coordination

- **Leverage multi-stakeholder platforms** to align policy, industry, and finance
- **Improve coordination across sectors (including with energy system transformation, materials, finance, urban planning)**
- **Translate global commitments into national and local implementation pathways**

(c) *What country, regional or sector roadmap experiences, best practices, and lessons learned can be shared?*

1. Value of multi-stakeholder coordination

Platforms, such as the Global Alliance for Buildings and Construction (GlobalABC), bringing together governments, industry, and finance actors enable messaging and action alignment across the value chain

Lesson: System transformation requires coordinated action across policy, markets, and technology.

2. Importance of shared definitions and frameworks

Development of common definitions and principles for buildings with low *energy needs*, low-emission and resilient, including assessment methodologies, provide a foundation for policy alignment, comparability and international cooperation

Lesson: A shared language is foundational for scaling action globally. A basis for such shared language is available in International Standards as e.g. EN 52000 and should be leveraged as is or at least as a “translation tool”.

3. Public procurement and demand creation

Government and local authority procurement can lead and create immediate demand and accelerate supply chain transformation

Lesson: Public actors play a critical role as market makers, and innovation acceleration. Some databases for selecting efficient building components are available es e.g. topten.ch and Passipedia https://passipedia.org/certification/passive_house_suitable_components or CasaClima and they can serve as examples for effective procurement

4. Data and knowledge platforms

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Development of building performance databases and WLC tools improves decision-making
Lesson: Data availability is essential for better decision-making, investment and accountability.

5. Technology and deployment initiatives

Proven technologies and approaches already exist but remain underdeployed
Lesson: The challenge is scaling and implementation, not innovation alone.

(d) *How can a just, orderly and equitable transition best reflect the diverse realities of countries at different stages of development and with different degrees of dependence on fossil fuels?*

1. Differentiated pathways

Reflect **different national circumstances**, particularly rapid growth in EMDEs and varying institutional capacity, and fossil fuel dependence

2. Prioritising high-impact regions

Focus on emerging markets, where most future construction will occur and mitigation potential is highest, while accelerating deep renovations in existing stock

3. Affordability and inclusion

Ensure buildings with low *energy needs*, low-emissions and resilient are accessible and affordable, supportive of social equity objectives and housing affordability objectives. Support upgrading of informal settlements and access to adequate, sustainable housing

4. Capacity and workforce development

Invest in local project-level and institution-level skills, and long-term education and training systems

5. Integrating resilience

Address mitigation and adaptation together, and prioritise climate adaptation and resilience, especially for vulnerable populations and high-risk geographies.

6. Leveraging local knowledge

Integrate local knowledge, construction practices and context-specific solutions to avoid maladaptation

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