ACHIEVING RESILIENCE IN THE BUILT ENVIRONMENT

WHY ARE WE NOT ADAPTING?

EXECUTIVE SUMMARY
This report was written for the Adaptation Working Group of the GlobalABC by Victor PIANET (OID)

The Adaptation WG is sponsored by ADEME

with the active support of
Marianne ARMSTRONG (NRC Canada), Stéphane POUFFARY (ENERGIES 2050) and Judy ZAKRESKI (ICC)

and was reviewed by
Ariana KARAMALLIS (Build Change), Monica SCHROEDER (Build Change),
Erik LANDRY (GRESB), Thandi KATLHOLO (Botswana GBC),
Elizabeth BEARDSLEY (US GBC), Idriss KATHRADA (Inoal),
Régis MEYER (French Ministry of Ecological Transition and Solidarity) and Dan SANDINK (ICLR)

under the supervision of
Julie PRIGENT (ADEME), Karim SELOUANE (Resallience), and Judy ZAKRESKI (ICC).

Members of the Adaptation Working Group of the GlobalABC supported the redaction of this report
Ibtissem BOUATTAY (Tunisian Forum of Adaptation Actors), Karine DARI (AFNOR),
Ommid SABERI (IFC), Andreas JÄGER (ICLEI).

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Gaëlle PESCHOUX (OID), Sakina PEN POINT (OID),
Pauline VILAIN (OID), Yijun CUI (GlobalABC),
Nora STEURER (GlobalABC)
Climate change is a global crisis with wide-ranging consequences, affecting not only the environment and weather patterns but also biodiversity, food production, human health, and poverty. It poses a threat to the well-being of communities worldwide.

The built environment, which includes vital infrastructure and urban systems, is at the forefront of climate change impacts. Increasingly frequent and severe extreme weather events like hurricanes, heat or cold waves and floods, as well as slow-onset events like sustained higher temperatures, sea level rise and changing precipitation patterns, threaten the safety and service life of urban and rural infrastructure. The buildings and construction sector is critical to urban development, and its vulnerabilities require immediate attention.

Climate change impacts urban infrastructure in several ways, including accelerating the aging of buildings, disrupting the production and distribution of goods and services, and posing threats to the quality of life and human health. The buildings and construction sector is intertwined with the well-being of cities and their residents.

Adapting to climate change is an urgent global priority. The increasing risks and uncertainties associated with extreme events require proactive efforts in building norms, regulations, and infrastructure development. Waiting for disasters to strike and then responding is not a viable strategy.

Investing in adaptation measures provides a significant return on investment, offering impressive benefit-to-cost ratios. Likewise, failing to act on adaptation carries substantial economic and non-monetary costs, such as damage to communities and ecosystems. The benefits of adaptation go beyond asset value retention. Despite compelling reasons to invest in adaptation, the pace of adaptation efforts is insufficient. There is a gap between the adaptation needs and the available resources, and the current level of private sector involvement is inadequate.

Addressing climate change in the buildings and construction sector demands collective action from various stakeholders, including governments, local authorities, investors, architects, and industry players. Only through collaboration can the sector fully address the adaptation needs inherent in the new climate reality. A more coordinated, ambitious, and long-term approach to adaptation planning, financing, and implementation is essential, and closing the adaptation gap to enhance the resilience of the buildings and construction sector in the face of climate change is a priority. The stakes are high, and now is the time to act to safeguard the well-being of current and future generations.

From architects and engineers to investors and developers, each stakeholder within this sector is in a position to contribute to the collective action needed to enhance and expedite adaptation measures. While each may face challenges in changing practices or policies to make the most impactful contribution possible, accepting that the key to effectively addressing climate change adaptation lies in recognizing and addressing vulnerabilities at a scale adapted to each stakeholder’s unique role within the industry is an essential starting point.

In this analysis, we employ the "10 Principles for Effective Action" developed by the GlobalABC Adaptation Working Group to identify how each stakeholder group might be best positioned to promote effective adaptation from within the broader built environment value chain. Taken as a whole, the "10 Principles for Effective Action" encompass a holistic approach to climate change adaptation, covering aspects such as risk assessment, resilience building, stakeholder engagement, financing mechanisms, and regulatory frameworks. And while each of the 10 Principles has relevance across the value chain, different stakeholders are better suited to act on specific principles within the context of their roles and responsibilities in the industry.

By applying the 10 Principles at multiple levels and involving various stakeholders, the buildings and construction sector can develop comprehensive and tailored strategies to address climate change challenges. The approach proposed in this report serves as a guide to define how each stakeholder can contribute effectively to climate change adaptation while leveraging their unique strengths and capabilities. In the subsequent sections of this report, we will delve into each stakeholder’s role, their challenges or vulnerabilities, and the specific actions aligned with the 10 Principles that they are best positioned to address, ultimately showcasing how collective efforts can lead to a more climate-resilient built environment. Figure 1 below summarizes our understanding of how each stakeholder is best suited to act on each specific principle.
FIGURE 1: HOW VARIOUS STAKEHOLDERS MIGHT BE BEST POSITIONED TO PROMOTE EACH OF THE 10 PRINCIPLES FOR EFFECTIVE ADAPTATION FROM WITHIN THE BROADER BUILT ENVIRONMENT VALUE CHAIN

<table>
<thead>
<tr>
<th>Principles</th>
<th>National Governments</th>
<th>Local Authorities</th>
<th>Investors &amp; asset managers</th>
<th>Property developers</th>
<th>Insurers &amp; reinsurers</th>
<th>Architects</th>
<th>Engineers</th>
<th>Material, equipment &amp; construction</th>
<th>Property &amp; facility managers</th>
<th>Occupants &amp; civil society</th>
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<tbody>
<tr>
<td>1. Urgency/ Act now.</td>
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<td>2. Stakeholders/ Consider a systemic integration of measures for adaptation across the entire value chain.</td>
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<td>3. Process/ Consider adaptation along the entire lifecycle of an asset.</td>
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<td>5. Data/ Understand climate risk data and accept uncertainty.</td>
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<td>6. Scale/ Think beyond asset-level.</td>
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<td>8. People/ Promote a “just adaptation” of the building sector.</td>
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<td>10. Local/ Fit adaptation measures to the local context</td>
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Please note that the exact degree of capability can vary depending on the specific context, organization, or framework in question. This scale is a general guideline and may need to be adapted to specific situations.
In conducting the research to develop this report, which focused on surveying and interviewing members of the different stakeholder groups, it became apparent that not only was there not a consistent approach to considering adaptation measures, but there was actually an alarming delay common to all stakeholder groups in actively addressing adaptation measures in the buildings in construction sector. This discovery led us to ask why, and to shift focus to uncover the central reasons behind the delayed progress in embracing the 10 Principles and acting upon them.

1. BUILDING FOR FUTURE RESILIENCE?
A primary challenge is the reluctance of stakeholders across the value chain, such as architects, engineers, and developers, to bear the initial costs associated with climate change adaptation. The default is to instead wait for investors, clients, or regulators to mandate adaptation measures. Unfortunately, for both clients and contractors, the upfront expenses for resilient design and construction are often at odds with short-term profit expectations, creating a disincentive for prioritizing adaptation measures. This then creates a scenario in which resilience is not considered or incorporated into buildings and infrastructure from the start. It is symptomatic of a sector that commonly operates with a limited perspective of the design life of a building, which is often far shorter than the actual use of a building. However, lacking these resilience features from the initial build could force premature demolition of structures and increase environmental impact if it becomes too expensive to adapt the building after many years of use. As with existing buildings that were constructed decades ago without consideration of current or future climate conditions, the buildings built today often fail to integrate the uncertainties of future climate. The sector must integrate future climate predictions into design and adaptability planning to ensure buildings can withstand the challenges of climate change.

2. ADAPTATION VS. MITIGATION?
Mitigation frequently remains the sole focus of the fight against climate change for many stakeholders, and even those who start considering adaptation fail to understand that resilience entails a completely different approach. Adaptation differs from mitigation in that it doesn’t allow for gradual, incremental progress; a building or infrastructure system is either resilient to climate change impacts or not. The fundamental difference between the two strategies necessitates a firm commitment to building resilience from the outset. Adaptation policy is also not often at the forefront of public policies, and there is often a failure to recognize that objectives like the quest for affordable housing should consider the total cost of ownership rather than the initial purchase cost. This need to consider the lifecycle costs and benefits can create a complex challenge for policymakers. Giving equal consideration to affordability and resilience is crucial, as achieving this balance impacts both the well-being of citizens and the overarching goal of sustainable development.

3. LOCAL RESOURCING
Climate adaptation is inherently a local issue, requiring bottom-up approaches and tailored solutions crafted by local officials. Barriers to effective adaptation efforts include lack of financial capacities at the local level to tackle such immense challenges, regulatory and institutional barriers, socio-cultural barriers, and the fact that adaptation policies at the local level would often rely on the willingness of local leaders to launch such efforts, all of which must be collectively addressed to drive meaningful progress.

4. WHO PAYS?
While stakeholders in the buildings and construction sector often have diverse and at times conflicting interests, this cannot be an excuse for inaction. Not all stakeholders are equally equipped to address every aspect of the “10 Principles for Effective Action,” however, we cannot continue to pass the responsibility of climate change adaptation to the next stakeholder in line or to delay action. There is no “later” when it comes to the impending challenges of climate change. The responsibility for adaptation must be shared collectively before the cost becomes insurmountable. If we persist in refusing to bear the initial costs at each stage of a building’s life cycle, we risk a future where the price we collectively avoided paying upfront will come due with interest. Who will pay when disasters strike? Should national governments continually fund increasingly frequent and severe recovery efforts? Should insurance companies face a cascade of failures? Should homeowners bear the cost of mistakes made years ago, or should they face the increased threat of losing their homes and everything they hold dear?

The time for action is now. All stakeholders must come to the table, commit to implementing adaptation strategies that align with their capabilities, and work together to find a common path and shared metrics for achieving climate adaptation across the value chain of the buildings and construction sector. Our collective future depends on our ability to unite, act decisively, and ensure that climate resilience is built into the very foundations of our structures. Let us not wait until the cost becomes unbearable, but instead, let us pave the way for a sustainable, resilient, and secure future for all.
KEY TAKEAWAYS

1. CLIMATE CHANGE AS A GLOBAL CRISIS:
   Climate change is a global crisis with far-reaching consequences, impacting the environment, weather patterns, biodiversity, food production, human health, and poverty.

2. BUILT ENVIRONMENT AT THE FOREFRONT:
   The built environment, including infrastructure and urban systems, is particularly vulnerable to climate change impacts, with extreme weather events and slow-onset events threatening safety and service life.

3. URGENT NEED FOR ADAPTATION:
   Adapting to climate change is an urgent global priority, necessitating proactive efforts in building norms, regulations, and infrastructure development.

4. ECONOMIC BENEFITS OF ADAPTATION:
   Investing in adaptation measures yields a significant return on investment, and failure to act carries substantial economic and non-monetary costs, such as damage to communities and ecosystems.

5. INSUFFICIENT PACE OF ADAPTATION:
   Despite compelling reasons, the pace of adaptation efforts in the buildings and construction sector is insufficient, with a gap between adaptation needs and available resources.

6. COLLECTIVE ACTION REQUIRED:
   Addressing climate change in this sector requires collective action from various stakeholders, including governments, local authorities, investors, architects, and industry players.

7. STRUCTURED ACTION:
   The “10 Principles for Effective Action” are introduced, encompassing risk assessment, resilience building, stakeholder engagement, financing mechanisms, and regulatory frameworks.

8. CHALLENGES IN THE SECTOR:
   Challenges include stakeholders’ reluctance to bear initial costs, a focus on mitigation over adaptation, conflicts between adaptation and other policy objectives, and the need for local, bottom-up approaches.

9. LOCALIZED ADAPTATION AND TAILORED SOLUTIONS:
   Effective adaptation requires bottom-up approaches and tailored solutions crafted by local officials, addressing financial, regulatory, institutional, and socio-cultural barriers.

10. SHARED RESPONSIBILITY AND IMMEDIATE ACTION:
    Call for shared responsibility among stakeholders in the buildings and construction sector, emphasizing that delaying action is not an option given the impending challenges of climate change.

11. FUTURE CONSEQUENCES OF INACTION:
    Warning of future consequences if stakeholders fail to bear the initial costs, including increased risks, disasters, financial burdens on governments and insurance companies, and threats to homeowners.

12. CALL TO ACTION:
    The report concludes with a strong call to action, urging all stakeholders to commit to implementing adaptation strategies aligned with their capabilities and work collaboratively to ensure climate resilience is built into the foundations of structures.