UN-HABITAT

Open-ended Intergovernmental Expert Working Group on Adequate Housing for All

Intersessional Meeting on Housing Environmental Sustainability

Land Housing and Shelter Section, UN-Habitat

Date: 16 September 2025

1

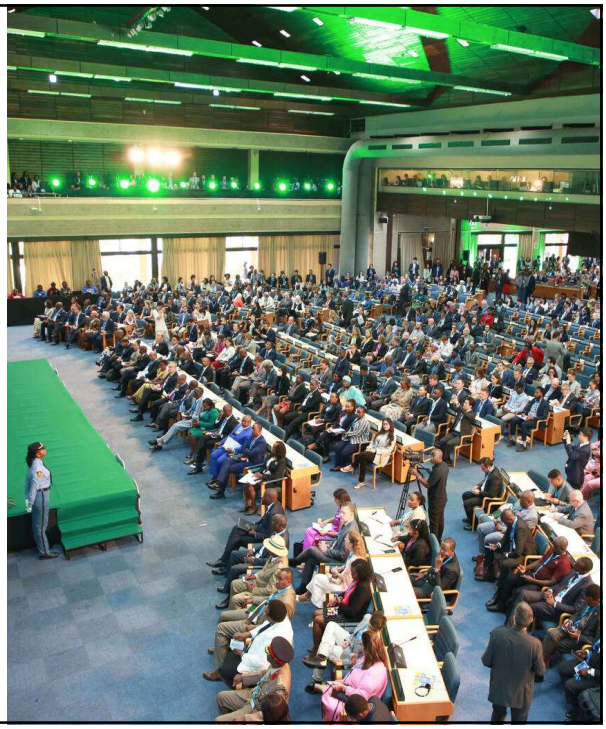
Introduction

Adequate Housing has been at the centre of the UN-Habitat mandate since its establishment.

Housing crisis: 1.1 billion people live in slums or informal settlements; 1.6 billion face housing affordability constraints; over 300 million are homeless

Habitat Assembly Resolutions 2/7: Establishment of OEWG on Adequate Housing for All (OEWG-H) and a **Knowledge Platform on Housing & Resolution 2/2**: Accelerating the transformation of informal settlements and slums by 2030

Housing, land, and basic services at the core of the new **UN-Habitat Strategic Plan** 2026-2029



2

Open Ended Intergovernmental Working Group on Adequate Housing for All (OEWG-H)

Objective:

Develop robust, peer-reviewed, and Member State-endorsed set of recommendations to accelerate the achievement of safe, sustainable, adequate, and affordable housing for all.

Submit recommendations to the third United Nations Habitat Assembly in 2029.

Use content developed and provisional recommendations to advance adequate housing policies and programmes at national and local level.

3

Open Ended Intergovernmental Working Group on Adequate Housing for All (OEWG-H)

- OEWG-H1 (Nairobi, 9–11 December 2024
- Intersessional thematic virtual meetings
  - Housing Finance (24th June)
  - Tenure Security (25th June)
  - Informal Settlements (26th June)
  - Social Housing (27th June)
  - **Sustainability (16th September)**
  - Definitions: Informal Settlements and Homelessness (17th September)
  - Monitoring framework (18th September)
- **OEWG-H2: Nairobi, 22–23 October 2025**

4

Today's Intersessional Meeting on Housing Environmental Sustainability

Goals:

1. Present **the key challenges, trends and opportunities** related to the housing environmental sustainability

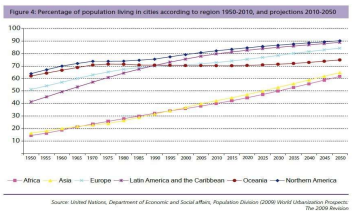
2. **Bring back the inputs for the formulation of draft recommendations from the EGM** held on 20th August 2025

3. Provide **additional inputs to the analysis and recommendations** on the environmental sustainability of the housing sector

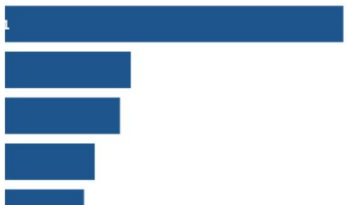
5

Framing the Discussion: Environmental Sustainability of Housing

🏠 Over 1.6 billion people live in inadequate Housing globally



🏠 By 2050: 70% of the global population will live in cities.



🏠 Up to 3 billion people (≈40%) may live in slums/informal settlements by 2050.

🏠 60% of buildings needed by 2050 are yet to be constructed.

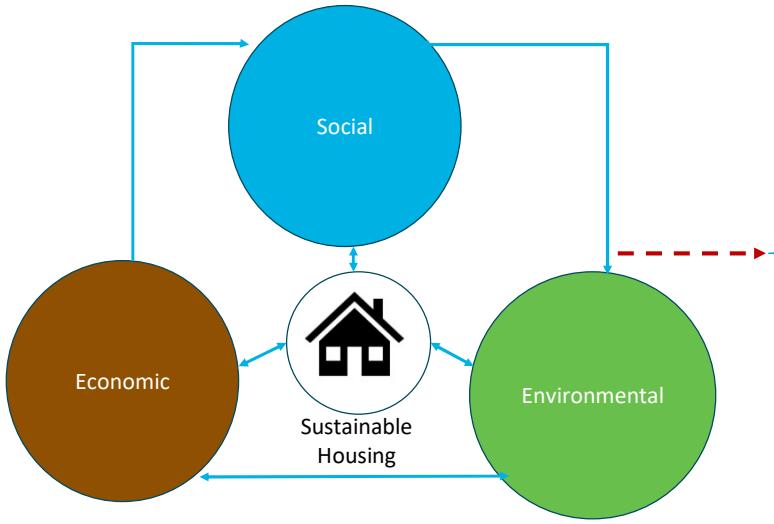
🏠 What does this mean?

Demand for adequate housing needs to be met within environmental constraints

6

Framing the Discussion: Environmental Sustainability of Housing

Sustainable housing is a guiding principle that integrates 3 pillars of Sustainability: **environmental, social, and economic**



Elements of Adequate Housing
- Tenure Security
- Basic Services
- Affordability
- Habitability
- Accessibility
- Location
- Culturally Adequate
- Environmental Sustainability

7

Framing the Discussion: Environmental Sustainability of Housing

Environmental sustainability is the central component of sustainable housing, safeguarding the very conditions that make all other housing goals attainable. It is concerned with measures in the housing lifecycle that;

✓ **Reduce environmental footprints** in terms of energy and emissions, water, land, and materials use throughout the lifecycle of residential buildings,

✓ Enhance indoor **human health** and surrounding living environments, and

✓ Strengthen **housing resilience** and adaptation to climate conditions

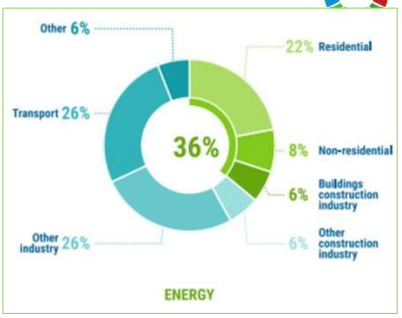
8

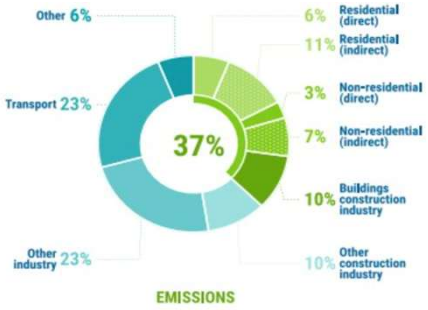
Sustainable housing: Why it matters

Globally Buildings (that include residential):

- **22% of total worldwide energy** consumption occurs in households
- The buildings and construction sector accounts for **37% of process-related carbon dioxide emissions (Residential 18%)**
- The buildings and construction sector consumes **12% of freshwater, 30% of raw materials**
- Generates **20% of water effluents** and **40% of landfill**
- Urban expansion converted **0.93 million km² of** natural landscapes to built-up areas **between 2000 and 2020,** with another **0.5 million projected by 2050**

The Housing Climate Challenge: Housing is both a contributor to and a casualty of the climate crisis





9

New, Existing Sustainable Housing and Urban Development: *Where do we need to focus*

*Both **existing** and **new residential** buildings affect carbon & Material footprint*

Existing Buildings
(Operations & Maintenance)

- Inefficient appliances & ageing homes drive **high energy demand.**
- Retrofits (insulation, windows, efficient HVAC, clean cooking) cut emissions & bills but **often come at high upfront costs.**
- **Lower Embodied Carbon:** Renovating or retrofitting existing buildings **avoids emissions from demolition and new material production.**

New Buildings
(Construction, Operations & End-of-Life)

- Embodied Carbon: concrete & metal = **high carbon & water stress.**
- **Land Use Impact:** New developments can disrupt ecosystems, increase stormwater runoff, and contribute to urban heat islands.
- Circular economic principles and risk-informed, climate-resilient design = future-proof, sustainable housing.

10

Urban Development

(The impact of Housing construction on the city form)

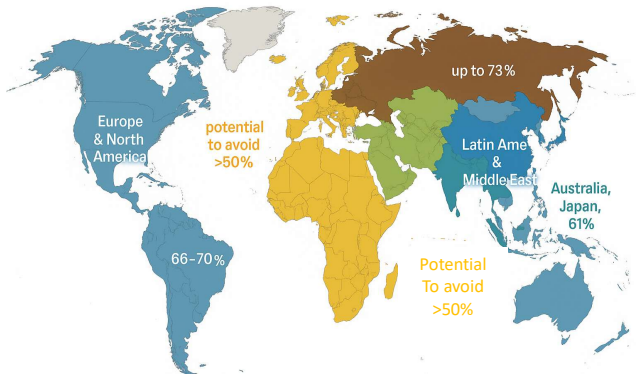
Current Urban Model not sustainable

- **Rapid unmanaged and unplanned urban growth**
  - **Slums and Housing Backlog**
  - **Urban infrastructure and services backlog**
  - **Urban Sprawl**
- **Car Dependency**
- **High level of zoning**
- **Homogeneity**
- **Segregation and exclusion**
- **Loss of Street Life, gated communities**
- **High energy demand and emission of greenhouse gases**
- **Increasing number of urban disasters**

11

Global and Regional Mitigation Potential

The potential to reduce building sector emissions varies significantly by region, reflecting different development levels, energy use, and construction trends.



- **Asia (Eastern):** Largest potential via efficiency upgrades.
- **Africa:** Low current emissions; high future growth. Early investment is crucial.
- **Europe & North America:** Strong retrofit and renewable opportunities.
- **Latin America & Middle East:** Cooling and decentralized energy are key.
- **Australia, Japan, NZ:** Balanced mix of interventions.

12

Challenges in Achieving Environmental Sustainability in Housing

Retrofit difficulty: preference for rebuilds

Low awareness & fragmented policies

High upfront costs & limited finance

Rising energy demand from cooling & digital use

Informal settlements are underfunded

Knowledge & data gaps

13

Opportunities for achieving Housing Environmental Sustainability

- **Decarbonization:** Cut emissions via design, electrification, materials, retrofits, and monitoring.
- **Social Sustainability:** Community upgrades, mixed-income housing, inclusive policies.
- **Affordable & Green Housing:** Fiscal tools and zoning reforms for low-carbon development.
- **Climate Resilience:** Design/retrofit homes for heat, floods using nature-based solutions
- **Energy-Efficient Retrofits:** Insulation, systems, renewables to cut emissions and costs.
- **Policy & Finance:** Governance, funding, engagement for climate-resilient housing.

Social Sustainability example in SA

Vernacular Architecture

Decarbonization to ZEB/NZEB

14

HOUSING ENVIRONMENTAL SUSTAINABILITY
Emerging considerations from the EGM

New Buildings

- **Adopt whole lifecycle approach on building sustainability:**

Formulate building regulations requiring lifecycle carbon assessment from design to end-of-life to cater for embodied and operational carbon, including circularity targets at deconstruction phase.

- **Strengthen building codes**

Expand codes to include progressive compliance pathways for residential buildings and cater to incremental and informal housing owners.

- **Integrate sustainable design principles**

Embed green building principles (energy efficiency, water management (rainwater harvesting, grey water management), and passive cooling into proposals for new housing projects.

15

HOUSING ENVIRONMENTAL SUSTAINABILITY
Emerging considerations from the EGM

Existing Buildings

- **Enable incremental upgrading:**

Adopt flexible building codes that recognize informal construction and facilitate broader criteria (tiered) compliance, and incentives without tenure restrictions.

- **Promote retrofitting of old buildings**

Promote and facilitate through *regulations, retrofitting and repurposing of old buildings instead of new construction to meet demand and support for low-income groups to achieve energy-efficient retrofits*, who are most vulnerable to climate change hazards like heatwaves.

- **Develop tiered certification**

Develop simplified context specific certification frameworks that are cost-effective and **with criteria adapted to informal housing contexts** including resilience benchmarks and affordability indicators.

16

HOUSING ENVIRONMENTAL SUSTAINABILITY
Emerging considerations from the EGM

Sustainable Urban Development

- **Promote compact, mixed-use urban growth**

Amend/revise planning and zoning codes to support higher densities, transport-oriented development to reduce carbon footprint.

- **Diversity housing models**

Promote and incentivize multi-family, modular, and incremental housing to reduce land consumption and replan and regenerate built-up areas to meet some demand for new housing.

- **Adopt integrated planning**

Promote and institutionalize cross-sectoral policy coordination and planning (land, housing, transport, energy, water and waste) for resource efficiency.

17

HOUSING ENVIRONMENTAL SUSTAINABILITY
Emerging considerations from the EGM

Finance and Incentives

- **Align subsidies with sustainability**

Design and allocate subsidies/incentives for affordable housing construction and retrofit that include the use of low-carbon sustainable materials, energy-efficiency upgrades, and climate resilience

- **Link certification to finance**

Combine environmental performance of with financial incentives (Example -green mortgages loans offered at better terms for homes that meet green certification standards)

- **Ensure equity in access**

Design financing mechanisms that prioritise vulnerable groups, affordable retrofits, and sustainable material supply chains

- **Strengthen technical capacity**

Reinforce capacity through training programmes for builders, masons, and contractors and local governments on sustainable methods and establish local accreditation systems.

18

Expert Discussant

Dr Tom Sanya
Senior Lecturer,
School of Architecture, University of Cape Town, South Africa

19

Moderated Discussion

Bernhard Barth,
Programme Coordinator
Climate Change and Urban Environment, Office of the Executive Director
UN-Habitat

20

Housekeeping

- **English, Spanish, French, and Arabic** interpretation available
- **Mute your microphones** when not speaking
- **Raise your hand** to request the floor
- Keep your interventions to **3 – 4 minutes**
- **Introduce** yourself with name, role, organisation and country before speaking
- **Camera on** when speaking (if possible)
- **Use the chat** (English or Arabic) or email h4all@un.org

21

Way forward

UN-Habitat - A Better Urban Future | UN-Habitat

22

Way forward

- Inputs from intersessional meetings will be compiled into a **final draft analysis and set of draft proposed recommendations.**
- Documents will be made available in preparation for the **third Session of the Open-Ended Working Group** taking place in **2026**
- At the OEWG-H3, member states, accredited organisations and nominated experts will have another opportunity to **comment, review, and endorse recommendations**, which will then constitute part of the recommendations presented to the Habitat Assembly 3 in 2029

23

Way forward

- Kindly submit any additional written input to h4all@un.org by the 30th September

- Next sessions of intersessional thematic online meetings
  - **Definitions of Homelessness** (morning) **and Informal Settlements** (afternoon): 17th September 2025
  - **Monitoring framework**: 18th September 2025

- **Second session of the Open-Ended Intergovernmental Working Group on Adequate Housing for All** (OEWG-H2), Nairobi from 22 to 23 October 2025

Register to attend on GEMS (UN-Habitat GEMS | https://events.unhabitat.org/)

24

THANK YOU!

www.unhabitat.org

UN-HABITAT

25