



#PARTNERSHIPINACTION

WEDNESDAY 10 MARCH
11:00 CET | 17:00 ICT

Mitigation Heavyweights: Effective NDCs for the Building Sector

NDC 
PARTNERSHIP

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

 **PEEB**
PROGRAMME FOR
ENERGY EFFICIENCY
IN BUILDINGS

EVENT AGENDA

Welcome by NDC Partnership

Romeo Bertolini, *NDC Partnership*

Introduction

Bernd Markus Liss, *GIZ*

Building Energy Efficiency within the NDC Partnership

Thibaud Voïta & Ploypailin Sundarajumpaka, *NDC Partnership*

Buildings and the Climate

Nora Steurer, *GlobalABC*

Effective NDCs for the Building Sector

Andreas Gruner, *PEEB* & Peter Graham, *Pan Solutions*

Building sector transformation in practice: Vietnam

Ha Quang Hung, *Ministry of Construction*

Q&A Panel Discussion

Summary

Anna Zinecker, *GIZ*

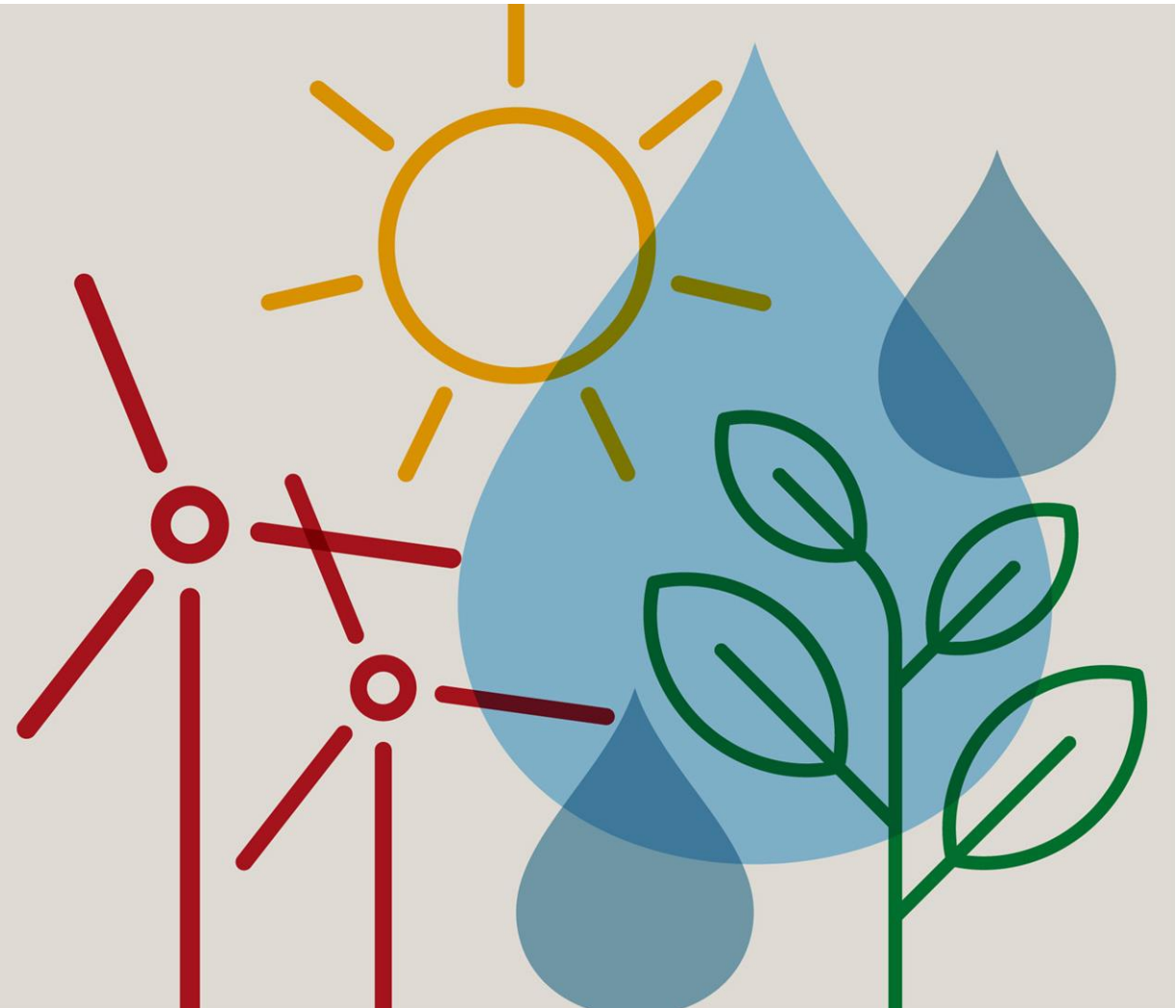
BUILDING ENERGY EFFICIENCY WITHIN THE NDC PARTNERSHIP

THIBAUD VOÏTA, HEAD OF KNOWLEDGE PRODUCTS

PLOYPAILIN SUNDARAJUMPAKA, COUNTRY ENGAGEMENT SPECIALIST

BUILDING EFFICIENCY WITHIN THE NDC PARTNERSHIP

March 10, 2021

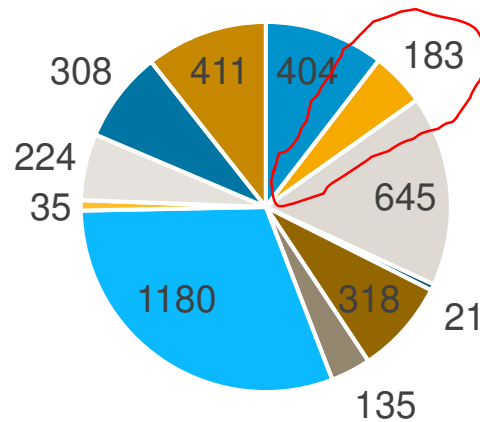




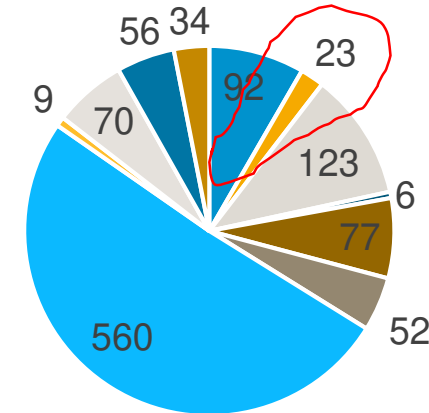
NUMBER OF BUILDING REQUESTS RECEIVED BY THE PARTNERSHIP

Requests are more focused on implementation than enhancement

Implementation Requests



Enhancement requests per sector

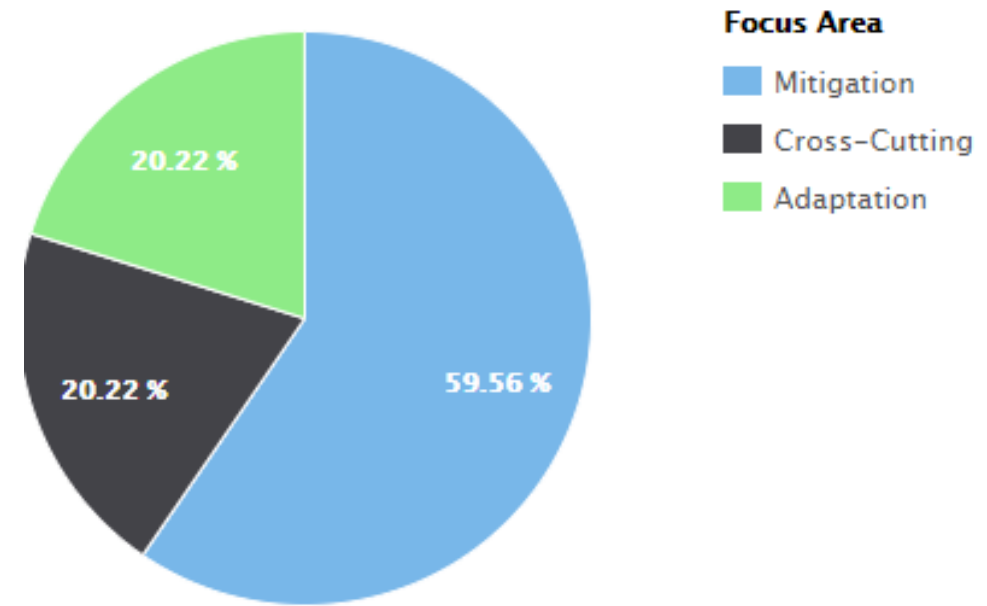
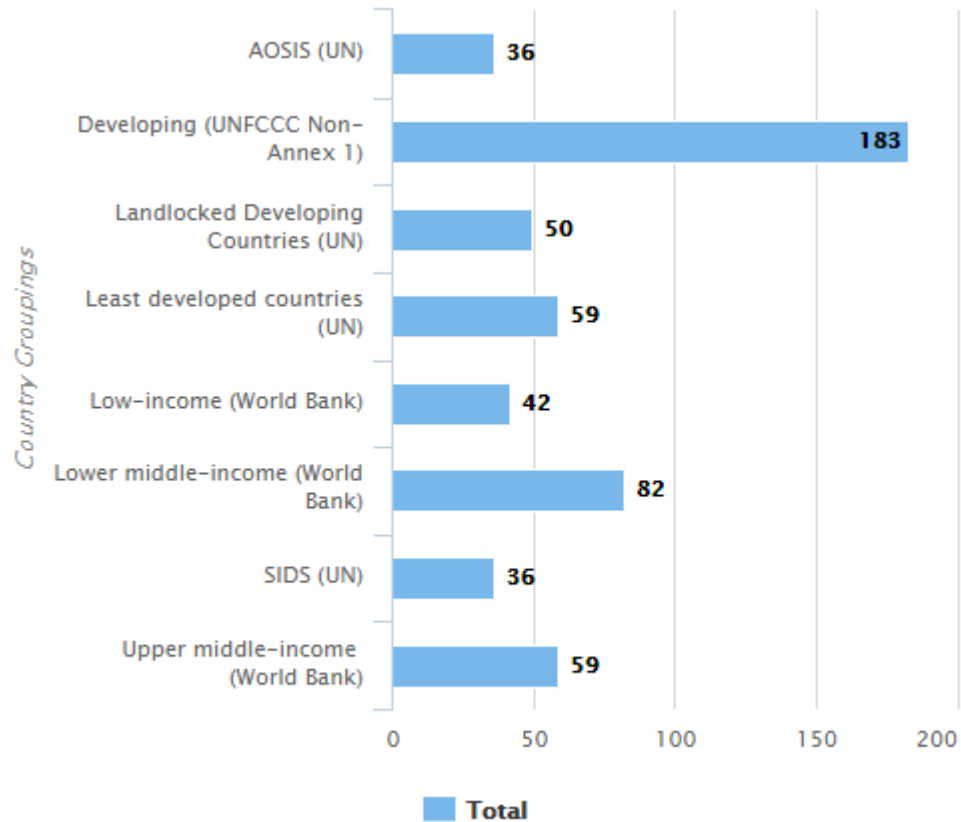


- Agriculture ■ Buildings ■ Energy ■ Fisheries
- FOLU ■ Industry ■ Not defined ■ Tourism
- Transport ■ Waste ■ Water

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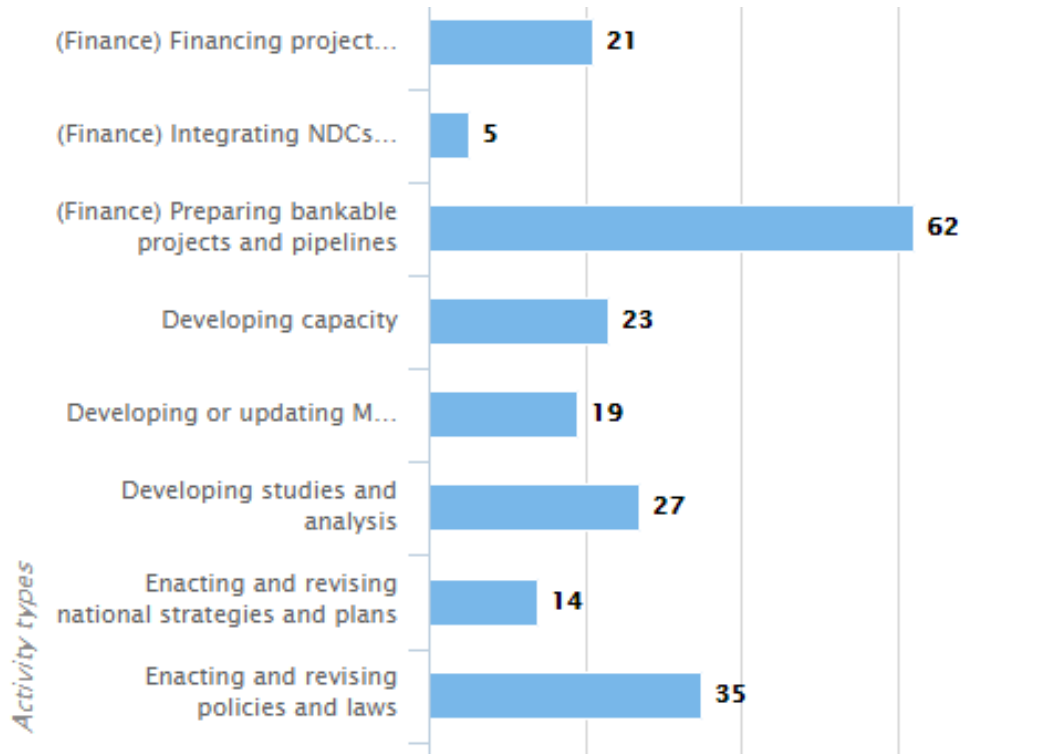
BUILDING SECTOR REQUESTS ARE DIVERSE

They come from different types of economies, cover both adaptation and mitigation



TYPE OF PROJECTS INVOLVING BUILDING EFFICIENCY

Building efficiency policy implementation requires international support



- Work with international partners has allowed to identify an important number of building activities (number of initial requests x 7)
- Countries are expressing the need for more support in terms of:
 - Finance,
 - Policies, and laws, and
 - Studies and capacity building.

UNADDRESSED REQUESTS IN THE BUILDING SECTOR

An important potential that remains untapped

- Altogether, 33% of the building sector requests remain unaddressed, making it one of the most overlooked sectors
- The partners the most involved in the sector are: GIZ, GGGI, the AfDB, UNDP and KfW
- Countries that need further support include: Burkina Faso, the Dominican Republic, Grenada, Jordan, Mongolia, Mozambique, Niger, Nigeria, Rwanda, Saint Lucia, São Tomé and Príncipe, Thailand, Uganda and Zimbabwe



COUNTRY REQUEST FOR SUPPORT

Albania

Request areas:

Energy Efficiency in the public buildings and public facilities

- Develop a National Building Code that incorporate energy efficiency
- Establishing the Financing mechanism for energy efficiency in buildings

Energy Efficiency in the industry sector

- Improving EE in SME through the energy audits

COUNTRY PRIORITY ACTION IN PARTNERSHIP PLAN

Armenia

Optimized policy conditions enabling implementation of the NDC in line with the attainment of national development goals

- Legislation strengthening the management and improvement of residential buildings

Capacity building in the form of education, training, communication, and growth support for local experts and champions, and a system of incentives to catalyse **social behaviour changes towards responsible consumption and environment-minded living**

- Incentives / subsidy to credit interest on mortgage loans for energy efficient housing
- Yerevan Energy Efficiency Project
- Support for inclusive, affordable and environmentally sound social housing.





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Thank You

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Thibaud Voïta

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BUILDINGS AND THE CLIMATE: EMISSIONS, TRENDS AND BENEFITS OF LOW-CARBON AND RESILIENT BUILDINGS

NORA STEURER, GLOBALABC

»» Mitigation Heavyweights: Effective NDCs for the Building Sector

»» **Buildings and the climate:** Emissions, trends and benefits of
low-carbon and resilient buildings

GlobalABC / UNEP – 10 March 2021

Why buildings?

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

Half of the buildings standing in 2060 have not yet been built!



Our objectives



Be a global advocate, a catalyst



Be a trusted platform to set targets & track progress.



Support countries in setting priorities & measures based on their situation.



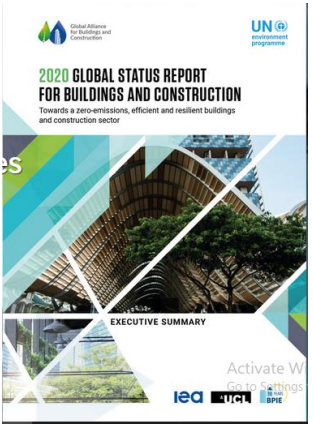
Key activities



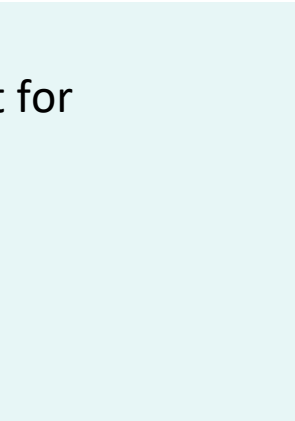
SET TARGETS AND SUPPORT COUNTRIES
towards zero-emission, efficient and resilient buildings and construction



BE A CATALYST
Matchmaking and radical collaboration

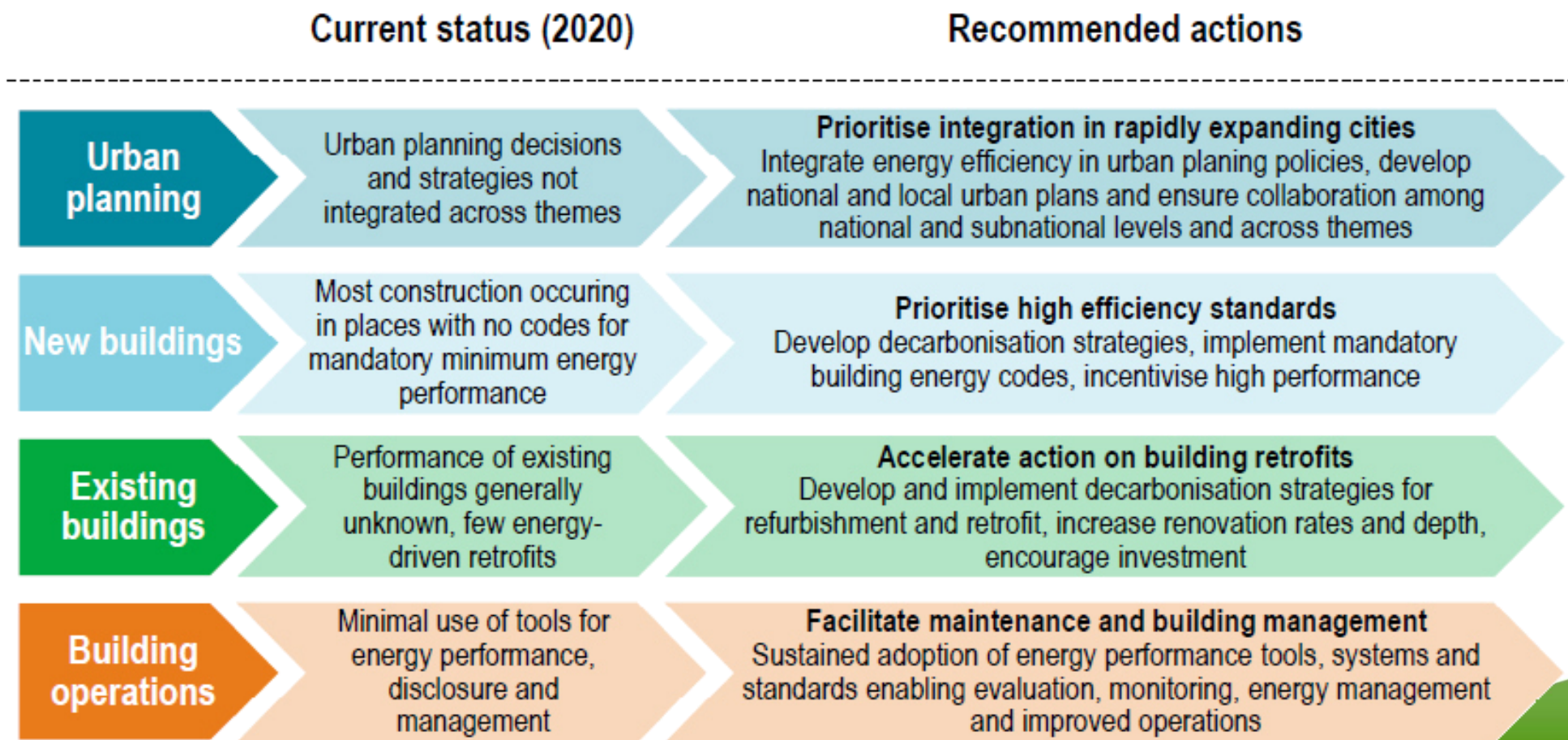


TRACK PROGRESS
Through the Global Status Report for Buildings and Construction

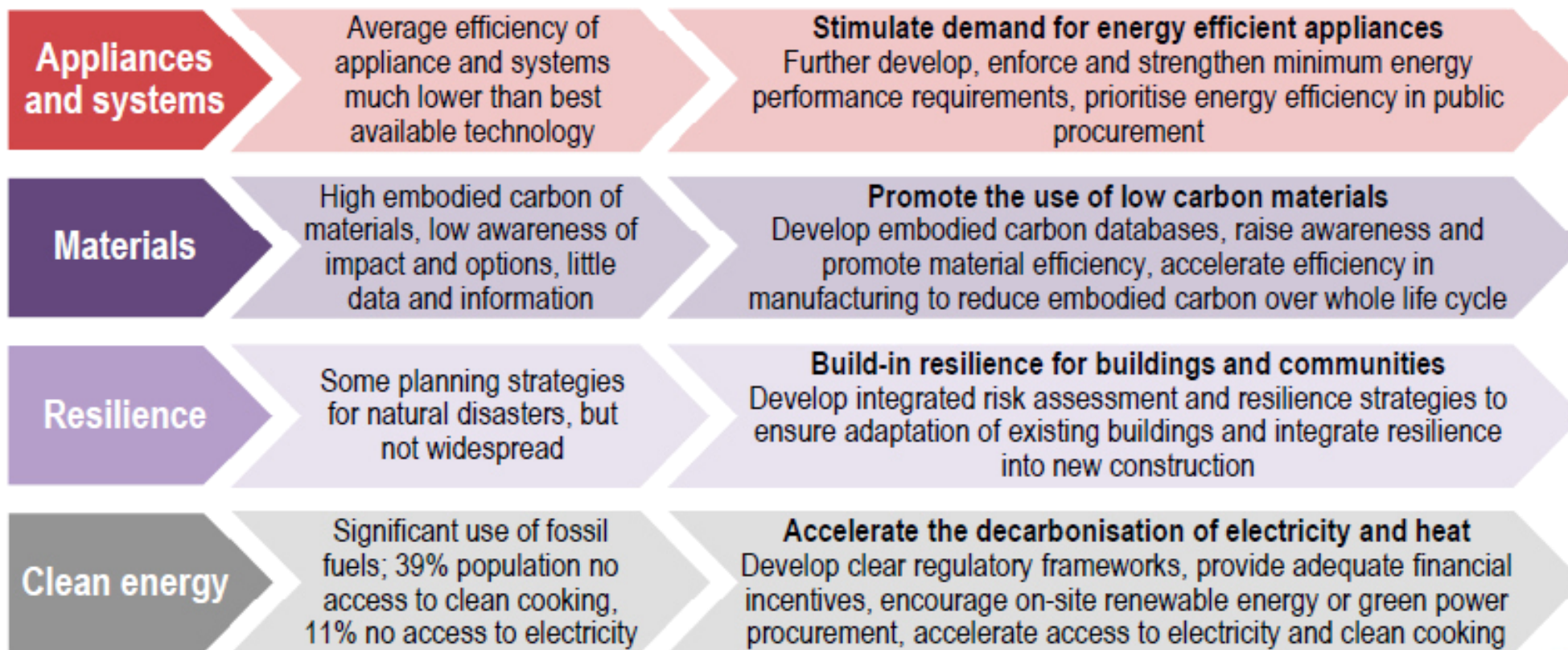


BE A GLOBAL ADVOCATE

A tool to decarbonize buildings: The regional roadmaps



A tool to decarbonize buildings: the regional roadmaps



Key activities

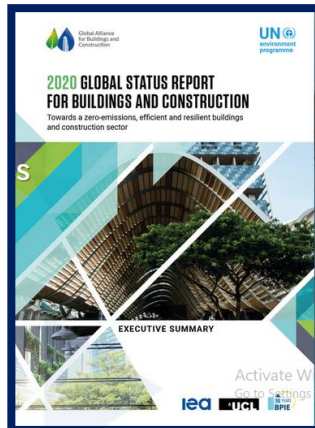


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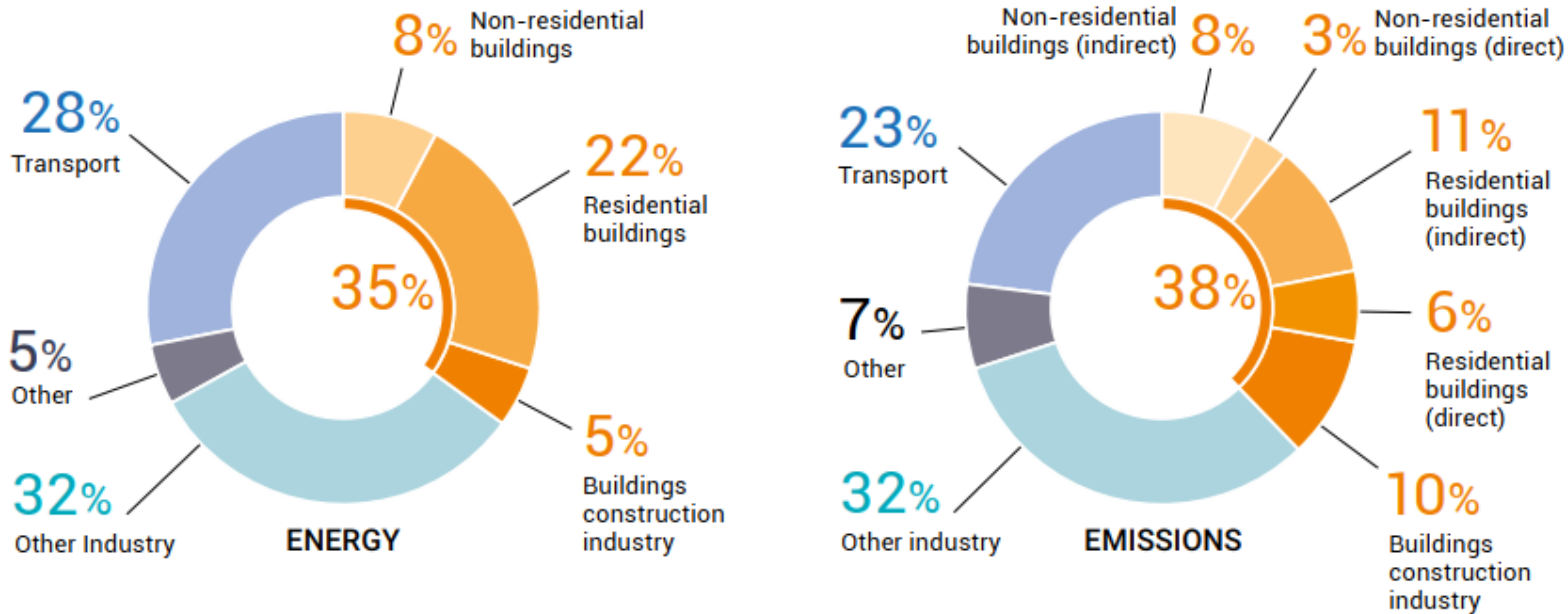
Through the Global Status Report for Buildings and Construction



BE A GLOBAL ADVOCATE

Key Messages: CO₂ emissions from the building sector are the highest ever recorded <<

Global share of buildings and construction final energy demand and emissions, 2019



CO₂ emissions from the operation of buildings have increased to their highest level yet at around 10 GtCO₂, or 28% of total global energy-related CO₂ emissions.

Buildings construction adds a further 3.5 GtCO₂. Combined, the sector is responsible for 38% of global energy-related CO₂ emissions.

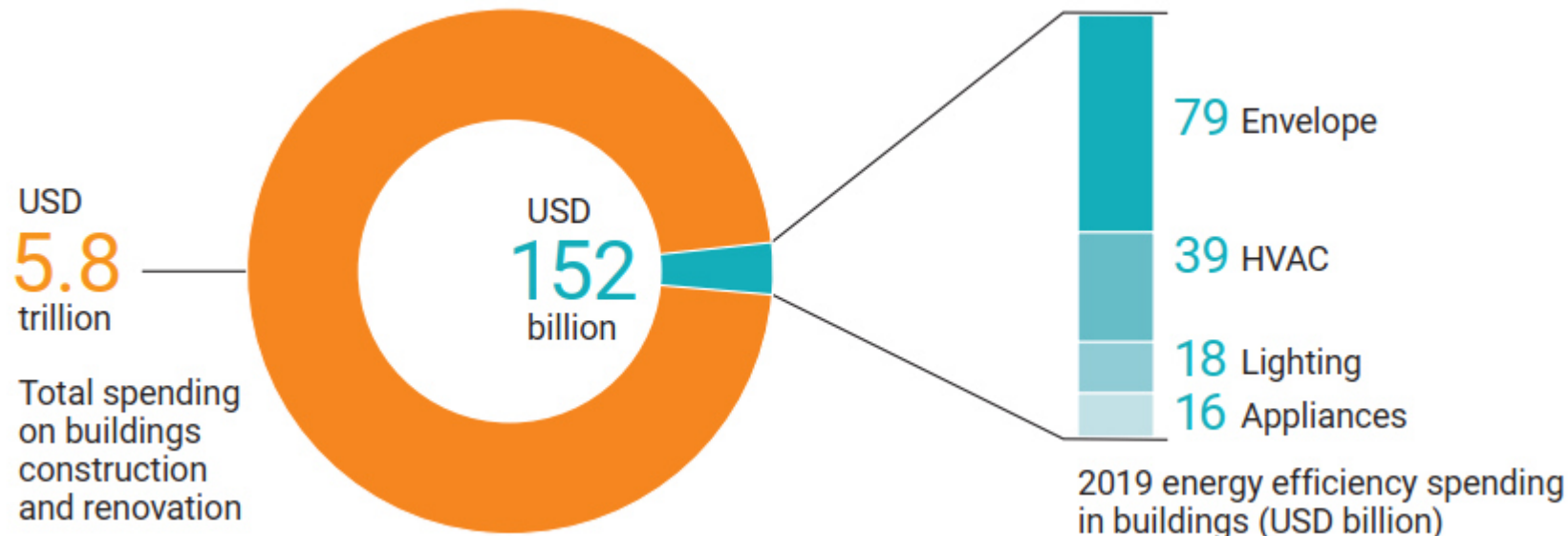
Notes: Buildings construction industry is the portion (estimated) of overall industry devoted to manufacturing building construction materials such as steel, cement and glass. Indirect emissions are emissions from power generation for electricity and commercial heat.

Sources: (IEA 2020d; IEA 2020b). All rights reserved. Adapted from "IEA World Energy Statistics and Balances" and "Energy Technology Perspectives".

Key Message: Incremental investment in building energy efficiency increased in 2019 by 3% from 2018



Building construction and energy efficiency investment and breakdown

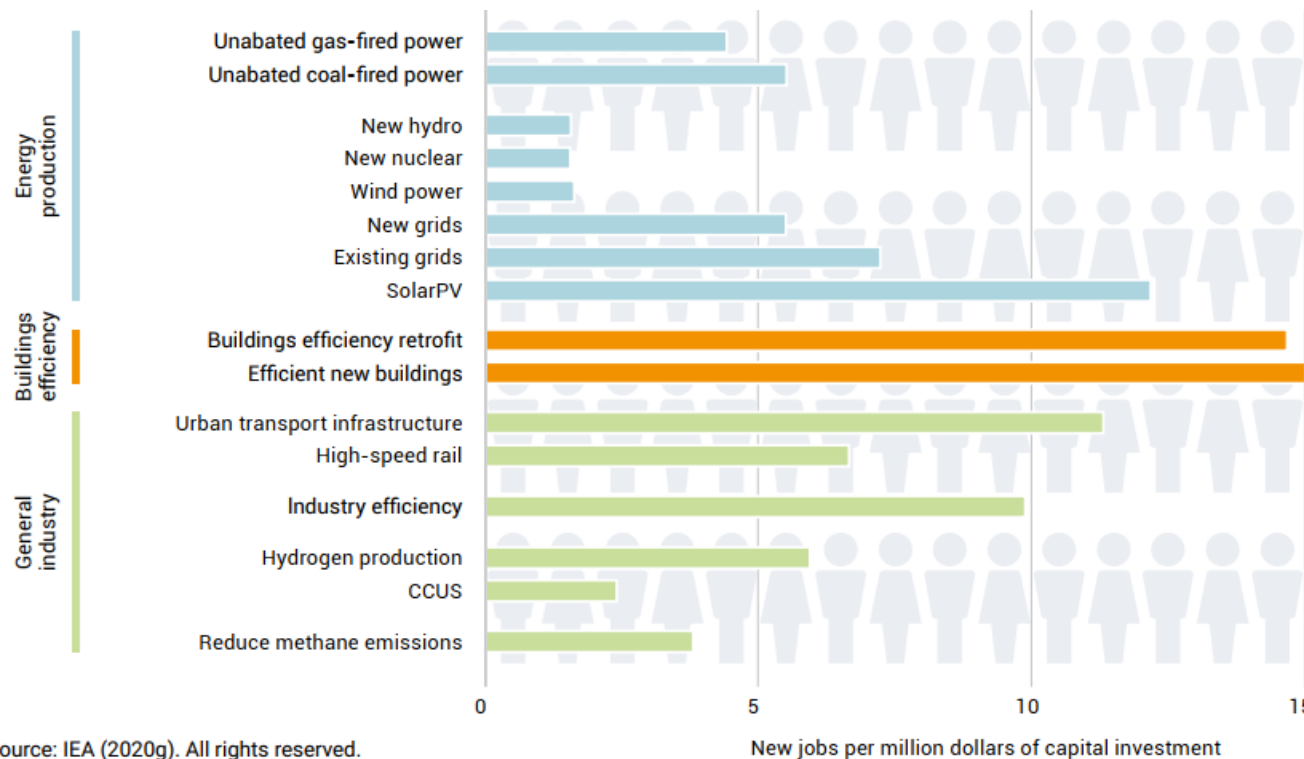


Spending for energy efficient buildings remains a small proportion of the USD \$5.8 trillion spent in the building and construction sector: For every \$1 spent on improving energy efficiency, \$37 is spent on conventional construction approaches.

Source: [IEA \(2019b\)](#). All rights reserved. Adapted from "[Energy efficiency policies: Buildings](#)"

Key Message: COVID-19 has severely impacted global buildings industry with construction activities have dropped by 10–25% compared to 2019

Jobs created per million dollars of capital investment and spending by measure

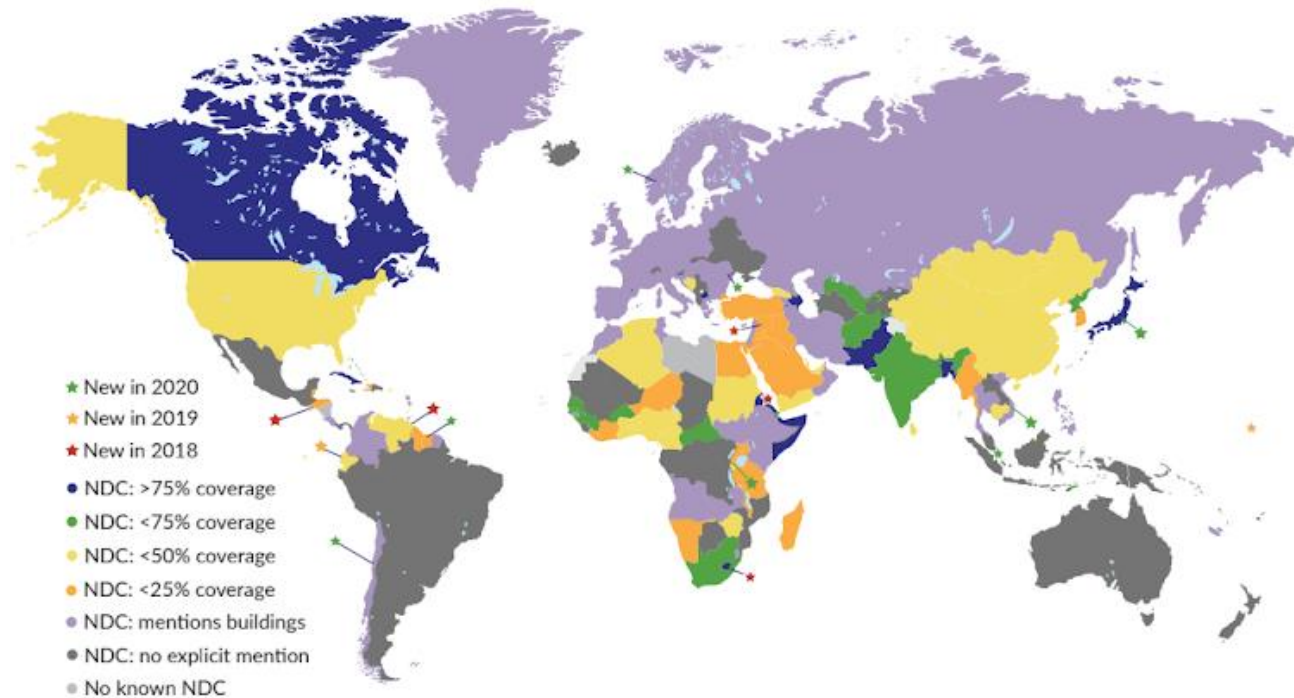


Stimulus programmes for the construction sector are proven tools for economic recovery. Estimates point to between 9-30 jobs in manufacturing and construction that would be created for every million dollars invested in retrofits or efficiency measures in new buildings.

Key Message: Significant opportunity for countries to integrate buildings mitigation in their second Nationally Determined Contributions (NDCs)



Buildings sector emissions coverage in NDCs, 2018-20

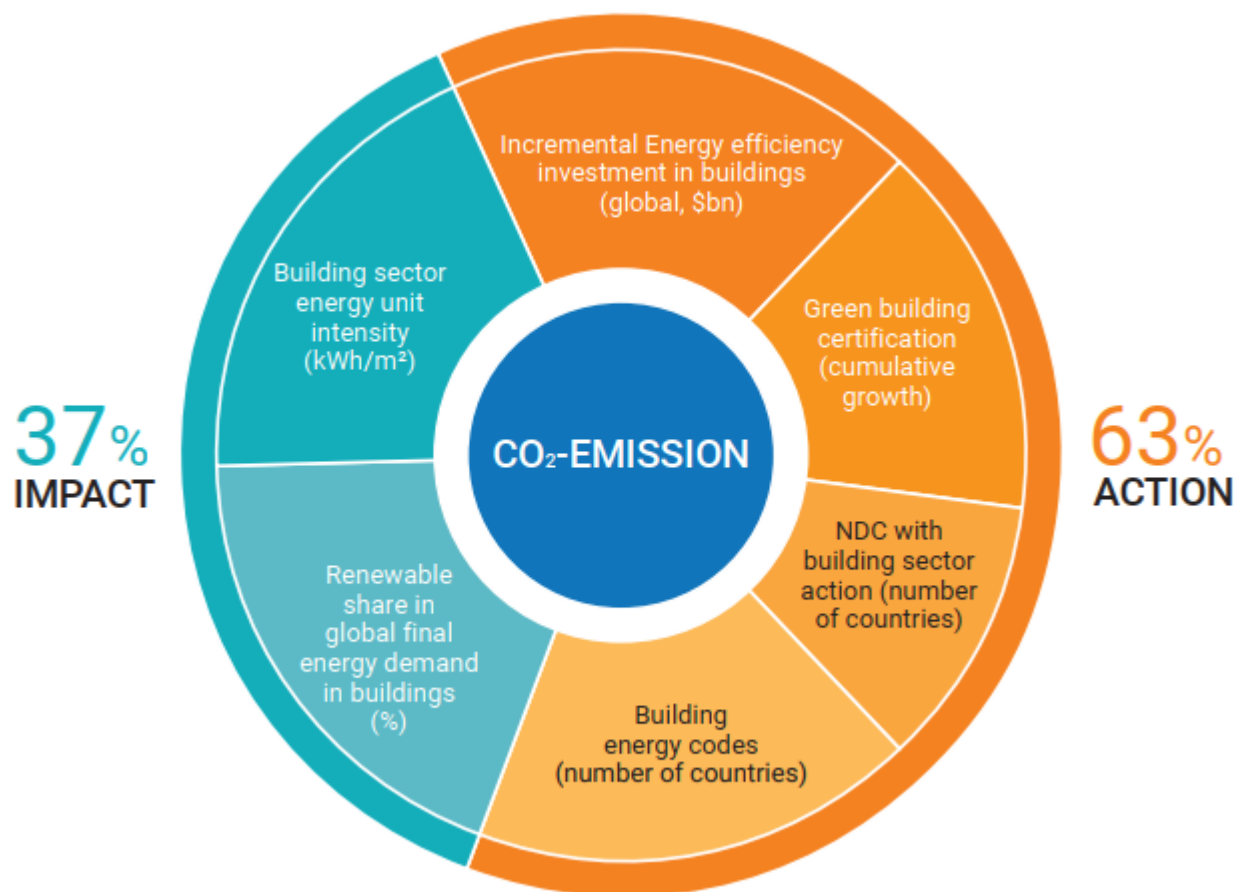


This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.

136 countries mention buildings, 53 countries mention building energy efficiency, and 38 call out building energy codes, indicating the importance of building energy efficiency to our climate future.

National governments must step up commitments in NDCs, longer-term climate strategies and support for regulation to spur uptake of net-zero emissions buildings.

Introducing the GlobalABC Buildings Climate Tracker (BCT): A Decarbonisation index trend for buildings and construction



The Buildings Climate Tracker (BCT) is comprised of seven indicators:

1. Incremental energy efficiency investment in buildings
2. Building Energy Codes
3. Green Building Certifications
4. NDCs with building sector action
5. Renewable energy share in final energy in buildings
6. Building Sector Energy unit Intensity
7. CO₂ emissions

Key Message: The time for action to decarbonise the existing and future global building stock is now. Everyone needs to get on the road to zero



- » ***COVID-19 recovery packages and the resubmission of National Determined Contributions provide unique opportunities to build back better and greener.***

- » ***National governments must step up commitments in NDCs, longer-term climate strategies and support for regulation to spur uptake of net-zero emissions buildings.***



Global Alliance
for Buildings and
Construction

THANK YOU



Contact us at global.abc@un.org
Visit www.globalabc.org

EFFECTIVE NDCS FOR THE BUILDING SECTOR: LAUNCH OF THE NDC TOOLKIT

ANDREAS GRUNER, PEEB

PETER GRAHAM, PAN SOLUTIONS

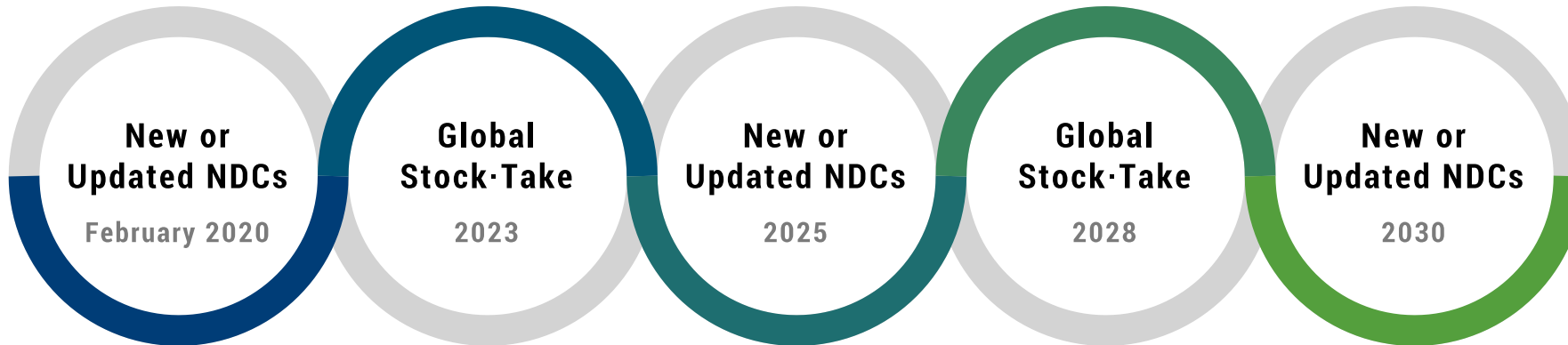
Effective NDC Commitments for the Buildings Sector and How to Implement them

A Guide and Tool-Kit for Effective NDC Buildings Sector Actions

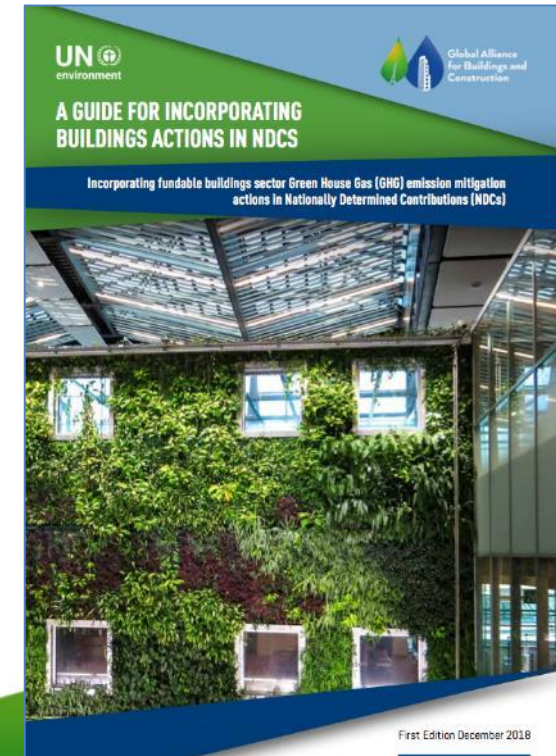
Dr. Peter Graham – Executive Director, Global Buildings Performance Network
Ar. Andreas Gruner – Advisor, Program for Energy Efficiency in Buildings (PEEB) - GIZ

Nationally Determined Contributions – The Guide

Progressive opportunities for incorporating or updating **ambitious** and **effective** building sector actions in **Nationally Determined Contributions**.

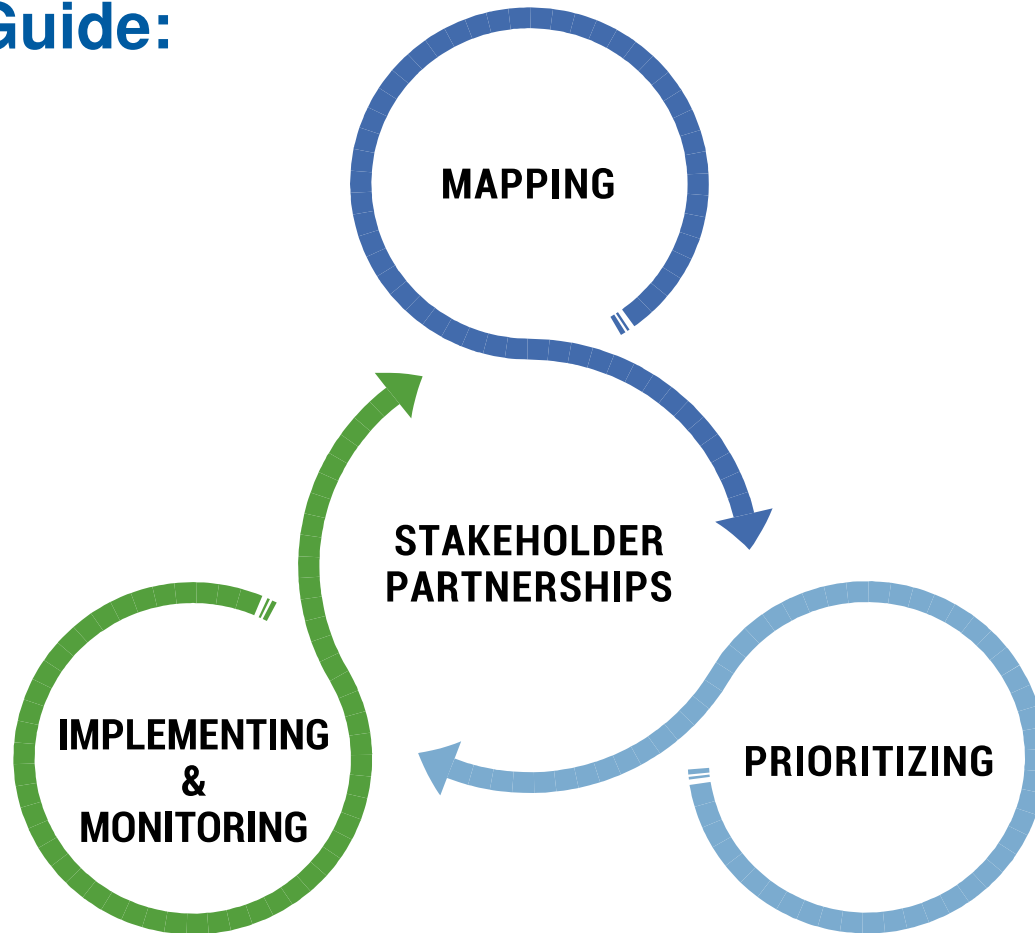


Source: ECBI, 2018



Global Alliance
for Buildings and
Construction

The Guide:



How to determine the scope of actions and building industry sectors that should be included in order to achieve mitigation and adaptation goals

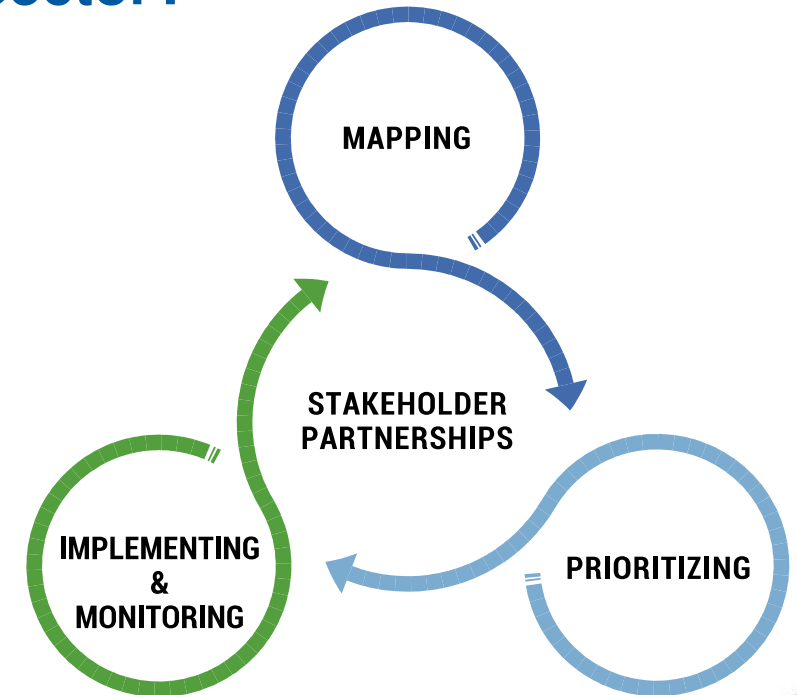
How to how to prioritise mitigation goals and actions based on general funding criteria used by multi-lateral donors and investors.

How to implement actions including governance, accessing finance, capacity building, finding technical assistance, and monitoring implementation.

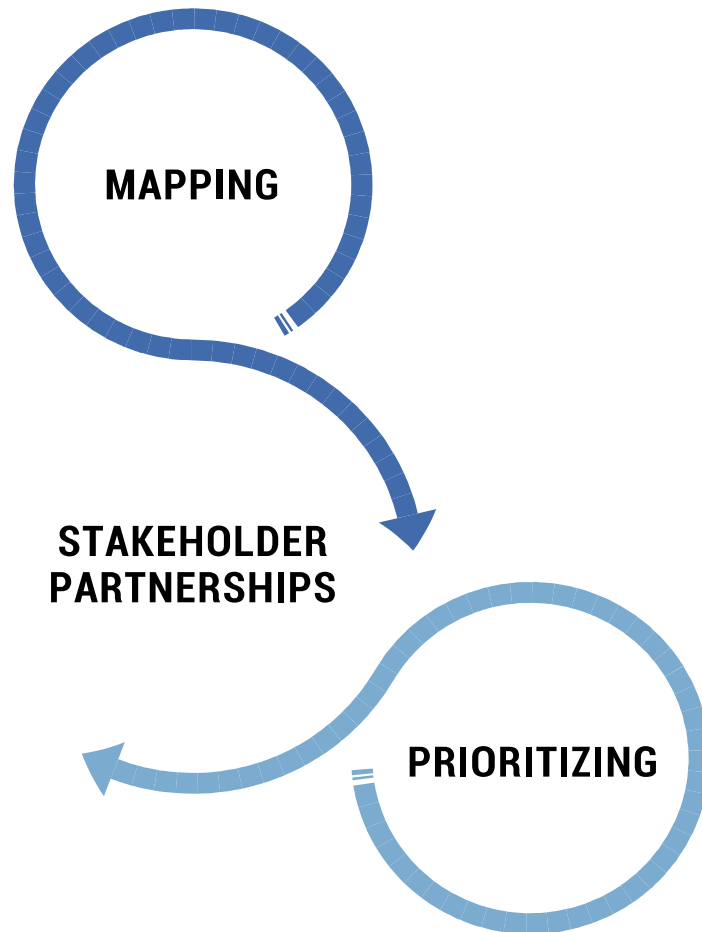


What Makes Good NDC Commitments for the Buildings Sector?

- Ambitious Sector Specific Targets
- Confidence and Commitment to Regulatory Reform
- Alignment with Adaptation and Non-Climate Drivers
- A fundable Implementation Plan



1. Ambitious Sector Specific Targets

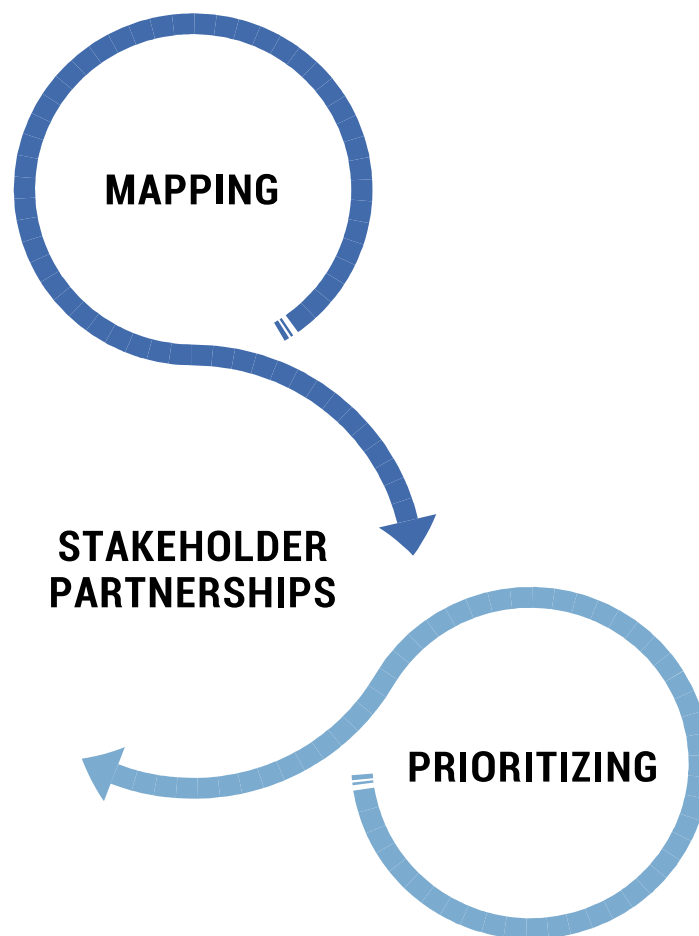


How to determine the scope of actions and building industry sectors that should be included in order to achieve mitigation and adaptation goals

Mapping:

- Map Existing Policies & Capabilities
- Establish Mitigation MRV Baselines
- Develop Local Market Action Plans

1. Ambitious Sector Specific Targets



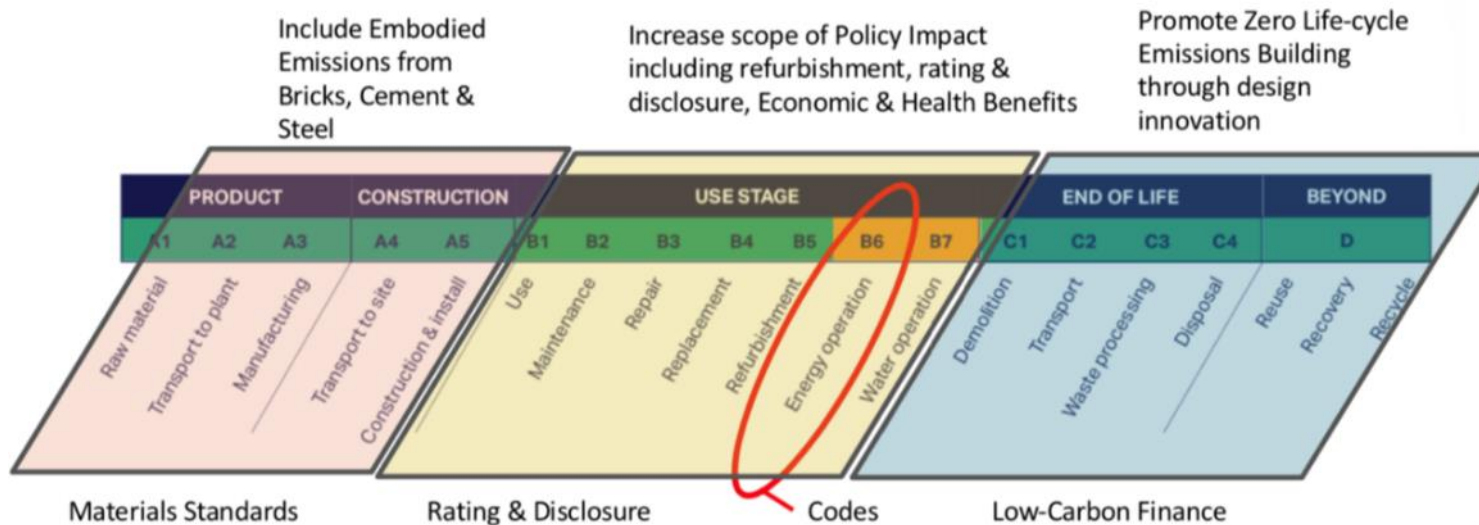
How to how to prioritise mitigation goals and actions based on general funding criteria used by multi-lateral donors and investors.

Prioritise actions that:

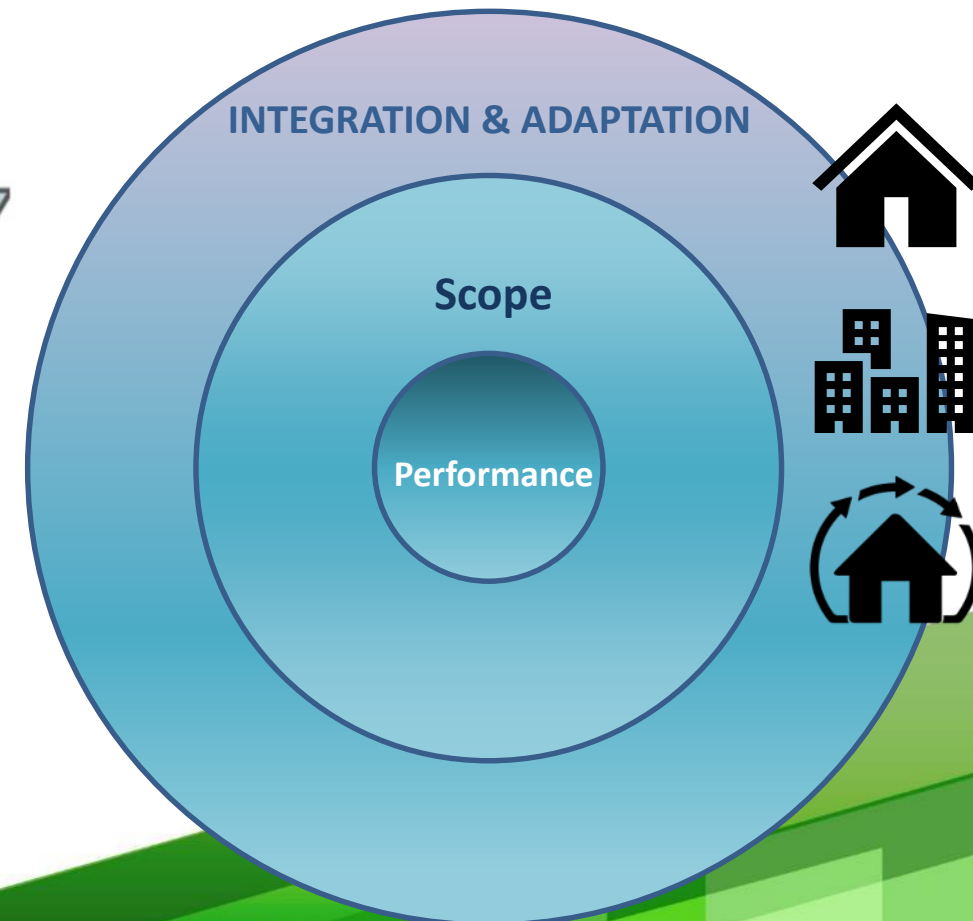
- Have high mitigation and/or adaptation impact
- Are transformative & scalable (not a one-off project or program)
- Demonstrate a high level of stakeholder engagement and often commitment, with co-funding, leveraged private sector investment, behavioural & management actions..
- Lead to measurable, reportable and verifiable outcomes

1. Ambitious Sector Specific Targets

The current ambition of buildings sector commitments are **insufficient** to meet the Paris Agreement goals.

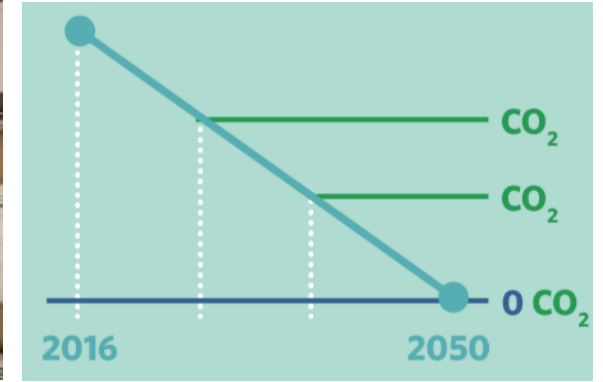


Aligned City, Regional and National Commitments



Successfully receiving funding through international finance...
requires ambition in proposed NDC programs and actions.

2. Confidence and Commitment to Regulatory Reform



Ambitious Building Codes Rating & Disclosure+ Appliance Standards & EEO Performance & Ren. targets

Integrated Policy Packages

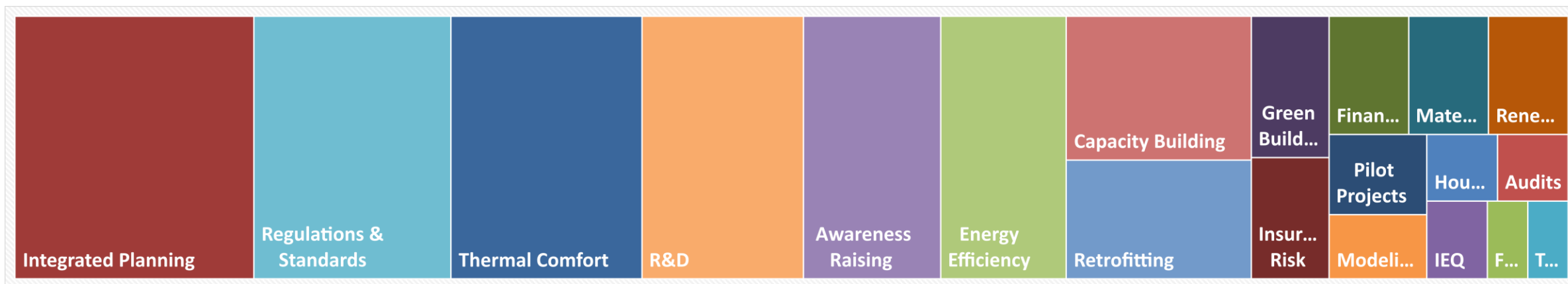


Co-Benefits



3. Alignment with Adaptation and Non-Climate Drivers

Building & Construction in National Adaptation Plans



Urbanization



Climate Vulnerability



Economic Recovery



4. A fundable Implementation Plan



How to implement actions including governance, accessing finance, capacity building, finding technical assistance, and monitoring implementation.

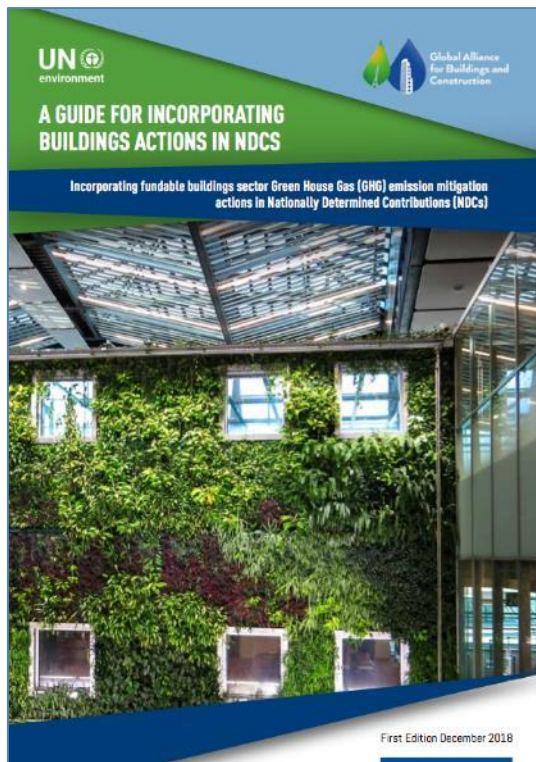
Develop an **Implementation** plan with:

- Key Strategies for Good Governance
- Clear lines of Responsibility and Accountability
- Key strategies for Financing Implementation.

4. A fundable Implementation Plan

Country	Governance					Implementation						
	Political Commitment	Common Goals	Ambitious Goals	Comprehensive Actions	Coordinating Body	MRV	Budget & Staff	Defined Roles/Roadmap	Data & Knowledge Sharing	Quality Assurance	Stakeholder Engagement	Legal Framework
Argentina												
Bangladesh												
Brunei Darussalam												
Canada												
China												
Korea, DPR												
Lesthoto												
Morocco												
Turkey												

NDC Buildings Tool Kit

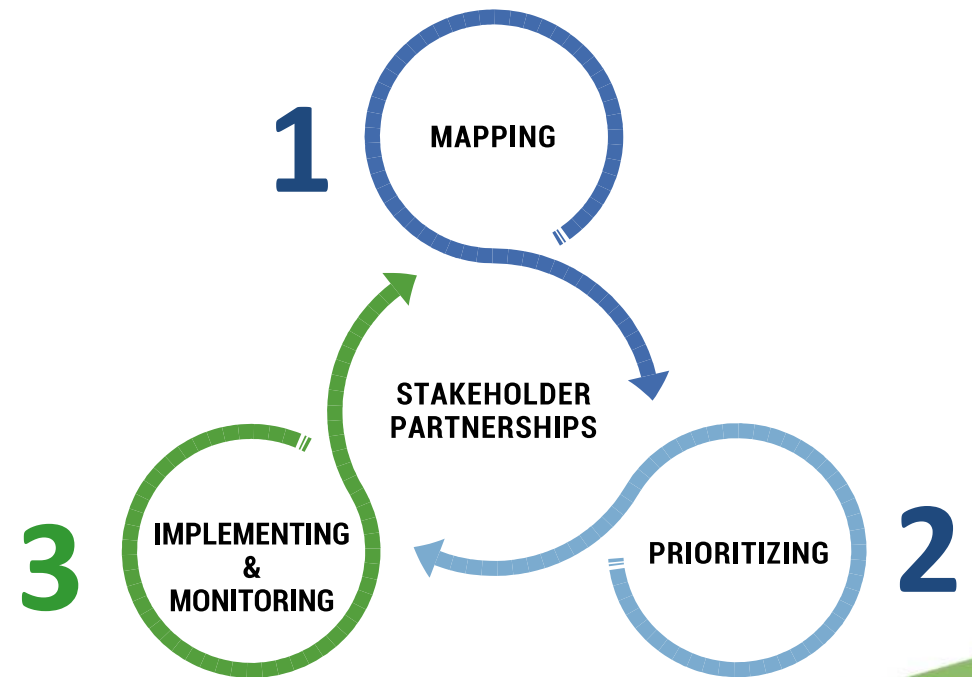


Based on the NDC Guide

Web-based **Tool Kit**
being developed



Practical application
support to countries



PEEB – Bringing in country experiences



MEXICO

COLOMBIA

MOROCCO

SENEGAL

TUNISIA

INDIA

CHINA

VIETNAM



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■ PEEB Secretariat

■ PEEB network of partner countries



NDC Buildings Tool Kit

- Structures the entire **process** and makes effective action **easier**
 - Supports to prepare **fundable** 'work packages' for international climate / development finance
 - Connects international agenda with concrete implementation challenges and **effective approaches of countries** and regions
- Comes at the right time for '***Building back better***'

Countries are invited to participate!

Practical, innovative and up-to-date implementation experiences are crucial for gaining momentum in NDC ambition-raising and actions!

NDC Buildings Tool Kit

Step 1: Mapping

Where do we stand?

What is the problem and how can we address it?



- Sector status and growth projections
- Baseline and business as usual emissions (BAU)
- Policies & legal framework
- Key barriers
- Existing climate commitments
- Capabilities and gaps

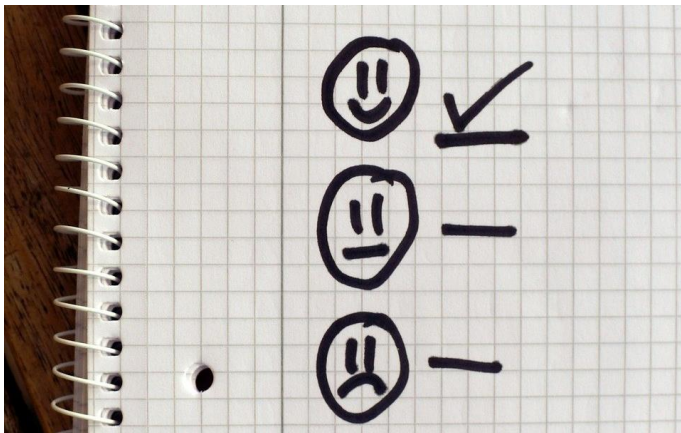
NDC Buildings Tool Kit

Step 2: Prioritizing

Where should we start?

Which actions have the highest impacts?

- GHG abatement potential
- market impacts
- Co-benefits



- **Key national and sub-national strategies and commitments** (based on barriers, key strategies, 'theory of change' for sector)
- **NDC Building Roadmaps to 2050**
 - Common goals
 - Ambitious Targets
 - Comprehensive Actions

Sets a solid basis for funding by multi-lateral donors and investors.

NDC Buildings Tool Kit

Step 3: Implementing & monitoring

How do we start implementation:
who does what?

How do we monitor it?



- **Governance** (alignment of policies, coordinating agency, stakeholders, roles & engagement, vertical integration)
- **Policies & legal framework**
- **Financing** (national, international)
- **MRV & ambition raising** (addressing data gaps, knowledge & learning)

NDC Buildings Tool Kit

For each of the 3 steps:

Practical advice

- Building sector analysis and growth projections
- EE Building Codes & enforcement
- Building Sector NAMAs from different countries

Hands-on tools

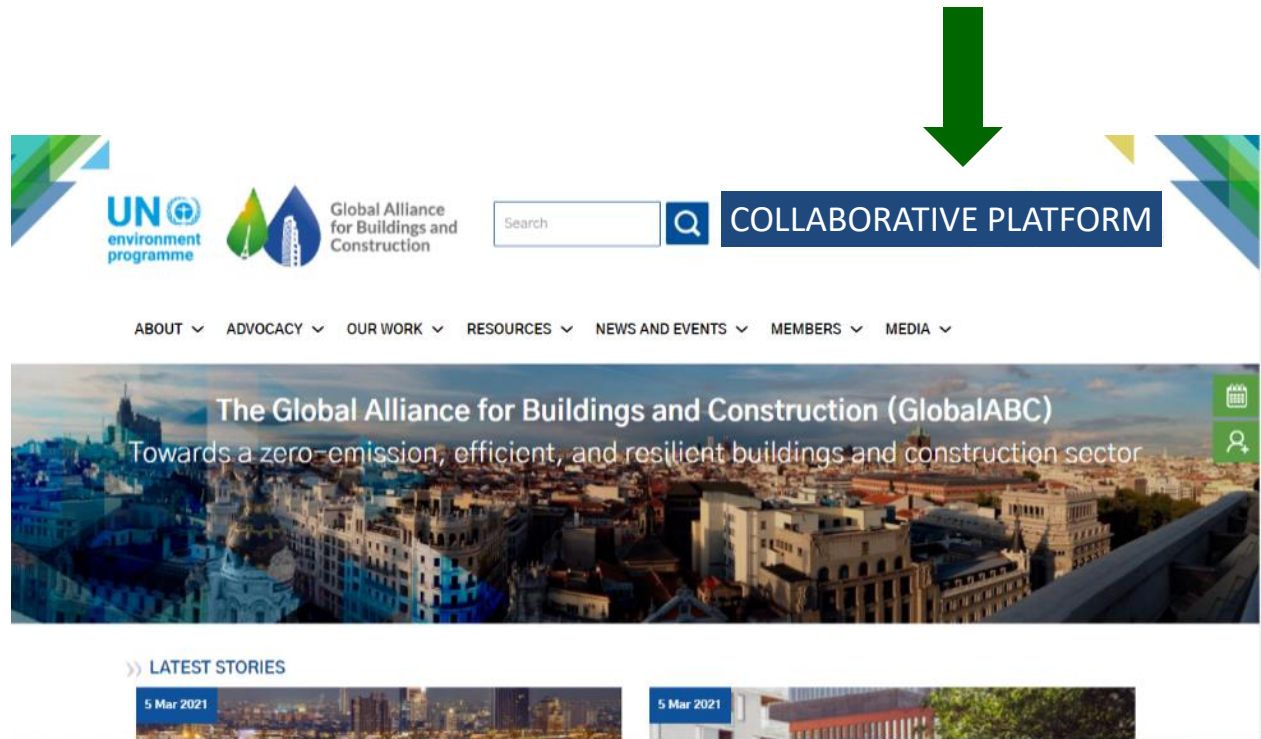
- NDC Building Roadmaps
- Baseline and GHG calculation methods (UNFCCC Compendium on GHG baselines and monitoring)
- Financial incentive instruments, non-monetary incentives

Country examples

- NDC targets and actions for the building sector
- NDC Building Roadmaps (Vietnam, Cambodia, Indonesia ...)

➤ Countries can enter the process at any point, no matter what stage they are currently at

Join us to contribute!



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<https://globalabc.org/>

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Building Policies for a Better World



THANK YOU



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BUILDING SECTOR TRANSFORMATION IN PRACTICE: VIETNAM: DEVELOPMENT NDC BUILDING ROADMAP

HA QUANG HUNG, *VIETNAM MINISTRY OF CONSTRUCTION*

Q&A PANEL DISCUSSION



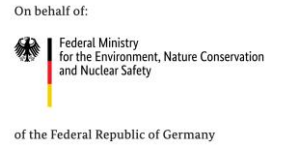
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giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

On behalf of:
 Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety
of the Federal Republic of Germany

NDC BUILDING ROADMAP VIETNAM

Development of National Green Housing Programme

**HA QUANG HUNG – DEPUTY DIRECTOR GENERAL, HOUSING AND REAL ESTATE MARKET MANAGEMENT
BUREAU, MINISTRY OF CONSTRUCTION, VIETNAM**



NDC ROADMAP for Low-Carbon and Climate-Resilient Buildings and Construction Sector in Vietnam

Status:

- Buildings, construction and operations accounts for **43% of total annual electricity consumption**, contributes about **30-40% of energy-related CO₂ emissions** in Vietnam
- **95% of the commercial and high-rise buildings** in Vietnam are not yet taken into consideration of energy efficiency measures during project design and operation

Growth:

- **Population growth:** Predicted to grow from 95.8 Mio. (2019) to **108.7 Mio. by 2049**
- **Urbanization rate:** Predicted to increase from 36.6% (2019) to **58.8% by 2049 (65 Mio. people)**
- **Middle class as driver:** around **250,000 new housing units per year** only in Hanoi and HCMC

Vietnam submitted its **updated NDC** in Sept 2020 with increased ambition:

- **Energy-saving** crucial for reaching the unconditional targets.



Implementation of Paris Agreement in the building and construction sector



Ministry of Environment and Natural Resources (MONRE)

Prime Minister Decision No. 2053/QĐ-TTg (2016):

- **Plan to implement the Paris Agreement**

Ministry of Construction (MOC)

Minister of Construction Decision No.967/QĐ-BXD (2020):

- **Action plan to implement Paris Agreement 2020-2030**

Development of NDC Buildings Roadmap



Definition of Roadmap methodology

Sep 2019 — Mar 2020

**MOC joined GlobalABC
Regional Roundtable
Asia Pacific**

Technical stakeholder consultation with GlobalABC

Jul 2020 — Nov 2020 — 2021

**Surveys with
national experts**

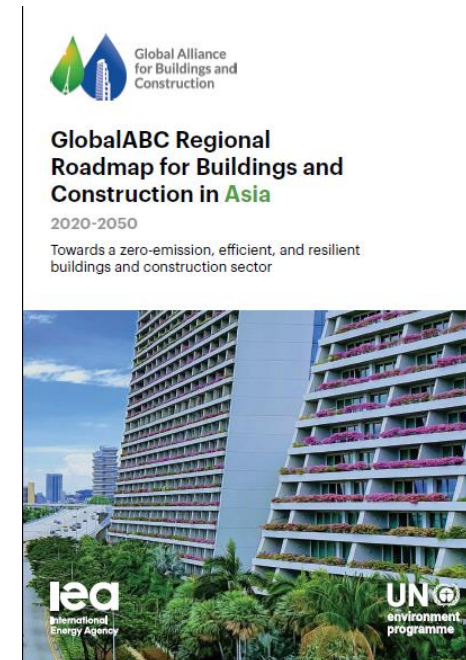
**Roadmap consolidation;
> Serves as basis for policy
improvements and
adoption**

Basis:

- **GlobalABC Regional Roadmap for buildings and Construction Asia**

Objectives & structure:

- NDC Roadmap identifies **common goals, targets and timelines** for key actions in Vietnam
- Government provides **orientation and guidance** to key stakeholders based on the Roadmap
- NDC Roadmap will be revised and updated.



1. Urban planning

2. New buildings

3. Building retrofits

4. Building operations

5. Building Systems

6. Materials

7. Resilience

8. Clean energy



Key challenges in Vietnam



- **Legal and institutional:**
 - Insufficient ambition, scope and enforcement of Building Energy Efficiency Code
 - Policy-making process not keeping pace with Vietnam's rapid urbanization
- **Technologies:** Lack of building energy data, insufficient local markets
- **Finance:** Lack of financial incentives to promote energy efficient buildings.

... selected key findings of NDC Buildings Roadmap:



2. New buildings

Key actions for decarbonization

- Encourage **passive design and natural ventilation** strategies for building regulations
- Ensure **passive design requirements** apply to **residential & mixed use buildings**
- Applying **life-cycle approach** to decarbonising the building value chain
- Develop **energy efficiency standards** for compliance of Vietnam EE Building Code (VEEBC)
- Regular update of **National Technical Regulation on Energy Efficient Buildings (2021-22)** by MOC
- Encourage **investment** in energy efficient / green buildings



3. Building retrofits

Key actions for decarbonization

- **Bioclimatic and passive building design** measures such as:
 - **External shading** to windows and facades
 - **Thermal insulation** on ceilings, floors and walls
 - **Re-zoning floor plans to minimise AC demand** and to promote **natural ventilation**
- Promoting **energy conserving behaviour** and social practices
- Upgrading to **solar hot water heaters** in homes and **heat-pumps in larger buildings**
- Expand **solar-roof tops (PV)** from industrial buildings to all suitable building types



Key elements for Roadmap implementation

- **Institutional:** Create **NDC building/ housing sector platform** for coordination of policies and actions
- **Stakeholder engagement:** Coordinating national policy makers with local, state, municipal actors
- **Green financing:** Development of **climate finance strategy** for Roadmap implementation
- **Capacity building:**
 - Build up expertise on **building code design, implementation & enforcement**
 - Closing **data-gaps and integrating monitoring and reporting** into policy improvement plans

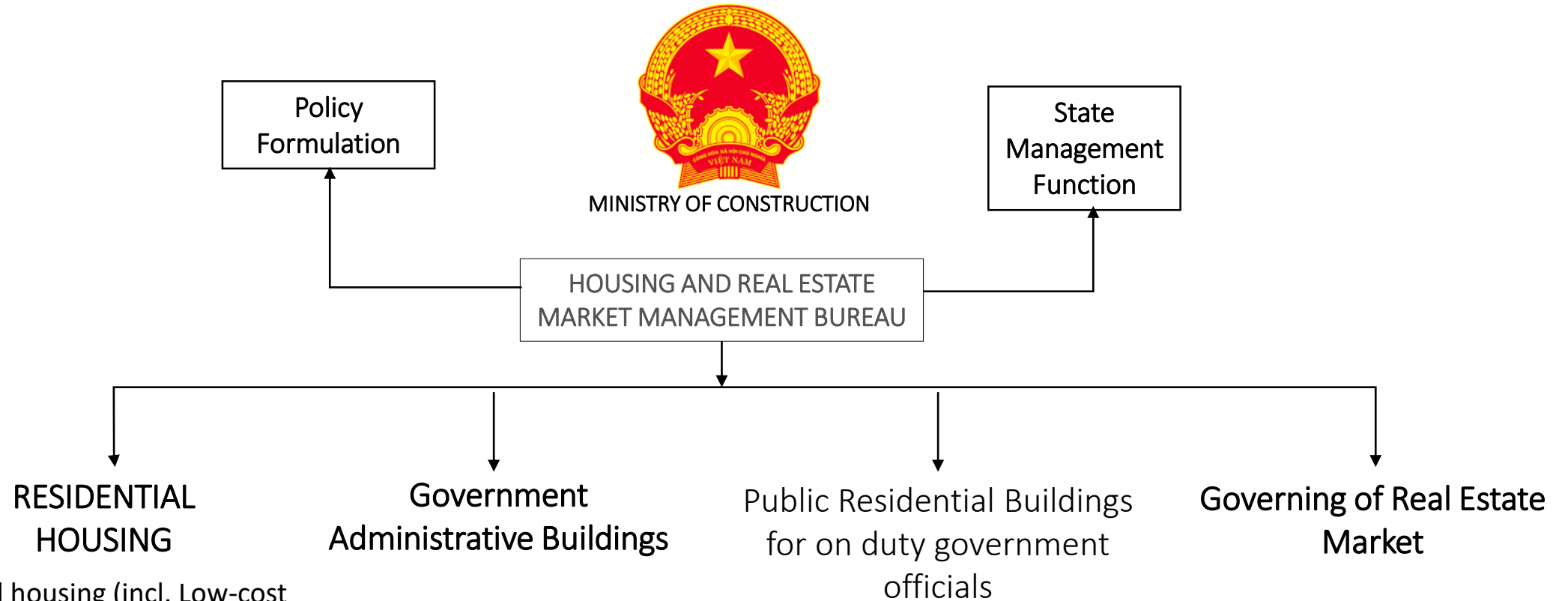
Next steps

- NDC Buildings Roadmap findings and key recommendations form the base for specific **policy decisions and adoptions by the Ministry of Construction**
- In depth Consultation for formulation of **National Green Housing Programme:**
 - With **Local Commercial Banks** for Synergizing current Housing Mortgage Programs by banks
 - With **State Bank of Vietnam**, Department of Credit to Economic Sector for **Green Financing** to Green Housing Projects
 - With **State Bank of Vietnam** and **Ministry of Finance** Policy Formulation on Banks' **Green Bonds** Issuance to Housing Sector
 - With MOC's Project Proposal for **Green Buildings Promotion**
 - With **MOC and National University of Civil Engineering (NUCE)** for development of Web-based Interface for **Energy Efficient/Low Carbon Green Housing MRV system.**



Development of National Green Housing Programme

POSITIONING of the HOUSING AND REAL ESTATE MARKET MANAGEMENT BUREAU UNDER the MINISTRY OF CONSTRUCTION VIETNAM



- Commercial housing (incl. Low-cost commercial housing)
- Social housing with GoV subsidy
- Some government special housing development programs
- National Housing Development Strategy
- GoV 30 trillion VND Package supporting Low Income and Social Housing 2013-2016

NATIONAL HOUSING DEVELOPMENT STRATEGY TO 2020, WITH A VISION TO 2030

(approved by Prime Minister's Decision No. 2127/QĐ-TTg dated 30th November 2011)

*“**Housing development** must ensure its safety and meet requirements on construction quality, architecture **capable to respond to climate change, natural disasters, landscape, comfortability and environment; energy efficient use in compliance with standards and regulations issued by competent authorities**”.*



NATIONAL TECHNICAL REGULATION ON "ENERGY EFFICIENT BUILDINGS " QCVN 09:2005/BXD; QCVN 09:2013/BXD; QCVN 09: 2017/BXD (Vietnam Energy Efficiency Building Code (VEEBC)

Actualization of the NATIONAL TECHNICAL REGULATION ON APARTMENT BUILDINGS QCVN04: 2019 / BXD

Incorporating Energy efficiency performance in housing development

Transition in Housing Policy 2011-2021

By 2011

+ Vietnam National Housing Strategy 2011 mentioned to Energy Efficient Housing in its Orientation without specific targets set

+ At provincial and municipal level, local housing development programmes and Plans has not specified development target of energy efficient housing yet

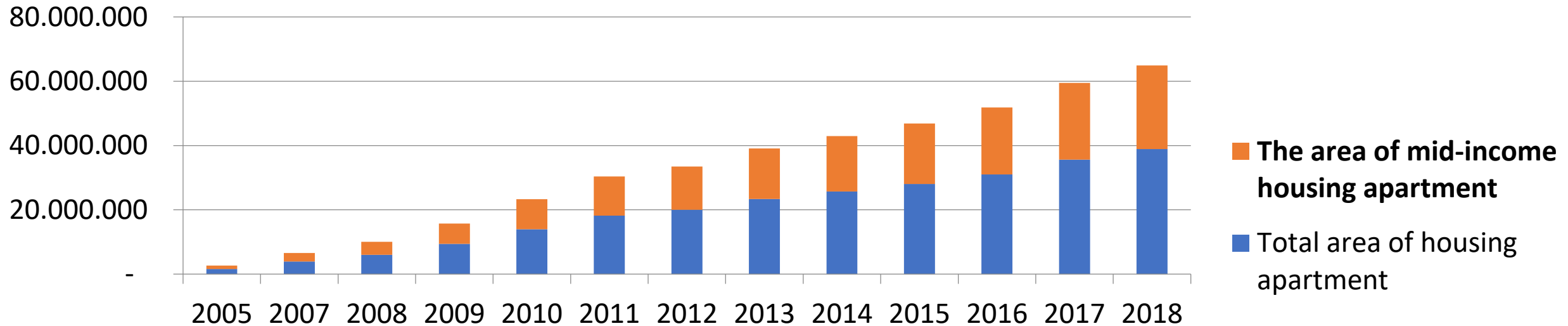


By 2021:

- Amendment to Vietnam national Housing strategy with additional targets set according to new context
- Amendment legal frame for housing development at provincial and municipal levels, including Stipulations on content stipulations in Provincial and Municipal Housing Development Programmes and Planning
- Encouraging the inclusion of energy efficient housing and housing programmes with high market demand into Government Orientation for Housing Development: e.g. The Low-cost commercial Housing segment

Multi-family apartment growth 2005-2018

Source: Compiled by HREM from GSO Data



Period 2010 – 2018: Average annual increase of 3.2 Mio m² of apartments

Middle class apartments as driver:

- About **2/3 of the market** but yet **without EE measures**
- Around **250,000 new housing units per year** only in Hanoi and HCMC

Energy-saving potential of housing segment

According to the calculation of the Department of Science and Technology, Ministry of Construction, housing projects which uniformly apply EE architectural design solutions, use energy-saving materials, install and operate EE devices, have qualified energy management officers, take advantage of space, natural light, etc. can save 30-40% of energy consumed.

Estimated annual energy savings for the Housing Apartment segment
 $105 \text{ kWh/m}^2/\text{year} \times 40\% \times 3,2 \text{ million m}^2 = 134.400.000 \text{ kWh/year}$



Towards increased energy-efficiency in the mid-income housing sector in Vietnam



Dissemination of benefits of energy efficient housing to end-users (people wanting to buy, rent, or lease-purchase apartments)



Stimulate demand for the housing market to energy efficiency through specific projects and schemes



Development of incentive mechanisms to encourage investors and customers to promote energy efficient housing markets.



Promulgation of energy-efficient housing development strategies as a basis for programs and plans to build energy-efficient houses so that the locality can base on and implement

KEY RECOMMENDATIONS AND PROPOSALS



Energy Efficient Measures take its effects once the building is **occupied**.

It is necessary to set energy efficient housing target in association with targets for the housing market segments where it is in highest demand for actual use and actual occupation, in particular the market segment for low cost commercial housing

Thank to the wide and deep penetration of low cost commercial housing segment into the entire Vietnamese housing market hence once energy efficient housing is targeted in the particular segment, its impacts on housing energy performance in the **entire housing market** could be enormous.

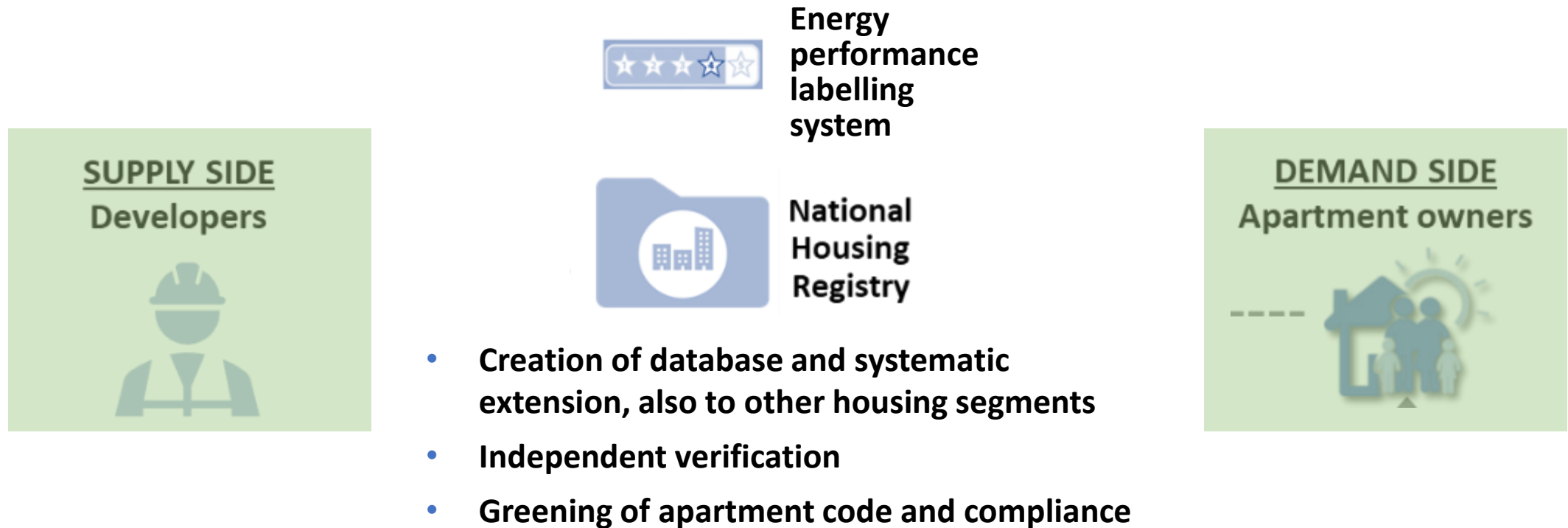
Objective:

- Promotion of **low-emission transformation of the mid-income housing sector in Viet Nam, with a focus on new construction.**

Target group:

- **Urban mid-income households**, focusing in particular on young families with urgent need for affordable, healthy and climate friendly housing.
- **Because:**
 - Strong growth, increasing incomes and energy demand (> cooling)
 - This target group can be addressed through commercial financing

Approach of Green Housing Programme



Financial incentives to housing developers and building up of capacities

Financial incentives to apartment buyers/ end-users and awareness on benefits

Thank you for your attention!

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