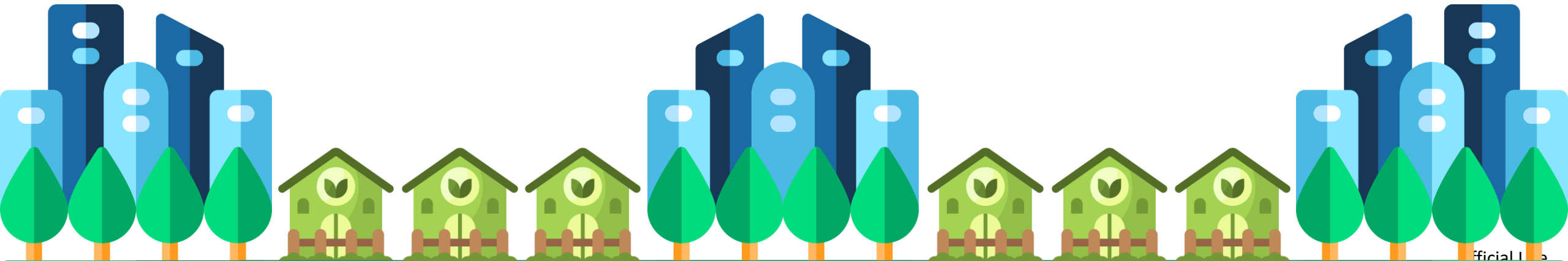


Indonesia Green, Resilient & Affordable Housing

KGGTF Webinar: EDGE & BRI tools for effectively measuring climate change mitigation & adaptation

November 17, 2023



GOVERNMENT HOUSING PROGRAM LACKS CLIMATE CHANGE CONSIDERATION

Indonesia is in the **top 3** coal producing countries

**Source: Global Data, 2021*

In 2021, the increase in temperature was **0.7° C** higher than in 1986 – 2005 (avg. 0.3 ° C)

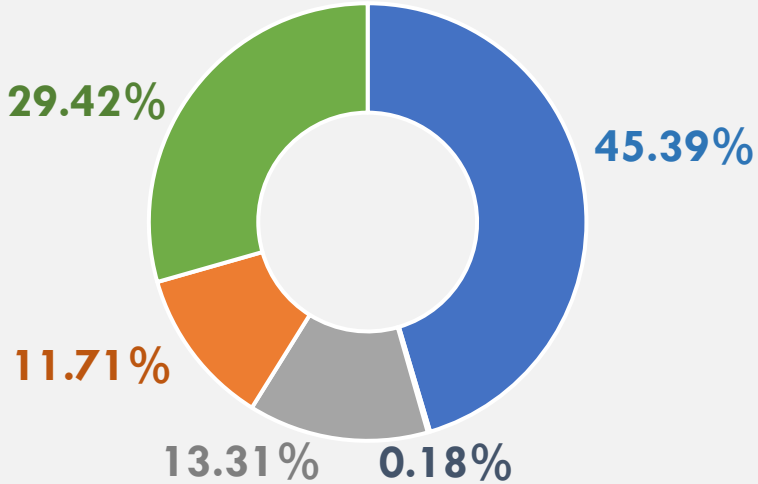
Housing Backlog

12,7 mm
Quantitative Backlog

23,7 mm
Qualitative Backlog



Government One Million Homes Program



- Landed Housing for LIH
- Commercial Landed Housing
- Home Retrofit
- Multistory Housing for LIH
- Commercial Multistory Housing

**LIH: Low-income households | Source: Average of annual delivery of One Million Homes Program (Program Sejuta Rumah/ PSR), 2019-2020, MPWH.*



Green housing units account for only small percentage of annual housing delivery



Indonesia must scale up the climate action towards green and resilient housing in cities

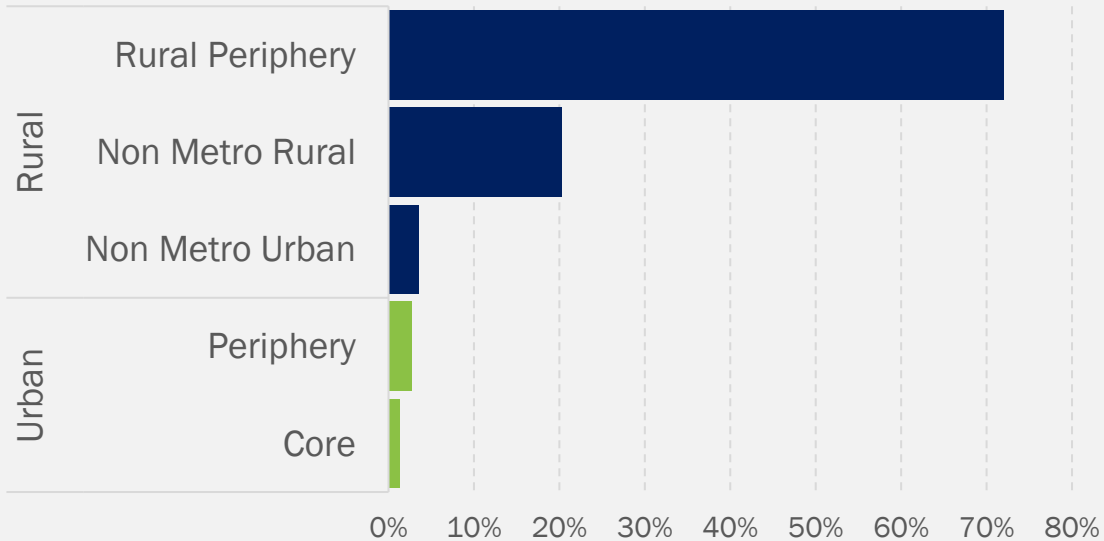


GOI HOUSING PROGRAM DIRECTLY IMPACTS GHG EMISSION IN 3 WAYS

Subsidized housing causes sprawl

More than **90 %** of the subsidized housing are located in **rural areas**, (70% at the rural peripheries and and 20% at non-metro rural area) while the acute needs are in the urban area.

Housing Subsidy Location, 2019 (%)



Landed new housing construction accounts for **59%** of One Million Homes program, requires land provisioning

Land use impact

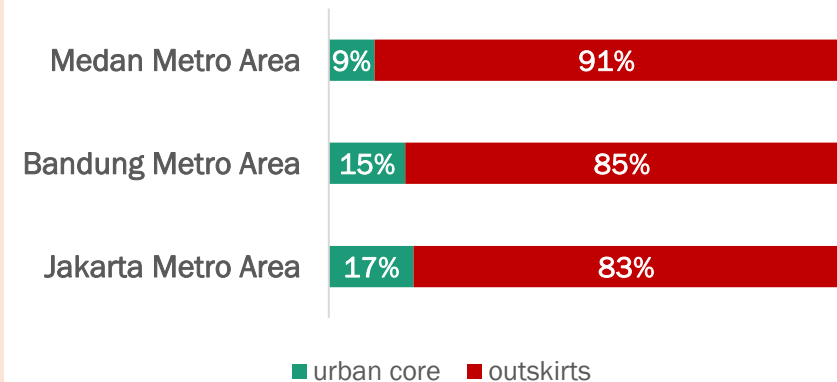
Housing Development from OMH will consume **1,097 km²** of land by 2030



Commuting Impact

More than **80% of commuting-related emissions** are generated in the outskirts

Estimated Commuting-Related Housing Carbon Emission



IGAHP

A USD 500 mm donor agency lending program.
Objective: Finance green, resilient and affordable housing of new construction and retrofit in support of the achievement of SDGs and fulfillment of the **Paris Climate Agreement**

IGAHP Targets

2024	2030	2050
100.000 <i>Green Housing</i>	1 Million <i>Green Net-Zero Housing</i>	100% <i>Net-Zero Housing</i>



Several green certification systems exist currently in Indonesia:

- **EDGE by IFC**, is the most utilized system for residential and commercial building space.
- **Greenship**, a certification developed by Green Building Council of Indonesia, is rarely used in the affordable housing sector.
- **BGH** by Ministry of Public Works and Housing, is a very new system which is still in the process of being rolled out nationwide.

These systems present numerous differences and vary greatly in their costs, ease of use, what they measure and adoption by developers.

ANALYSIS OF THE 3 GREEN CERTIFICATION SCHEMES

	EDGE	GREENSHIP	GoI BGH	
Technical	Ensures minimum green standards	Yes	Yes	
	Calculates carbon savings	Yes	No	
	Takes into account location	No	Yes (related to public facility, public transportation infrastructure)	
	Takes into account construction quality	No	No	Requires Occupancy Certificate to ensure construction quality
Implementation	Easy to use by developers	Yes	No	
	Affordability	No	TBD	Yes
	Capacity to audit at scale (certification)	Yes, but potentially expensive	Yes, but could be expensive	Not yet but trainings in progress

GREEN & RESILIENT M&E SCHEME FOR IGAHP

Challenges

IGAHP scope

Green & Resilient Aspects

Only 1% of Indonesia's new construction is green certified.



Ensure minimum green standards

Meet NDC GHG emission reduction target



Calculate carbon savings

92 % of the subsidized homes are located at Non-Metro Rural and Rural Periphery



Consider housing location

Lack of enforcement of building codes/ min construction standards



Ensure minimum construction quality

Implementation Aspects

IGAHP target: 100,000 green units by end of 2024
1 mm housing units of zero carbon by 2030.



Capacity to audit/inspect at scale

High cost of green certification



Build value for money process for eventual certification

Lack of acceptance by developers



Ease of use by developers