THE MINISTRY OF PUBLIC WORKS AND HOUSING

EFFORTS AND MEASURES ON CLIMATE CHANGE MITIGATION AND TRANSITION TOWARDS NET ZERO EMISSION

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OUTLINE

1. NATIONAL POLICY ON CLIMATE CHANGE MITIGATION AND ADAPTATION
2. INFRASTRUCTURE DEVELOPMENT STRATEGY TO MITIGATE CLIMATE CHANGE AND REDUCE EMISSION
3. INFRASTRUCTURE FINANCING STRATEGIES IN INCREASING CLIMATE RESILIENCE
4. MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE MITIGATION AND ADAPTATION AS WELL AS EMISSION REDUCTION

CLIMATE CHANGE MITIGATION

"**Climate Change Mitigation** refers to efforts to reduce or prevent **emission of greenhouse gases** in attempt to control the adverse effects of climate change"

- Ministerial Decree of the Minister of Environment and Forestry No. 72/2017

BRIEF NOTE

1. The Government of Indonesia (GoI) has committed to reduce greenhouse gas emission by 29% by domestic/own-efforts or 41% with international assistance (up to FY 2030). This is based on the commitment agreed by the government during ***the 2015 United Nations Framework Convention On Climate Change*** in Paris.

2. The government's target in reducing GHG emission through mitigation efforts has already established in **Nationally Determined Contribution (NDC)** document. It is aligned with the **National Medium Term Development Plan (RPJMN) 2020-2024 Priority 6,** improving natural environment, increase disaster resilience and control climate change. The Ministry of Public Works and Housing's (MPWH) contribution in achieving this target is focused on **Energy and Waste sector**.

3. MPWH shows its support through implementing **the SDGs, New Urban Agenda**, and integrating **gender issues** in its programs and policies as well as the drafting of the Ministerial Decree on **the National Action Plan For Climate Change Mitigation and Adaptation & Disaster Risk Reduction for the Year 2021 – 2030**.

4. The upcoming issuance of the Ministerial Decree on the National Action Plan for Climate Change Mitigation and Adaptation & Disaster Risk Reduction for the Year 2021 – 2030 is an effort to support the climate change adaptation and mitigation, which consist of integrated infrastructure plan in controlling the adverse effects of climate change as well as increasing disaster resilience.

5. The government's annual **budget tagging for climate change** in 2021 for MPWH is amounted to Rp.10,938,454,378,000. It should be noted, however, that this amount indicates the total value of all climate change related projects within MPWH, not a specialized budget for climate resilience. This number is expected to double for the year 2022.

6. Aside from the annual **government budget allocation (DIPA)** and the use of **green bonds**, currently the financing for climate change resilience is done through **international assistance,** whether it is from trust funds, TAs, grants, loans, or other financing modalities, and through participation from the **private sector**.

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NATIONAL POLICY ON CLIMATE CHANGE MITIGATION AND ADAPTATION

GOVERNMENT'S COMMITMENT ON CLIMATE CHANGE MITIGATION AND EMISSION REDUCTION

1992

Earth Summit 1992 RIO DE JANEIRO

- Establishment of United Nations Framework Convention on Climate Change
- Issuance of Law No. 6/1994 on the Ratification of *United Nations Framework Convention On Climate Change* (1994)

1997

COP 3 KYOTO

Issuance of Law No. 17/2004 on the Ratification of *Kyoto Protocol To The United Nations Framework Convention On Climate Change* (2004)

2009

G20 Summit PITTSBURGH

Commitment to reduce greenhouse gas emission by 41% with international assistance and 26% by domestic/own-efforts (up to FY 2020)

Issuance of Presidential Decree No. 61/2011 regarding National Action Plan on Greenhouse Gas Emission Reduction

Issuance of Presidential Decree No. 71/2011on National Greenhouse Gas Inventory Management

2015

COP 21 PARIS

Commitment to reduce greenhouse gas emission by 41% with international assistance and 29% by domestic/own-efforts (up to FY 2030)

Issuance of Law No 16/2016 on the Ratification of *the Agreement to The United Nations Framework Convention on Climate Change*

MPWH RESPONSE TO GLOBAL AGENDA ON CLIMATE CHANGE

The implication of SDGs establishment for the Direction of MPWH's infrastructure development policy:

- Enhanced support towards **achieving water and food resilience** through increasing bulk water capacity for irrigation and clean water.
- **Improvement of water resource management**.
- Increased infrastructure support for regional development through **strategic areas development**
- Fulfilment of **100% access to potable water, sanitation, and proper housing** for the poor and near poor.
- Increased support for settlement infrastructures, both in service area and existing infrastructure capacities to **achieve affordable, proper, just, and safe housing as well as slum alleviation with access to basic urban services**
- Enhanced support to reach the goal of **materializing inclusive, resilient, safe, sustainable cities and communities**.
- Providence of infrastructure to **reduce development gaps across areas** in the country.
- Implementation of the **National Action Plan for Climate Change Mitigation and Adaptation**

IMPLEMENTING THE NEW URBAN AGENDA

Safe and affordable **basic services and housing**;

Inclusive and sustainable **urbanization**;

Improved **disaster resilience**;

Reduced negative impacts to **the environment**;

Strengthened **national and regional development planning**;

Improved road safety -> **transportation system for all**;

Cultural and natural heritage conservation;

Minimized **loss from disasters**;

Increased **public green open spaces**.

RAN MAPI

The National Action Plan for Climate Change Mitigation and Adaptation

To address MPWH's infrastructure development challenges for disaster-prone areas and anticipate the adverse effects of climate change.

GENDER MAINSTREAMING

Integrating gender issues as one integral dimension for planning, formulizing, monitoring, and evaluation of national development programs with careful consideration for the quality of life, experience, aspiration, needs, and challenges faced by both genders (including the elderly, underaged children, people with disability, and people with economic disadvantages)

RESPONDING TO CLIMATE CHANGE ISSUES IN INFRASTRUCTURE DEVELOPMENT PLANNING

Improved Climate Resilience as A Development Priority in the Medium-Term National Development Plan (RPJMN) 2020-2024

PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4	PRIORITY 5	PRIORITY 6	PRIORITY 7
Strengthen economic resilience to achieve high quality growth	Area development to reduce development disparities and ensure equality	Improve quality and competitiveness of human resources	Develop a strong national culture and character	Strengthen infrastructure to better support economic development and basic services	**Improve natural environment, increase disaster resilience and control climate change**	Strengthen national security and law enforcement & public services transformation

Development Priority 1	**Development Priority 2**	Development Priority 3
Improved environmental quality	**Improved disaster and climate resilience**	Low carbon development

Development Policy 2: Improved climate resilience


Maritime affairs


Coastal area


Water

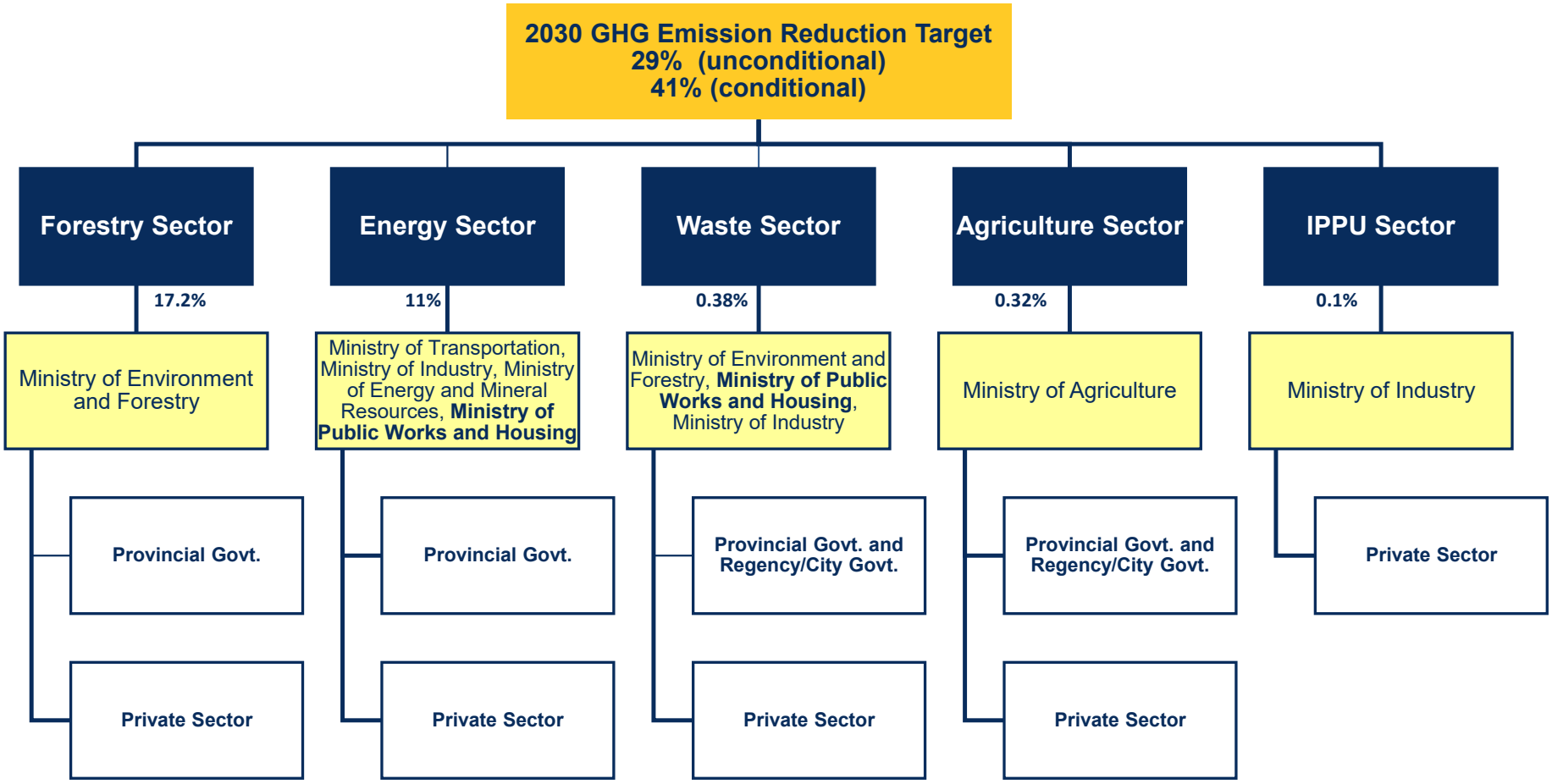

Agriculture


Health

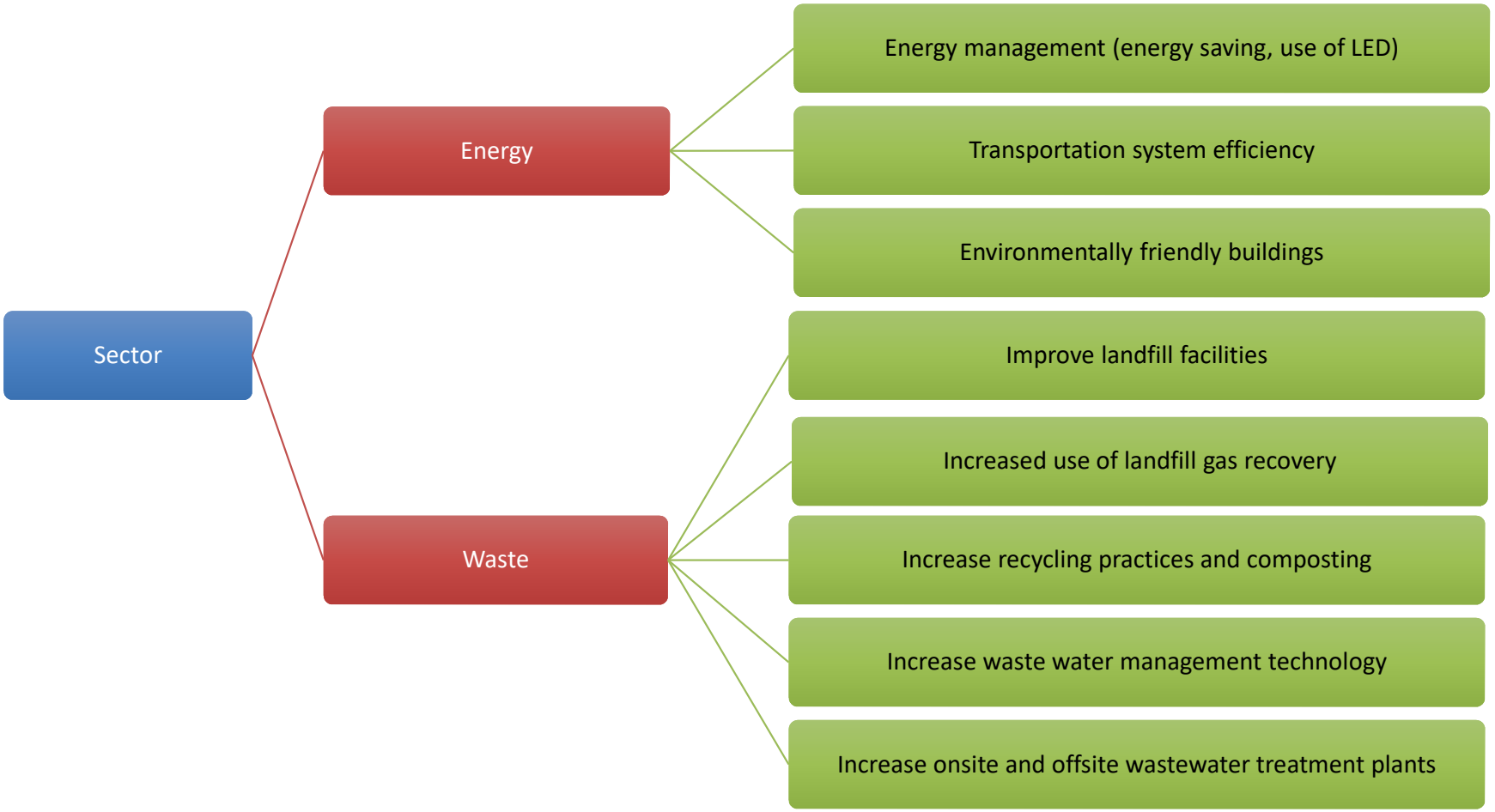
2

INFRASTRUCTURE DEVELOPMENT STRATEGY TO MITIGATE CLIMATE CHANGE AND REDUCE EMISSION

INDONESIA NATIONALLY DETERMINED CONTRIBUTION (NDC) ROADMAP



MPWH'S SUPPORT FOR CLIMATE CHANGE CONTROL



MPWH'S REGULATIONAL AND INSTITUTIONAL SUPPORT FOR CLIMATE CHANGE MITIGATION AND ADAPTATION

National Action Plan for Climate Change Mitigation and Adaptation and Disaster Risk Reduction

a. Issuance of Ministerial Decree of the Minister of Public Works No. 11/2012 on National Action Plan for Climate Change Mitigation and Adaptation for the Year 2012-2020.

b. The drafting of Ministerial Decree of the Minister of Public Works and Housing on National Action Plan for Climate Change Mitigation and Adaptation & Disaster Risk Reduction for the Year 2021 – 2030 as a renewal of the 2012 decree.

c. The new decree will consist of objectives and targets for climate change control for the period of 2021 – 2030, which includes:

- Target for climate change mitigation: reduction of national greenhouse gas emission by 29% by domestic/own-efforts and 41% with international support by 2030.
- Targets for climate change adaptation to support sustainable development and high resilience from the adverse effects of climate change
- Targets for low carbon development to reach a balance among economic growth, poverty alleviation, and emission reduction as part of sustainable development target.

d. The new decree will also provide a policy framework for public works and housing infrastructure programming, in implementing actions directly and indirectly related to climate change and disaster risk reduction efforts.

MPWH'S REGULATIONAL AND INSTITUTIONAL SUPPORT FOR CLIMATE CHANGE MITIGATION AND ADAPTATION

Ministerial Decree of the Minister of Public Works No. 11/2012 on National Action Plan for Climate Change Mitigation and Adaptation for the Year 2012-2020	Reason for re-issuance	Ministerial Decree (Draft) of the Minister of Public Works and Housing on National Action Plan for Climate Change Mitigation and Adaptation & Disaster Risk Reduction for the Year 2021 – 2030
Scope of regulation: a. Targets for mitigation and adaptation b. Strategies to achieve targets (4 public works sectors -> water resources, highways, human settlements, and spatial planning) c. Strategy – targets – output – components – budget for 2012-2014; and strategy – targets for 2015-2020	a. Change in MPWH's organizational structure (Public Works → Public Works and Housing) b. Agreed targets in Climate Change Conference COP 21 c. Agreed targets on disaster risk reduction in Sendai Framework d. Priorities in RPJMN 2020-2024 for climate change mitigation and adaptation e. Emergence of needs to issue foundations for outputs/ components in the national action plan RAN MAPI f. Existing outputs/components cannot fully represents MPWH's support in climate change control	Scope of regulation: a. Realization of an integrated, climate change and disaster-sensitive infrastructure system b. Add regulations on disaster risk reduction c. Participation from all Directorate Generals in MPWH d. Formulation of criteria/output/products/sub-products which are responsive to climate change e. Output detailing → adding products and sub-products as well as direct and indirect impacts of climate change and disaster

CRITERIA FOR CLIMATE CHANGE MITIGATION

WATER RESOURCES

Criteria : Prevent peatland fire

Project samples:

1. Development of canal blocking system
2. Development of new irrigation and lowland networks
3. Rehabilitation of irrigation and lowland networks

Objective : Utilize efficient technology for development to prevent loss of water

Criteria : Reduce groundwater used for irrigation

Project samples: Development of intermittent irrigation system

Objective : Utilize water-efficient irrigation technology to intensify agriculture

HIGHWAYS

Criteria : Implement energy efficient roads

Project samples:

1. Bukittinggi flyover
2. Gerung (Patung Sapi) – Mataram road construction

Criteria : Utilization of environmentally friendly construction materials

Project samples :

1. Use of warm mix asphalt
2. Use of recycling asphalt

Criteria : Improve road function

Project samples :

1. Regular maintenance of roads and bridges
2. Road expansion and standardization of road lanes width
3. Increase road lanes
4. Bridge expansions

Objective : Increase connectivity

PUBLIC HOUSING

Criteria : Develop specialized housing for landslide victims

Project samples : Specialized housing development in Bogor

HUMAN SETTLEMENTS

Criteria : Implement reduce, reuse, recycle practices

Project samples : development of integrated solid waste disposal center for 3R

Criteria : Convert waste into methane to be used as renewable energy

Project samples :

1. Development of city-scale Sanitary Landfill
2. Development of regional-scale Sanitary Landfill

Criteria : Develop energy-efficient buildings

Criteria : Develop building with rainwater harvesting system

Project samples : Construction of GBK Stadium

Source: Regional Infrastructure Development Agency, 2021

CHALLENGES FACED BY THE MINISTRY OF PUBLIC WORKS AND HOUSING IN SUPPORTING NET ZERO EMISSION TARGET

Net zero emission *refers to the balance between the amount of greenhouse gas produced and the amount removed from the atmosphere through reduction measures such as the use of renewable energy sources and energy efficiency.*

Public works and housing infrastructure development utilizing new and renewable energy, e.g. Groundwater irrigation system building with solar panel installed.

Limit infrastructure development which promotes energy inefficiency, (i.e. urban road construction), **promote the use of public transportation** in cities, and **support sustainable urban mobility** (pedestrian, cyclist, disability friendly).

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Utilize infrastructure built as a renewable energy source, e.g. Jatiluhur dam which functions as hydroelectric power generator.

CHALLENGES FACED BY THE MINISTRY OF PUBLIC WORKS AND HOUSING IN SUPPORTING NET ZERO EMISSION TARGET

1. MPWH programs and projects are not specifically designed to support climate change control. Planning, construction, operation, and reporting done by MPWH are done by following national regulation (business as usual) rather than following indicators/targets in climate change agreements.

2. Many of MPWH programs/projects are implemented in collaboration with local governments. While planning and construction are done by MPWH, operations and maintenance of constructed facilities are done by local governments. Thus, the reporting of climate change indicators (e.g. emission calculation, methane gas produced, energy generated by renewable sources, etc) cannot be done by MPWH.

3. Climate change allocation within the KRISNA system uses the tagging system of the existing allocated budget in annual government budget allocation (DIPA). It is calculated as total budget for construction, supervision activities and administrational support, therefore the total amount of budget tagging for climate change in MPWH seems to be immensely high. This problem might create a bias that MPWH has a high budget allocation for climate change control, while in reality this budget is for total project cost, not a special additional allocation for climate change mitigation and adaptation efforts.

4. In consideration of the above-mentioned points, the calculations of climate change indicators might be more suitable to be conducted not by MPWH, since MPWH does not have the competencies to calculate emission. Emission calculation should be conducted by other ministry and/or agency who have more competencies and jurisdiction in calculating climate change indicators.

3

INFRASTRUCTURE FINANCING STRATEGIES IN INCREASING CLIMATE RESILIENCE

FINANCING PROVISION FOR CLIMATE RESILIENCE

PUBLIC	INTERNATIONAL	PRIVATE
• Annual National/Regional budget (through **annual budget tagging)** • Fiscal Incentives (*Tax Holiday*, *tax allowance*, import duty/tax free for capital goods and Geothermal goods) • **Green Sukuk (green bonds)**	• Global Environment Facility (GEF) • **Green Climate Fund (GCF)** • Adaptation Fund • Bilateral and Multilateral funding • Others	• Private funds • PPP schemes • *Corporate Social Responsibility* (CSR)

ANNUAL GOVERNMENT BUDGET TAGGING FOR CLIMATE CHANGE

Every year, the Ministry of Public Works and Housing, coordinated by the Ministry of Finance, calculate the total annual budget tagging for climate change. This budget tagging practice does not refer to allocating specialized budget for climate change but rather refers to the determination of climate change related projects within MPWH's annual programs. The calculation of the total costs for such projects makes for the total annual budget tagging for climate change.

The annual budget tagging for climate change for the Ministry of Public Works and Housing are as follows:

No.	Directorate General	Allocation for 2021	Proposed Allocation for 2022
1	DG Water Resources	1,199,555,193,000	--
2	DG Highways	--	14,219,549,327,000
3	DG Human Settlements	5,348,779,853,000	3,574,490,538,000
4	DG Housing	4,390,119,332,000	4,026,478,051,000
	TOTAL	**10,938,454,378,000**	**21,820,517,916,000**

Green Sukuk/Green Bonds

GREEN SUKUK/GREEN BONDS

- Financing innovation for climate change funding based on Sharia Principles
- Used as a financing scheme to finance national projects supporting climate change mitigation and adaptation
- Aimed to reduce carbon emission and help achieve selected SDGs targets

MPWH Projects financed by the 2020 Global Green Sukuk

No.	Project Name	Amount (USD)	Impact	SDGs
1	Provision and Management of Ground Water and Raw Water	38,599,577	Improving raw water service for domestic consumption and social & economic productivity	3, 5, 6, 8, 10, 11, 13
2	Flood and Lava Control, Urban Drainage Management, and Coastal Protection	103,694,158	Improving water resource infrastructure resilient to water potential damages risks	
3	Management of Dam, Lake, and Other Water Retention Facilities	132,768,440	Improving water reservoir, supporting the irrigation network system, and supporting flood control system	
4	Development and Rehabilitation of Water Surface Irrigation Network	96,240,660	Improving the irrigation network system's performance and efficiency	
5	Supervision and Development of Drinking Water Supply System	45,077,670	Expanding and improving public access to safe drinking water	
6	Supervision and Development of Settlement Areas	167,681,572	Improving environment quality and basic services	
7	Supervision and Development of Settlement Sanitation	80,811,907	Reduce number of waste disposed to landfill by applying 3R principles	

Source: *Green Sukuk Allocation Impact Report*. Ministry of Finance. 2021

Green Climate Fund (GCF)

GCF
Green Climate Fund

GCF is designed as an operating entity of the ***United Nations Framework Convention on Climate Change* (UNFCCC)** financial mechanism.

GCF aims to catalyze a flow of **climate finance for low-emission and climate-resilient development**, thereby driving a **paradigm shift** in the global response to climate change.

GCF helps developing countries **limit or reduce their greenhouse gas (GHG) emissions** and **adapt to climate change.**

Financial Instruments:

- Concessional Lending
- Equity Investments
- Grants
- Guarantees

4

MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE MITIGATION AND ADAPTATION AS WELL AS EMISSION REDUCTION

MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE

DG WATER RESOURCES

INTERMITTENT IRRIGATION SYSTEM

Advantages:

- Save water used for irrigation;
- Give plantation roots to absorb oxygen from air;
- Prevent accumulation of organic acids and H2S gas which hinder roots growth.

Intermittent Irrigation system helps reduce greenhouse gas (CO_2 22-48% dan CH_4 78%) compared to irrigation by inundation

INTERMITTENT IRRIGATION

Inundation

Intermittent

Canal Blocking Usage

Canal blocking development in Pulang Pisau, Central Kalimantan (2015)

PEATLAND

Peatland absorbs CO2 from the atmosphere, storing it as biomass. Peatland restoration can bring significant emissions reductions and help address climate change

PEATLAND FIRE

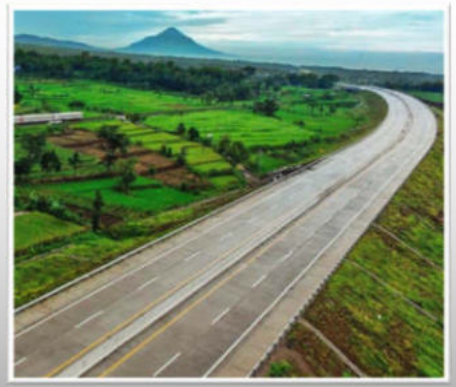
Damaged peatlands are a major source of greenhouse gas emissions, annually releasing almost 6% of global anthropogenic CO2 emissions.

Advantage of Canal Blocking

Restraining water seeping from peatlands, keeping peat in wet/damp condition, thus preventing gas release.

Installation of plastic tarps to overlay canal frame structure in order to prevent water seepage and leaks.

GREEN ROAD: PANDAAN-MALANG TOLL-ROAD



Sustainable Infrastructure development

- **Design**
- **Construction**
- **Operation**
- **Maintenance**

Pandaan – Malang Toll Road was awarded with Green Toll Road Indonesia Certificate - **Gold plus level** from Green Infrastructure and Facilities Indonesia

LENGTH
38.48 Km

Green toll road assessment covers 6 indicators: Accessibility, decency and service, energy and water efficiency, environmental impacts, materials, construction, and regional cooperation. These indicators' objectives are fully in line with UN's SDGs

GREEN TECHNOLOGY: ASPHALT MIXING

Plastic Asphalt

Plastic material in asphalt is found to increase stability and resistance to deformation and cracks

UTILIZATION OF LOCALLY SOURCED RUBBER AS MATERIAL → INCREASE CONSUMPTION OF DOMESTIC NATURAL RUBBER, PROMOTING DOMESTIC INDUSTRIES

Prabumulih-Muara Enim (2019)

Ajibarang-Banjarnegara road preservation using rubberized asphalt (2019)

MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE

DG. Human Settlements

GREEN BUILDING AND GREEN SITE (Sustainable Construction)

DGHS projects constructed using green building specifications based on MPWH Decree No. 02/PRT/M/2015 on Green Building and DG. Human Settlements' Decree No. 86/SE/DJCK/2016 on the Technical Guidelines for Green Building Development :

Auditorium Building, Brawijaya University, East Java

Palangkaraya State Islamic Institute, Bldg. A and Bldg. B, East Kalimantan

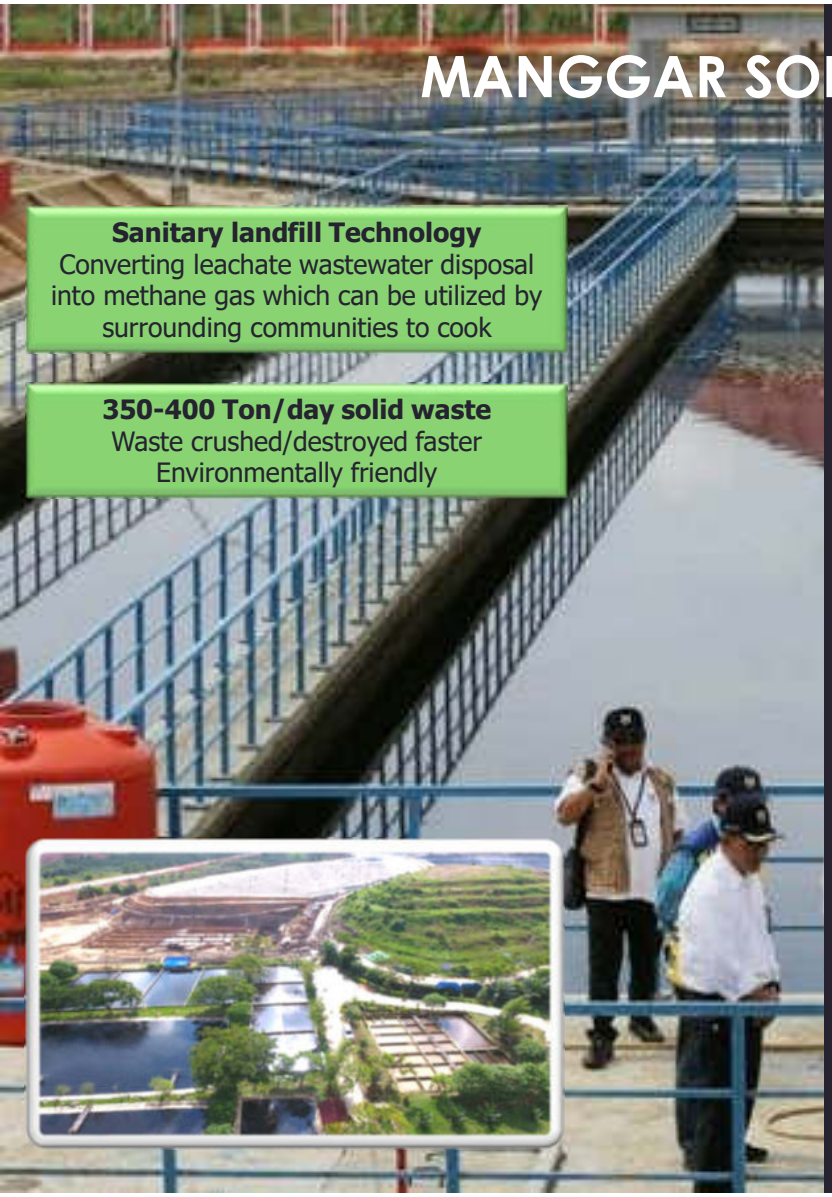
Renteng Market, West Nusa Tenggara

Tempe Sengkang Market, South Sulawesi

East Klewer Market, Central Java

Thumburuni Market, Papua

MANGGAR SOLID WASTE "SANITARY LANDFILL"



Sanitary landfill Technology
Converting leachate wastewater disposal into methane gas which can be utilized by surrounding communities to cook

350-400 Ton/day solid waste
Waste crushed/destroyed faster
Environmentally friendly

REDUCE, REUSE, RECYCLE (TPS3R) WASTE TREATMENT FACILITY

THANK YOU

BUREAU OF BUDGET PLANNING AND INTERNATIONAL COOPERATION
SECRETARIAT GENERAL
MINISTRY OF PUBLIC WORKS AND HOUSING

MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE

DG. HIGHWAYS

GREEN ROAD

Bali-Mandara Toll Road

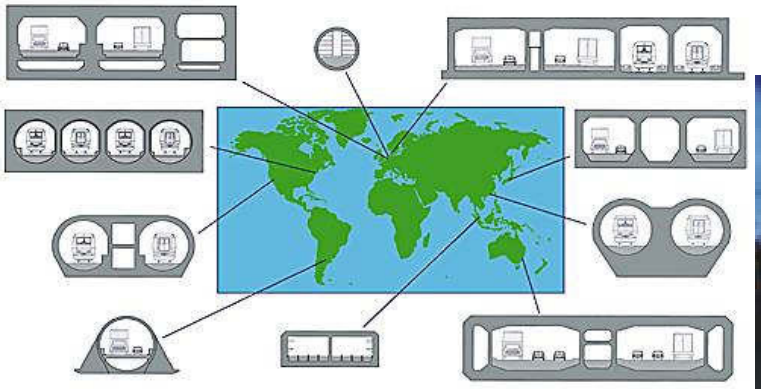
- ✓ Utilization of LED lights
- ✓ Mangrove planting activities with local communities
- ✓ Minimization of geometric design to prevent loss of mangrove and other natural habitat

Bukittinggi Flyover

- ✓ Utilization of solar cell technology
- ✓ Utilization of locally produced materials

Green Road criteria was first developed by MPWH's Research and Development Agency and was further adopted by DG Highways in roads and bridges construction.

Integrated toll road construction with sea wall (Semarang City) to prevent tidal flood



Road construction using immersed tunnel → easier maintenance, less environmental impact, thus more sustainable

MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE

DG. Human Settlements

GREEN BUILDING AND GREEN SITE (Sustainable Construction)

→ The implementation of green building and green site development in DG. Human Settlement (DGHS) was based on the issuance of Ministerial Decree No. 02/PRT/M/2015 on Green Building.

→ To help with the implementation, DGHS then formulize and issue the Technical Guidelines for Green Building Development (DG. Human Settlements' decree No. 86/SE/DJCK/2016).

→ In 2021, MPWH Decree No. 02/PRT/M/2015 was revised into MPWH Decree No. 21/PRT/M/2021 on Green Building Performance Appraisal. This new decree is hoped to be able to improve future implementation of Green Building constructions in the MPWH.

→ Conditions for Green Building :
- ✓ Fully comply with the Technical Guidelines for Green Building Development
- ✓ Assessed by designated ministry/agency or competent firm or certified green building expert as per the requirements in 21/PRT/M/2021
- ✓ Has been awarded with green building certificate at least during planning and programming stage (issued by designated central/regional government agency) AND a green building placard when building is first operationalized (issued by Minister of PWH or district head/mayor/governor)

DG HUMAN SETTLEMENTS SUPPORT FOR MAPI

DG Human Settlements support in Climate Change Mitigation and Adaptation and Disaster Risk Reduction (MAPI) delivered through infrastructure development projects within clean water, domestic water, building development, and waste management.

CLIMATE CHANGE MITIGATION

1. Regional Scale Solid Waste Management System
2. City Scale Solid Waste Management System
3. Area Scale Solid Waste Management System
4. Solid Waste Conversion Management System to Renewable Energy Source
5. Individual (local) Scale Wastewater Management System
6. Community Based Solid Waste Management System

Funding Allocation

	FY. 2020	FY. 2021
CLIMATE CHANGE MITIGATION	IDR 840 Billion	IDR 1,14 Trillion
CLIMATE CHANGE ADAPTATION	IDR 4,63 Trillion	IDR 9 Trillion

CLIMATE CHANGE ADAPTATION

1. Development of Regional Drinking Water Supply System
2. Improvement of Regional Drinking Water Supply System
3. Extension of Regional Drinking Water Supply System
4. Development of Citywide Drinking Water Supply System
5. Improvement of Citywide Drinking Water Supply System
6. Extension of Citywide Drinking Water Supply System
7. Community-Based Drinking Water Infrastructure System
8. Regional Scale Centralized Wastewater Management Treatment System
9. City Scale Centralized Wastewater Management Treatment System
10. Neigborhood Scale Centralized Wastewater Management Treatment System
11. City Scale Local Wastewater Management Treatment System
12. Community-Based Centralized Wastewater Management Treatment System
13. Development and Rehabilitation for Green Building
14. Building Arrangement Development and Botanical Garden Landscaping

MPWH'S DEVELOPMENT PROJECTS ADDRESSING CLIMATE CHANGE

DG. Human Settlements

GREEN BUILDING AND GREEN SITE (Sustainable Construction)

DGHS projects constructed using green building specifications based on MPWH Decree No. 02/PRT/M/2015 on Green Building and DG. Human Settlements' Decree No. 86/SE/DJCK/2016 on the Technical Guidelines for Green Building Development :

Pariaman Market, North Sumatra

Legi Ponorogo Market, East Java

Pon Trenggalek Market, East Java

Kaliwungu Market, Central Java

Sukawati Market Bldg. A, Bali

Sukawati Market Bldg. B, Bali

Sukawati Market Bldg. C, Bali

GREEN BUILDING & GREEN SITE

MINISTRY OF PUBLIC WORKS AND HOUSING OFFICE COMPLEX

The main building of the Ministry of Public Works and Housing was presented with **Greenship "Platinum" award from** *Green Building Council Indonesia* (GBCI)

- More Green Open Space
- Integrated Waste Management
- Integrated Pedestrian & Disable Path
- *Zero Run Off*
- Rain Water Harvesting
- Mechanical, Electrical, Plumbing (MEP) System
- PVROOF Solar Panel Technology