



Climate Finance Landscape Indonesia



Funded by
the European Union



GLOBAL COVENANT
of MAYORS for
CLIMATE & ENERGY
SOUTHEAST ASIA



United Cities and Local Governments
Asia-Pacific

Climate Finance Landscape Indonesia

PUBLISHED IN INDONESIA IN 2024

All Rights Reserved.

European Union

United Cities and Local Governments Asia Pacific (UCLG ASPAC)

Global Covenant of Mayors for Climate and Energy (GCoM)

Acknowledgements

The Climate Finance Landscape: Indonesia was produced by UCLG ASPAC, the GCoM Southeast Asia Secretariat, as part of the activities of the European Union-funded "Support to the Global Covenant of Mayors (GCoM) for Climate and Energy in Asia".

Main Contributor

Arif Rahmansyah Darana

UCLG ASPAC – GCoM Southeast Asia Secretariat

Dr. Bernadia Irawati Tjandradewi

Rona Ikram Putri

Rendy Primrizqi

Nathania Azalia

GCoM Asia Project

Pablo Gandara

FOREWORD

As Indonesia confronts the growing challenges of climate change, the role of climate finance in shaping a sustainable future has never been more crucial. With its vast archipelago, rich biodiversity, and dynamic economy, Indonesia faces a multitude of climate-related challenges, from rising sea levels and extreme weather events to the necessity of transitioning towards sustainable land management and clean energy. Addressing these challenges, requires not only strategic planning but also robust financial mechanisms to support effective climate action.

This report, meticulously prepared by the United Cities and Local Governments Asia Pacific (UCLG ASPAC) as the host of the Secretariat of the Global Covenant of Mayors for Climate and Energy (GCoM) in Southeast Asia, provides a detailed exploration of the climate finance landscape in Indonesia. Developed with the support of the GCoM Asia Project, this publication offers invaluable insights for policymakers, local governments, and stakeholders across the nation. It highlights the critical need for effective financial strategies to mitigate and adapt to the impacts of climate change.

Indonesia's climate finance landscape is both complex and dynamic, comprising various funding sources, from public funds and private investments to international grants and innovative financing mechanisms such as green bonds and carbon trading. This report delivers a comprehensive analysis of these financial instruments, identifying key opportunities and challenges in leveraging resources to support climate resilience. By focusing on the Indonesian context, the report offers practical guidance on how to navigate the intricate web of climate finance, optimise available resources, and implement effective climate action strategies.

The findings and recommendations within this report underscore the importance of collaborative efforts and strategic investments. Local governments play a pivotal role in translating national climate commitments into on-the-ground action. By aligning their climate action plans with national goals and leveraging available finance, they can significantly contribute to reducing greenhouse gas emissions and enhancing resilience to climate impacts. This report serves as a valuable tool to empower local governments and stakeholders, enabling them to make informed decisions and drive impactful climate initiatives.

As we engage with the findings of this report, I urge all stakeholders to seize the opportunities it presents. By harnessing climate finance effectively, Indonesia can meet its national climate targets and pave the way towards a sustainable and resilient future. Informed leadership, strategic financial planning, and strong partnerships are essential to navigating the challenges of climate change and ensuring that Indonesia's communities thrive amidst a changing environment.

Dr. Bernadia Irawati Tjandradewi
Secretary General, UCLG ASPAC
Secretariat of the GCoM in Southeast Asia

EXECUTIVE SUMMARY

Indonesia, one of the world's largest greenhouse gas (GHG) emitters, holds a pivotal role in the urgent global effort to achieve net-zero emissions. However, the government's target of attaining this goal by 2060 extends beyond the timeline recommended by the Intergovernmental Panel on Climate Change (IPCC), which emphasises the critical need for reaching net-zero anthropogenic CO₂ emissions globally by 2050 to limit global warming to 1.5°C (2.7°F) and mitigate the most catastrophic impacts of climate change. This discrepancy underscores the pressing need for Indonesia to accelerate its climate action efforts to align with the IPCC's recommendations.

Climate change poses one of the most pressing challenges of our time, with profound implications for ecosystems, economies, and human well-being. Scientific projections paint a dire picture of escalating global temperatures, leading to more frequent and severe extreme weather events, rising sea levels, and disruptions to food and water supplies. In Indonesia, a nation characterised by diverse geography and climates, the impacts of climate change are particularly acute, heightening vulnerabilities to floods, landslides, hurricanes, and other environmental disasters. Addressing these challenges requires Indonesia to strengthen its commitment to climate action, aligning national policies and initiatives with the urgent timeline outlined by the IPCC to mitigate the impacts of climate change and build a more resilient future for its people and the planet.

Despite these challenges, Indonesia has demonstrated a strong commitment to addressing climate change, as evidenced by its ratification of the Paris Agreement (PA) and the implementation of various national policies and initiatives aimed at mitigating GHG emissions and enhancing climate resilience. Through measures such as the National Medium-Term Development Plan (RPJMN) and the Presidential Regulation on carbon economic value, Indonesia has integrated climate action into its development agenda, with a focus on sectors such as energy, waste management, agriculture, and forestry.

At the local level, Indonesian cities and districts play a crucial role in climate action, given their significant contribution to GHG emissions and vulnerability to climate-related impacts. Many cities have developed comprehensive climate action plans aligned with international frameworks such as the PA and the Sustainable Development Goals (SDGs). However, challenges remain in accessing sufficient financing and building institutional capacity to implement these plans effectively.

To address these challenges, Indonesia has prioritised efforts to enhance climate literacy, strengthen local capacity, and improve knowledge management. Key sectors, such as energy, waste management, and agriculture are targeted for mitigation measures, including the promotion of renewable energy, waste reduction, and sustainable land use practices.

Furthermore, institutional arrangements at both the national and local levels are being strengthened to facilitate coordination and collaboration among government agencies, private sectors, and civil society organisations.

Moving forward, Indonesia's commitment to climate action will require sustained efforts to mobilise financial resources, enhance institutional capacity, and foster partnerships across sectors and levels of government. By leveraging available resources and building resilience to climate change, Indonesia can pave the way for a sustainable and low-carbon future.

Objectives

The objective of this study is to comprehensively assess the climate finance landscape in Indonesia, focusing on the national environment's response to addressing climate change, the financing architecture based on sources, and its accessibility to the sub-national level. Additionally, the study aims to examine the current status of financing climate action in Indonesia, evaluating both national and city-level needs against the reality of available financial resources.

National Environment on Addressing Climate Change

Indonesia has ratified the PA and made it a national agenda to fight climate change through Law No. 16 of 2016. Since then, Indonesia has aligned and mainstreamed climate change-related issues into policies. Recently, the government launched a policy supporting climate action through Presidential Regulation No. 98 of 2021 on carbon economic value. "Improving the Environment, Increasing Disaster and Climate Change Resilience" has been designated as one of the national priorities (PN 6) in Presidential Regulation No. 18 of 2020 on the National Medium-Term Development Plan (RPJMN) 2020-2024.

This study provides insights into Indonesia's adaptation goals and action plans, GHG emissions inventory, mitigation target actions, and institutional arrangements for addressing climate change at both national and local levels. The synchronisation of national and regional development planning, challenges, and strategies for enhancing climate resilience are also discussed, highlighting the need for coordinated efforts and partnerships to effectively address climate change in Indonesia.

Financing Architecture

The financing landscape for climate action in Indonesia is complex and dynamic, reflecting the multifaceted nature of addressing climate change. This study offers a comprehensive exploration of this intricate terrain, providing valuable insights into the strategic approach necessary for effective financing of climate initiatives. Understanding the financing of climate action requires a holistic perspective that encompasses various financial mechanisms available.

Indonesia's climate finance architecture comprises a diverse array of instruments and resources, including public funds, private investments, and interactions in the carbon market. This complexity is further augmented by hybrid financing models that seek to bolster private sector involvement. Additionally, a spectrum of funding forms, such as grants, concessional loans, and payments for services, cater to the diverse needs of climate change projects within the country.

Efforts to tackle the impacts of climate change and achieve national targets necessitate substantial financial resources. Indonesia's Biennial Update Report (BUR) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2018 underscored the magnitude of this funding requirement, estimating the need to meet national commitments between 2018 and 2030 at a staggering USD 247 billion. In response, Indonesia has characterised a broad spectrum of financial instruments, with the emergence of innovative financing mechanisms such as green bonds, green *sukuk* (sharia/Islamic law-compliant bonds), and municipal bonds. This signifies a growing recognition of the economic potential inherent in carbon-related activities and underscores the importance of diversifying funding sources. In addition, the Ministry of Finance (MoF) has initiated various programmes to support emission reductions, including energy subsidy reform, issuance of sovereign green *sukuk*, and the establishment of green planning and budgeting mechanisms.

As projects progress from research and planning stages to implementation, wisely utilising the technical assistance and domestic resources in the preliminary stages of the project is imperative. Furthermore, securing capital expenditures (CAPEX) becomes crucial in the next part. Options such as municipal bonds, public-private partnerships (PPP), and blended financing systems offer avenues for mobilising capital. Similarly, addressing operational expenditures (OPEX) requires sustained funding mechanisms, with PPPs and emerging schemes like carbon economic value as unrealised revenue providing innovative solutions.

Monitoring and evaluation (M&E) play pivotal roles throughout the project lifecycle, facilitating evidence-based decision-making and continuous improvement. While domestic resources predominantly support M&E efforts, external grants supplement funding to ensure comprehensive data collection and analysis.

Drawing from broader studies on climate finance in Southeast Asia, it is evident that financing for climate action intersects across domestic and international sources, involving contributions from both public and private sectors. Collaboration and coordination are paramount to maximise impact and ensure effective resource allocation in Indonesia's pursuit of climate resilience and sustainability. Leveraging these diverse funding sources presents a clear opportunity to drive ambitious initiatives and pave the way towards a more sustainable future.

GLOSSARY

ADB	:	Asian Development Bank
AE	:	Accredited Entities
AFB	:	Adaptation Fund Board
AMDAL	:	Environmental Impact Assessment
APBD	:	Regional Revenue and Expenditure Budget
APBN	:	State Revenue and Expenditure Budget
BAST	:	Handover Report
BaU	:	Business-as-Usual
BKF	:	Fiscal Policy Agency
BKK	:	Special Financial Assistance
BKU	:	General Financial Assistance
BLT	:	Build-Lease-Transfer
BLU	:	Public Service Agency
BOO	:	Build-Operate-Own
BOT	:	Build-Operate-Transfer
BPK	:	Indonesian Audit Board
BUMN	:	National State Enterprise
CAP	:	Climate Action Plan
CAPEX	:	Capital Expenditure
CDM	:	Clean Development Mechanism
CIO	:	Climate Investor One
CO ₂	:	Carbon Dioxide
COP	:	Conference of Parties
CPI	:	Climate Policy Initiative
CRD	:	Climate Resilience Development
CSO	:	Civil Society Organisation
CSR	:	Corporate Social Responsibility
DAE	:	Direct Accredited Entity
DAK	:	Special Allocation Fund
DAU	:	General Allocation Fund
DBFO	:	Design-Build-Finance-Operate
DBH	:	Revenue Sharing Fund
DCMF	:	Design-Construct-Manage-Finance
DIBI	:	Indonesian Disaster Database
DID	:	Regional Incentive Fund
DIPK	:	List of Proposed Activities
DJPPR	:	Director-General of Financing and Risk Management
DK	:	List of Activity
DPRD	:	Regional Representatives Council
DRKH	:	Grant Activity Plans
DRPLN	:	Blue Book - Medium-Term Foreign Loan Plan
DRPPLN	:	Green Book - Foreign Loan Priority Plan List
DSCR	:	Debt Service Coverage Ratio
DUK	:	Activity Proposal Documents

e	:	Equivalent
EA	:	Enabling Activity
EE	:	Executing Entities
EFT	:	Ecological Fiscal Transfer
EIB	:	European Investment Bank
ETS	:	Emission Trading System
FDI/PMA	:	Foreign Direct Investment
FMU	:	Forest Management Unit
FOLU	:	Forestry and Land Use
FS	:	Feasibility Study
FSP	:	Full-Sized Project
GBC	:	Green Building Council
GCF	:	Green Climate Fund
GDP	:	Gross Domestic Product
GEF	:	Global Environment Facility
GHG/GRK	:	Greenhouse Gases
Gol	:	Government of Indonesia
GREM	:	Resource Risk Mitigation Facility
ICCTF	:	Indonesia Climate Change Trust Fund
IDR	:	Indonesia Rupiah
IEF/BPDLH	:	Indonesia Environment Fund
IFC	:	International Finance Corporation
IPCC	:	Intergovernmental Panel on Climate Change
IPPU	:	Industrial Processes and Product Use
JETP	:	Just Energy Transition Partnership
JV	:	Joint Venture
K/L	:	Ministries/Institutions
KLHS	:	Strategic Environmental Assessment
KRISNA	:	Collaborative Planning and Budget Performance Information
LCCR	:	Low Carbon and Climate Resilience Strategy
LCD	:	Low Carbon Development
LTS-LCCR	:	Long-Term Low Carbon and Climate Resilience Strategy
MoA/Kementan	:	Ministry of Agriculture
MoEF/KLHK	:	Ministry of Environmental and Forestry
MoF/KK	:	Ministry of Finance
MoI/BKPM	:	Ministry of Investment/ Investment Coordinating Board
MoMAF/KKP	:	Ministry of Marine Affairs and Fisheries
MoNDP/Bappenas	:	Ministry of National Development Planning/National Development Planning Agency
MoPWPH/Kemen PUPR	:	Ministry of Public Works and Public Housing
MoT/Kemenhub	:	Ministry of Transportation
MSP	:	Medium-Sized Project
Mton	:	Mega Ton
NDA	:	National Designated Authority
NDC	:	Nationally Determined Contribution
NGO	:	Non-Governmental Organisation
NIE	:	National Implementing Entities

OECD	:	Organization for Economic Cooperation and Development
OFP	:	Operational Focal Point
OJK	:	Financial Services Authority
OPD	:	Local Departments/Agencies
OPEX	:	Operational Expenditure
P3H	:	Forest Development Financing Center
PA	:	Paris Agreement
PAD	:	Regional Original Revenue
Permendagri	:	Regulation of the Minister of Home Affairs
PFP	:	Political Focal Point
PFS	:	Pre-Feasibility Study
PMK	:	Regulation of the Minister of Finance
PN	:	National Priorities
PNPB	:	Non-Tax State Revenues
POJK	:	Financial Service Authority Regulation
PP	:	Priority Programme
PPF	:	Project Preparation Facility
PPP	:	Public Private Partnership
PT	:	Limited Liability Company
PTBAE-PU	:	Permitted Total Business Activity Emission-Business
RAPBN	:	State Revenue and Expenditure Budget Plan
RBP	:	Result-Based Payment
RCP	:	Representative Concentration Pathways
REDD+	:	Reducing Emissions from Deforestation and Forest Degradation
Renja	:	Work Plan
Renstrada	:	Regional Strategic Plans
RKPD	:	Regional Development Workplan
RKPN	:	National Development Workplan
RPJMD	:	Regional Medium-Term Development Plan
RPJMN	:	National Medium-Term Development Plan
RPPLN	:	Proposal - Foreign Loan Utilisation Plan
SDGs	:	Sustainable Development Goals
SEA	:	Southeast Asia
SIO	:	SDG Indonesia One
SMI	:	PT. Sarana Multi Infrastruktur
SPE-GRK	:	Carbon Reduction Certificates
SRN-PPI	:	National Registry System
TKDD	:	Transfer to Regions and Village Funds
UCLG ASPAC	:	United Cities and Local Governments Asia Pacific
UN	:	United Nations
UNDP	:	United Nations Development Programme
UNEP	:	United Nations Environment Programme
UNFCCC	:	United Nations Framework Convention on Climate Change
US	:	United States
USD	:	United States Dollar
UU	:	Law
WB	:	World Bank
WDP	:	Fair With Exception
WTP	:	Fair Without Exception
WWTP	:	Wastewater Treatment Plant

TABLE OF CONTENTS

Foreword			3
Executive Summary			4
Glossary			6
Table of Contents			9
List of Figures			10
List of Tables			11
Chapter	1.0	Background	12
Chapter	2.0	Objective	16
Chapter	3.0	National Landscape on Addressing Climate Change	17
	3.1	Institutional Arrangement for Addressing Climate Change	20
		National Government's Perspectives	20
		Local Government's Perspectives	21
Chapter	4.0	Finance Architecture	23
	4.1	Financing Climate Action in Indonesia	25
		Domestic Fiscal Budget	26
		Technical Assistance	28
		Grants	29
		Loans	31
		Private Investment	32
		Bonds	35
		Blended Finance	39
		Corporate Social Responsibility	42
		Designated Climate Fund	43
		Carbon Economic Value	46
	4.2	Financing Climate Action for Local Government	49
Chapter	5.0	Financing Reality in Indonesia	51
	5.1	National Fact Sheet	51
		The Gap	52
	5.2	Cities and Local Governments Reality in Climate Finance	54
References			56

LIST OF FIGURES

Figure 1	Indonesia at A Glance and Key Disaster Conditions	12
Figure 2	Climate Resilience Development Coordination Mechanism	20
Figure 3	Mechanism of Climate Resilience Stakeholder Coordination	21
Figure 4	Synchronisation of National and Regional Development Planning	22
Figure 5	Financing the Climate Action in the Project Design	23
Figure 6	Financing Sources for Climate Actions in Indonesia	25
Figure 7	Financing Climate Actions by Sources	25
Figure 8	The Budget Allocation of Three Pillars of Addressing Climate Change in Indonesia	26
Figure 9	Allocation of Adaptation vs Mitigation of APBN in Indonesia	27
Figure 10	Climate Change State Budget: Infrastructure Development	27
Figure 11	PPFs and Their Key Information	28
Figure 12	Steps on Pursuing Climate Finance Through PPF	28
Figure 13	Enabling Environment and Necessary Points for Pursuing Climate Financing	29
Figure 14	Process of Direct Grant	30
Figure 15	Process of Planned Grants	30
Figure 16	Process of International Loans at A Glance	31
Figure 17	Guidance of Domestic Private Investment	32
Figure 18	Guidance for Foreign Direct Investment (FDI/PMA)	34
Figure 19	The Framework of Green Bonds And Green <i>Sukuk</i> in Indonesia	35
Figure 20	Guidance of Issuing Municipal Bonds in Indonesia	39
Figure 21	PPPs That Have Achieved Financial Closure and Cancelled PPPs in Indonesia	40
Figure 22	PPP Mechanism in Indonesia	41
Figure 23	Framework to Pursue Voluntary Carbon Market	47
Figure 24	Carbon Market Ecosystem in Indonesia	48
Figure 25	Climate Finance Architecture in Indonesia by Scheme and Source	48
Figure 26	Accessible Climate Finance for Local Government in Indonesia	49
Figure 27	Status of Needs And Capabilities of Indonesia to Conduct Climate Actions	51
Figure 28	International Support for Conducting Climate Actions in Indonesia	51
Figure 29	Gap of Estimated Cost of Climate Action 2030 to Domestic Pledged Resources and Existing International Support (the case of Indonesia)	52
Figure 30	Gap on Conducting Climate Action on an Annual Basis Compared to the Real Annual Country's Capability (the Case of Indonesia)	53
Figure 31	Status Climate Action Needs for Cities In Indonesia	54

LIST OF TABLES

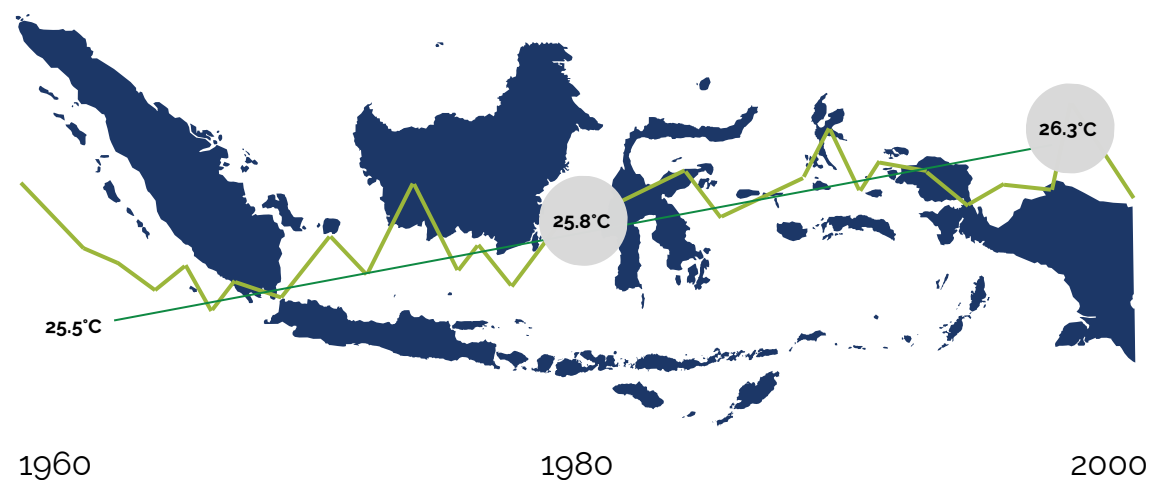
Table 1	Summary of Climate-Related Disaster in Indonesia	13
Table 2	Climate Change Impact in Indonesia on Rainfall and Temperature	13
Table 3	Indonesia's Adaptation Action Plan	17
Table 4	GHG Emissions Inventory of Indonesia	18
Table 5	Mitigation Target of Indonesia	18
Table 6	Mitigation Effort of Indonesia by Sector	19
Table 7	Sectors for Green Bonds and Green <i>Sukuk</i> in Indonesia with Green Status	36
Table 8	Status of Accessibility Financing Source for City and Local Government in Indonesia	50
Table 9	The Number of Financing Schemes and Their Status in Indonesia	55

1.0 Background

Climate change is one of the current biggest threats and is indeed a global crisis. The study stated that the current path of greenhouse gas (GHG) emission has a 100% probability of increasing average global temperature by at least 20C in 2100 (Clarke L, 2014). There will be more extreme heating days, the rise of sea level, and the increase of extreme weather phenomena leading to disasters, such as floods, droughts, typhoons and follow-up disasters like landslides (ASEAN, 2021; UN, 2015). These occurrences reveal significant vulnerabilities and the exposure of the ecosystem to the current climate variability. It also elaborates on the alteration of ecosystems, disruption of food production and water supply, damage to infrastructure and settlements, morbidity and mortality, and consequences for human mental health and well-being. For countries at all levels of development, these impacts are consistent with a significant lack of preparedness for current climate variability in some sectors (IPCC, 2014).

Indonesia has over **17.508 Islands**
790 million hectares in area

Total coastline length of **95.181 KM**
200 million hectares of land territory



Climate Change is believed to increase the risk for hydro-meteorological disasters, which make up to

80%

of disaster occurrences in Indonesia

Source: NDC, 2016



Key Hazards in Indonesia

In Jakarta, **17.4% AREA** had been affected by flood with **23** deaths and over **65,000** evacuees In January 2014

Source: ADB Institute, 2016



More than **3.9 MILLION PEOPLE** in 105 regencies/cities in Java and Nusa Tenggara experienced drought in 2017







Source: BNPB, 2017



Figure 1 **Indonesia at A Glance and Key Disaster Conditions**

Indonesia, with more than 17,500 islands, is the largest country in Southeast Asia (SEA). With a total population of 270.6 million people, the country has the 4th largest population in the world and the largest economy in SEA, as can be shown in Figure 1. Indonesia is a place of extremely varied geography, topography, and climate, ranging from sea and coastal systems to peat swamps and montane forests. Indonesia is ranked in the top three countries in terms of climate risk, with high exposure to all types of flooding, and extreme heat. The intensity of these hazards is expected to grow as the climate changes, making Indonesia vulnerable to sea-level rise, and rice production alongside other impacts on agricultural production (World Bank and ADB, 2021). In addition to that, Indonesia has a recorded history of high disaster events, with most of them being hydrometeorological disasters related to climate and its dynamics of change. These disasters include hurricanes, floods, flash floods, landslides, forest, and land fires, droughts and extreme weather. Among a total of 43,023 reported disaster events in Indonesia, reported in the Indonesian Disaster Database (DIBI), the majority of disasters are climate disasters (Table 1). Based on INFORM RISK Indonesia has an index value of 4.6 which is categorised as a medium risk class (European Commission, 2024).



Table 1 Summary of Climate-Related Disaster in Indonesia

Type of Disaster					
					
Floods 14.219	Landslides 9.620	Abrasion 500	Whirlwind 11.335	Drought 2.235	Land Fire & Forest Fire 4.162
Total: 42.071					

Source: DIBI (BNPB, 2024)

Beyond the disaster and sea-level rise problem, climate change brings Indonesia to the rainfall and average temperature changes (Table 2).

Table 2 Climate Change Impact in Indonesia on Rainfall and Temperature

			
Rainfall		Temperature	
Average Annual	Average Increase to 2075-2099 under RCP 4.5	Average	Increase in 2050 under RCP 4.5
2.900 mm	2.9%	23°C – 24°C	0.8°C – 1.4°C

Source: MoNDP/Bappenas, 2014 and World Bank and ADB, 2021

The inaction to address the climate change issue will lead **Indonesia to lose its gross domestic product (GDP) by 0.66-3.45% in 2030** (MoEF, 2020). Breaking down the losses of the effects are due to these conditions: (1) water security problems lead to the rising case of clean water scarcity, drought, and flood, (2) damage to land ecosystems due to forest fires and floods, (3) damage to marine ecosystems, such as the extinction of coral reefs, seaweed, mangroves, and other marine biodiversity and ecosystems due to rising sea surface temperatures, (4) a decline in the quality of public health due to diseases caused by floods and extreme heat, and (5) food scarcity for all creatures due to the impact of changes in flora and fauna production (MoF, 2022).

To address climate change, Indonesia has committed to global efforts. Since 2016, Indonesia signed the Paris Agreement (PA) and has integrated the global agenda on climate change into national goals, reflecting Indonesia's vision and ambition towards net-zero and resilience. Indonesia's efforts focus on four main areas.

- **Nationally Determined Contribution (NDC) Targets:** Indonesia has submitted the Enhanced NDC, committing to an unconditional reduction of GHG emissions by 32% from the business-as-usual scenario (BaU) by 2030. With international assistance, this target increases to 43% from BaU (Government of Indonesia, 2021).
- **Long-Term Strategy:** The country submitted its Long-Term Strategy for Low Carbon and Climate Resilience (LTS-LCCR) 2050 to the United Nations Framework Convention on Climate Change (UNFCCC) on 22 July 2021. This strategy outlines Indonesia's goal to reach peak national GHG emissions by 2030 and progress further towards net-zero emissions by 2060 or sooner (Bain & Company, et al., 2023).
- **Policy Integration:** Indonesia's climate action is integrated into its broader development policies. The Enhanced NDC is a transition towards Indonesia's Second NDC, which aligns with the LTS-LCCR 2050. The vision is to achieve net-zero emissions by 2060 or earlier, emphasizing the importance of sustainable development in conjunction with climate goals (Government of Indonesia, 2021).
- **Climate Resilience:** The focus on climate resilience involves preparing for and adapting to the impacts of climate change. This includes protecting ecosystems, enhancing food and water security, and improving infrastructure to withstand climate-related disasters (Government of Indonesia, 2021; MoEF, 2021).

Indonesia's President directly asserted Indonesia's commitment to addressing climate change in the Leaders Summit on Climate Change at the 26th Conference of Parties (COP26) in Glasgow, United Kingdom on 22 April 2021.

"... Indonesia is very serious in controlling climate change and invites the world to take concrete actions, to lead by example.... We have to build an understanding, we have to build strategy to achieve net zero emission, and towards COP-26 Glasgow."

(President Joko Widodo - The President of the Republic of Indonesia, 2021)

Indonesia's commitment to climate action is evident in its updated targets and long-term strategies, which are designed to balance economic growth with environmental sustainability and resilience against climate change. However, there are also challenges in achieving the goals, with financing the climate action and partnership being the most challenging one.

Beyond the national level, there is an imperative issue regarding the sub-national level, particularly the city level. Climate change indeed has a costly impact on cities' basic services, infrastructure, housing, human livelihood, and health. Cities are at the forefront of climate change actions, with an estimated 70% of all people will live in cities by 2050. Considering urban activities, cities are significant contributors to greenhouse gas emissions, with an estimated 75% of global CO₂ emissions attributed to cities, primarily due to transportation and buildings, which serve as the largest contributors (UNEP, 2024; World Bank, 2023).

Cities, both as contributors to and victims of climate change, play a critical role in combatting this global challenge. They have the potential to drive transformative climate action considering their devolved leadership. Over the past decade, many cities have made progress in measuring their emissions, setting targets, and implementing action plans to reduce emissions. Many of them have mainstreamed the Sustainable Development Goals (SDGs) within the heart of urban planning and developed comprehensive, holistic, PA-aligned climate action plans (CAPs).

These plans include a decarbonisation strategy that incorporates renewable energy; accessible, affordable, safe, and reliable public transport; energy-efficient housing; green spaces and green infrastructures; pedestrianised areas; city farms and local processing facilities; and green waste management (Economist, 2023). Investing in resilient and inclusive cities today is important for ensuring access to basic services, employment opportunities, and dignified living conditions (World Bank, 2023).

Despite the significant progress, both cities and national government encounter challenges in developing and implementing their climate action plans. Similar to national governments, cities need partnerships to address climate action to accelerate progress in addressing climate change. Collaboration at the national, regional, and international levels, along with engagement with development partners and private sectors, is essential to ramp up the effort to tackle climate change.

Climate action also demands substantial financing. The financial commitment required is significant, necessitating resources for developing and implementing transformative projects. An illustrative metric to gauge this financial commitment is the cost of reducing one ton of carbon dioxide equivalent (CO₂e). On average, the financial outlay required to achieve this reduction is a critical consideration in climate finance discussions. Understanding these costs underscores the financial magnitude and commitment needed to achieve tangible impacts in the global endeavour to combat climate change.

In essence, climate finance is not just about allocating funds; it is about investing in a sustainable future. It involves strategically deploying resources across borders and sectors, reflecting a collective commitment to mitigating climate change's adverse effects and fostering a resilient and sustainable global community.

Climate finance stands as a pivotal force in the global fight against climate change, acting as a catalyst to mobilise resources and confront the multifaceted challenges posed by climate-related issues. On the international stage, climate includes a variety of financial instruments designed to support both mitigation and adaptation endeavours. Its overarching goal is to enhance the resilience of communities vulnerable to the impacts of climate change, promoting development pathways characterised by resilience, sustainability and, low-carbon practices.

Within climate finance, funds can be derived from various sources, including public and private sectors, and domestic and international contributors. These funds can be directed towards mitigation strategies which aim to reduce greenhouse gas emissions, or adaptation efforts, which strengthen communities against the impacts of a changing climate. This financial support becomes particularly pivotal in steering countries toward the objectives outlined in international agreements such as the PA and the SDGs.

Therefore, it is essential to understand the climate finance landscape in Indonesia and its cities. A comprehensive understanding of this landscape will help optimise the accessible resources for Indonesia and its cities, supporting resilient, sustainable, and low-carbon development.

2.0 Objective

The objective of this study is to comprehensively assess the climate finance landscape in Indonesia, focusing on the national environment's response to addressing climate change, the financing architecture based on sources, and its accessibility to the sub-national level. Additionally, the study aims to examine the current status of financing climate action in Indonesia, evaluating both national and city-level needs against the reality of available financial resources.

Key components of the objectives:

- 1. National Environment for Climate Change Response:** Analyse the policies, regulations, and initiatives at the national level aimed at addressing climate change and promoting climate action.
- 2. Financing Architecture and Accessibility:** Identify and evaluate the various sources of climate finance available in Indonesia, including domestic and international sources, and assess their accessibility to sub-national entities such as cities and provinces.
- 3. Assessment of Financing Needs and Realities:** Conduct a comprehensive assessment of the financing needs for climate action projects at both national and city levels, comparing them with the available financial resources and highlighting any gaps or discrepancies.

By achieving these objectives, the study aims to provide valuable insights into Indonesia's climate finance landscape, facilitating informed decision-making and strategic planning to support the effective implementation of climate action projects across the country.

3.0 National Landscape on Addressing Climate Change

Indonesia has ratified the Paris Agreement and made it a national agenda to fight climate change through Law No. 16 of 2016. Since the ratification, Indonesia has aligned and mainstreamed climate change-related issues into policies. As the latest update, Indonesia has recently officiated Presidential Regulation No. 98 of 2021 about carbon economic value.

Along the way from 2016, "Improving the Environment, Increasing Disaster and Climate Change Resilience" has been designated as one of the national priorities (PN 6) in Presidential Regulation no. 18 of 2020 concerning the National Medium-Term Development Plan (RPJMN) 2020-2024. The national priorities are categorised into three policy groups in terms of Priority Programme (PP):

- a. Improve the quality of the environment (PP 1)
- b. Increase disaster resilience and climate change (PP 2)
- c. Implement a low carbon development approach (PP 3)

More specifically, the implementation of climate resilience development (CRD) for the second priority programme (PP 2) is to balance the economic, social, and environmental aspects. The operational definition used for the CRD implementation is: "Climate resilience is a planned and/or spontaneous anticipatory action to reduce potential losses due to hazards, vulnerabilities, impacts, and risks of climate change on the communities' lives in the areas affected by climate change". The effort to increase climate resilience focused on four affected sectors: Maritime and Coastal, Agriculture, Water, and Health.

Adaptation Goals and Action Plan

Indonesia's adaptation goals focus on reducing risk, enhancing adaptive capacity, strengthening resilience and reducing vulnerability to the respect of climate change in all development sectors. The effort to achieve the goals (Government of Indonesia, 2021).

Table 3 *Indonesia's Adaptation Action Plan*






Strategy	Enhancing climate literacy
	Strengthening local capacity
	Improving knowledge management
	Convergent policy on climate change
Focus	Economic resilience
	Social and livelihood resilience
	Ecosystem and landscape resilience
Programme	Reducing drivers of vulnerability to climate change impacts
	Responding to climate change impacts and managing risks
	Enhancing the capacity of communities and sustainability of ecosystem services
	Enhancing engagement of stakeholders at all levels in building climate resilience

Source: Government of Indonesia, 2021

GHG Inventory

In mitigation, it is important for the country to know the baseline of greenhouse gas (GHG) emissions. In Indonesia, in 2010 there were around 1,334 Mton CO₂e which in detail explained in Table 4.

Table 4 *GHG Emissions Inventory of Indonesia*






Sector		 Energy	 Waste	 IPPU	 Agriculture	 FOLU	Total
in Mton CO ₂ e	GHG Emission Level 2010* (Baseline)	453.2	88	36	110.5	647	1.334
	% GHG Emission Level 2010* (Baseline)	33.97	6.60	2.70	8.28	48.50	100.00
	GHG Emission Level 2021	22.03	168.67	59.73	120.89	433.99	805.30
	% GHG Emission Level 2021	2.74	20.94	7.42	15.01	53.89	100.00

Source: Government of Indonesia, 2021

Mitigation Target Actions and Priority Actions

Breaking down of the Nationally Determined Contribution (NDC) target, Table 5 explains the GHG emission that Indonesia Pledged.





Table 5 *Mitigation Target of Indonesia*

Sector	GHG Emission Level 2030			GHG Emission Reduction				Annual Average Growth BaU (2010-2030)	Average Growth 2000-2012	
	in Mton CO ₂ e						% of Total BaU			
	BaU	CM1	CM2	CM1	CM2	CM1	CM2			
 Energy	1,669	1,311	1,223	358	446	12.50%	15.50%	6.70%	4.50%	
 Waste	296	256	253	40	43.5	1.40%	1.50%	6.30%	4.00%	
 IPPU	69.6	63	61	7	9	0.20%	0.30%	3.40%	0.10%	
 Agriculture	119.66	110	108	10	12	0.30%	0.40%	0.40%	1.30%	
 FOLU	714	214	-15	500	729	17.40%	25.40%	0.50%	2.70%	
Total	2.869	1.953	1.632	915	1.240	31.89%	43.20%	3.90%	3.2	

Source: Government of Indonesia, 2021

Indonesia put their priority action in 4 sectors (Table 5). In addition, Indonesia put most of its attention on the FOLU sector to Reducing Emissions from Deforestation and Forest Degradation (REDD+) followed by the energy sector because those sectors have a big impact on GHG emissions in Indonesia (Government of Indonesia, 2021).

Table 6 *Mitigation Effort of Indonesia by Sector*

Sector	Action
 FOLU	Restoration of 2 million ha of peatland
	Rehabilitation of 12 million ha of degraded land
 Energy	New and renewable energy at least 23% in 2025 and at least 31% in 2050
	Oil should be less than 25% in 2025 and less than 20% in 2050
	Coal should be a minimum of 30% in 2025 and a minimum of 25% in 2050
	Gas should be a minimum of 22% in 2025 and a minimum of 24% in 2050
 Waste	Developing a comprehensive strategy to improve policy and institutional capacity at the local level
	Promoting Reduce, Reuse, and Recycle
	Waste and garbage utilisation for energy production
 IPPU	Utilisation of Wastewater Treatment Plant (WWTP) sludge and industrial solid waste through composting, reuse as raw material, use as energy
	Wastewater treatment in palm oil, pulp and paper, fruits/vegetables and juices processing, and other industries
	Implement methane capture and utilisation (biogas)

Source: Government of Indonesia, 2021

3.1 Institutional Arrangement for Addressing Climate Change

National Government's Perspectives

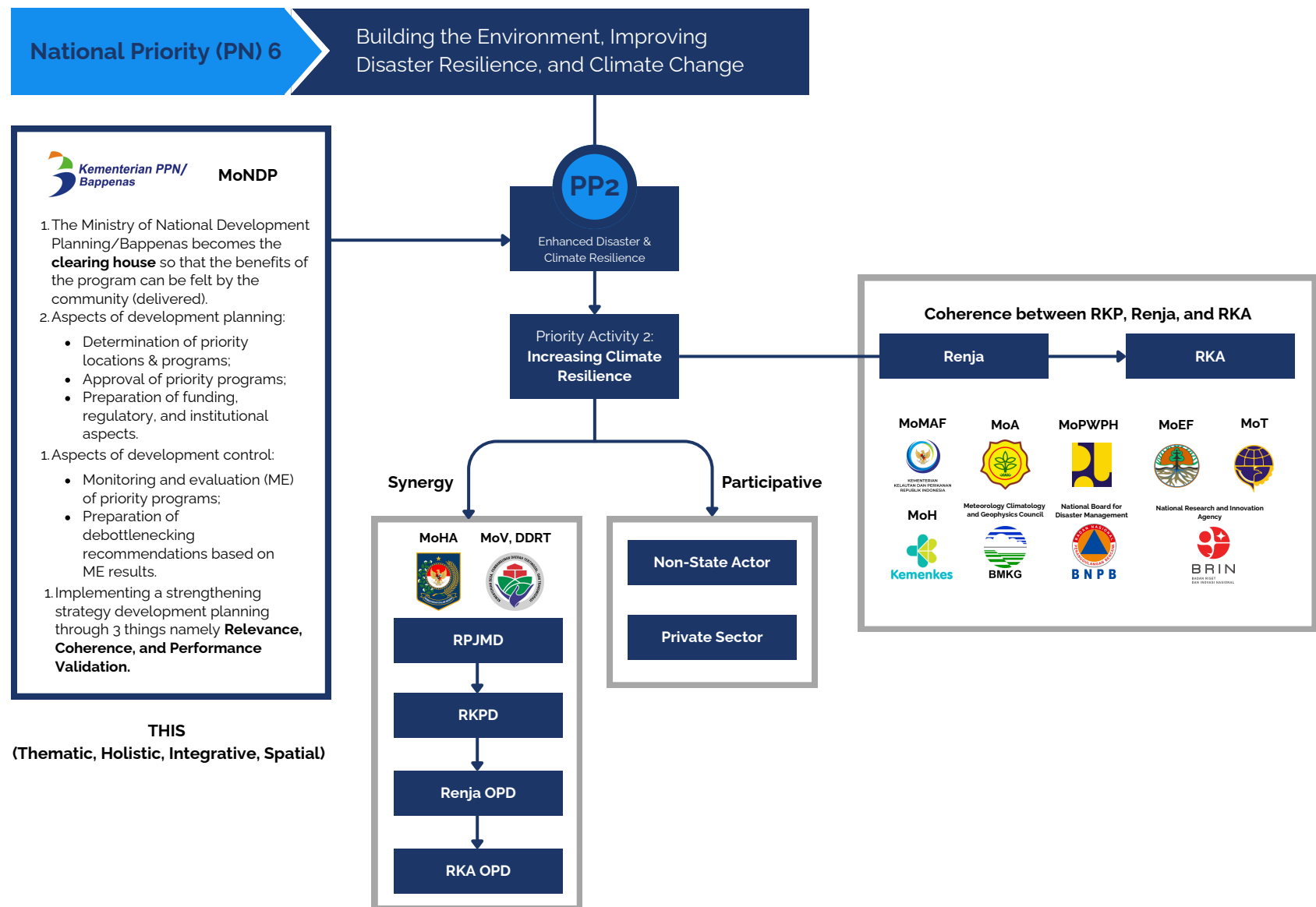


Figure 2 Climate Resilience Development Coordination Mechanism
Source: MoNDP/Bappenas, 2021

As one of the national development priority agendas, CRD policy is a programme or activity that needs to be carried out by the national and local governments, and strategic business entities in the priority locations. CRD's priority is to support the regulations and policies in increasing the climate resilience of four priority sectors. It reinforces the urgency of climate resilience issues to be mainstreamed in Ministries/Institution's regulations. Therefore, institutional analysis of the CRD has several objectives (MoNDP/BAPPENAS, 2021):

- mapping the roles, main tasks, and functions of the stakeholders to have a correct interpretation of authority.
- optimising the synchronisation of national and local policies and regulations.
- enhancing the role of institutions and supporting systems.

In terms of climate resilience, the Ministry of National Development Planning (MoNDP)/ National Development Planning Agency (Bappenas) acts as the Clearing House for planning and controlling National Priority 6 (PN 6), Priority Programme 2 (PP 2) (Figure 2).

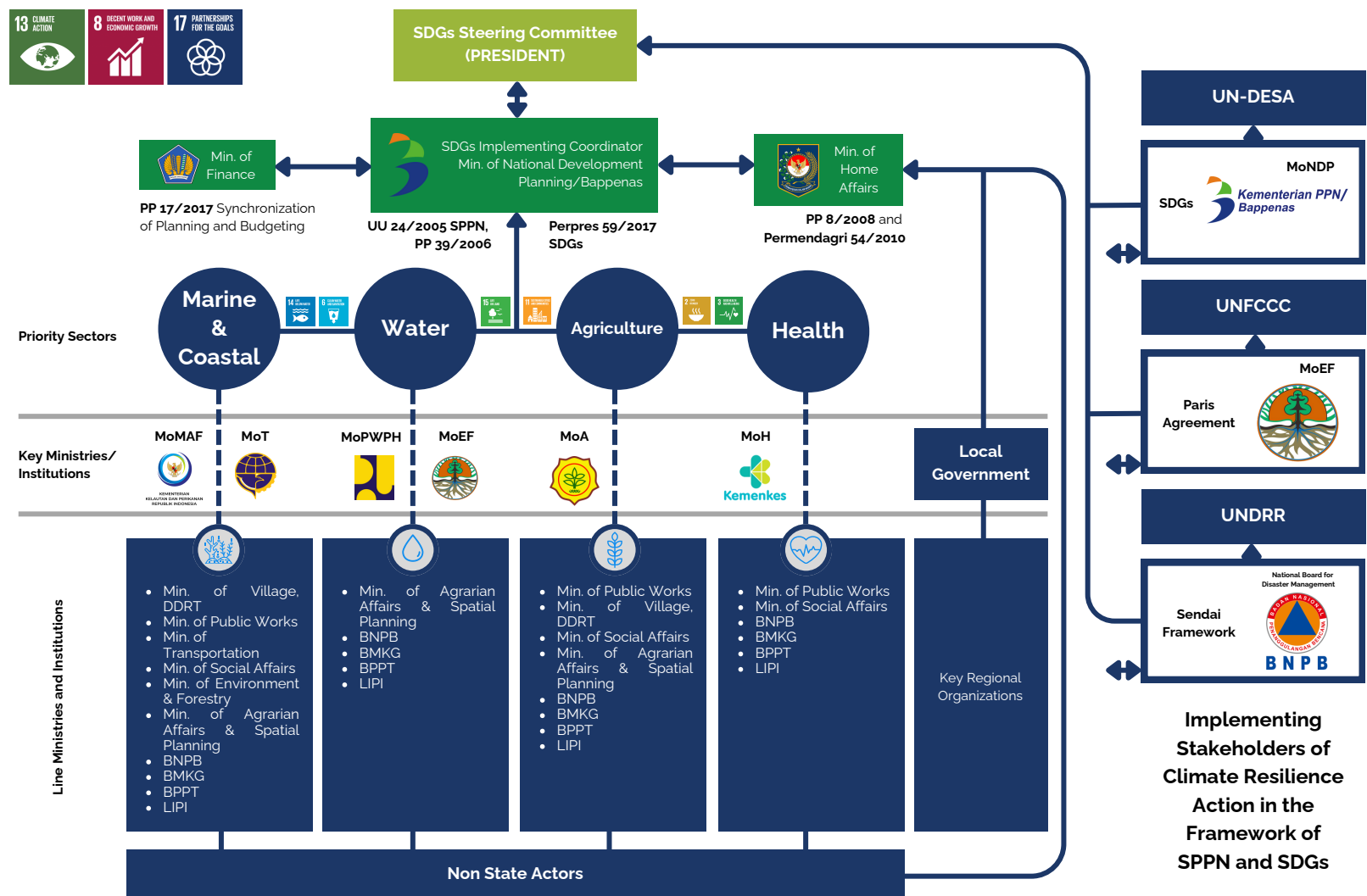


Figure 3 Mechanism of Climate Resilience Stakeholder Coordination
Source: MoNDP/Bappenas, 2021

According to the RPJMN 2020-2024, the Ministry of Marine Affairs and Fisheries (MoMAF) and the Ministry of Transportation (MoT) play a key role in the Marine and Coastal Sector; the Ministry of Public Works and Public Housing (MoPWP) and the Ministry of Environment and Forestry (MoEF) are the keys for Water Sector; whilst the Ministry of Agriculture (MoA) plays a key role in Agricultural Sector; and the Ministry of Health (MoH) is the key in Health Sector. Meanwhile, the MoEF is not only a key player in the Water Sector but also acts as a National Focal Point that is responsible for and communicates with all activities related to the United Nations Framework Convention on Climate Change (UNFCCC) at the national level of States Parties (Figure 3). (MoNDP/BAPPENAS, 2020)

Local Government's Perspectives

The local government's role is to carry out the following:

- a. Government affairs according to the principle of autonomy and assistance tasks with the principles of the widest possible autonomy under the system of the unitary state of the Republic of Indonesia.
- b. Concurrent governmental affairs submitted by the central government to become the basis for the implementation of regional autonomy based on the principle of assistance tasks.
- c. Central government affairs, which is the authority of the president but the implementation is delegated to the governor and regent/mayor, financed by the State Revenue and Expenditure Budget (APBN).

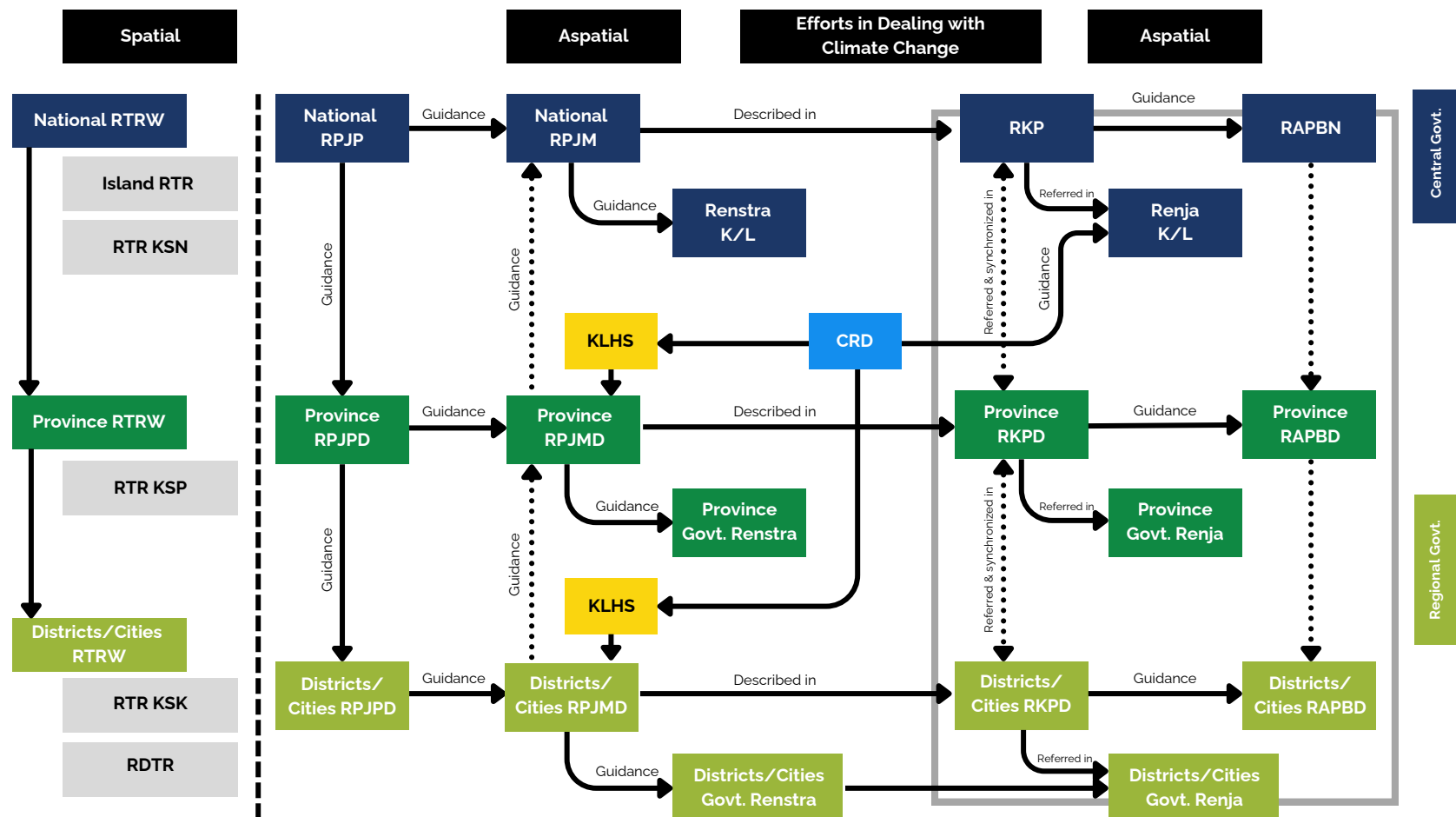


Figure 4 **Synchronisation of National and Regional Development Planning**
 Source: MoNDP/Bappenas, 2021

The synchronisation of national and regional CRD planning can be described in Figure 4. Local governments are obliged to prepare a Strategic Environmental Assessment (KLHS) as an integral part of the Regional Medium-Term Development Plan (RPJMD) document as regulated by the Regulation of the Minister of Home Affairs (Permendagri) No. 7 of 2018. Through the KLHS process, Climate Resilience Development actions can be mainstreamed into the RPJMD, Regional Strategic Plans (Renstrada), and Regional Development Workplan (RKPD). The RKPD will be harmonised with the National Development Workplan (RKP) to ensure the effectiveness of development in the regions, as regulated in Permendagri No. 40 of 2020. In addition, Permendagri No. 54 of 2010 and PP No. 8 of 2008 regulate the procedures for the preparation, control, and evaluation of the implementation of regional development.

Some challenges to implementing CRD optimal climate resilience planning and action include:

- a. How the efforts to mainstream the 2020-2024 RPJMN can be responded to by the Ministries/ Institutions (K/L) and Local Departments/Agencies (OPD) in the preparation of Strategic Planning (Renstra)/Regional Strategic Planning (Renstrada) and Ministries/Institution Work Plan (Renja K/L) and OPD.
- b. Coordination and active involvement of all development stakeholders, which include private sectors, development partners, academics, non-governmental organisations (NGOs), civil society organisations (CSOs), and communities.

4.0 Finance Architecture

This chapter explores Indonesia's climate finance landscape. Understanding the financing of climate action in Indonesia requires considering a holistic financing architecture that encompasses diverse instruments and resources. This chapter serves as a guide, navigating through the intricate web of financial mechanisms.

It is imperative to delve into the strategy for financing climate action initiatives. Addressing the challenges of climate financing requires a systematic approach that begins with outlining the grand design of climate action through distinct project phases. This involves breaking down the overall climate plan into manageable stages, each with specific objectives and activities. By defining each phase, cities can clearly understand the sequential steps needed to achieve their climate goals. Additionally, this structured approach enables cities to identify the most suitable financing schemes for their specific needs and objectives. For instance, early-stage activities such as research and planning may benefit from grants or technical assistance, while later-stage implementation may require loans or public-private partnerships (Figure 5).

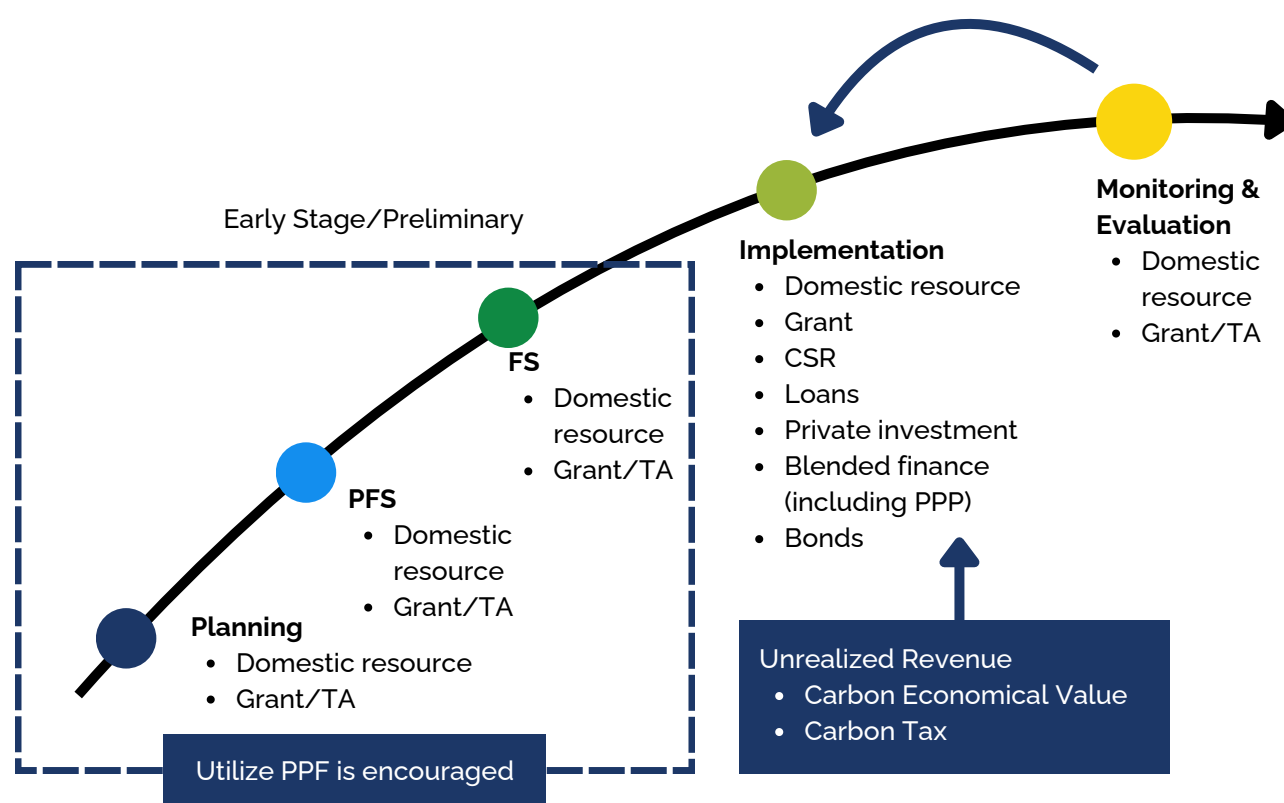


Figure 5 Financing the Climate Action in the Project Design

Preliminary/Early Stage

This stage holds immense importance, as it essentially determines the practicality of implementation. It stands as the cornerstone of climate action, pivotal in shaping how smoothly the process unfolds. Our study emphasises the critical nature of this phase, offering insights into its key findings and how they relate to the financing scheme.

From the planning to feasibility study stages, this study has observed that the common practice for financing these phases involves leveraging domestic resources, such as local budgets and grants facilitated through technical assistance mechanisms.

Implementation Stage

This stage represents the most intricate aspect of climate action, demanding substantial funds from capital expenditures (CAPEX) to operational expenditures (OPEX). Initially, the challenge lies in securing CAPEX, which can stem from various sources outlined in Figure 5.

Our study reveals that domestic resources and grants are often insufficient to meet these needs. As a result, implementing actors must explore alternative avenues, such as municipal bonds. It is crucial for cities to navigate this terrain cautiously, consulting national policies and contexts, as some countries impose minimum requirements for the issuance of municipal bonds. Additionally, public-private partnerships (PPP) emerge as a recommended approach, offering a collaborative financing scheme that shares risks and fosters mutual benefits from both public and private perspectives. Embracing blended financing systems can bolster investments, pooling resources for more ambitious climate actions.

On the other hand, addressing operational expenses (OPEX) necessitates sustained funding mechanisms to ensure the continuity of climate actions. PPPs remain a viable option, enabling private entities to maintain business continuity through robust operational processes. Moreover, emerging financing schemes like carbon economic value present opportunities for unrealised revenue in climate action. By quantifying GHG emissions and engaging in carbon trading, cities can potentially finance OPEX over time, contingent upon observed reductions in emissions. It is imperative for actors to navigate the complexities of carbon markets diligently, as the verification process may extend up to two years, despite best practices suggesting a six-month timeline. Overall, city stakeholders must align their financing schemes with national-level policies to pre-empt conflicts and ensure seamless implementation.

Monitoring and Evaluation

In the context of climate action projects, monitoring and evaluation (M&E) serve as critical components for ensuring the effectiveness and success of implementation efforts. This phase acts as a control mechanism, allowing project managers to assess progress, identify challenges, and make informed decisions to steer the project towards its objectives. It forms a feedback loop back to the implementation phase, enabling adjustments and improvements based on real-time data and insights (Figure 5).

Our findings indicate that financing for monitoring and evaluation is primarily sourced from domestic resources. This reliance on domestic funding underscores the importance of allocating adequate financial resources within the national budget to support ongoing M&E activities. However, while domestic funding is essential, it may not always be sufficient to cover the full scope of monitoring and evaluation needs. In such cases, external grants can provide valuable supplementary funding to bolster M&E efforts, ensuring comprehensive data collection, analysis, and reporting throughout the project lifecycle. By leveraging a combination of domestic resources and external grants, cities can strengthen their capacity to effectively monitor and evaluate climate action initiatives, facilitating evidence-based decision-making and continuous.

4.1 Financing Climate Action in Indonesia



Figure 6 **Financing Sources for Climate Actions in Indonesia**
 Source: Synthesise and modified from MoF (2022)

The study conducted on financing climate action in Indonesia reveals a dynamic landscape characterised by a variety of financial instruments. Through an examination of regulations, studies, and discussions held across multiple events, nine out of ten financial instruments have been well-established in practice. These instruments serve as the backbone of Indonesia's efforts to address climate change, offering diverse avenues for mobilising funds and implementing climate initiatives. Among these established instruments, one notable addition on the horizon is the emergence of a new financing instrument known as carbon economic value (Figure 6). While the main framework for this instrument has been established, the finer details of its implementation are still in the early stages. This indicates a growing recognition of the economic value inherent in carbon-related activities and the potential for leveraging this value to support climate action initiatives. Drawing from a study on climate finance in Southeast Asia, it becomes apparent that financing for climate action in Southeast Asia, including Indonesia, is sourced from four main categories: domestic and international, each of which intersects with either public or private sources (Figure 7) (UNFCCC, 2022).



Figure 7 **Financing Climate Actions by Sources**
 Source: UNFCCC, 2022

This categorisation highlights the diverse range of actors and funding mechanisms involved in financing climate action, underscoring the importance of collaboration and coordination across sectors to maximise impact and ensure effective resource allocation. As Indonesia navigates this multifaceted financing landscape, there is a clear opportunity to leverage these various sources of funding to drive forward ambitious climate action agendas and pave the way towards a more sustainable future. Further explanation of the instruments and sources is explained below.

Domestic Fiscal Budget

Financing climate action in Indonesia can utilise the domestic fiscal budget, which comes from the revenue and expenditure budget. In practice, the revenue and expenditure plan will be attached to the planned programme that has previously been approved by the Regional Representatives Council (DPRD). Based on the administrative level, climate action can be financed from the revenue expenditure at the national and local levels.

National Level

Since the ratification of the Paris Agreement, Indonesia has committed to low-carbon development (LCD). According to the third Biennial Update Report (BUR), Indonesia has pledged to finance the LCD with around USD 18,066 million until 2030 to meet Indonesia's NDC. To fulfil this pledge, Indonesia has been actively planning and implementing initiatives that can be financed through the national domestic resources. The budget allocation for climate action has increased annually, averaging USD 5.77 billion or 4.30% of the annual fiscal budget, known as the State Revenue and Expenditure Budget (APBN) (UNDP, 2024). Domestic financing comes from the APBN through activity markings in the Work Plan of the relevant ministries/institutions. Sources of APBN financing for CRD and LCD include taxes, non-tax state revenues (PNPB), government and business entity partnerships, other domestic funding sources, and foreign funding in the form of planned grants and loans. The APBN allocation for climate resilience activities in the government work plan is carried out through a tagging mechanism. Climate resilience activities are marked in the APBN for the preparation of annual government work plans in the Collaborative Planning and Budget Performance Information (KRISNA) application. These activities are conducted in priority locations and must meet criteria for addressing climate-impacted sector problems.

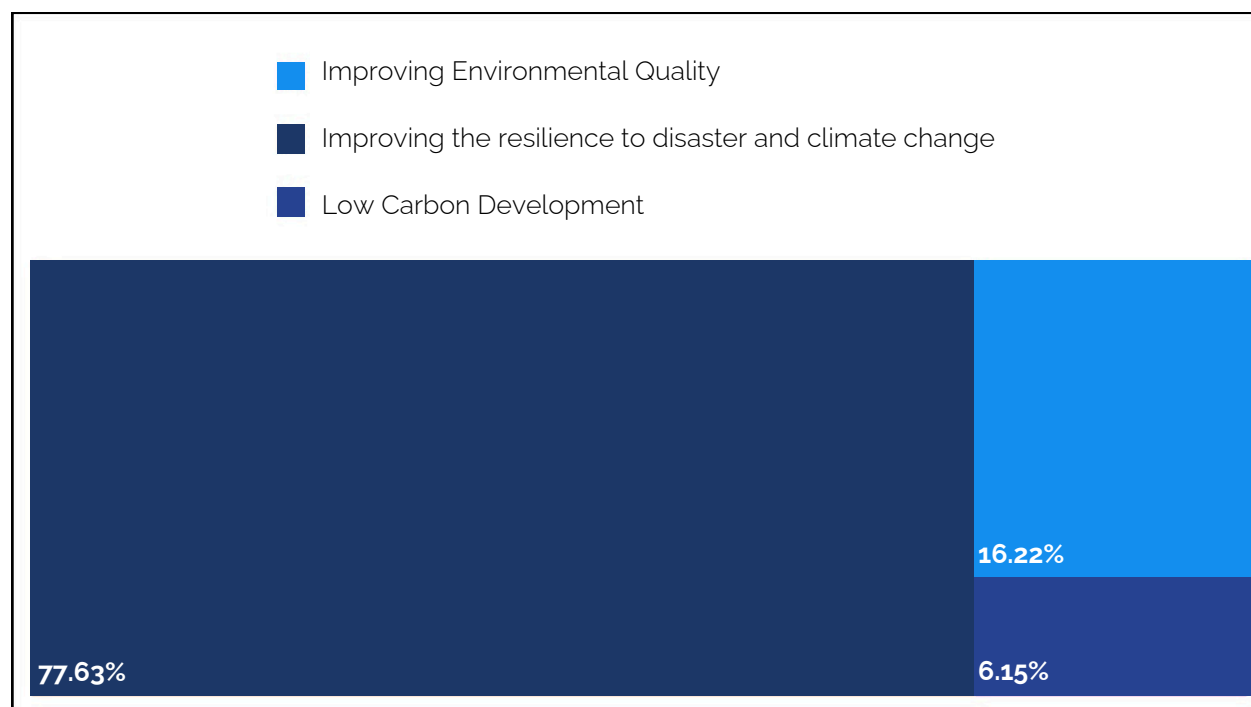


Figure 8 **The Budget Allocation of Three Pillars of Addressing Climate Change in Indonesia**
Source: MoF, 2022

Referring to Figure 8, Indonesia has defined three pillars for addressing climate change: improving environmental quality, improving resilience to disaster and climate change, and low-carbon development. However, the allocated budget for the three pillars is still not propositional according to the climate budget from APBN 2021.

The climate action conducted in Indonesia also still put many measures in Mitigation (Figure 9). Indonesia directs the acts of adaptation by realising cross-agency coordination and implementation, enforcement in the field of law, good environmental conditions, economic resilience, social and livelihood resilience, and ecosystem and landscape resilience. The goal of the climate change adaptation strategy is to reduce risks, increase adaptive capacity, strengthen resilience, and reduce vulnerability to climate change in all development sectors through increased climate literacy, strengthened local capacity, improved knowledge management, convergent policies on climate change adaptation and disaster risk reduction, and the application of adaptive technologies. Adaptation strategies are actions to adjust natural and social systems to deal with the negative impacts of climate change.

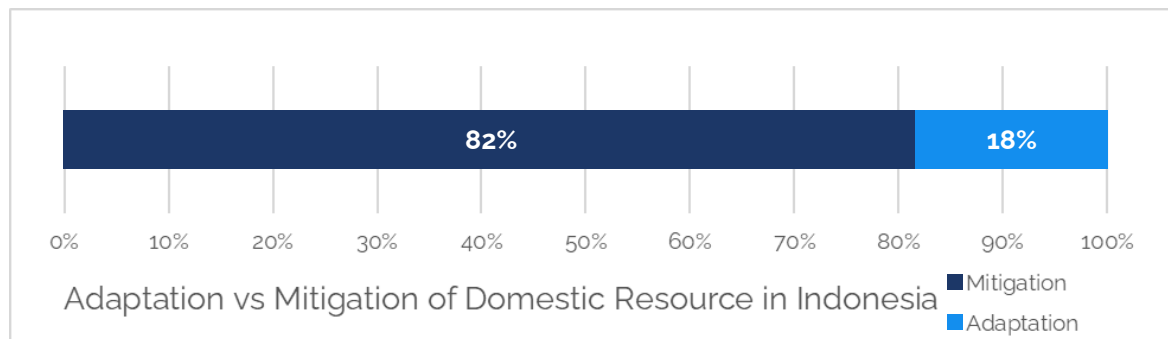


Figure 9 Allocation of Adaptation vs Mitigation of APBN in Indonesia
Source: MoF, 2022

Local Level

At the city level, the financing landscape is similar to the national level. Programmes are attached to the budget listed in the working plan. The primary sources of financing come from Regional Original Revenue (PAD), which includes tax and non-tax revenues. Additional sources include regional transfer mechanisms, grants, and other legitimate revenues. Regional transfer mechanisms encompass Balancing Funds (DAU, DBH, and DAK), Regional Incentive Funds, Special Autonomy Funds, and Village Funds.

Potential fiscal transfer instruments for climate change funding in the regions are the Special Allocation Fund (DAK), the Regional Incentive Fund (DID), and the Village Fund. The Ecological Fiscal Transfer (EFT) mechanism is also being developed for transfers from the central government to the regions and from provincial governments to city/regency governments, based on ecological indicators.

Local governments identify financing instruments that can be maximised according to the needs and characteristics of each region. For example, some regions may use ecological-based financial assistance schemes, such as General Financial Assistance (BKU) and Special Financial Assistance (BKK), provided by the provincial government to cities/regencies for activities that support provincial and national strategic programmes. Several provinces have implemented budget tagging, especially for mitigation activities. The current challenge is to create a uniform mechanism and standard between budget tagging at both national and sub-national levels.

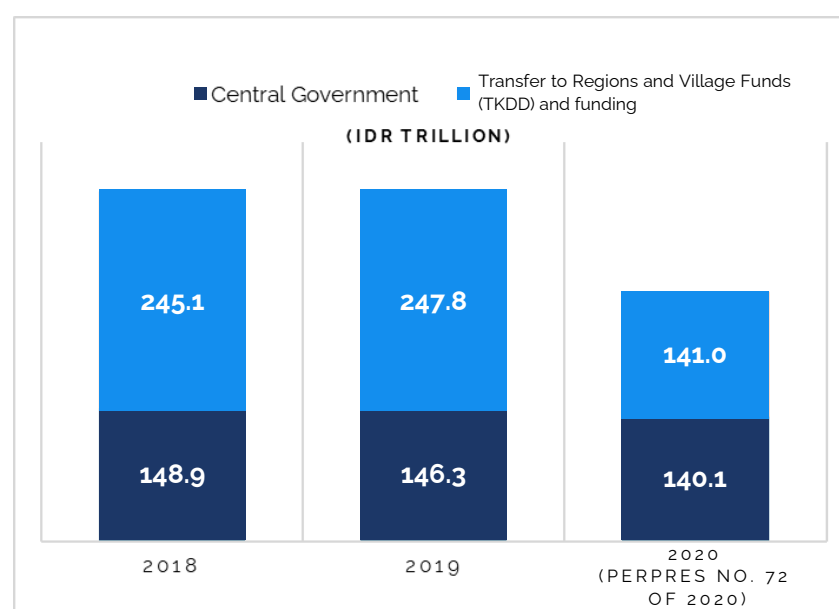


Figure 10 Climate Change State Budget: Infrastructure Development
Source: MoF, 2020

Technical Assistance

Technical assistance is a form of financing in which the proposing party does not receive direct funds, thus, there will be no disbursement directly to the government side as the proposing party. Instead, the funder provides the funds to a technical team that supports activities for the proposing party. Technical assistance can take the form of 1) a team conducting needed studies, or 2) experts assisting with project activities. It is essential for the proposing party to understand that technical assistance has a limited timeline. Therefore, a knowledge transfer system is crucial to increase the proposing party's capacity. This benefits the proposing party through capacity building and advanced studies.

Currently, there are several technical assistance (TA) programmes for Project Preparation Facilities (PPFs). In Indonesia, under UCLG ASPAC as the GCoM Southeast Asia Secretariat, there are at least three PPFs that help the government increase capacity in project preparation (Figure 11). The preliminary stage or early stage of the project starts from planning or strategic planning, pre-feasibility study (PFS), to feasibility study (PFS). To access financing through PPFs, cities are required to develop proposals or Expressions of Interest (EoI).

PPFs typically provide forms or templates for proposing projects. Our study has identified at least three PPFs available for cities to pursue their climate projects. For further details on these PPFs, please refer to Figure 11.¹

 <p>City Climate Finance Gap Fund</p>	<ul style="list-style-type: none"> • Open All Year • No Deadline 	<p>Cover only Preliminary Phase: Strategic Planning to Pre-Feasibility Study</p>	<p>Financing through Technical Assistance</p>	<p>Simple proposal/brief proposal namely EoI needed as an application</p>
	<ul style="list-style-type: none"> • Open from Q1-Q3 • Deadline usually 31 October every year 	<p>Cover only Preliminary Phase: Strategic Planning to Feasibility Study</p>	<p>Financing through Technical Assistance</p>	<p>Simple proposal but a little longer with ore explanation needed as an application</p>
 <p>Mitigation Action Facility</p>	<ul style="list-style-type: none"> • Open usually from Q4 to Q1 next year • Deadline usually in Q1 	<p>Cover beyond the Preliminary Phase</p>	<p>Financing through Technical Assistance and beyond including financial cooperation</p>	<p>More Complex and comprehensive proposal needed as an application</p>

Figure 11 PPFs and Their Key Information

These three PPFs offer cities flexibility in selecting the most suitable option based on their specific needs. Our study strongly encourages cities to delve deeper into understanding these facilities. However, it is also recommended that cities seek assistance from development partners to explore and comprehend the nuances of each PPF. By engaging with development partners, cities can identify which PPF aligns best with their requirements (Figure 12). Development partners play a crucial role in facilitating access to this financing, from matchmaking with PPFs to enhancing the value of proposals.

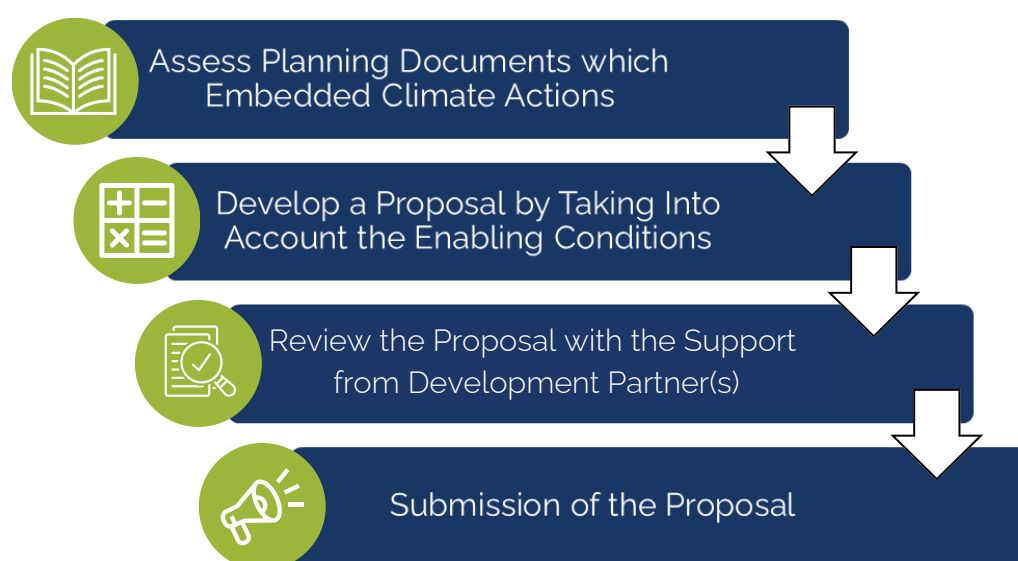


Figure 12 Steps on Pursuing Climate Finance Through PPF

In pursuing climate finance through these facilities, cities should focus on developing a strong application. Figure 12 outlines the process involved in accessing this financing facility. It is recommended that the proposing party collaborate closely with development partners to create a comprehensive application. This entails extracting ideas and translating them into a well-articulated application. Subsequently, intensive discussions between the city and development partners are essential to ensure that the application addresses all enabling environments and imperative points, as detailed in Figure 13. Following the review process with development partners, the finalised document should be submitted within the specified submission period.



Figure 13 **Enabling Environment and Necessary Points for Pursuing Climate Financing**

The proposing party should be aware that preparing an application requires considerable time and effort. Our study found that the best practice for application preparation typically spans around three months. The application process within the PPF itself may take up to six months until technical assistance is provided to the proposing party. Therefore, it is crucial for cities to allocate sufficient time and designate a focal person to oversee and engage actively throughout the process. Maintaining continuity with the focal person is essential to prevent miscommunication or disruptions. The appointed focal point should be proactive and possess expertise in the relevant field to ensure smooth communication and coordination.

Grants

In climate finance, grants serve as a crucial instrument for conducting climate action, providing essential funding to mitigate and adapt to the impacts of climate change. In Indonesia, these grants are categorised into direct grants and planned grants, each serving distinct purposes.

Direct Grants

A direct grant from development partners can be submitted by the Echelon I Work Unit to the Minister through the Secretary of the Ministry of National Development Planning/Bappenas. The application must begin with a review of the grant's aims and objectives. If the proposed grant is the first (non-recurring) grant, it must be consulted with the Minister of Finance c.q. the Director-General of Financing and Risk Management (DJPPR) or the Regional Office of the Directorate General of Treasury. This consultation determines the type, form, and withdrawal of the grant. The purpose and objectives of the grant are agreed upon and documented in the grant agreement, which is subsequently recorded and ratified by the DJPPR.

Monitoring and evaluation of grant implementation are conducted jointly by the grantor and the grantee (Figure 14). Both parties must agree on the accountability of the grant implementation through the preparation of a Handover Report (BAST).

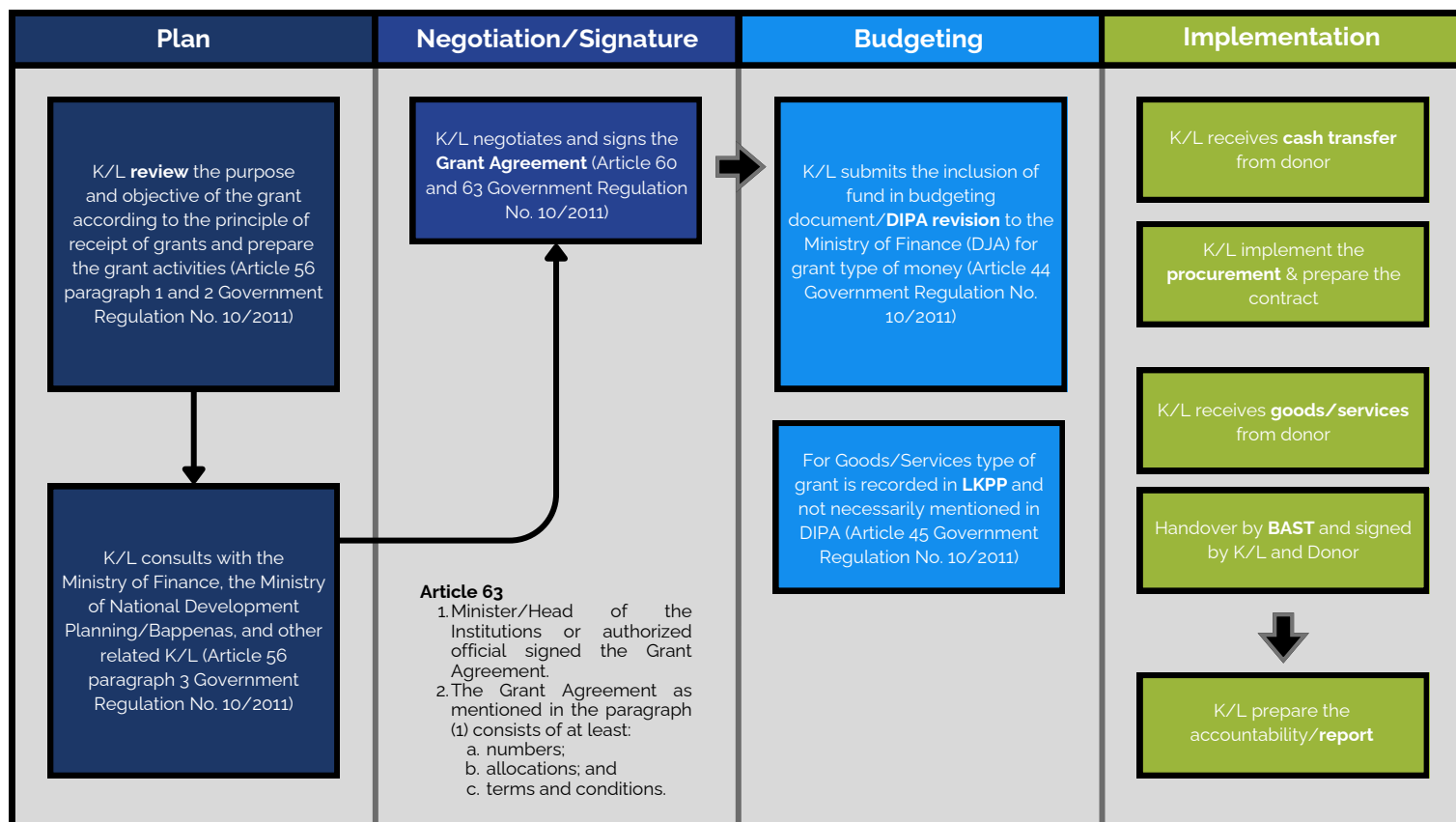


Figure 14 **Process of Direct Grant**
 Source: MoNDP/Bappenas, 2021

Planned Grants

A planned grant is implemented through a planning mechanism. All proposed activities to be financed by the grant are included in the list of Grant Activity Plans (DRKH), which is prepared by the Ministry of National Development Planning/Bappenas for a period of one year. DRKH contains activity plans proposed for funding from grants, that are suggested by the proposing institutions (K/L), either in the form of activities to be conducted by the K/L, or activities to be carried out by the Regional Government. Submission of activity proposals for grant funding must be accompanied by the List of Proposed Activities (DIPK) Grant and Activity Proposal Documents (DUK) Grant (Figure 15).

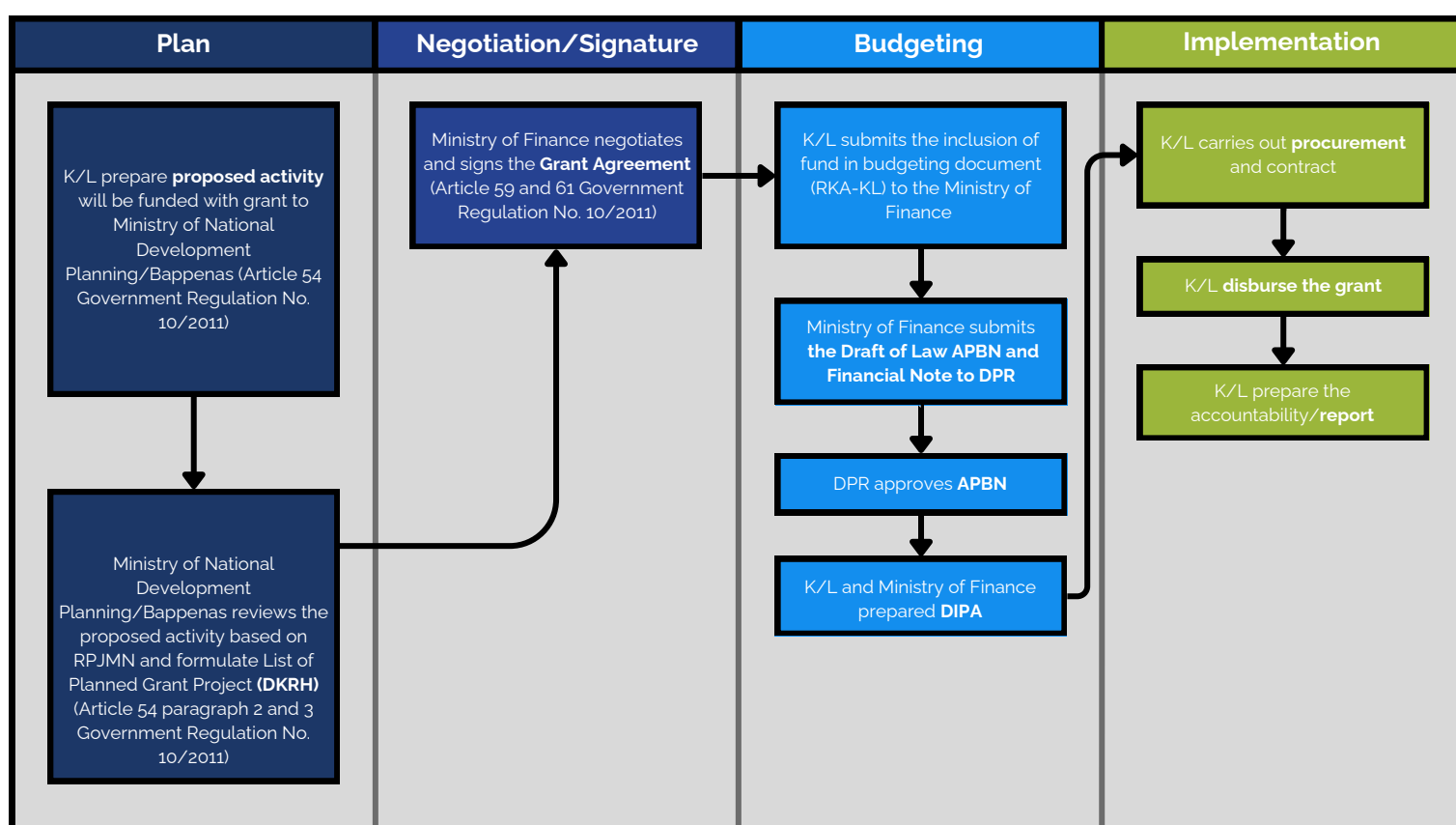


Figure 15 **Process of Planned Grants**
 Source: MoNDP/Bappenas, 2021

Loans

The loans, particularly from international sources, shall refer to the regulation PP No. 10 of 2011. Based on this regulation, the procurement and the utilisation of international loans shall consider the following principles:

1. Conducted in a transparent, accountable, efficient and effective manner, with prudence, without political ties, and without content that can disrupt the stability of state security.
2. Optimising the synergy of Foreign Loans with the allocation of other funding instruments in one Activity in order to obtain financing efficiency, and transfer of knowledge and technology as much as possible.
3. Equality with development partners in coordinating the implementation of cooperation, reporting and accountability.
4. Prioritising national interests in all aspects, including political, economic, socio-cultural, environmental, and defence and security aspects.

Since loans have their own risk in various ways, they have high governance standards and safeguarding. It involves at least four actors at the national level (Figure 16). Therefore, the process could take six months to two years (MoNDP/BAPPENAS, 2020).

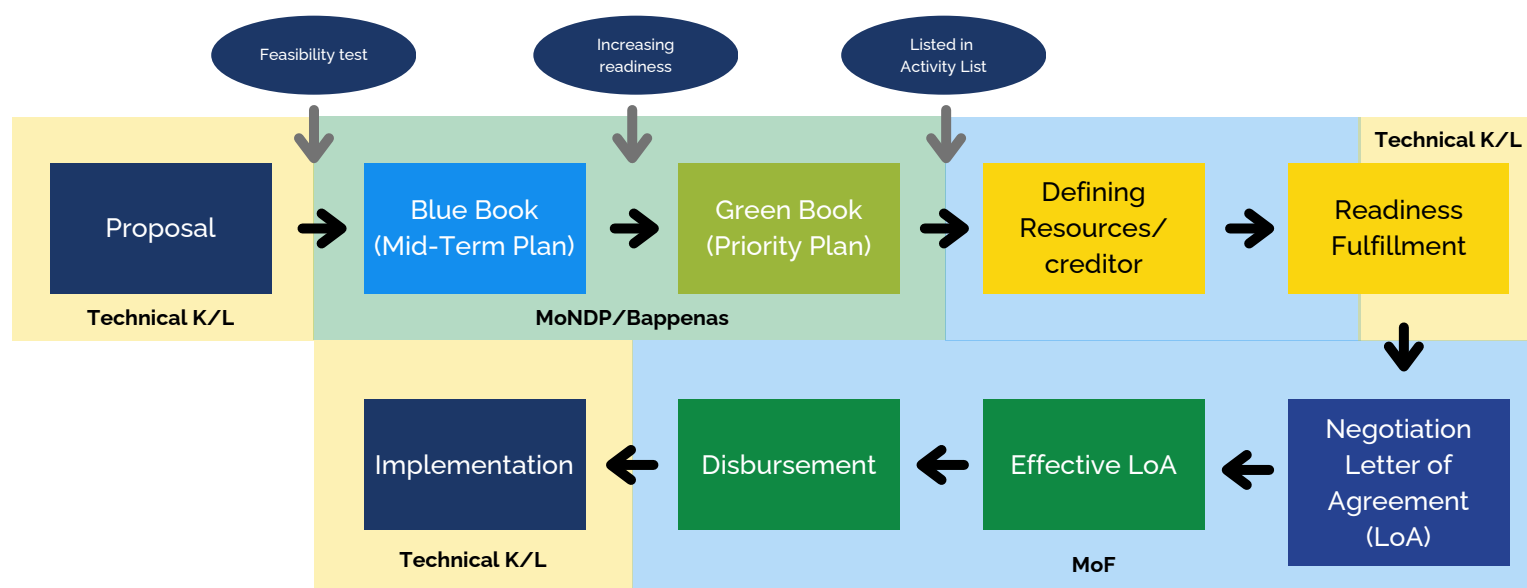


Figure 16 **Process of International Loans at A Glance**
Source: Synthesised from MoNDP/Bappenas (2020)

The implementation of activities financed by foreign loans begins with the stage of plan preparation for the utilisation of the activity loan, which is set out in a period of five years or one year. Mainly the process of a loan is divided into 4 documents process (MoNDP/BAPPENAS, 2020):

1. Proposal - Foreign Loan Utilisation Plan (RPPLN)

This document includes proposed activities that form a directive policy for loan utilisation and indicate the utilisation plan, particularly for loans proposed during the five-year mid-term planning (aligned with RPJMN). The proposal originates from the initiators, which can be ministries or institutions (K/L). In addition, other actors such as a national state enterprise (BUMN), regional state enterprise (BUMD), or even local government could propose the loan through the technical K/L. The technical K/L will then proceed with the next steps (Figure 16). This document will be subsequently approved by the Ministry of MoND/Bappenas.

2. Blue Book - Medium-Term Foreign Loan Plan (DRPLN-JM)

Before being listed in the Blue Book, the programmes listed in the proposal (RPPLN) undergo a feasibility test. This process determines which programmes are feasible for receiving the loan. During this test, the initiator must comply with all required steps, submit the necessary documents, and address administrative matters. The test also assesses the readiness of the initiator, demonstrating their preparedness. All the readiness requirements should be provided to the Ministry of MoND/Bappenas.

3. Green Book - Foreign Loan Priority Plan List (DRPPLN)

After the Blue Book process and enhanced with increasing readiness, the programme can progress to Green Book. The Green Book is published annually and serves as a basis for the initiator agency. MoND/Bappenas and the MoF will use this document for preparing the indicative ceiling and budget ceiling for new foreign loan activities in the State Revenue and Expenditure Budget (RAPBN) preparation cycle. The Green Book serves as a reference for continuing the formal coordination process with development partners because the proposed programmes listed in the Green Book should already have an indication of the funding source or potential lender. The process of preparing the programme will continue for improvement to ensure it meets all required readiness criteria. This readiness will facilitate discussions of agreements with the development partners.

4. List of Activity (DK)

After all the processes outlined in the Green Book, the Minister of MoND/Bappenas will recommend the ready programme by submitting the DK to the Minister of Finance. Subsequently, the Ministry of Finance (MoF) will lead the negotiation process until the agreement is signed.

Following the completion of the document processes, a Letter of Agreement (LoA) will be issued by the lenders. In practice, the LoA could be renegotiated to achieve a win-win solution for both the Government of Indonesia and the development partner as the lender. Once a win-win solution is reached, an effective LoA will be issued and signed by both parties. The disbursement shall be done effective immediately. One of the most important stages in proposing activities to be financed by foreign loans is meeting the readiness criteria. The initiator must prepare a robust proposal with rational justification, a clear vision, a strong strategy, and a comprehensive feasibility study.

Private Investment

Following the directive of RPJMN 2020-2024, Indonesia aims to utilise private investment instruments to finance development, aligning with climate action financing. These investments typically come from two sources: domestic private investment and international private investment, which is also known as foreign direct investment (FDI).

Domestic Investment

Domestic investment plays a crucial role in driving climate action initiatives in Indonesia, as local investors possess a deep understanding of the domestic market and can contribute to sustainable development in their communities. However, before embarking on climate action projects, domestic investors must navigate a complex regulatory landscape. This study synthesises the guidelines of domestic investment in Indonesia served in Figure 17 (Halimatussadiyah, et al., 2023; OECD, 2021; World Bank, 2023; UNDP, 2020; and Green Climate Fund, 2022).

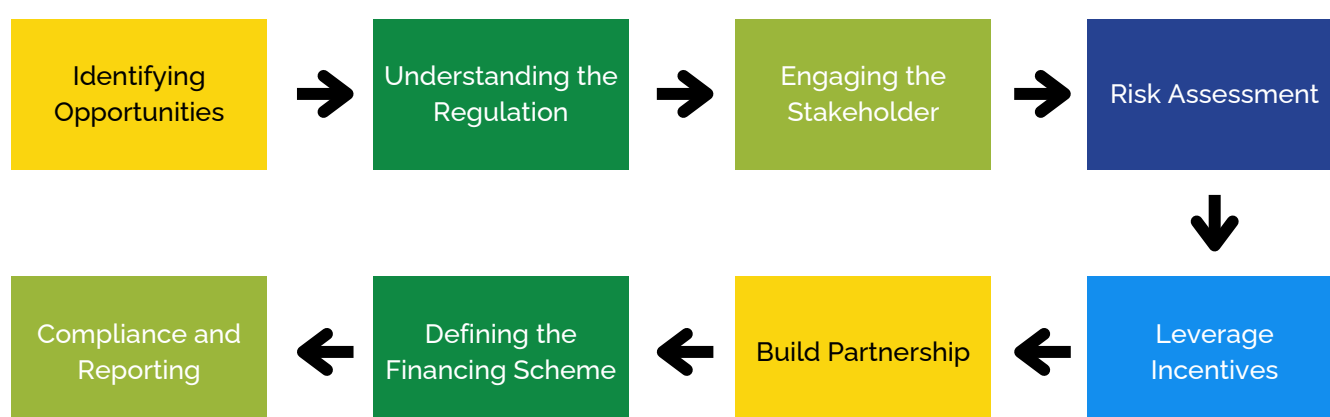


Figure 17 *Guidance of Domestic Private Investment*

1. Identify opportunities:

- Explore and identify sectors within climate action that are aligned with national priorities and investment goals, such as renewable energy, sustainable agriculture, or green infrastructure.
- Evaluate the potential for growth and returns in each sector to effectively prioritise investment opportunities.

2. Understand regulations:

- Familiarise with Indonesia's Environmental Law (Law No. 32 of 2009) and its requirements for environmental compliance, including the need for an Environmental Impact Assessment (AMDAL) for projects with significant environmental impacts.
- Stay informed about specific regulations and taxes implemented by the government to manage emissions from sectors, such as forestry and land use, as these may impact investment decisions.

3. Engage with stakeholders:

- Collaborate with government agencies, financial institutions, and multilateral agencies to understand the regulatory landscape and available financing mechanisms.
- Explore opportunities for blended finance by partnering with public and private entities to leverage resources and expertise.

4. Risk assessment:

- Conduct a thorough risk assessment to understand the potential threats and opportunities presented by climate change in each sector.
- Evaluate the risk-return profile of investment opportunities to make informed decisions and mitigate potential risks effectively.

5. Leverage incentives:

- Utilise government incentives and support mechanisms designed to encourage private investments in climate action, such as tax benefits or subsidies, for environmentally sustainable projects.
- Consider how these incentives can enhance the financial viability of investments and how they can contribute to the overall impact of climate action initiatives.

6. Build partnerships:

- Establish partnerships with local entities to navigate regulatory requirements and leverage local expertise and networks.
- Collaborate with stakeholders across sectors to create synergies and identify opportunities for joint investment in climate action projects.

7. Define financing scheme:

- Explore various financing options, including loans, equity investments, and grants to fund climate action projects effectively.
- Seek out financing mechanisms tailored to climate-related initiatives, such as green bonds or impact investment funds, to align with environmental objectives.

8. Compliance and reporting:

- Ensure compliance with all regulatory requirements throughout the investment cycle, from project development to implementation and monitoring.
- Establish robust reporting mechanisms to track the environmental impact and financial performance of investments, demonstrating transparency and accountability to stakeholders.

Foreign Direct Investment

Foreign direct investment (FDI) presents an opportunity for international investors to contribute to climate action projects in Indonesia while accessing new markets and diversifying their portfolios. However, navigating the regulatory landscape requires a thorough understanding of Indonesia's investment regulations and their complexity. To have a better understanding study synthesises the guidance of FDI/PMA in Figure 18 (U.S. Department of State, 2023; World Economic Forum, 2023; and OECD, 2016).

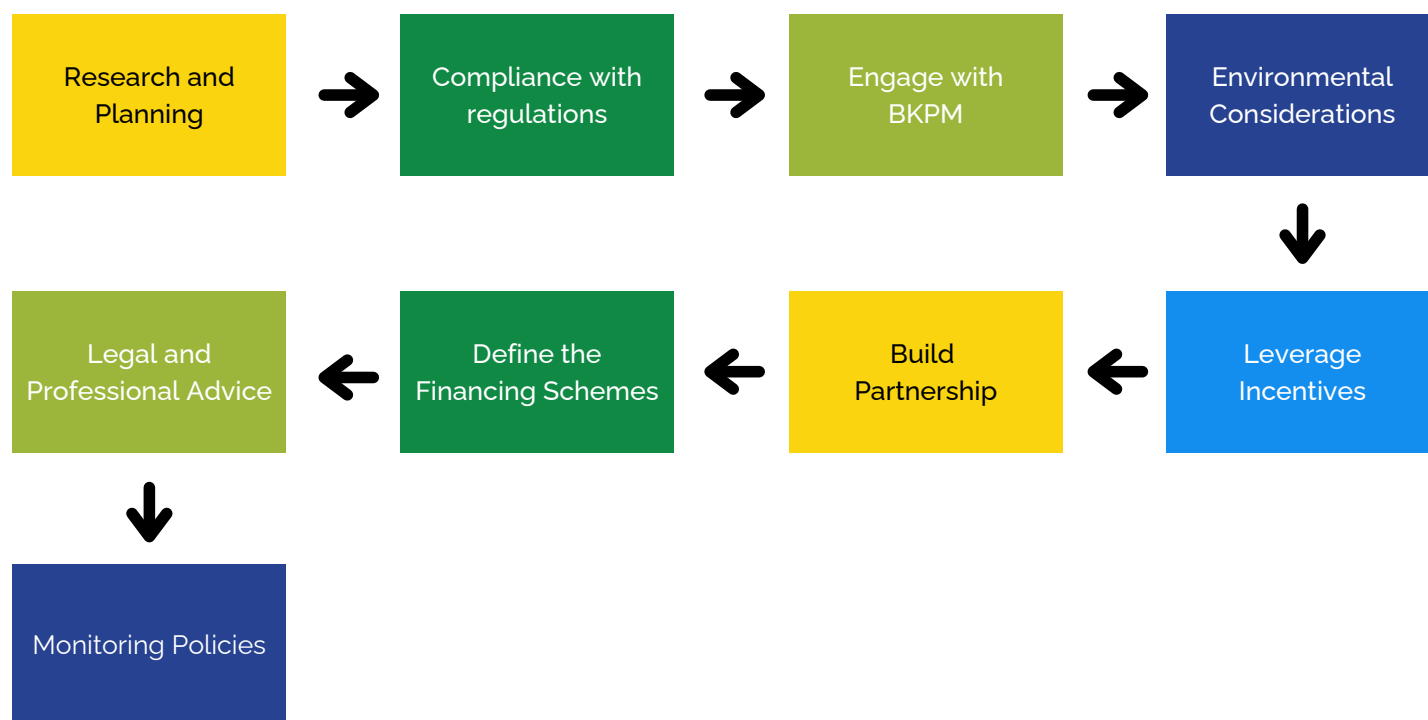


Figure 18 **Guidance for Foreign Direct Investment (FDI/PMA)**

1. **Research and planning:**

- Identify climate action sectors in Indonesia open to FDI, such as renewable energy, waste management, or sustainable transportation.
- Evaluate market dynamics, regulatory frameworks, and potential risks to inform investment decisions effectively.

2. **Compliance with regulations:**

- Familiarise with Indonesia's investment regulations, including the Negative Investment List, to understand restrictions and requirements for FDI in climate-related projects.
- Ensure compliance with environmental regulations and consider obtaining an Environmental Impact Assessment (AMDAL) for high-risk projects.

3. **Engagement with BKPM:**

- Engage with the Ministry of Investment/Investment Coordinating Board (MoI/BKPM) early in the investment process to obtain guidance on regulatory requirements and procedures.
- Collaborate with BKPM to navigate the investment landscape and secure necessary permits and licenses for FDI in climate action projects.

4. **Environmental considerations:**

- Prioritise environmental sustainability in investment decisions and incorporate climate risk assessments into project planning and management.
- Demonstrate a commitment to environmental stewardship by implementing best practices for sustainable development and resource management.

5. **Leverage incentives:**

- Utilise government incentives and support mechanisms available for FDI in climate action, such as tax holidays, import duty exemptions, and investment allowances.
- Leverage incentives to enhance the financial attractiveness of investments and align with environmental objectives.

6. **Build partnerships and networking:**

- Build strategic partnerships with local businesses, government agencies, and stakeholders to navigate the investment landscape and access market opportunities.
- Network with industry associations and international organisations to expand your reach and leverage resources for climate action initiatives.

7. Define financing scheme:

- Explore financing options available for FDI in climate action, including international funds, development finance institutions, and public-private partnerships (PPP).
- Seek out support mechanisms, such as the Just Energy Transition Partnership (JETP), to access funding and technical assistance (TA) for climate-related projects.

8. Legal and professional advice:

- Consult with legal experts and investment professionals specialising in Indonesian FDI to ensure compliance with local laws and regulations.
- Seek guidance on investment structuring, risk management, and dispute resolution to navigate the complexities of international investment in climate action.

9. Monitoring policies:

- Policies and regulations in every country are dynamic. It is imperative to see the latest updates of every policy to see the effect they have on the investment and the investor. By conducting this, cities can implement monitoring as well as ensure political stability.

Investment through both domestic and international sources is imperative to conduct climate action projects. With the directive of RPJMN 2024, the rate of investment RoI should be >13% (MoNDP/BAPPENAS, 2020) (MoNDP/BAPPENAS, 2020). The coordinating and main actor of this instrument is the Ministry of Investment/Investment Coordinating Board (MoI/BKPM). Therefore, engagement with MoI/BKPM is imperative as well as the engagement with technical ministry and MoNDP/Bappenas.

Bonds

Bonds in Indonesia serve as vital financial instruments for various projects, including those directed towards climate action, reflecting the nation's commitment to addressing environmental challenges. Government bonds are a cornerstone for financing public expenditures, including climate-related initiatives, while corporate bonds offer companies a means to raise capital for expansion or specific projects, potentially including climate action projects (ADB, 2021).

Types of bonds:

- 1. Government Bonds:** These are issued by the government to finance public expenditures, including climate-related initiatives.
- 2. Corporate Bonds:** Companies issue these to raise capital for expansion or specific projects, potentially including climate action.
- 3. Green Bonds and Green Sukuk:** Specifically designed to fund projects with positive environmental and climate benefits. Green *Sukuk* is based on Islamic finance principles.

Notably, Indonesia has embraced the concept of Green Bonds and Green *Sukuk*, specifically tailored to fund projects with positive environmental and climate benefits. The framework of this instrument consists of four pillars expanding from the use of the instruments to reporting while keeping in mind that seeking a second opinion is also imperative to the framework (Figure 19) (MoF and UNDP, 2018).

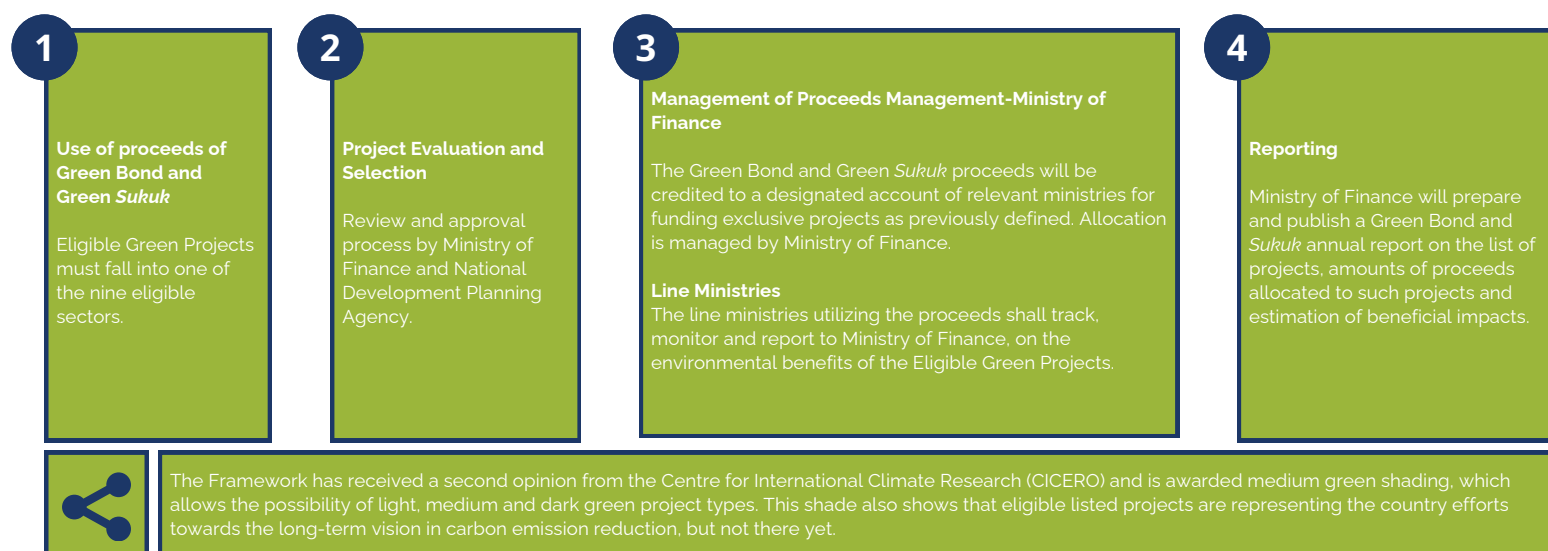






Figure 19 **The Framework of Green Bonds And Green Sukuk in Indonesia**
 Source: Ministry of Finance Republic Indonesia and UNDP, 2018

The framework of green bonds and green *sukuk* states that there are only nine sectors that can be financed by these instruments, with every sector having a status type of green, ranging from light to dark green.

Table 7 **Sectors for Green Bonds and Green Sukuk in Indonesia with Green Status**

Sector	Details	Type of Green
 <p>Renewable Energy</p>	<p>Renewable energy sources: include offshore and onshore wind, solar, tidal, hydropower, biomass, and geothermal</p> <p>Research and development (R&D) of products or technology for renewable energy generation, including turbines and solar panels</p>	Dark Green
 <p>Sustainable Management of Natural Resources</p>	<p>Sustainable management of natural resources, which substantially avoids or reduces carbon loss/increases carbon sequestration (through the planting of new forest areas, and/or replanting of degraded areas, the use of drought/flood/temperature resistant species)</p> <p>Habitat and biodiversity conservation (through sustainable management of land use change, sustainable management of agriculture/fisheries/forestry, protection of coastal, and marine environments, pest management)</p>	Light- Dark Green
 <p>Energy Efficiency</p>	<p>Improvement of the energy efficiency of infrastructures, which results in an energy consumption of at least 10% below the average national energy consumption, of an equivalent consumption of at least 10% below the average national energy consumption of an equivalent</p> <p>R&D of products or technology and their implementation that reduces energy consumption of underlying assets, technology, product or system(s); including LED lights, improved chillers, improved lighting technology, and reduced power usage in manufacturing operations</p>	Light - Medium Green
 <p>Green Tourism</p>	<p>Develop new tourism areas in line with Green Tourism Principles</p> <p>Optimise supporting infrastructure to support sustainable tourism (i.e. water treatment, energy efficiency)</p> <p>Develop tourism resilience against climate change risk</p>	Medium - Dark Green
 <p>Resilience to Climate Change for Highly Vulnerable Areas and Sectors/Disaster Risk Reduction</p>	<p>Research leading to technology innovation with sustainability benefits 1) food security, 2) flood mitigation, 3) drought management, 4) public health management</p>	Dark Green

Sector	Details	Type of Green
 <p>Green Buildings</p>	Develop green buildings in line with Greenship developed by Green Building Council Indonesia (GBC Indonesia), which contains six categories: Appropriate Site Development, Energy Efficiency and Conservation, Water Conservation, Material & Resources Cycle, Air Quality & Leisure Air (water indoor health & comfort), Building & Environment Management	Light Green
 <p>Sustainable Transport</p>	Develop clean transportation systems Upgrade transportation network to higher climate-resilient design standards	Medium – Dark Green
 <p>Sustainable Agriculture</p>	Implement agriculture management and methods, such as organic farming, decrease of pesticide use, R&D on climate resilient seeds, and energy efficiency Establish a subsidy mechanism for agriculture insurance	Medium – Dark Green
 <p>Waste to Energy and Waste Management</p>	Improve waste management Transform waste into a renewable energy source Rehabilitate landfill areas	Medium – Dark Green

Source: Ministry of Finance Republic Indonesia and UNDP, 2018

Mechanisms:

- Issuance:** Bonds are issued through a formal process involving regulatory approval, usually by the Financial Services Authority (OJK) in Indonesia.
- Trading:** Once issued, bonds can be traded on the secondary market, providing liquidity to investors.
- Yield:** Investors receive periodic interest payments, with the principal amount returned at maturity.

Pursuing Bonds for Climate Action Projects:

- Identify eligible projects:** Projects must align with the criteria set out in the Green Bond and Green *Sukuk* framework, which includes nine eligible green sectors.
- Approval and issuance:** Submit a proposal to the OJK for approval. Once approved, the bond can be issued to investors.
- Use of proceeds:** The funds raised must be exclusively used for the selected eligible green projects, as outlined in the framework.

As an example, there are two bond mechanisms in Indonesia explained as follows.

- Green Bond PT. SMI
In the first phase (2018), PT SMI issued and offered Sustainable Infrastructure Bonds (Green Bonds) with a maximum principal amount of IDR 1 trillion.
- Green Bond OCBC NISP
In 2018, OCBC NISP Bank in collaboration with the International Finance Corporation (IFC), a member of the World Bank Group, committed USD 150 million in the form of green bonds. Bank OCBC NISP also issued Shelf-Registered Bonds III Phase I (2018) worth IDR 1 trillion with a fixed interest rate.

Municipal Bonds

Municipal bonds are gaining prominence in Indonesia as a pivotal financial instrument for facilitating local development projects, particularly those focused on climate action. These bonds, issued by local governments or their agencies, serve as debt securities aimed at securing funding for public initiatives. They offer a promising avenue for financing regional development endeavours and aligning with Sustainable Development Goals (SDGs), representing a significant shift from traditional funding sources such as regional transfer funds.

The regulatory framework governing municipal bonds in Indonesia is meticulously outlined by the Ministry of Finance (MoF). This framework includes strict criteria such as prudent loan amounts, absence of existing arrears, demonstration of debt repayment capability, and successful completion of financial audits. Such regulations ensure the responsible and transparent issuance of municipal bonds, fostering investor confidence and ensuring the efficient allocation of funds to projects that contribute to local development and climate action initiatives (CPI, 2021).

Key Principles:

Sovereignty:

- Municipal bonds, issued by regional governments, represent loans sourced from the general public.
- Local governments are authorised to issue municipal bonds only upon meeting specific loan requirements outlined by the central government.
- Approval from both the Minister of Home Affairs and the MoF is mandatory for municipal bond issuance.
- Unlike central government bonds, municipal bonds lack backing from the central government.
- Municipal governments must secure a permit from the MoF if the bond volume surpasses the maximum deficit limit set in the local budget (APBD) regulated by the MoF.

Bond Profile:

- Audit Opinion:
 - Prior to issuance, the local government must obtain either a fair with exception (WDP) or fair without exception (WTP) opinion on its previous year's financial statements from the Indonesian Audit Board (BPK).
- Market and Currency:
 - Municipal bonds can solely be issued on the domestic capital market and in Indonesia's national currency, the Rupiah (IDR).
- Financial Limits:
 - The outstanding loan amount and the volume of bonds to be withdrawn may not exceed 75% of the total revenue outlined in the previous year's APBD.
 - Local governments must meet the minimum loan repayment capacity set by the central government, with a Debt Service Coverage Ratio (DSCR) of at least 2.5.

Use of Proceeds:

- Project Alignment:
 - Proceeds from municipal bond issuance must be directed solely towards infrastructure or public facilities that generate revenue for municipal governments and offer benefits to the general public.
 - Projects must align with regional planning documents and may supplement existing activities, financing either partially or entirely.
- Green Bonds:
 - The Financial Services Authority (OJK) mandates that at least 70% of the proceeds from green bonds must be allocated to green projects, although investors may anticipate a higher percentage.

As bond issuers, local governments bear the responsibility of repaying the principal and interest of each municipal bond upon maturity, along with penalties for late payments. These payments are incorporated into the Regional Revenue and Expenditure Budget (APBD) annually until the repayment period concludes. Repayment sources primarily stem from the income generated by activities funded by regional bonds. Should these activities fail to generate sufficient funds for repayment, obligations are fulfilled using other regional income sources. Even if interest repayment surpasses pre-budgeted funds, the governor or mayor must still honour the agreed-upon amount. The realisation of regional bond interest repayment is factored into APBD amendments and may be detailed in the budget realisation reports (CPI, 2021).

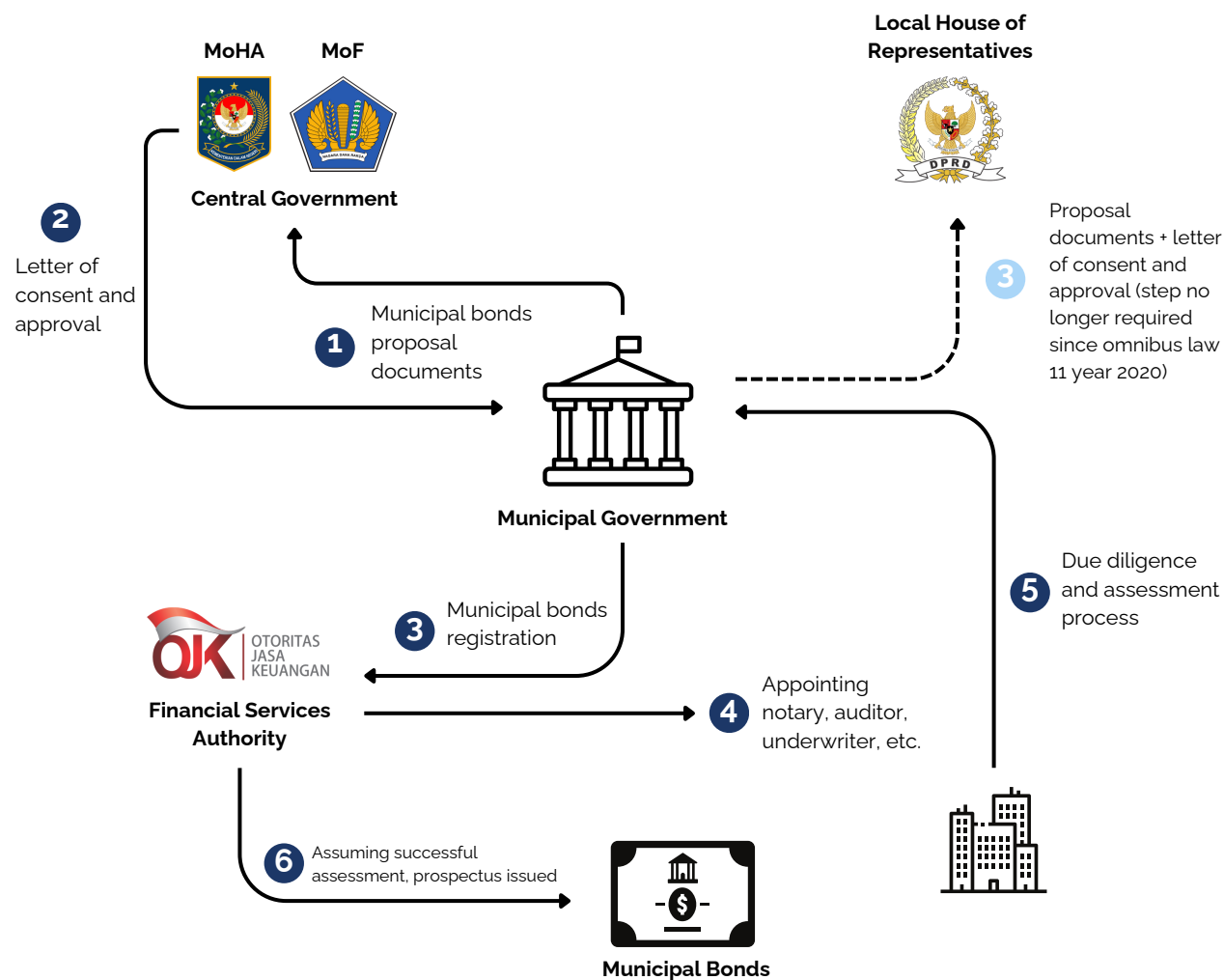


Figure 20 **Guidance of Issuing Municipal Bonds in Indonesia**
Source: CPI, 2021

The process flow for municipal governments is generally outlined in Figure 20. It is crucial to highlight that municipal governments need approval from the central government, specifically the Ministry of Home Affairs and the MoF. Before 2020, municipal governments were also required to obtain approval from the Regional Representatives Council (DPRD). However, with the enactment of Omnibus Law 11 in 2020 concerning job creation, municipal governments are no longer obligated to seek approval from the DPRD (CPI, 2021).

Blended Finance

Blended finance is one of the emerging innovative financing schemes in Indonesia. This study proposes that this instrument can be divided into co-financing and Public-Private Partnership (PPP).

Co-Financing

Co-financing for climate action-related development projects in Indonesia is a collaborative approach involving multiple stakeholders and various funding mechanisms aimed at pooling resources and sharing risks. This strategic method allows for the leveraging of funds and expertise from the Indonesian government, international donors, private sector entities, and financial institutions to achieve greater impact in addressing climate change.

Co-financing aligns with Indonesia's national development plans and climate action goals, ensuring that projects contribute to sustainable development and are environmentally sound and socially responsible. The regulatory framework governing co-financing is overseen by the Financial Services Authority (OJK) and the Ministry of Finance (MoF), ensuring transparency and adherence to project objectives. Projects typically undergo a rigorous approval process, including environmental and social impact assessments, to ensure their viability and alignment with national priorities. Strict reporting and compliance requirements are also in place to monitor the proper use of funds and track project progress and impact. The financing can mix several instruments to achieve the climate action such as the State Revenue and Expenditure Budget/Regional Revenue and Expenditure Budget (APBN/APBD), bonds, grants, loans, as well as investment (ADB, 2024; World Bank and ADB, 2021; and Climate Investment Fund, 2024).

Mechanism of Co-Financing:

Co-financing operates through a structured mechanism that involves several steps:

- 1. Project eligibility and approval:** Climate action projects must align with Indonesia's climate action framework and receive regulatory approval from relevant authorities. This ensures that projects meet established criteria and contribute to national climate goals.
- 2. Funding arrangements:** Once approved, projects receive funding from various sources, including loans, grants, and private investments. These funds are pooled together to provide the necessary financial resources for project implementation.
- 3. Risk sharing:** Co-financing enables stakeholders to share the risks associated with climate action projects, making them more attractive for investment. By spreading risks across multiple parties, co-financing reduces the financial burden on individual stakeholders and enhances the overall feasibility and sustainability of projects.

Successful co-financing requires careful planning, adherence to regulations, and active engagement from all stakeholders. Financial and legal advisors also play a crucial role in navigating the complexities of co-financing arrangements and leveraging opportunities for climate action financing in Indonesia.

Public-Private Partnership

Public-Private Partnerships (PPPs) are integral to Indonesia's infrastructure development, including climate action-related projects (World Economic Forum, 2024). Governed by a robust regulatory framework outlined in Presidential Regulation 38/2015 with the technical regulation provided in Ministry of Finance (MoF) regulation PMK No 180/2020, PPP serve as a strategic collaboration between the public and private sectors (ADB, 2020).

They play a vital role in achieving Indonesia's infrastructure and climate action targets, ensuring alignment with national development plans (ADB, 2020). Regulatory compliance is essential, requiring adherence to Indonesian PPP regulations covering project participation and investment (Coventus Law, 2016). These regulations uphold transparency, accountability, and fair competition, fostering an environment conducive to sustainable development. In Indonesia, there are hundreds of PPPs implemented with a total investment of over USD 63 thousand (ADB, 2024).

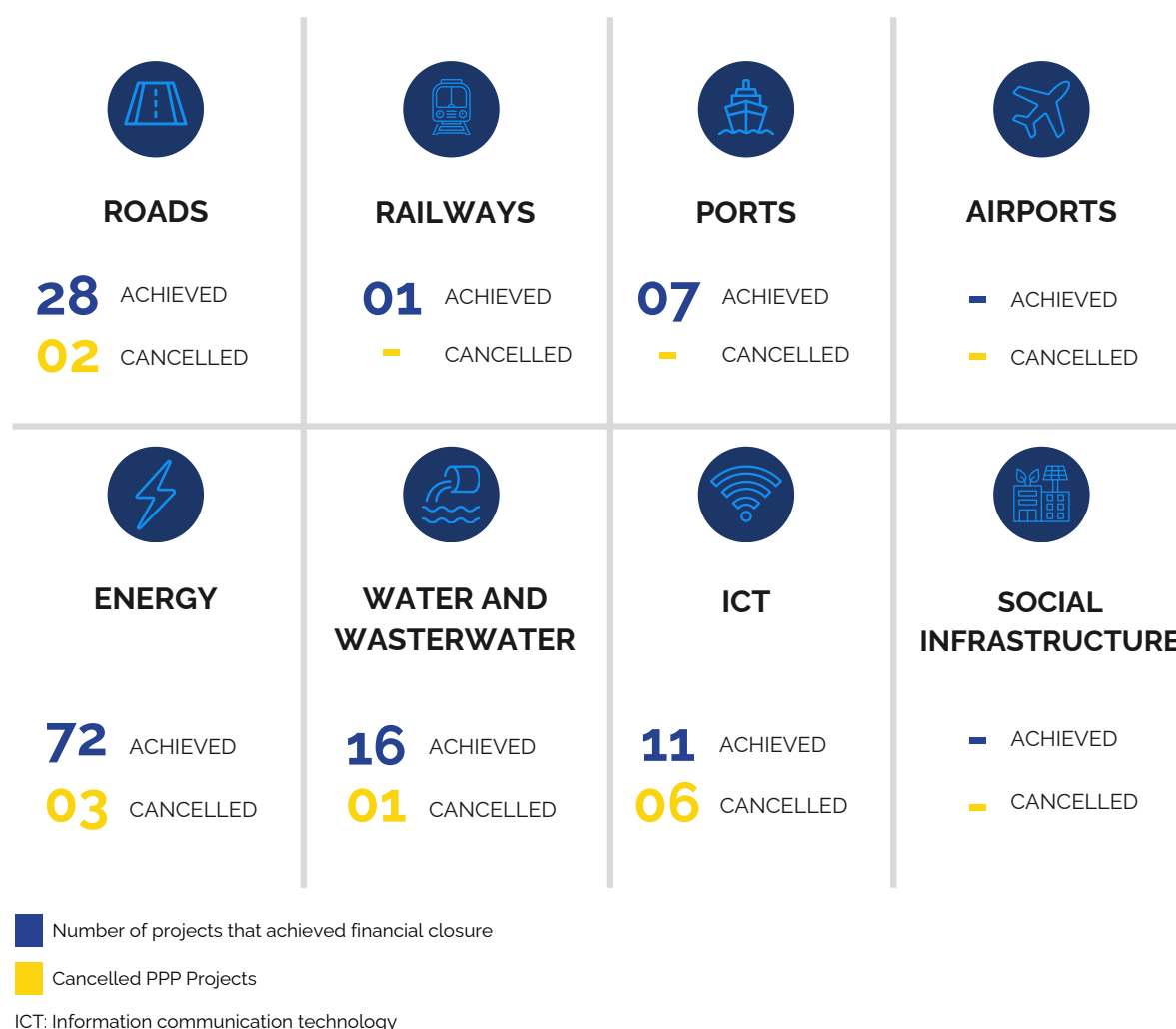


Figure 21 PPPs That Have Achieved Financial Closure and Cancelled PPPs in Indonesia
 Source: ADB, 2024

Types of PPP

Public-Private Partnerships (PPPs) in Indonesia come in various forms, each with its own structure and mechanism for collaboration between the public and private sectors. Several common types of PPPs are outlined below (ADB, 2020):

- **Build-Operate-Transfer (BOT):** In this model, a private entity is granted the right to build and operate a facility for a certain period. After this period, the ownership is transferred back to the public sector. This model is often used for infrastructure projects such as highways, water treatment plants, and power plants.
- **Joint Venture (JV):** A JV is a business arrangement where the public and private sectors establish a new entity to provide a public service or project. Both parties contribute assets, share risks, and receive in the profits.
- **Build-Own-Operate (BOwOp):** The private sector builds, owns, and operates a facility or service with no intention to transfer ownership to the public sector. This is common in sectors where long-term control is beneficial, such as energy production.
- **Build-Lease-Transfer (BLT):** In a BLT, the private sector designs and builds an asset, leases it to the public sector, and then transfers it back to the public sector at the end of the lease term.
- **Build-Operate-Own (BOOw):** Similar to BOpOw, but in this model the private sector may operate the facility indefinitely without transferring ownership.
- **Design-Build-Finance-Operate (DBFO):** The private sector is responsible for the design, construction, financing, and operation of a project. The public sector typically pays the private entity for available services.
- **Design-Construct-Manage-Finance (DCMF):** The private sector designs, constructs, manages, and finances the delivery of a service, often with a focus on efficiency and innovation.
- **Concession:** A concession grants a private entity the right to operate a public service under specified conditions. This can include the collection of fees or tolls from the public.

Each type of PPP has its regulatory framework and mechanisms that define the roles, responsibilities, and revenue-sharing models for the public and private partners. The choice of the PPP model depends on the project's nature, the level of investment required, the desired level of control by the public sector, and the risk-sharing preferences of both parties.

Mechanism

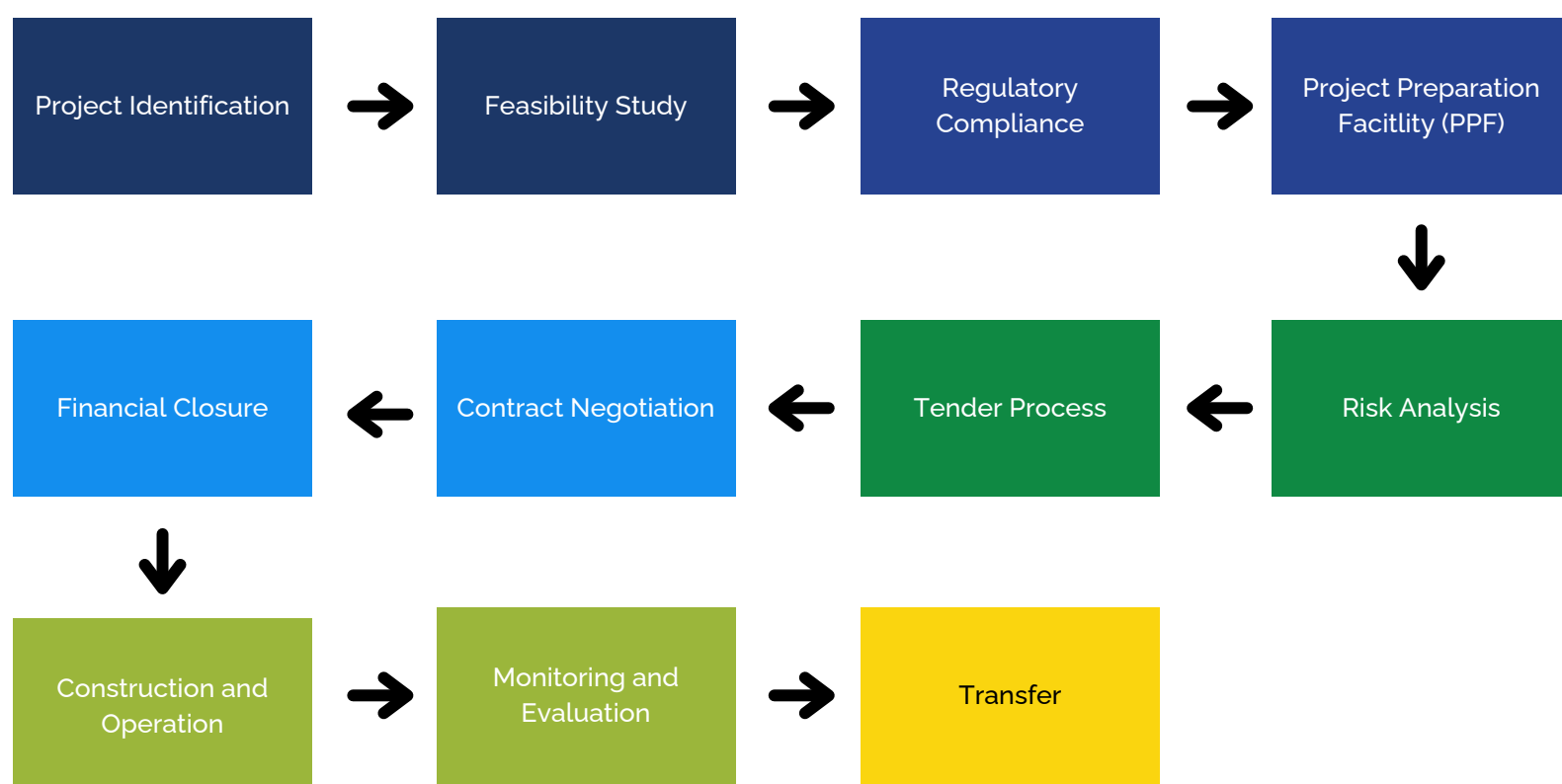


Figure 22 PPP Mechanism in Indonesia

Pursuing a PPP in Indonesia (Figure 22) involves a structured mechanism that aligns with the country's regulatory framework. The elaboration of the process is outlined as follows (KWM, 2023):

1. **Project identification:** The process begins with the identification of a potential project by either the public sector or private investors. Projects that align with national development goals and have the potential for profitability are typically selected.
2. **Feasibility study:** A feasibility study is conducted to assess the technical, economic, and financial viability of the project. This study also includes an environmental impact assessment if necessary.
3. **Regulatory compliance:** Investors must ensure compliance with the PPP regulatory framework, primarily governed by Presidential Regulation 38/2015. This regulation outlines the procedures for PPP project procurement and the roles of various stakeholders.
4. **Project Preparation Facility (PPF):** The PPF provides support in preparing and structuring PPP projects, including assistance with feasibility studies, project documentation, and transaction advisory services.
5. **Risk analysis:** A thorough risk analysis is conducted to understand and mitigate potential risks associated with the project. This includes financial, operational, and environmental risks.
6. **Tender process:** The public sector entity responsible for the project will conduct a tender process to select a private partner. This process is transparent and competitive to ensure fair selection.
7. **Contract negotiation:** Once a private partner is selected, contract negotiations take place. The contract details the roles, responsibilities, investment shares, and risk-sharing mechanisms between the public and private entities.
8. **Financial closure:** The private partner secures financing for the project, which may include loans, equity, or other financial instruments.
9. **Construction and operation:** After financial closure, the construction phase begins, followed by the operation of the project as per the agreed terms.
10. **Monitoring and evaluation:** Throughout the project cycle, there is continuous monitoring and evaluation to ensure compliance with the contract and to assess the project's performance.
11. **Transfer:** In models like Build-Operate-Transfer (BOT), the project is eventually transferred back to the public sector after the agreed period.

This mechanism ensures that PPPs in Indonesia are executed in a structured manner, providing benefits to both the public and private sectors while contributing to the country's infrastructure and development goals.

Corporate Social Responsibility

Corporate Social Responsibility (CSR) in Indonesia is a strategic approach by businesses to contribute to sustainable development goals, including climate action initiatives. It is essential for companies to integrate CSR into their core business strategies, ensuring that their initiatives align with national priorities and contribute to environmental sustainability. Indonesia, through UU No. 40 of 2007 concerning Limited Liability Companies, requires companies to implement CSR as part of their business practices. Elaborating with the environmental issues companies need to align their CSR activities with national development goals and climate action strategies. CSR is not just philanthropy; it is about integrating social and environmental concerns into business operations (World Bank and ADB, 2021).

Mechanism

- **CSR planning and implementation:** Companies must plan and implement CSR activities that are in line with their business strategies and the needs of the communities they serve.
- **Stakeholder engagement:** Engaging with stakeholders, including local communities, government, and non-governmental organisations (NGOs), is crucial to ensure the relevance and effectiveness of CSR initiatives.
- **Reporting and compliance:** Companies are required to report their CSR activities and ensure they comply with the relevant regulations and standards (I, 2023).

For climate action-related projects, CSR can play a significant role in supporting Indonesia's transition to a low-carbon and climate-resilient economy. This involves investing in sustainable infrastructure, promoting clean energy, and supporting conservation efforts. By doing so, companies not only contribute to the fight against climate change but also enhance their own sustainability and social license to operate.

Designated Climate Fund

A designated climate fund is an entity established to pool and manage funds specifically for financing climate action, addressing both mitigation and adaptation needs. This relatively new and specialised scheme is designed to support comprehensive efforts to combat climate change. These funds gather resources from a diverse range of international and domestic sources. Designated climate funds can manage the contribution from global donors, national governments, private sector investments, and non-governmental organisations (NGOs). By centralising and effectively managing these financial resources, designated climate funds enable targeted and impactful climate initiatives, such as renewable energy projects, sustainable agriculture, disaster resilience, and ecosystem restoration, ensuring that funds are allocated where they are most needed to drive significant environmental and socio-economic benefits.

Domestic Source

A. Indonesia Climate Change Trust Fund

Indonesia Climate Change Trust Fund (ICCTF) was launched in 2009 and designed as an institution to raise funds for climate change, both international and domestic, to be implemented in the programmes and policies related to climate change control. The ICCTF has a technical committee consisting of representatives from the Ministry of National Development Planning/Bappenas and the Ministry of Finance (MoF).

B. Indonesia Environment Fund

In 2019, the Ministry of Environment and Forestry, the MoF, and the Coordinating Ministry for Economic Affairs launched the Environmental Fund Management Agency (BPDLH), now called the Indonesia Environment Fund (IEF). The IEF is designated as a public service agency (BLU) under the MoF and aims to optimise the mobilisation of domestic and foreign environmental funds, in a more transparent, effective, and efficient distribution.

IEF funding can be sourced from the State Revenue and Expenditure Budget/Regional Revenue and Expenditure Budget (APBN/APBD), grants, and other sources from various development partners, both at home and abroad, including bilateral support, international institutions, the private sector, and philanthropy. IEF will integrate the BLU of the Forest Development Financing Center (P3H) which is under the Ministry of Environment.

Currently, IEF/BPDLH manage the Reducing Emissions from Deforestation and Forest Degradation (REDD+) fund. Moreover, Indonesia has regulated the disbursement in the regulation of Perdirut BPDLH No. 07/BPDLH/2020. The guideline outlines that REDD+ funds are managed by BPDLH to support initiatives aimed at reducing greenhouse gas (GHG) emissions by addressing deforestation, forest and peatland degradation, conserving carbon stocks, implementing sustainable forest management practices, and enhancing carbon stocks. These efforts are crucial for achieving Nationally Determined Contributions (NDC) targets and fostering sustainable development.

Presently, various international entities have pledged to allocate REDD+ funds through BPDLH. These include the Green Climate Fund (GCF) with a commitment of USD 103.78 million, the Norwegian Government with USD 56 million, and the Forest Carbon Partnership Facility, overseen by the World Bank, with funding of up to USD 110 million. The access to REDD+ Funds is divided into two categories: beneficiaries and intermediary institutions (Komitmen Iklim, 2021 and BPDLH, 2024).

1. **Beneficiaries:** These are entities directly eligible for REDD+ Funds. They include customary law communities, registered community groups, government agencies (both central and local levels), non-governmental organisations, businesses, and educational or research institutions. Beneficiaries can receive funds either through direct appointment by BPDLH if identified in specific programmes outlined in the Disbursement Plan, or by submitting proposals in response to thematic programmes listed in the Disbursement Plan.
2. **Intermediary Institutions:** When Beneficiaries lack capacity in financial or programme management or are located in remote areas, BPDLH channels REDD+ Funds indirectly through Intermediary Institutions. These institutions can be local governments, organisations/NGOs, non-bank financial services institutions, cooperatives, universities, and other legal entities. The minimum funding that Intermediary Institutions can apply for is IDR 5 billion.

Additionally, sub-national REDD+ management agencies, established by Provincial Governments to coordinate REDD+ implementation in regions, can also access REDD+ Funds. These agencies can act as either Beneficiaries or Intermediary Institutions. Notably, forested provinces lacking such institutions require Beneficiaries in those areas to submit proposals directly to BPDLH or through Intermediary Institutions.

Programme Access

- **Enabling Conditions Enhancement:** This category includes programmes or activities aimed at bolstering institutional and human resource capacity, enhancing REDD+ policies and tools, and conducting research and development activities. These programmes are vital for creating an enabling environment for effective REDD+ implementation.
- **Ministry of Environment and Natural Resources Programmes:** REDD+ Funds can finance programs established by the Ministry of Environment and Natural Resources, contributing to overall REDD+ objectives.
- **Carbon and Non-Carbon Benefits:** Funds can be allocated to programmes or activities that yield measurable benefits in the form of emission reduction performance and other verified performance indicators. Legal compliance in forest and land management within the REDD+ framework is essential for such activities, covering aspects such as ownership status, designation, or management permits. Legal documentation may include Forest Management Unit (FMU) designation, Social Forestry Permits, Customary Area Designation, Timber Forest Product Utilisation Permits, Environmental Service Utilisation Business Permits, Land Utilisation Permits, and proof of ownership for forest rights.

C. Accredited Entity of GCF

PT. Sarana Multi Infrastruktur

PT Sarana Multi Infrastruktur (PT SMI), a state-owned enterprise in Indonesia, has achieved accreditation as a Direct Accredited Entity (DAE) by the Green Climate Fund (GCF) (Green Climate Fund, 2021). This accreditation empowers PT SMI to play a central role in financing climate action projects within Indonesia, focusing on sustainable infrastructure development.

Role of PT SMI:

1. **Catalyst for infrastructure development:** PT SMI acts as a catalyst for expediting national infrastructure development, including climate action projects.
2. **Direct coordination with GCF:** As a DAE, PT SMI benefits from the ability to directly coordinate with the GCF, enabling seamless submission of project proposals and facilitating access to funding for climate mitigation and adaptation projects (MoF, 2024).
3. **Focus on Sustainable Development:** PT SMI directs its efforts towards contributing to sustainable development and enhancing climate resilience by financing projects, spanning water, renewable energy generation, transport, and agriculture-related infrastructure.

Instruments and Mechanisms:

1. **Financing schemes:** PT SMI offers a range of financing schemes, such as result-based loans and divestment, with a particular emphasis on supporting energy transition projects (The Jakarta Post, 2023).
2. **Mobilising resources:** The company actively mobilises resources from both multilateral and bilateral financial institutions to fund various infrastructure projects (Antara, 2022).
3. **Green bonds and blended finance:** PT SMI leverages instruments like green bonds and platforms such as SDG Indonesia One (SIO) to facilitate blended finance, thereby bolstering support for green projects (EIB, 2024).
4. **Public-Private Partnerships (PPPs):** PT SMI adopts a collaborative approach through PPPs, engaging both public and private sectors in climate action initiatives and infrastructure development (The Jakarta Post, 2024).

PT SMI's accreditation by the GCF enhances Indonesia's capacity to access the largest global climate fund, enhancing the country's efforts in reducing greenhouse gas (GHG) emissions and fulfilling its commitments under the Paris Agreement. The utilisation of various instruments and mechanisms by PT SMI is strategically aligned with Indonesia's climate action goals and aims to foster sustainable infrastructure development.

Kemitraan

Kemitraan, also known as the Partnership for Governance Reform, holds accreditation from the Green Climate Fund (GCF) and plays a significant role in financing climate action projects in Indonesia. Below is a breakdown of its involvement, instruments, and mechanisms (Green Climate Fund, 2024 and Kemitraan, 2024):

Role of Kemitraan:

1. **Project Implementation:** Kemitraan collaborates with the GCF to execute projects aligned with the investment framework and priorities established by developing country governments.
2. **Funding Proposals:** It works closely with countries to conceptualise project ideas and prepare funding proposals for submission to the GCF Board for approval.
3. **Accountability:** Kemitraan's accountability in executing GCF-approved projects is formalised through the Accreditation Master Agreement between GCF and Kemitraan.

Instruments and Mechanisms:

1. **Financial Instruments:** Kemitraan leverages grants, loans, and other financial instruments provided by the GCF to support climate action projects.
2. **Project Development:** The organisation assists in the development of funding proposals and oversees project management and monitoring activities.
3. **Capacity Building:** Kemitraan may engage in capacity-building initiatives to enhance the effectiveness of climate action programmes.

Through its roles and mechanisms, Kemitraan contributes to Indonesia's efforts in mitigating the impacts of climate change and advancing sustainable development. It ensures that projects are implemented efficiently and aligned with broader environmental conservation and climate resilience objectives.

International Source**A. Adaptation Fund**

Adaptation Fund is a multilateral fund devoted to climate resilience activities whose funding source comes from 2% of the carbon transaction proceeds for the Clean Development Mechanism (CDM). The Adaptation Fund is supervised and managed by the Adaptation Fund Board (AFB), which consists of 16 members and 16 alternative members. The fund can be accessed directly through accredited Implementing Entities, such as the National Implementing Entities (NIEs); Regional Implementing Entities (RIEs); and Multilateral Implementing Entities (MIEs). Indonesian Partnership (Kemitraan Indonesia) is Indonesia's national agency that is accredited as a NIE. Kemitraan Indonesia created an umbrella programme and made an open offer (call for proposals) allowing other institutions to access funds for their programmes. Countries need to have National Designated Authorities (NDA) as a contact for the Adaptation Fund in approving various programmes at the national level. The NDA will verify and give approval for the accreditation of the NIE application before it is sent to the Adaptation Fund secretariat for appraisal and/or approval of proposals by the Implementing Agency for climate resilience projects and programmes in the country. In Indonesia, the appointed NDA is the Ministry of Environment and Forestry's Directorate General of Climate Change.

B. Global Environment Facility

In general, the Global Environment Facility (GEF) provides funding for two main activities in the context of sustainable development priorities: (i) investment for global environmental benefits and (ii) technical assistance to improve an enabling environment. Climate resilience activities, mentioned in the Climate Change Adaptation GEF-7 (2018-2022) Strategy, aim to improve resilience to the impacts of climate change in developing countries by reducing vulnerability, increasing capacity, and integrating climate resilience into policies, planning, and related development processes, both for short and long term. At the national level, the GEF is coordinated by the Ministry of Environment and Forestry (MoEF) as the GEF Operational Focal Point (GEF OFP), while the Indonesian Embassy in Washington, D.C is the GEF Political Focal Point (GEF PFP) for Indonesia. The availability of GEF funds depends on the process of fundraising or GEF Replenishment, which is the process of donor's commitment to the GEF Trust Fund every four years. Project requirements to be funded by the GEF should be aligned with national policies, part of GEF focal area strategies (climate change - mitigation and adaptation, biodiversity, and land degradation), consistent with related international conventions, and approved by the GEF Operational Focal Point (OFP). GEF projects are categorised into five modalities:

- Full-sized Project (FSP) with a grant value of more than USD 2 million.
- Medium-sized Project (MSP) with grant value less than USD 2 million.
- Enabling Activity (EA).
- Programmatic Approach.
- Small Grants Programme.

C. Green Climate Fund

The Green Climate Fund (GCF) is an entity that implements the financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC) which was formed by the Conference of the Parties at COP 16 in Cancun, Mexico in 2010. The GCF was formed with the aim of supporting the efforts of developing countries to respond to the challenges of climate change through projects, programmes, policies, and activities, as well as the transition to lower emissions and climate-resilient development. It serves as a catalyst for the flow of climate finance to invest in low emissions and climate resilience development, driving a paradigm shift in the global response to climate change. The GCF finances low-emission and climate resilience-related projects and programmes under eight strategic impact areas. In more detail, the GCF funding area includes mitigation activities (energy access and generation; transportation; forest use and land; buildings, cities, industry, and equipment), and adaptation (health, food, and water; community and community livelihoods; ecosystems and environmental services; infrastructure and the built environment).

As of the end of 2018, Indonesia has succeeded in obtaining significant support from the GCF, which includes the GCF Readiness Programme to strengthen the GCF's Nationally Designated Authority (NDA) secretarial institutions and Nationally Accredited Agencies, the Bus Rapid Transit Development Project Preparation Programme in Semarang, funding for the geothermal project, Resource Risk Mitigation Facility (GREM), as well as funding for the Climate Investor One (CIO) project.

There are three main actors who play the key role in interacting with GCF:

- National Designated Authority (NDA)
- Accredited Entities (AE)
- Executing Entities (EE)

The NDA is the country representative that determines the programmes that will operate in the country and acts as a liaison between the proposer and the GCF. In Indonesia, the Fiscal Policy Agency (BKF) represents the Ministry of Finance (MoF) as a NDA. On the other hand, AE is an institution or organisation accredited by the GCF to develop and submit funding proposals as well as to oversee the management and implementation of projects and programmes. AE can come from the private or public sector and can be an international entity or a domestic entity. Meanwhile, EE is a project owner who is not AE, in charge of overseeing the implementation of activities supported by the GCF under the supervision of AE; however, AE can also act as EE. Indonesia currently has one accredited Direct Access Entity, which is PT. Sarana Multi Infrastruktur and Kemitraan.

Carbon Economic Value

There is an emerging climate finance source namely carbon economic value. This emerging financial instrument presents a promising avenue for addressing environmental challenges. Indonesia officially started this global movement through Perpres No. 98 of 2021 regarding The Implementation of Carbon Economic Value for the Achievement of Nationally Determined Contribution Targets and Control of Greenhouse Gas Emissions in National Development. In Indonesia, there are two types of carbon economic value, including market and non-market.

Non-Market

A. Voluntary Carbon Market

A voluntary carbon market is an instrument where the parties agree on the value of the carbon, so it is not defined by the market. This agreement can involve the partnership between government-government, government-to-multilateral agency, or government-private institutions. One of the most common systems in this Voluntary Carbon Market is the result-based payment (RBP), such as REDD++.

Indonesia started implementing carbon economic value from a non-market system. In 2020, Indonesia received an agreement from the Green Climate Fund (GCF) to pay USD 103 million for the effort of national strategy achieved from 2014-2016. Furthermore, the Indonesia Environment Fund (IEF/BPDLH) currently is the main actor who manages this fund (UN-REDD, 2024).

In pursuing this funding, there are several actions required as part of strategic planning and implementation of climate action. For further information, Figure 23 explains the general framework of the voluntary carbon market system. To pursue this process, the proposing party should first engage with the Ministry of Environmental and Forestry (MoEF) and engage with the verification agency later. To find the buyer, the proposing party can engage with IEF/BPDLH.

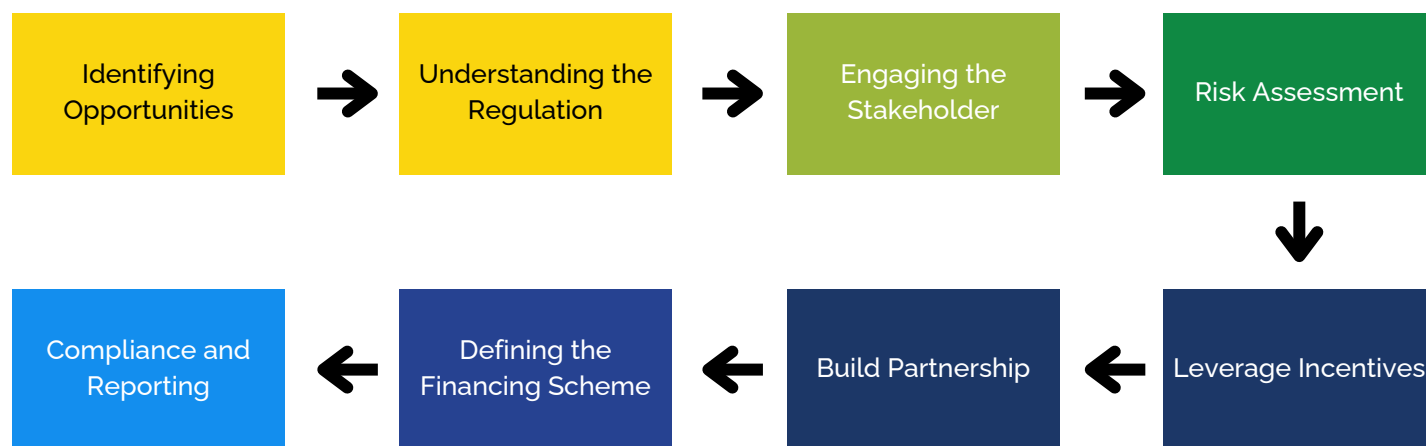


Figure 23 Framework to Pursue Voluntary Carbon Market

B. Carbon Tax

Indonesia has defined the carbon tax framework through regulation Law No. 7 of 2021. Based on this law, the subjects of the tax are persons or institutions who buy or conduct any activity that generates carbon emissions. The tariff varies, starting from IDR 30.00/kg CO₂e (USD 0.0019)². As of the formulation of this study, the implementation of this scheme has started since 2022. However, the implementation is still limited to coal power plants only (MoF, 2023).

Market

The market mechanism of carbon economic value in Indonesia officially launched in September 2023. Indonesia regulates the framework of this system through the Financial Service Authority Regulation (POJK) No. 14 of 2023. The carbon market mechanism in Indonesia primarily operates through two key systems: Cap and Trade Emission Trading System (ETS) and Greenhouse Gas (GHG) Emissions Offset (Financial Service Authority, 2023).

Cap and Trade Emission Trading System (ETS):

- **Setting a ceiling on carbon emissions:** The government establishes a maximum limit on carbon emissions, known as the cap, to mitigate environmental impacts produced by GHG emissions.
- **Granting allowances:** Businesses are allocated allowances by the government, representing the permissible level of emissions.
- **Trading surplus allowances:** This type of trading occurs in the secondary market, where businesses with surplus allowances, i.e., those emitting below their allocated limit, can sell their excess allowances to others who may exceed their limit.

GHG Emissions Offset:

- **GHG Offset:** Businesses engage in activities that result in GHG emission reductions, which are used to offset emissions generated elsewhere.
- **Market-Based Trading:** GHG offset trading takes place in the secondary market, where prices are determined by market forces. As of the end of 2023, the price of one carbon unit (tons carbon dioxide equivalent (CO₂e)) is approximately USD 5.

In this system, all entities emitting GHGs must first register in the national registry system, the SRN-PPI. Once registered, businesses receive their allocation of Permitted Total Business Activity Emission (PTBAE-PU). These allowances represent the maximum amount of emissions permitted for the respective businesses (Figure 24).

Subsequently, businesses implement climate action measures to reduce their carbon footprint. Any reduced carbon emissions can be traded after undergoing a verification process, resulting in the issuance of Carbon Reduction Certificates (SPE-GRK). These certificates represent verified reductions in GHG emissions and can be traded in the carbon market (Figure 24).

Overall, the carbon market mechanism in Indonesia incentivises businesses to adopt environmentally friendly practices by enabling the trading of emissions allowances and offsets, thereby promoting carbon reduction efforts in the country. This study also found that this system will take time from 6 months to 2 years before the business can conduct the carbon trade. Therefore, due to the lengthy process, this system should only be utilised as unrealised revenue of the climate action.

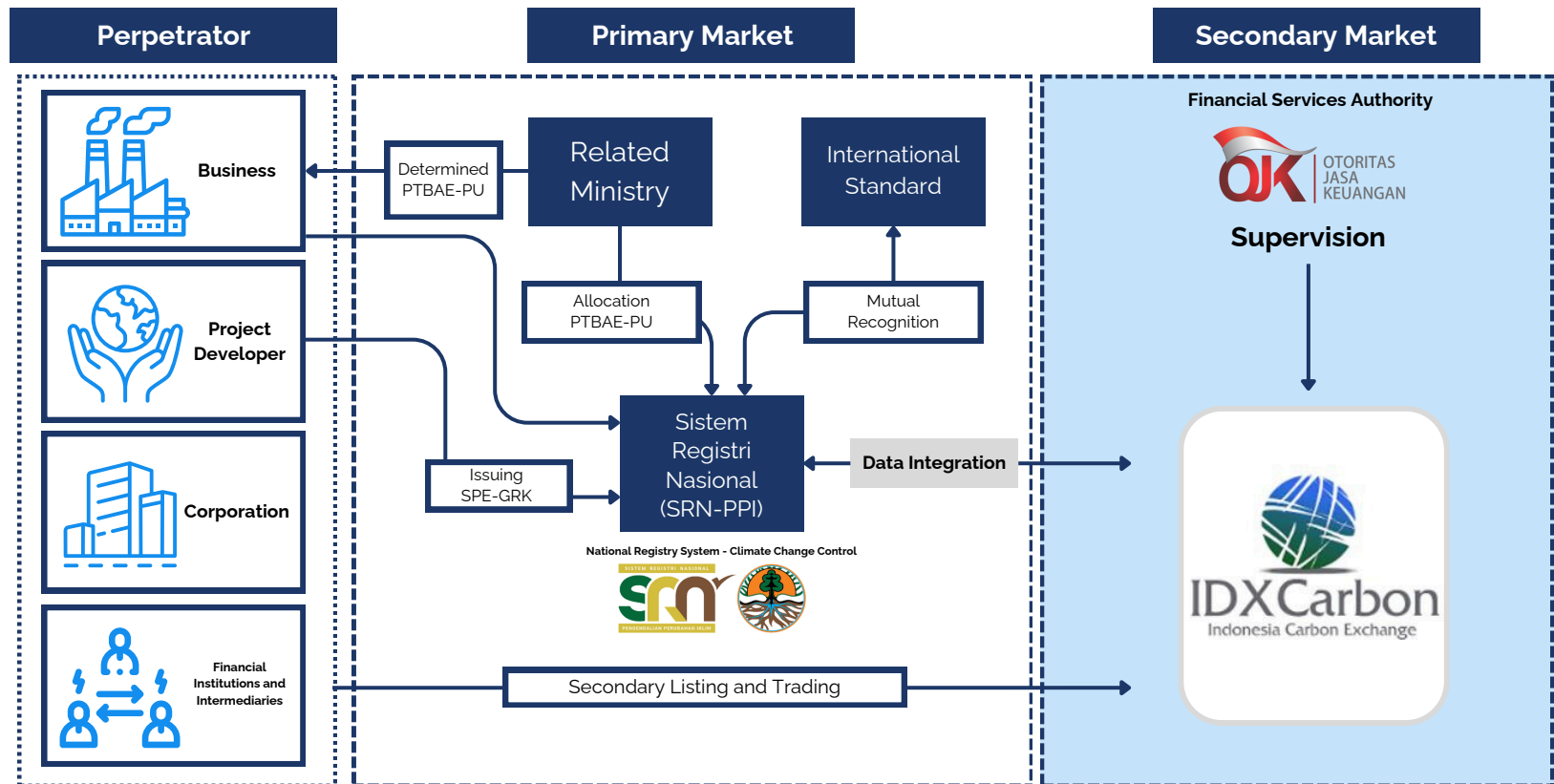


Figure 24 Carbon Market Ecosystem in Indonesia
Source: Financial Service Authority, 2023

In summary, climate finance in Indonesia can be shown in the picture of sources and instruments. It is imperative to know which instruments from whom it should be pursued. Therefore, Figure 25 explain the complete overview of climate finance consists of schemes and sources, as well as the actors involved.

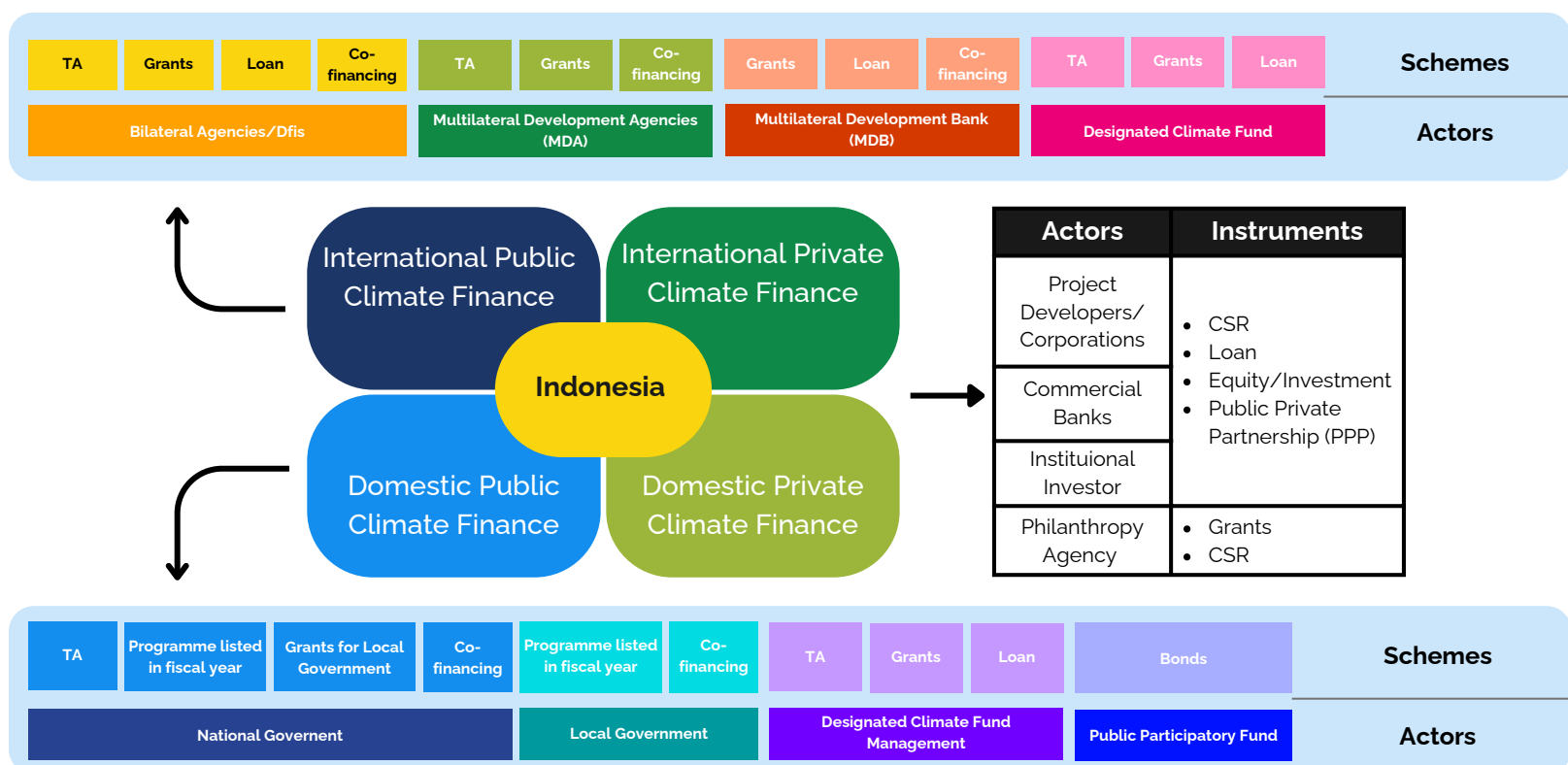


Figure 25 Climate Finance Architecture in Indonesia by Scheme and Source

4.2 Financing Climate Action for Local Government

Financing climate action at the city and local government levels presents challenges compared to the national level, primarily due to limited flexibility in funding sources. While various financing options are discussed in the preceding sub-chapter, not all of them are readily accessible to local governments. In practice, only nine financing instruments are commonly available to local governments. However, this study reveals that the majority of local governments rely heavily on the Local Government Budget (APBD), which often faces constraints.

Furthermore, beyond the nine instruments outlined in Figure 26, not all are directly accessible to local governments. For example, international grants may require consultation and coordination with national-level authorities before reaching cities. Similarly, the carbon economic value, although a rapidly expanding concept, may not be directly accessible to cities in some countries due to regulatory constraints. This requires the involvement of additional actors at the city level to facilitate access, ultimately ensuring that cities can benefit from such schemes. (Table 8)

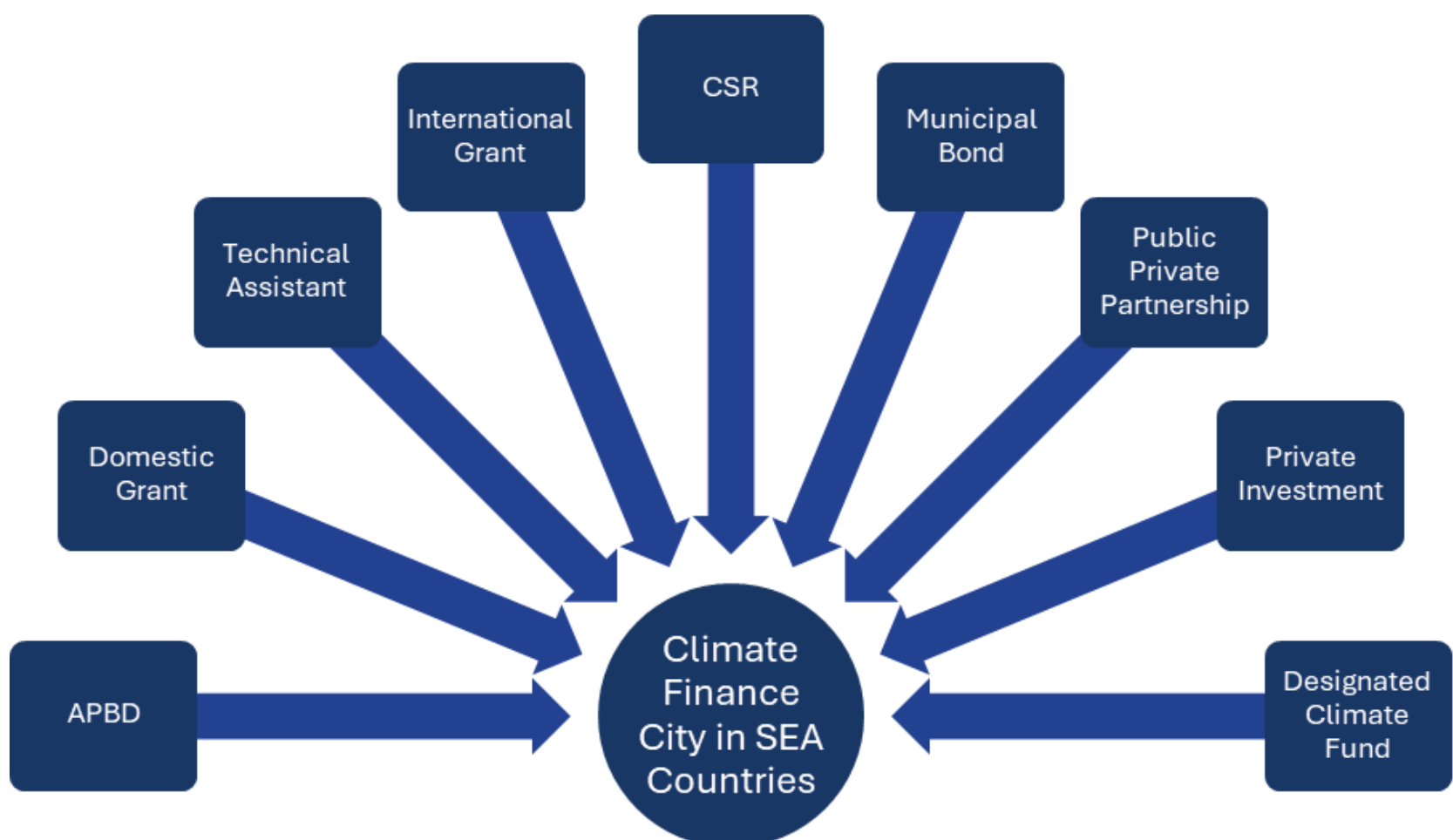


Figure 26 **Accessible Climate Finance for Local Government in Indonesia**

The study highlights the emergence of municipal bonds as a financing instrument for city and local governments, providing them with access to capital for climate action projects. Municipal bonds offer a means for cities to raise funds with coordination at the national level, expanding their financial resources for sustainable initiatives. Conversely, accessing loans directly may pose challenges for cities, but they can still benefit from climate action projects funded by loans. Moreover, effective communication between cities and technical knowledge holders, as well as readiness to implement climate action projects, are crucial factors in cities' ability in accessing climate financing.

Table 8 *Status of Accessibility Financing Source for City and Local Government in Indonesia*

Type of Financing	Accessibility Status for City
APBD	Yes
Technical Assistant	Yes
International Grant	Indirect, require coordination with the national level
Loan	No
Public Private Partnership	Yes, with acknowledgement from the national level
Private Investment	Yes, with acknowledgement from the national level
CSR	Yes
National Grant	Yes
Municipal Bond/Green Bond	Yes, with coordination from the national level
Carbon Economical Value Market	No
Carbon Economical Value: Voluntary Based	Frozen
Carbon Tax	Not determined yet
Access to Designated Climate Fund	Possible to consult with accredited entities as well as possible with further coordination with the national level

Given these considerations, city and local governments are encouraged to pursue available financing instruments. However, readiness is paramount, requiring cities to have well-developed project plans from the initial stages to robust feasibility studies. Enhanced readiness and mature planning will increase the likelihood of securing financing or becoming beneficiaries of climate projects supported by various actors and financing schemes. This underscores the importance of proactive preparation and collaboration to harness financial opportunities for climate action at the local level.

5.0 Financing Reality in Indonesia

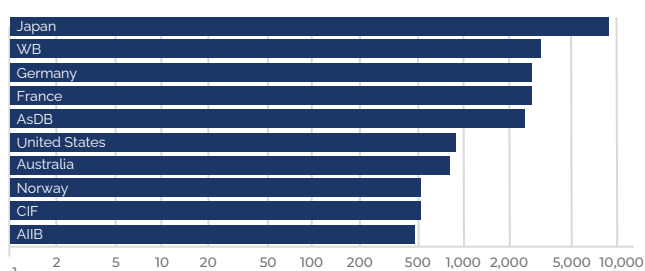
5.1 National Fact Sheet



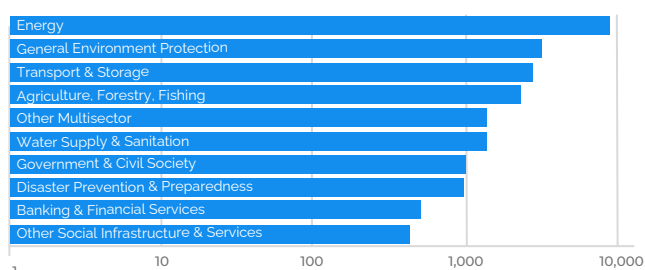
Figure 27 Status of Needs And Capabilities of Indonesia to Conduct Climate Actions

Source: Mitigation calculation is based on the average GHG emissions reduction per ton CO₂e of around USD 43.3 (Enkvist, Naucler, & Rosander, 2007), with the government climate budget (UNDP, 2023).

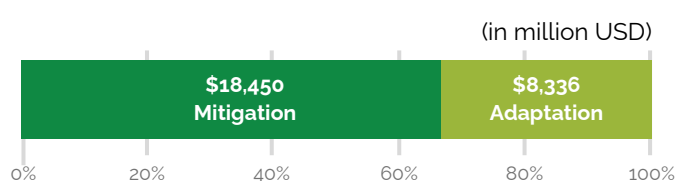
Top Ten Funders



Top Ten Invested Sectors



Expenditure of Adaptation vs Mitigation



Financing Instruments

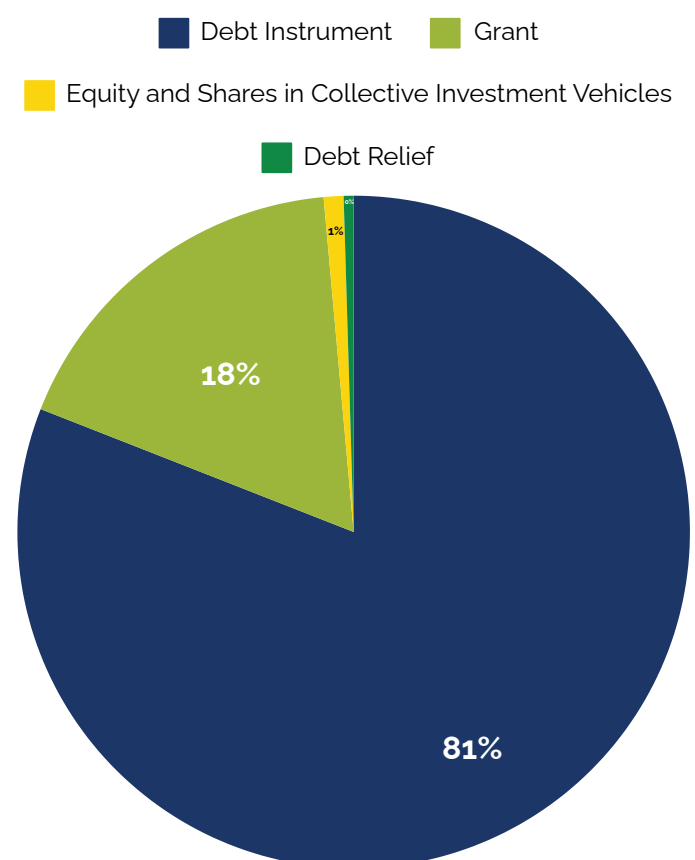


Figure 28 International Support for Conducting Climate Actions in Indonesia

Source: OECD, 2024

The Gap

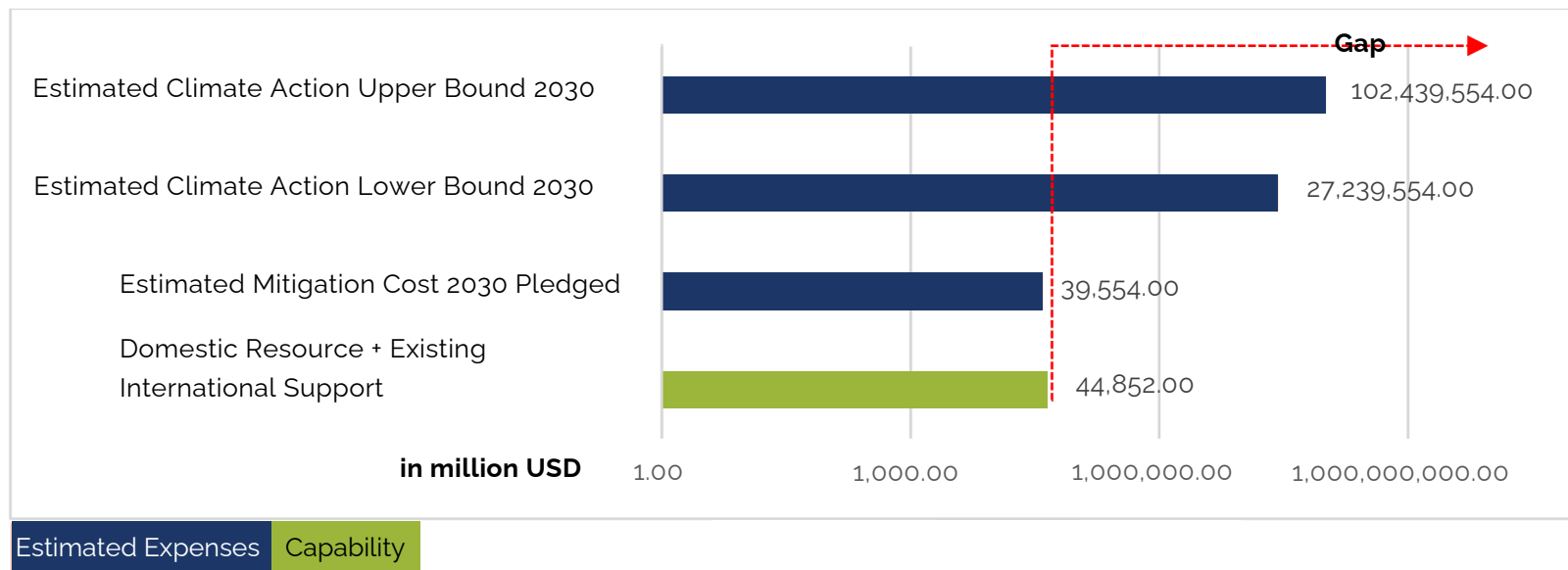


Figure 29 **Gap of Estimated Cost of Climate Action 2030 to Domestic Pledged Resources and Existing International Support (the case of Indonesia)**

This study has identified the gap between Indonesia's efforts and its needs in financing climate action based on the information on Figure 27 and Figure 28. On the capability side, Indonesia demonstrates a significant commitment to climate action. The domestic resources pledged for 2030 amount to USD 18.06 million, indicating a substantial investment from within the country. Additionally, Indonesia has secured considerable international support, totalling USD 26.78 million until 2021. Together, these commitments sum up to USD 44.85 million, showcasing Indonesia's proactive stance on the global climate stage (Figure 29).

However, when we turn our attention to the needs, the figures present a sobering reality. The estimated mitigation costs for 2030 alone stand at a substantial USD 39.554 million, highlighting the significant investment required to effectively reduce emissions and combat climate change impacts. Moreover, the lower-bound estimation for climate action needs in 2030 escalates dramatically to USD 27.23 million, while the upper bound reaches USD 102.43 million (Figure 29).

This stark contrast between capability and necessity underscores the magnitude of Indonesia's climate challenge. While the nation demonstrates commendable resolve and tangible commitments, the scale of action required far exceeds current capacities. To bridge this gap, Indonesia must not only allocate its existing resources efficiently but also actively seek additional avenues for support and collaboration, both domestically and internationally.

Navigating towards Indonesia's 2030 targets will undoubtedly be an uphill battle, yet it remains within reach. Through strategic resource allocation, fostering robust international partnerships, and embracing innovative approaches to climate action, Indonesia can chart a course towards a sustainable and resilient future. However, achieving this vision demands unwavering dedication, concerted efforts, and a shared commitment to safeguarding the planet for generations to come.

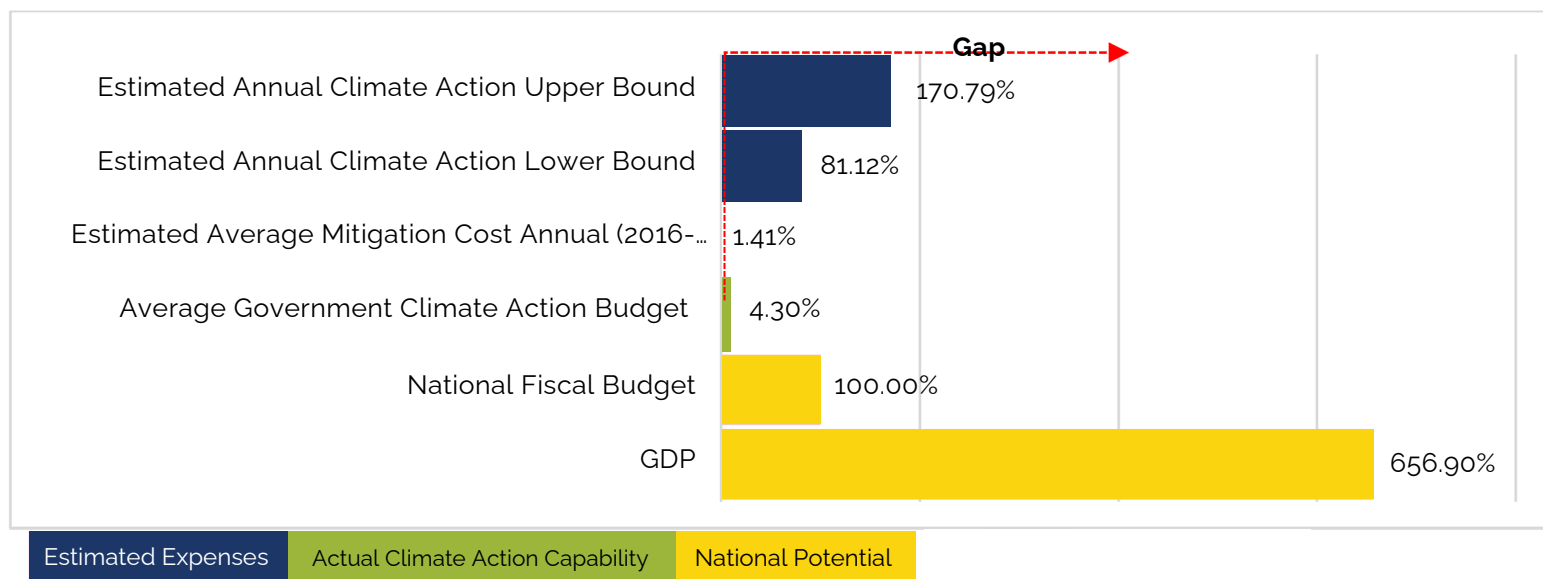


Figure 30 **Gap on Conducting Climate Action on an Annual Basis Compared to the Real Annual Country's Capability (the Case of Indonesia)**

Translating into an annual basis, Indonesia's stance on climate action reflects a dichotomy between its economic prowess and the financial commitments directed towards environmental sustainability. With a gross domestic product (GDP) standing at USD 1,318.6 billion, Indonesia showcases its economic strength on the global stage. However, the country's capability is clearly visible when comparing the GDP to the national fiscal budget of only USD 200.73 billion. The proportion becomes even more apparent as the allocated fraction for climate action, a mere 4.30% of the national fiscal budget, translates into a modest USD 56.68 billion where the actual funds available for climate action shrink to USD 8.63 billion. Despite the nation's economic might, the discrepancy between available resources and those dedicated to climate initiatives underscores a pressing need for realignment in Indonesia's climate financing strategy (Figure 30).

The exigent needs for climate action paint a stark picture of Indonesia's environmental challenges and the investment required to address them. The estimated average annual mitigation cost, spanning from 2016 to 2030, amounts to a staggering USD 2,825.29 million. This figure signifies the substantial financial resources demanded to combat Indonesia's climate-related issues effectively. Furthermore, the annual lower bound climate action needs, standing at USD 162.82 million, highlights the minimum investment imperative for confronting climate imperatives annually. Conversely, the upper bound estimation of USD 342.82 million underscores the ambitious scale of investment needed annually to comprehensively tackle Indonesia's climate challenges. This disparity between available resources and the financial outlay required for climate action underscores the daunting task Indonesia faces in mobilising adequate funding to safeguard its environmental future (Figure 30).

In assessing the need for climate action in Indonesia's pilot cities, it is essential to consider the estimated costs and the accessibility of financing options available to them. The data provided offers insights into the annual mitigation costs, total climate action costs, and the financial landscape of these cities. Cities in Indonesia heavily depend on domestic resources which significantly affects their ability to achieve ambitious climate targets, particularly concerning adaptation measures. While there may be some adequacy in addressing mitigation efforts, the situation becomes more challenging when adaptation strategies are brought into the equation.

Mitigation actions often focus on reducing greenhouse gas (GHG) emissions and transitioning towards sustainable practices, which can sometimes be facilitated by existing infrastructure and resources. However, adaptation measures, which involve building resilience to climate impacts such as sea-level rise, extreme weather events, and changing precipitation patterns, often require substantial investments in infrastructure, technology, and community resilience programmes.

5.2 Cities and Local Governments Reality in Climate Finance

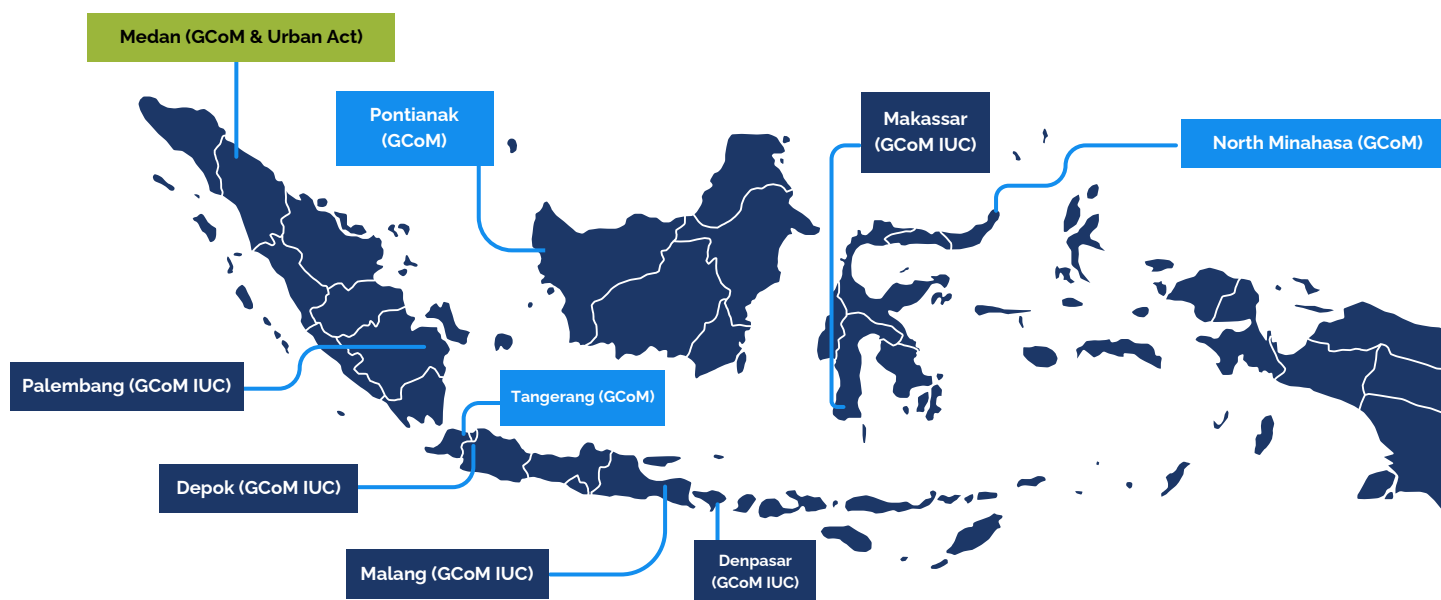


Figure 31 Status Climate Action Needs for Cities In Indonesia

Given the constraints on accessing external funding sources and the limited fiscal capacity at both national and city levels, Indonesian cities may struggle to mobilise the resources necessary to implement comprehensive adaptation strategies. This limitation is particularly concerning as the impacts of climate change continue to intensify, posing significant risks to vulnerable communities and ecosystems.

The total estimation of annual mitigation costs for the nine pilot cities from 2024 to 2030 amounts to USD 65.55 million. This figure encompasses the essential expenses required to mitigate climate change impacts effectively within these cities. However, the range of total climate action costs presents a more comprehensive view, with the lower bound estimated at USD 99,065.5 million and the upper bound at a substantial USD 180,065.5 million. These projections encapsulate the varying degrees of investment necessary to implement comprehensive climate action strategies, tailored to the specific needs and challenges of each pilot city.

Individually, the average annual mitigation cost for each city in Indonesia stands at USD 7.29 million, reflecting the financial burden borne by local authorities in tackling climate change. This figure serves as a baseline for understanding the financial requirements unique to each urban centre. Moreover, the estimated total climate action costs provide a broader perspective, with the lower bound set at USD 11,007,23 million and the upper bound at USD 20,007.23 million. These figures underscore the magnitude of investment needed to comprehensively address climate challenges at the city level, encompassing mitigation, adaptation, and resilience-building efforts.

As a result, there is a critical need for enhanced collaboration and support mechanisms between national and local governments, as well as engagement with international partners and stakeholders. However, despite these identified needs, the accessibility of climate finance remains a critical factor influencing the implementation of climate action initiatives in Indonesia's pilot cities. While certain financing options, such as technical assistance and national grants, are readily accessible, others, such as loans and access to designated climate funds, require coordination with national-level authorities. Additionally, the status of financing schemes varies across cities, with some already benefiting from existing mechanisms, while others are still navigating a landscape of uncertainty and policy development (Table 9).

Table 9 *The Number of Financing Schemes and Their Status in Indonesia*

Status	Number of Financing Scheme
Yes	4
Need National Involvement	5
Not Accessible	2
Still in Grey Area/Policy Not Developed Yet/Policy still under Development	2

References

- ADB. (2020). Public-Private Partnership Monitor Indonesia. ADB.
- ADB. (2021). The Bond Market in Indonesia. ADB.
- ADB. (2024). adb.org. Retrieved from adb.org on 2024 02 20: <https://www.adb.org/where-we-work/indonesia/cofinancing>
- ADB. (2024). adb.org. Retrieved from pppmonitor.adb.org on 2024 02 20: <https://www.pppmonitor.adb.org/country/indonesia>
- Antara. (2022). PT SMI's renewable energy financing commitment reaches US\$500 mln. Jaarta, Jakarta, Indonesia.
- ASEAN. (2021). ASEAN State of Climate Change Report: Current Status and Outlook of the ASEAN Region Toward the ASEAN Climate Vision 2050. Jakarta, Indonesia: ASEAN.
- Bain & Company, Temasek, GenZero, and Amazon Web Services. (2023). Southeast Asia's Green Economy 2023 Report: Cracking the Code. Bain & Company, Temasek, GenZero, and Amazon Web Services.
- BNPB. (2024). DIBI. Retrieved from Data Informasi Bencana Indonesia (DIBI) (bnpb.go.id) on 2024 02 02: <https://dibi.bnpb.go.id>
- BPDLH. (2024). BPDLH. Retrieved from bpdh.id on 2024 02 21: <https://bpdh.id/about-us>
- Clarke L, J. K.-V.-C. (2014). Assessing Transformation Pathways in: Climate Change 2014: Mitigation of Climate Change' Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom and New York, USA: Cambridge University Press.
- Climate Investment Fund. (2024). cif.org. Retrieved from cif.org on 2024 02 22: <https://www.cif.org/country/indonesia>
- Coventus Law. (2016). coventuslaw.com. Retrieved from coveentuslaw.com on 2024 02 22: <https://coventuslaw.com/report/indonesia-overview-of-indonesian-public-private/>
- CPI. (2021). Accelerating Renewable Energy Finance in Indonesia: The Potential of Municipal Green Bonds. CPI.
- Economist. (2023). *Economist*. Retrieved from impact.economist.com on 2024 02 23: <https://impact.economist.com/sustainability/net-zero-and-energy/how-to-amplify-the-role-of-cities-in-climate-action>
- EIB. (2024). eib.org. Retrieved from eib.org on 2024 02 23: <https://www.eib.org/en/press/all/2024-084-eib-global-agrees-to-support-pt-smi-on-sustainable-infrastructure-development-in-indonesia>
- Enkvist, P.-A., Naucler, T., & Rosander, J. (2007). A Cost Curve for Greenhouse Gas Reduction. The McKinsey Quarterly.
- European Commission. (2024). European Commission. Retrieved from drmkc.jrc.ec.europa.eu on 2024 02 01: <https://web.jrc.ec.europa.eu/dashboard/INFORMRISKCOUNTRYPROFILE2024/?no-header=1&v-vISO3=AFG&no-scroll=1>
- Financial Service Authority. (2023). Mekanisme Pemerintah Daerah Dalam Bursa Karbon. Presentation.
- Government of Indonesia. (2021). Enhanced Nationally Determined Contribution Republic of Indonesia. Jakarta: Government of Indonesia.
- Green Climate Fund. (2021). greenclimate.fund. Retrieved from greenclimate.fund on 2024 02 25: <https://www.greenclimate.fund/ae/ptsmi>
- Green Climate Fund. (2022). Readiness Proposal. Green Climate Fund.
- Green Climate Fund. (2024). greenclimate.fund. Retrieved from greenclimate.fund on 2024 02 20: <https://www.greenclimate.fund/ae/kemitraan#overview>

- Halimatussadiyah, A., Moeis, F. R., & Ardiansyah, M. (2023). Financing Infrastructure for Climate-Change Adaptation in Developing East Asia. In Z. Fauziah, & I.-R. Usha, ERIA Research Project Report FY2023 No. 05 (pp. 41-73). Jakarta: ERIA.
- I, A. (2023). supplychainreport.org. Retrieved from supplychainreport.org on 2024 02 21: <https://supplychainreport.org/redefining-corporate-responsibility-an-examination-of-csr-in-indonesia-2023/>
- IPCC. (2014). Summary for Policymakers in Climate Change 2014: Impacts, Adaptation, and Vulnerability. Cambridge, United Kingdom and New York, USA: Cambridge University Press.
- Kemitraan. (2024). kemitraan.or.id. Retrieved from kemitraan.or.id on 2024 02 23: <https://kemitraan.or.id/#>
- Komitmen Iklim. (2021). komitmeniklim.id. Retrieved from komitmeniklim.id on 2024 02 24: <https://komitmeniklim.id/aturan-bpdlh-terkait-penyaluran-dana-redd-untuk-capai-komitmen-iklim-ri-siapa-saja-yang-dapat-mengakses/>
- KWM. (2023). kwm.com. Retrieved from kwm.com on 2024 02 21: <https://www.kwm.com/global/en/insights/latest-thinking/public-private-partnerships-in-indonesia.html>
- MoEF. (2020). Roadmap Nationally Determined Contribution (NDC) Adaptasi Perubahan Iklim. Jakarta: Ministry of Environment and Forestry.
- MoEF. (2021). Indonesia, Third Biennial Update Report: Under the United Nations Framework Convention on Climate Change. Jakarta: Ministry of Environment and Forestry Republic Indonesia.
- MoF. (2020). Laporan Anggaran Mitigasi dan Adaptasi Perubahan Iklim Tahun 2018-2020. Fiscal Policies Agency, Ministry of Finance.
- MoF. (2022). kemenkeu.go.id. Retrieved from anggaran.kemenkeu.go.id on 2024 02 20: <https://anggaran.kemenkeu.go.id/in/post/optimalisasi-pendanaan-penanggulangan-perubahan-iklim>
- MoF. (2023). Penyelenggaraan Nilai Ekonomi Karbon Sebagai Potensi Alternatif Pendapatan Daerah. Presentation.
- MoF. (2024). kemenkeu.go.id. Retrieved from fiskal.kemenkeu.go.id on 2024 02 25: https://fiskal.kemenkeu.go.id/nda_gcf/meraih-status-terakreditasi-dari-gcf-kiat-pt-smi/
- MoF and UNDP. (2018). Indonesia's Green Bond & Green Sukuk Initiative. Ministry of Finance Republic Indonesia and UNDP.
- MoNDP/Bappenas. (2014). National Action Plan for Climate Change Adaptation. Jakarta: Ministry of National Development Planning (MoNDP)/ National Development Planning Agency (Bappenas).
- MoNDP/Bappenas. (2020). National Medium-Term Development Plan (RPJMN) 2020-2024. Jakarta: Ministry of National Development Planning (MoNDP)/ National Development Planning Agency (Bappenas).
- MoNDP/Bappenas. (2020). National Medium-Term Development Plan (RPJMN) 2020-2024. Jakarta: Ministry of National Development Planning (MoNDP)/ National Development Planning Agency (Bappenas).
- MoNDP/Bappenas. (2020). Petunjuk Penyusunan Usulan Kegiatan yang Dibiayai Pinjaman Luar Negeri. Jakarta: Ministry of National Development Planning (MoNDP)/ National Development Planning Agency (Bappenas).
- MoNDP/Bappenas. (2021). Climate Resilience Development Policy 2020-2045. Jakarta: Ministry of National Development Planning/ National Development Planning Agency (Bappenas).
- MoNDP/Bappenas. (2021). Kajian Cepat Pemetaan Kebijakan dan Anggaran Pembangunan Rendah Karbon. Masukan untuk Rencana Kerja Pemerintah 2022. Ministry of National Development Planning (MoNDP)/ National Development Planning Agency (Bappenas).

- OECD. (2016). Investment: Improving Indonesia's Investment Climate. Indonesia Policy Brief.
- OECD. (2021). Attracting Private Investment for Indonesia's Green Recovery: High-level Launch of the Clean Energy Finance and Investment Policy Review of Indonesia. Retrieved from oecd.org on 2024 02 23: <https://www.oecd.org/environment/cc/cefim/indonesia/attractingprivateinvestmentforindonesiasgreenrecoveryhigh-levellaunchofthecleanenergyfinanceandinvestmentpolicyreviewofindonesia.htm>
- OECD. (2024). OECD. Retrieved from oecd.org on 2024 02 14: https://public.tableau.com/views/Climate-RelatedDevelopmentFinanceRecipient2021/CRDFRP?%3Alanguage=enUS&publish=yes&%3Adisplay_count=n&%3Aorigin=viz_share_link&%3AshowVizHome=no#1
- The Jakarta Post. (2023). PT SMI expands on climate finance, ETM at South Korea RE Invest Indonesia 2023. Jakarta, Jakarta, Indonesia. Retrieved from <https://www.thejakartapost.com/business/2023/05/23/pt-smi-expands-on-climate-finance-etm-at-south-korea-re-invest-indonesia-2023.html>
- The Jakarta Post. (2024). PT SMI outlines role in ETM, energy transition asset classes to Chinese investors. Jakarta, Jakarta, Indonesia.
- U.S. Department of State. (2023). 2023 Investment Climate Statements: Indonesia. U.S. Department of State. Retrieved from state.gov: <https://www.state.gov/reports/2021-investment-climate-statements/indonesia/>
- UN. (2015). Adoption of the Paris Agreement United Nations Framework Convention on Climate Change: Conference of the Parties 2015. Paris, France: UN.
- UNDP. (2020). The Ecosystem Investment in Climate Action. UNDP.
- UNDP. (2023). UNDP. Retrieved from undp.org on 2024 01 16: <https://www.undp.org/indonesia/blog/indonesian-local-governments-participation-achieve-national-climate-target>
- UNDP. (2024). undp.org. Retrieved from undp.org on 2024 02 15: <https://www.undp.org/indonesia/blog/indonesian-local-governments-participation-achieve-national-climate-target>
- UNEP. (2024). UNEP. Retrieved from unep.org on 2024 03 05: <https://www.unep.org/explore-topics/resource-efficiency/what-we-do/cities/cities-and-climate-change#:~:text=At%20the%20same%20time%2C%20cities,being%20among%20the%20largest%20contributors>
- UNFCCC. (2022). Need-based Climate Finance Project - Technical Assessment of Climate Finance in South-East Asia: Annex to The South-East Asia CLimate Finance Mobilization and Access Strategy. UNFCCC.
- UN-REDD. (2024). un-redd.org. Retrieved from un-red.org on 2024 02 25: <https://www.un-redd.org/partner-countries/asia-pacific/indonesia>
- World Bank. (2023). Indonesia Country Climate and Development Report. World Bank.
- World Bank. (2023). worldbank.org. Retrieved from worldbank.org on 2024 03 05: <https://www.worldbank.org/en/news/press-release/2023/05/18/cities-key-to-solving-climate-crisis>
- World Bank and ADB. (2021). Climate Risk Country Profile: Indonesia. World Bank and ADB.
- World Economic Forum. (2023). Guidebook on Facilitating Climate FDI: White Paper. World Economic Forum.
- World Economic Forum. (2024). weforum.org. Retrieved from weforum.org on 2024 02 16: <https://www.weforum.org/agenda/2024/02/why-public-private-philanthropic-partnerships-are-central-in-asia-pacifics-climate-action/>



Funded by
the European Union



GLOBAL COVENANT
of MAYORS for
CLIMATE & ENERGY



United Cities and
Local Governments
Asia-Pacific