

Reorienting for Impact

**Improving Jakarta's Climate
Action** Through Adaptive Governance
and MER Framework

November **2025**



C4O
CITIES



ABOUT UCAP CAI

Funded by the UK government and delivered in partnership with C40 Cities, the Urban Climate Action Programme's Climate Action Implementation component (UCAP CAI) aims to accelerate progress against the delivery of Climate Action Plans (CAPs) in 15 cities across the Global South.

UCAP CAI is enabling the implementation of two Selected High-Impact Actions (SHIAs) from each city's CAP, providing city teams with technical capacity building and project planning support, with a strong focus on equity, inclusivity, and green job creation. Climate mainstreaming is another core component, with institutional capacity building, policy and process support driving the integration of climate goals into city operations (i.e. systems, processes and institutions).

Evidence generation and knowledge sharing are the third component, enhancing UCAP CAI's potential for scale by sharing evidence of effectiveness with diverse stakeholders and decision-makers within and beyond the cohort of targeted UCAP CAI cities.

This document has a regional focus on the programme's actions in Jakarta, Indonesia

Andhyta F. Utami

Climate Policy Principal

Aditya Purnomo Aji

*Monitoring and Evaluation
Specialist; Project Manager*

Hanna Vanya

Training Specialist

Tamar Naomi

GEDSI Specialist

Rizky Khairunnisa Al Hadi**Hanindita Assyfa Putri**

Monitoring and Evaluation Analyst

Hasnaa Naila**Alvida Syifa**

Training Associate

Fransiska Andita

Policy Analyst

Adila Nogoputeri Widjajanti,**Liana Tan**

Designer

Acknowledgment - To all partner cities, government institutions and organisations for their valuable collaboration in providing information for the preparation of this document. And to the UK Foreign Commonwealth Development Office (FCDO), for supporting C40's Climate Action Implementation Programme, from January 2022 to December 2025.

Unauthorized reproduction, distribution, or use of this document, developed by C40 Cities Climate Leadership Group ("C40"), in part or in whole, without explicit written authorization from C40, is strictly prohibited.

Any unauthorized use may result in legal action and penalties. For authorization requests or further information, contact C40 at [rpalma@c40.org]. ©2025 C40 Cities Climate Leadership Group. All rights Reserved.

For more information about C40 cities and the UCAP CAI Programme please contact [rpalma@c40.org].



TABLE OF CONTENTS

TABLE OF CONTENTS	5
LIST OF ABBREVIATION	6
EXECUTIVE SUMMARY	8
I. INTRODUCTION	12
A. Project Objective	14
B. Methodology and Approach	15
C. Approach & Theoretical Framework	16
1. MER Framework on Climate Action	16
2. Governance and Mainstreaming of Climate Action	17
3. Inclusive Climate Action	18
II. REVISITING JAKARTA'S CLIMATE GOVERNANCE	20
A. Pergub 90/2021: MABI TEAM	22
B. Jakarta's Climate Targets	24
C. Jakarta's Climate Action MER Framework 2030-2050	25
D. Sectoral High Impact Actions (SHIAs) of Jakarta's Climate Action	27
1. Green Building Policy	28
2. Net Zero Emission Roadmap	29
III. MONITORING, EVALUATION, & REPORTING FRAMEWORK ANALYSIS: UNCLEAR ALIGNMENT, MULTIPLE REPORTING DEMANDS, AND SILOED PROCESS	31
A. On Climate Targets: Unclear Indicators Alignment on Climate Outcome	33
B. On Reporting Framework: Multiple Demands on Reporting Climate Targets	36
C. On Monitoring Efforts: Siloed and Challenging Data Collection Process	38
D. On Learning Efforts: Ineffective Output and Outcome Level Problem-solving Loop	40
E. Energy and Green Building Policy: Ineffective Monitoring Process	41
1. Improving Green Building Policy Outcome	42
2. Improving Net Zero Carbon Monitoring Process	43
IV. INSTITUTIONAL GAP ANALYSIS: UNCOORDINATED GOVERNANCE, EXPERTISE GAP, AND PLANNING-BUDGETING CHALLENGES	45
A. On Agenda Setting: Dependence of Planning and Budgeting	
MABI Agenda on e-KSD Tagging	47
B. On Coordination: Unmonitored Implementation of MABI	51
C. On Capacity: Technical Capacity Gap in Evaluating Climate Targets	53
D. On Inclusivity: Early Adoption of Inclusive Climate Action	55
V. POLICY OPTIONS I: IMPROVING MER FRAMEWORK	57
VI. POLICY OPTIONS II: STRENGTHENING CLIMATE ACTION GOVERNANCE	67
VII. POLICY OPTIONS III: HIGH-LEVEL IMPLEMENTATION DIRECTION	78
VIII. SUMMARY AND CONCLUSION	80
REFERENCE	86
ANNEX	
ANNEX I - Reporting Format	88
ANNEX II - Inclusivity Alignment for DKIJ Climate Governance	91
ANNEX III - Alternative Equitable Impact Indicators	99

ABBREVIATIONS List

APBD	:	<i>Anggaran Pendapatan dan Belanja Daerah / Regional Revenue and Expenditure Budget</i>
BAPPEDA	:	<i>Badan Perencanaan Pembangunan Daerah / Regional Development Planning Agency</i>
BGH	:	<i>Bangunan Gedung Hijau / Green Building</i>
Biro PLH	:	<i>Biro Pembangunan dan Lingkungan Hidup / Bureau of Development and Environment</i>
Biro Kesra	:	<i>Biro Kesejahteraan Sosial / Bureau of Social Welfare</i>
BPSDM	:	<i>Badan Pengembangan Sumber Daya Manusia / Human Resources Development Agency</i>
BPBD	:	<i>Badan Penanggulangan Bencana Daerah / Regional Board for Disaster Management</i>
BP BUMD	:	<i>Badan Pembina Badan Usaha Milik Daerah / Supervisory Body of Regional State-Owned Enterprises</i>
CAP	:	<i>Community Action Plan</i>
CIP	:	<i>Collaborative Implementation Program</i>
DCKTRP	:	<i>Dinas Cipta Karya, Tata Ruang & Pertanahan / Public Works, Spatial Planning & Land Agency</i>
Diskominfotik	:	<i>Dinas Komunikasi, Informatika, dan Statistik / Communication, Information and Statistics Agency</i>
Dispora	:	<i>Dinas Pemuda dan Olahraga / Youth and Sports Agency</i>
Distamhut	:	<i>Dinas Pertamanan dan Hutan Kota / Park and Urban Forest Agency</i>
DKI Jakarta	:	<i>Daerah Khusus Ibukota Jakarta (Special Region of Capital City of Jakarta)</i>
DKJ	:	<i>Daerah Khusus Jakarta (Special Region of Jakarta)</i>
DLH	:	<i>Dinas Lingkungan Hidup / Environment Agency</i>
DPMPSTP	:	<i>Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu / Office of Investment and One Stop Integrated Service</i>
DTKTE	:	<i>Dinas Tenaga Kerja, Transmigrasi dan Energi / Manpower, Transmigration and Energy Agency</i>

DPRKP	:	<i>Dinas Perumahan Rakyat dan Kawasan Permukiman / Public Housing and Settlements Agency</i>
DPPAPP	:	<i>Dinas Pemberdayaan, Perlindungan Anak, dan Pengendalian Penduduk / Empowerment, Child Protection and Population Control Agency</i>
GRK / GHG	:	<i>Gas Rumah Kaca / GreenHouse Gas Emissions</i>
ICA	:	<i>Aksi Iklim Inklusif / Inclusive Climate Action</i>
Tim MABI	:	<i>Tim Mitigasi dan Adaptasi Bencana Iklim / Climate Change Mitigation and Adaptation taskforce</i>
MER	:	Monitoring, Evaluation, and Reporting
MUSRENBANG	:	<i>Musyawaharah Perencanaan Pembangunan / Development Planning Forum</i>
RKPD	:	<i>Rencana Kerja Pemerintah Daerah / Regional Development Plan</i>
RPJMD	:	<i>Rencana Pembangunan Jangka Menengah Daerah / Regional Mid-Term Development Plan</i>
RPJPD	:	<i>Rencana Pembangunan Jangka Panjang Daerah / Regional Long Term Development Plan</i>
RPPLH	:	<i>Rencana Perlindungan dan Pengelolaan Lingkungan Hidup / Provincial Environmental Protection and Management Plan</i>
RPTRA	:	<i>Ruang Publik Terpadu Ramah Anak / Child-friendly Integrated Public Space</i>
RTH	:	<i>Ruang Terbuka Hijau / Green Open Space</i>
SPKU	:	<i>Stasiun Pemantauan Kualitas Udara / Air Quality Monitoring Stations</i>
SDM	:	<i>Sumber Daya Manusia / Human Resource</i>
TMB	:	<i>Taman Maju Bersama (Integrated Green Open Space Program)</i>

Executive Summary



EXECUTIVE Summary

Through Pergub 90/2021, Jakarta has made significant commitments to climate action, which has set ambitious targets for emission reduction and climate resilience, as well as established the Climate Mitigation, Adaptation, and Disaster (MABl) delivery team. However, the current structure of climate governance and MER process has limited the city's ability to ensure that policies and programs translate into measurable climate outcomes.

Underlying constraints pose significant risk in ensuring that Jakarta could achieve its Climate Targets and solutions have not been sufficiently discussed. Table 1 below summarizes the key challenges across MER framework and governance themes.

Table II. Key Challenges Summary

In Relations to MER Framework		In Relations to Governance	
01.	Planning Lack of alignment in climate outcome indicators with development indicators at the sectoral level.	06.	Governance: Agenda Setting Vulnerability of climate agenda to political interest.
	Target setting Multiple demands on reporting climate targets that overwhelm technical agencies.	07.	Governance: Coordination Technical capacity gap in evaluating climate targets.
	02. Reporting Challenging data gathering process (lack of frequently updated and readily available data)	08.	Capacity Technical capacity gap in evaluating climate targets.
03.		09.	Inclusivity Early adaptation of inclusive climate action implementation with limited indicators monitored.
04.	Planning (Sectoral) TOC misalignment and low data gathering capacity on green building and energy audit.		



To address these challenges, through an end-to-end (planning, implementation, and reporting) approach **the report proposes three interconnected areas of solutions:**

First, Jakarta's Climate MER Framework

1

Refine sectoral outcomes to include inclusion and equity indicators, streamlining reporting through SIGRK, aligning climate-relevant metrics across planning documents, and shifting from output to outcome reporting, with stronger Theories of Change for key sectors like Green Building and Energy.

Second, Climate Action Governance

2

Strengthen MABI's structure with a secretariat and dedicated MER team, establish a Community of Learning for MABI Implementation, introduce incentive and disincentive mechanisms for data reporting, and ensure implementation of the Inclusive Climate Action Checklist.

Third, High-Level Implementation

3

Embed climate action into policy and budgeting through transparent reporting, capacity building, and institutional tools such as emission counters and climate budget tagging, ensuring accountability and integration across Jakarta's governance system.

Table II below summarizes the captured challenges and recommendations divided by planning, implementation, and reporting phase approach.

Table II. MER & Governance Matrix Summary

<i>Technical Climate MER</i>		
Planning	Implementation	Reporting
Problem Unclear climate indicators alignment on sectoral level  Solution - Logical Framework on Climate Sectoral Outcome - Alignment on Climate Metrics across Sectoral and Agencies' Plans (RKPD, Renstra, IKU) - Adapt Equitable Impact Indicators	Problem - TOC misalignment and need of increasing data gathering capacity on green building and energy audit - Ineffective Problem-Solving Loop  Solution Sectoral High Impact Action Improvement (TOC Alignment)	Problem - Multiple Demands on Reporting Climate Targets - Challenging data gathering process  Solution - Streamlined Reporting Flows through SIGRK - Shift to Outcome Reporting
<i>Climate Governance</i>		
Planning	Implementation	Reporting
Problem Vulnerability of climate agenda to political interest  Solution Reinforcing MABI through: Sectoral Pillar, Established Secretariat, and Dedicated MER Team	Problem - Unmonitored MABI implementation - early adaptation of inclusive climate action implementation.  Solution - Establish a Dedicated MER Team - Continuous Implementation of Inclusive Climate Action Checklist	Problem Technical capacity gap in evaluating climate targets  Solution - Community of Learning MABI Implementation - Provide Incentives and Disincentives on Reporting Data

These challenges and recommendations have been validated and enriched through MER Training implemented by Think Policy in partnership with C4O on September 22-23, 2025. Furthermore, the training assessment confirmed the program's effectiveness in strengthening participants' understanding and practical application of MER in the climate policy context. The training also served as an important pilot effort to strengthen Jakarta's institutional capacity for climate action.

Jakarta has built a strong foundation for climate action through its existing regulations, data dashboards, and coordination mechanisms.

So how to improve?

To reach its 2030 and 2050 climate targets, the city needs to improve how these elements work together and ensure that climate actions deliver real and fair benefits for all citizens. This report offers a set of practical recommendations organized into three levels:

1. High Priority

Actions focus on quick and achievable improvements, such as combining all reporting systems into a single data dashboard, setting clear sectoral outcomes, and creating a Community of Learning under MABI to strengthen collaboration and learning across agencies.

2. Supplementary

Actions aim to support these efforts by improving how reports are written and reviewed, refining the Theory of Change for key sectors like energy and buildings, creating incentive systems for better emission data collection, and ensuring that the Inclusive Climate Action Checklist is consistently used in planning and implementation.

3. Game-Changing

Actions propose deeper reforms, such as revising the overall climate action framework to focus on outcomes, restructuring the MABI team into sectoral units with a dedicated MER hub, and forming a permanent MER team that combines technical experts and civil servants to manage data, funding, and learning processes.

The report also highlights that practicing inclusive climate action needs to adopt the ladders of participation: informing, consulting, collaboration, and co-creation. Policies must be designed to remove barriers and respond to the different needs of women, people with disabilities, children, older adults, and low-income communities.

Together, these steps will help Jakarta shift from a compliance-oriented system toward one that values learning, collaboration, and measurable results. By aligning institutions, data, and inclusive practices, Jakarta can strengthen accountability, attract investment, and move closer to achieving its climate resilience goals.

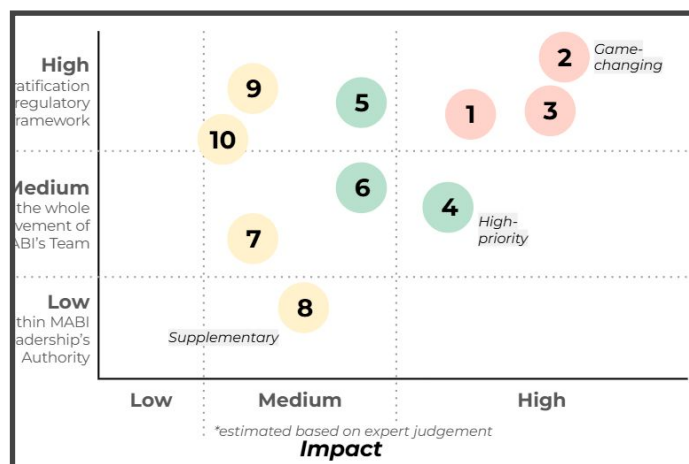


Figure I. Decision Matrix for Climate Action DKI Jakarta
Source: Analysis by Think Policy, 2025

Chapter I.

Introduction

INTRODUCTION



Source: Jakarta Smart City

Urban areas are simultaneously major sources of greenhouse gas emissions and critical epicentrum for climate solutions. In accordance with the Paris Agreement, many cities have developed Climate Action Plans (CAPs) that outline pathways for reducing emissions, strengthening resilience, and promoting inclusive development through 2030 and toward 2050. These plans address key sectors such as energy, mobility, waste, and land use, and their implementation requires coordination across different levels of government. The Agreement also emphasizes the establishment of a Measurement, Reporting, and Verification (MRV) system to ensure that climate mitigation and adaptation efforts are tracked, evaluated, and communicated consistently.

Jakarta is currently in the early stages of implementing its climate governance structure, creating a strategic opportunity to embed inclusivity and evidence-based approaches at an institutional level. The establishment of MABI represents an important step toward enabling cross-sectoral coordination, bringing together agencies responsible for mitigation, adaptation, research, and communications. However, for such coordination to produce equitable and effective outcomes, stakeholders require a clear understanding of the MER framework and the capacity to apply it systematically. The current Monitoring, Evaluation, and Reporting (MER) mechanisms for climate action are still fragmented across agencies, with different approaches to data collection, reporting, and analysis.

Strengthening Jakarta's MER system is essential to support accountability, institutional learning, and alignment with Indonesia's newly established Second Nationally Determined Contribution (SNDC) and newly ratified Presidential Regulation (PR) 110/2025 on Carbon Market and GHG Reduction. The new PR mandates that all local governments develop Climate Mitigation Action Plans and encourages the development of regional carbon projects, local revenue sources (Pendapatan Asli Daerah/PAD) from climate initiatives, and the establishment of regional carbon markets. These priorities make a robust and transparent MER system even more critical to support both climate action implementation and future carbon transactions.

The city has also recognized the importance of embedding inclusivity into climate governance to ensure whole-government participation and equitable impacts. In parallel with the enactment of Pergub 90/2021 on the MABI team, Bappeda Jakarta released a guideline for implementing the Inclusive Climate Action (ICA) Checklist as a mainstreaming tool, supported by C40. This guideline mandates the use of the ICA Checklist in core planning processes to ensure all aspects of inclusive climate action are systematically considered. However, additional efforts are needed to enable meaningful participation of vulnerable communities and lower barriers for them to contribute to broader climate action design.

Since 2006, C40 Cities has supported municipal governments in advancing these commitments by providing technical assistance, peer-learning opportunities, and analytical tools. Building on this legacy, in 2024, C40 Cities and Think Policy contributed to these efforts by partnering with the City of Jakarta on urban governance and inclusive climate action. Continuing into 2025, this collaboration seeks to enhance institutional accountability, foster evidence-based learning, and increase the effectiveness of climate policies and programs, ensuring that climate action is coordinated, evidence-driven, and equitable across sectors.

A. Project Objective

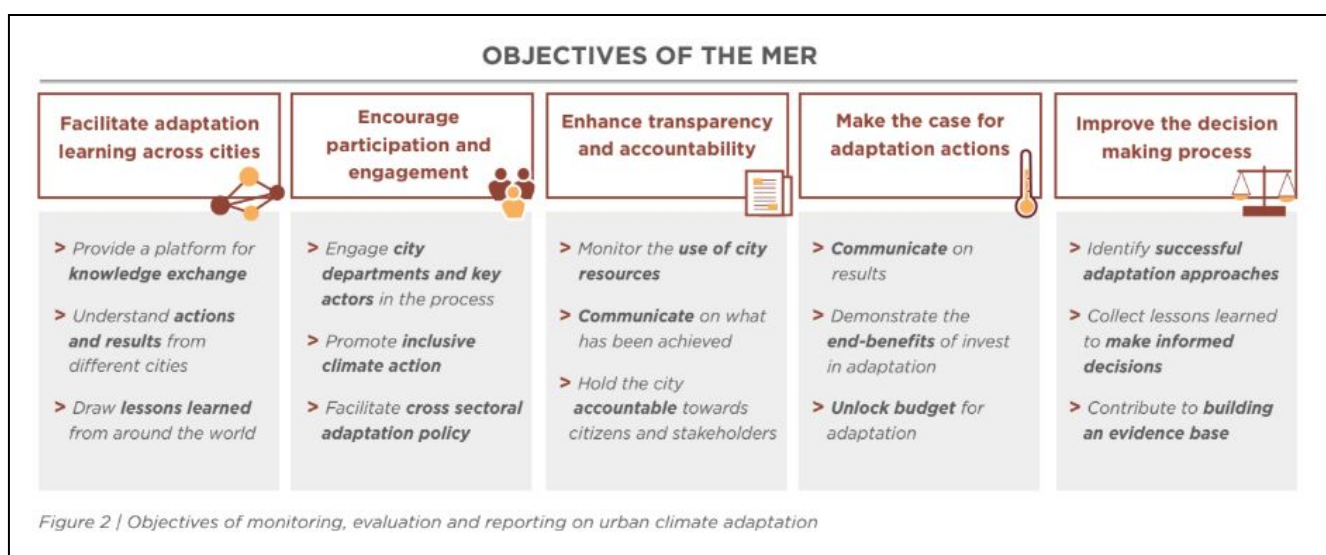


Figure 1. C40 Objectives of MER Climate Action

Source: Measuring Progress in Urban Climate Change Adaptation Reporting Framework, 2019

In this step of a bigger vision for climate action, this study aims to strengthen the MER capacity of Jakarta's climate governance actors.

By embedding these principles at an early stage, the initiative seeks to ensure that climate action is measurable, accountable, and inclusive, while also contributing to the long-term goal of building a resilient and sustainable urban governance framework.

C40 provides guidelines on the objectives of the MER framework for climate action, emphasizing the need to facilitate learning, encourage participation, promote transparency, demonstrate impact, and improve decision-making. Using these guidelines, Think Policy aims to translate these objectives into practical applications within Jakarta's current MER practices and climate governance structures.

The study is structured around three core areas:

1

First,

it will propose a MER framework that enables the city to systematically track, assess, and communicate the outcomes of its climate and sustainable development initiatives.

2

Second,

it will outline an alternative governance structure for climate resilience, supported by a comprehensive mapping and analysis of institutional arrangements, roles, coordination mechanisms, and existing gaps in reporting and evaluation.

3

Third,

it will develop a high-level implementation plan that provides practical guidance for embedding the framework into Jakarta's planning and policy cycles.

The recommendations will include prioritized actions and a clear pathway for implementation. Together, these components are designed to equip Jakarta with the institutional capacity and governance architecture necessary to deliver effective, evidence-based, and equitable climate action.

B. Methodology and Approach

This study employs a mixed-methods approach combining regulatory review, climate policy analysis, institutional gap assessment, and stakeholder interviews to examine Jakarta's Climate Action Plan (CAP) and governance processes.

1. Climate Policy Analysis

Climate Policy Analysis will establish a foundational understanding of Jakarta's institutional context by reviewing the CAP, related planning documents, and relevant regulations. This includes assessing legal mandates for climate governance and reporting.

2. Stakeholder Analysis

This analysis will map key actors and their formal and informal roles in CAP implementation and MER processes. It will address questions such as: Who monitors emissions and adaptation efforts? Who evaluates outcomes versus outputs? How is data collected, managed, and analyzed? Insights will inform the design of an alternative governance structure.

3. MER & Governance Framework Analysis

MER Framework Analysis will evaluate Jakarta's monitoring, evaluation, and learning processes across planning, implementation, and reporting. The goal is to align logical frameworks, data needs, and information flows to improve accountability and effectiveness. The resulting analysis will be divided by a 2x3 matrix (See Table 1)

4. Inclusivity and Equity Principles Integration

This approach will examine the extent to which equity considerations are embedded in climate governance. This includes assessing the use of disaggregated data (e.g., gender, age, income) and reviewing how inclusive climate action principles are integrated into MER processes.

Table 1. Illustration MER & Governance Matrix Approach

	Planning	Implementation	Reporting
Technical MER	Indicators, Theory of Change	Monitoring Cadence	Reporting Framework Reporting Tools
Governance	Planning Authority	Ways of working, coordination scheme	Evaluation Authority

5. Key Informant Interview

Conduct semi-structured interviews with MABI leadership, technical teams, and agencies such as Bappeda and DLH will complement the desk review by providing insights into institutional practices, coordination mechanisms, and capacity needs. This study chose several other OPD: Biro PLH, Biro Perkeu, DCKTRP, and DTKTE, which each has their own role in the climate governance as well as contribution in achieving climate commitments of DKI Jakarta.

The interview was conducted from August 25th to 18th September 2025. Interviewees consist mostly of the working level of each agency from 7 OPDs in total.

6. MER & Governance Training

The training uses a goal-oriented adult learning approach focused on solving real policy challenges through iterative practice and reflection. Combining brief lectures, peer learning, group work, and case discussions, it builds practical skills and shared understanding. This method aims for collaboration and contextual learning, strengthening policymakers' ability to monitor and implement DKI's climate action. The insights from the training are integrated and triangulated from the existing analysis on MER analysis, informant interviews. The training was conducted on 22-23 September 2025.

C. Approach and Theoretical Framework

This study employs a mixed-methods approach combining regulatory review, climate policy analysis, institutional gap assessment, and stakeholder interviews to examine Jakarta's Climate Action Plan (CAP) and governance processes.

1

MER Framework on Climate Action

A dedicated MER Framework for Climate Action Plan is needed. The framework is dedicated to assess the impacts and success of their climate change adaptation plans, cities must monitor and evaluate the results of their adaptation actions. However, the outcomes and impacts of climate change adaptation actions are difficult to track and monitor, and there is a lack of sufficient adaptation monitoring tools. As a result, cities face a significant challenge in determining the success or failure of their adaptation actions. This presents a barrier to making a case for adaptation, securing funding and implementing plans as effectively as possible.

The Climate Change Adaptation (CCA) MER framework provides cities with a practical guide to monitor, evaluate, and report on adaptation plans, ensuring alignment, accountability, and continuous improvement of climate actions. Ideally developed alongside adaptation planning, the framework integrates objectives, priorities, and actions from the outset. It supports implementation by providing actionable data on effectiveness and risk reduction, informs decision-making through evidence-based insights, promotes stakeholder participation, enhances transparency, and facilitates cross-city learning of best practices.

There are some possible key challenges around Climate Action implementation. Key challenges include the unpredictability of climate hazards, the long-term nature of adaptation impacts, the diversity of actions across sectors, and the absence of a single metric for measuring success. By defining indicators, collecting data, and conducting evaluations, cities can refine planning, demonstrate benefits, secure resources, and strengthen resilience to climate change.

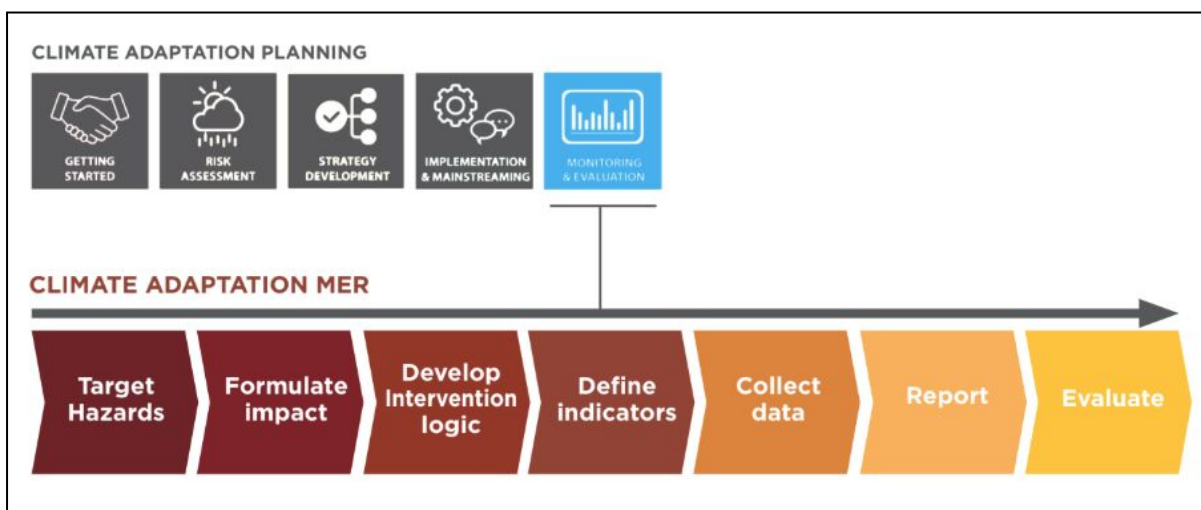


Figure 2. Development of Jakarta's Climate Governance Regulatory Framework

Source: Measuring Progress in Urban Climate Change Adaptation Reporting Framework, 2010

2

Governance and Mainstreaming of Climate Action

Climate governance refers to the formal and informal rules, structures, processes and systems that define and influence action on climate change. A good climate governance system is integral to the effective implementation of a city's climate action plan (CAP) and to ensuring that climate considerations are mainstreamed in all city activities and decision-making processes. It is critical that the climate action planning process consider and assess existing governance structures and strengthen those structures to create a supportive environment for implementation. (C40 Implementation Guides: How to strengthen climate governance for an effective climate action plan, 2025)

Delivering the goals of the CAP cannot be the work of a singular climate team. The implementation of climate action indicators need to be integrated across departments. Climate mainstreaming is the integration of climate considerations across all city processes, enabling every department to align its mandate, resources, and activities with climate goals, while climate governance provides the structures, rules, and processes that ensure accountability, coordination, and delivery of a city's Climate Action Plan (CAP). Effective mainstreaming prevents climate from being siloed within a single "climate team," instead embedding it in housing, transport, health, finance, and other sectors.

Mainstreaming and governance are most effectively designed and strengthened during the CAP development process, with critical steps including: establishing a dedicated CAP leadership and coordination body, securing political and executive-level ownership, defining cross-agency collaboration structures, making CAP commitments legally binding, and embedding monitoring, evaluation, and reporting requirements.



Source: Yogas Design

Some mainstreaming and governance actions are critical to developing a robust and credible CAP and must be completed during the climate action planning process, notably:

- Create an effective team to lead CAP development, implementation and progress tracking.
- Define structures and mechanisms for effective collaboration between agencies and teams involved in the CAP process, and systems for their informed input into the CAP.
- Make the CAP as legally binding as possible.
- Achieve sign-off and commitment to the CAP from the highest level of the city government, including allocation of budget for implementation.
- Embed structures for monitoring, evaluation, reporting and learning. Indicators and metrics can be embedded in performance management systems, evaluation templates and corporate scorecards, and reporting requirements can be written into law, for example.

Good governance also requires integration of climate objectives into various planning and strategy documents. From city masterplans, economic development strategies, departmental business plans, financial systems (e.g., climate budgeting), and procurement practices. This alignment ensures resources are directed toward climate goals, departments take shared responsibility, and unintended climate consequences are avoided. (C40 Implementation Guides: How to mainstream climate action across the city government, 2025)

3 Inclusive Climate Action

Inclusive Climate Action or ICA refers to C40's framework of climate policy and urban decision-making, which upholds three pillars: inclusive process, inclusive planning, and equitable impact. This framework strives to achieve equity and inclusion in the entire process of policy- and decision-making, from stakeholder engagement, policy design, to impact measurement.



Inclusive Process

This is the first step of designing climate actions. Government needs to make sure all stakeholders are represented at the table when plans are discussed and decisions are made, including those who are the least involved or normally excluded from decisionmaking. In other words, going beyond the usual suspects.



This process includes:

1. **Stakeholder Mapping**
Governments must identify relevant groups to be engaged in and/or will be affected by the implementation of climate actions. This includes mapping out marginalized groups based on factors such as gender, socioeconomic class, age, employment status, disabilities, etc.
2. **Stakeholder Engagement**
Once identified, the relevant groups shall be invited to share their needs, aspirations, concerns, and perspectives, to be taken into account in policy design and implementation.

Governments should strive to develop or implement engagement practices that could reach as many groups as possible, including by utilizing technology or socio-cultural connections.



Inclusive Planning

Second, the government has to make sure that equity and inclusion are considered and integrated from the start in policy design. So that people - and in particular those less well off - are at the center of policy design when policies are written, plans are made, and budgets are set.



This step includes:

1. **Inclusion Analysis**
An initial analysis to ensure all aspects that contribute to inclusion are covered before the program or policy is executed. Examples include environmental impact assessment, or the use of micro or spatial data to capture nuances from demographic or geographic variations in each area.
2. **Intersectionality**
Governments must take into account social and/or political factors or identities that shape differences in needs, priorities, and capacities of each population group in facing impacts of climate crisis. The results of this analysis should also be considered in determining how to assist each group in responding to the climate crisis.
3. **Equitable Policy Recommendation**
The resulting regulations or policy recommendations should already factor inclusivity indicators and intersectionality in its design.



Equitable Impact

Lastly, making sure that every decision maker understands the impact of what they're doing on different and diverse groups of people. For example, not just whether a plan creates new jobs, but who will get those jobs, where, and what that will mean for those communities.



Holistic Impact Measurement

Proper frameworks or procedures for impact monitoring and evaluation are essential in capturing the extent of positive impacts from policies (including to marginalized groups), as well as identify negative impacts that need to be mitigated.

Governments are expected to formulate impact measurement frameworks and indicators that can capture the contribution of these programs to social equity (such as health, employment, etc.), and implement them in climate programs.

The data obtained should also be organized and made available publicly as part of accountability and data-driven policymaking.

In the case of Jakarta, the report will discuss how Jakarta's climate actions contribute to health, air pollution, economy, and green jobs.

Chapter II.

REVISITING JAKARTA'S CLIMATE GOVERNANCE



REVISITING **JAKARTA'S CLIMATE GOVERNANCE**

As Indonesia's current capital and economic hub, Jakarta stands at the frontline of the climate crisis. Together with the Greater Jakarta Region (Jabodetabekpunjur), it forms the world's fourth-largest megacity and contributes 16.8% of the national GDP (DJPB Jakarta, 2024). Home to more than 10 million people, the city is projected to see a population decline by 2050 in line with the planned relocation of the capital to Nusantara in East Kalimantan (BPS, 2023) a transition that underscores Jakarta's evolving role but has not yet materialized. Despite its economic centrality, Jakarta faces escalating climate risks. Its coastal delta geography and network of 13 rivers expose it to severe flooding, while sea level rise and land subsidence, averaging 1 cm per year from groundwater extraction, further exacerbate vulnerabilities (BPLHD Jakarta, 2013). Fossil fuel dependence for energy and transport also drives poor air quality and high greenhouse gas emissions.

To respond, the DKI Jakarta Provincial Government established the Climate Change Mitigation and Adaptation Taskforce (MABI) through Governor Decree 96/2020, later updated by Decree 209/2023, to coordinate climate governance. Chaired by BAPPEDA with DLH as daily chair, MABI oversees monitoring and evaluation through five working groups focused on mitigation, adaptation, financing and collaboration, communication and public participation, and research and innovation. Complementing this institutional structure, Pergub 90/2021 formally opens space for collaboration with universities, NGOs, development partners, private actors, and community associations, although their structural roles remain limited.

The development of Jakarta's regulatory framework has been central to advancing its climate agenda. Starting with its first regional GHG reduction plan in 2012, Jakarta has steadily aligned its commitments with international agreements. Pergub 90/2021 on Climate Resilient and Low Carbon Development represents a pivotal milestone, committing the city to cut emissions by 30–50% below 2010 levels by 2030 and to achieve net zero by 2050, ten years earlier than the national target. The regulation outlines sectoral priorities in energy, waste, and AFOLU (Agriculture, Forestry, and Other Land Uses), while mandating integration of climate action into development plans, spatial policies, environmental assessments, and agency-level strategies.

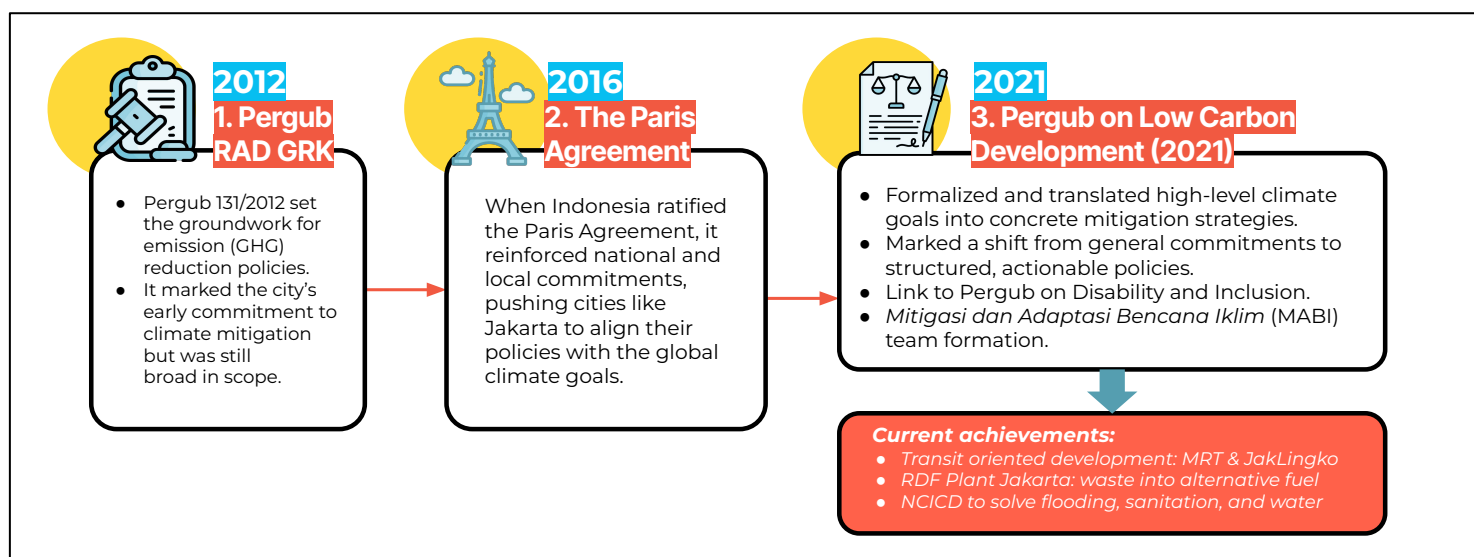


Figure 3. Development of Jakarta's Climate Governance Regulatory Framework

Source: Source: Analysis by Think Policy, 2025

A Pergub 90/2021: MABI TEAM

DKI Jakarta Provincial Government has established the Climate Change Mitigation and Adaptation Taskforce (MABI) to coordinate climate governance.

Formed through Governor Decree 96/2020 and updated by Decree 209/2023, MABI is chaired by BAPPEDA with the Environmental Agency (DLH) as daily chair, and is responsible for monitoring, evaluating, and reporting progress to the Governor. It is organized into five working groups focusing on mitigation, adaptation, financing and collaboration, communication and public participation, and research and innovation.

Importantly, Jakarta has also opened space for collaboration beyond government.

Guided by Pergub 90/2021, stakeholders from universities, development partners, NGOs, the private sector, and community associations—including groups representing people with disabilities and religious leaders—are included in climate governance processes. However, while their participation signals a more inclusive approach, these actors currently hold only limited structural roles in decision-making.

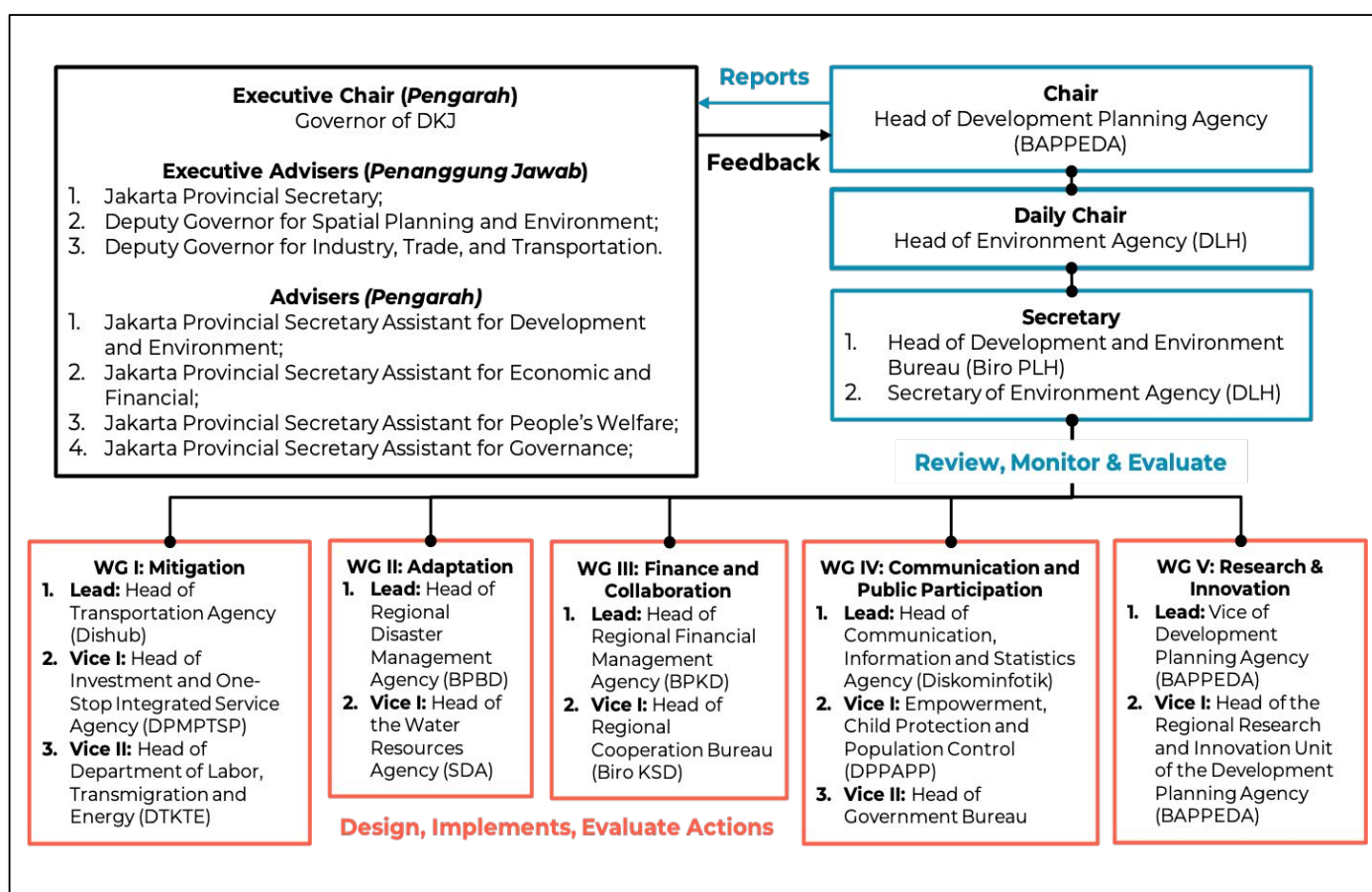
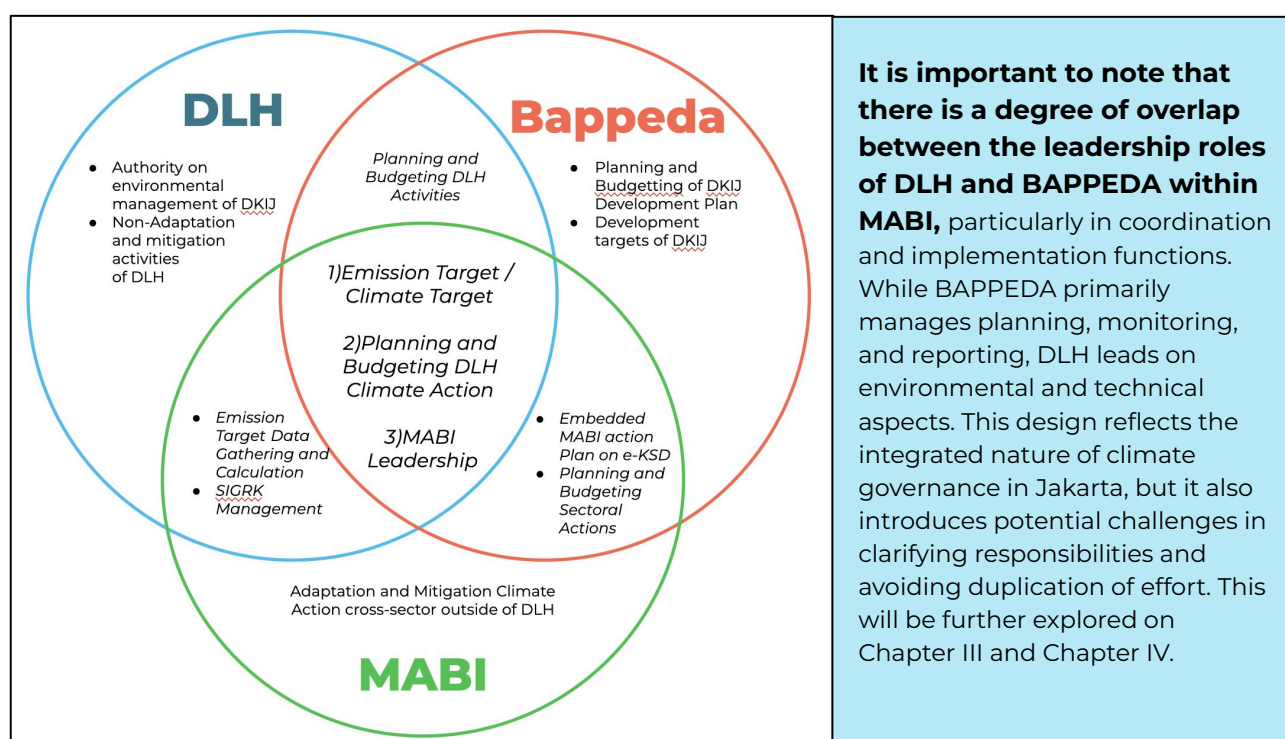


Figure 4. Jakarta Climate Actions Governance
(Structure of the Climate Change Mitigation and Adaptation Taskforce/MABI)
Source: Kepgub 209/2023

The governance structure is organized into a leadership committee supported by five working groups. The leadership committee itself is divided into six tiers of authority:

1. Governor of DKI Jakarta (Director) Holds the highest leadership position and provides overall direction and guiding principles for climate adaptation and mitigation in Jakarta.	4. Chairman (Head of BAPPEDA) Specializes in managing actions and is responsible for coordinating working teams, ensuring proper implementation, and overseeing monitoring, evaluation, and reporting.
2. Responsible Person Leads and coordinates all climate-related activities. This tier consists of three officials: the Regional Secretary of Jakarta, the Deputy Governor for Spatial Planning and Environment, and the Deputy Governor for Transport, Trade, and Industry.	5. Daily Chairman (Head of DLH) Focuses on environmental aspects and shares responsibility with the Chairman in coordinating teams and ensuring climate actions are implemented effectively.
3. Advisor Supports the Director and Responsible Person by offering policy recommendations on climate adaptation and mitigation to guide decisions across all leadership levels.	6. Secretary Prepares and compiles data and information to support monitoring, evaluation, and reporting processes. This role is held jointly by the Head of the Environmental and Development Bureau of the Regional Secretariat and the Secretary of DLH.



The DKI Jakarta Provincial Government has shown consistent commitment to climate action. Its first GHG reduction plan was introduced in 2012 and later updated after Indonesia ratified the Paris Agreement, resulting in Pergub 90/2021 on Jakarta's Climate Resilient and Low Carbon Development Plan. This regulation marked a major milestone, setting emission reduction targets of 30–50% below 2010 levels by 2030 and achieving net zero by 2050—ten years ahead of the national target.

Emission cuts are focused on three key sectors:

- (i) **Energy**, which accounted for over two-thirds of emissions in 2022 (52% from electricity, 32% from transport, industry, and households, and 12% from power plants);
- (ii) **Waste**, at 4%; and
- (iii) **AFOLU**, below 1% (DLH Jakarta, 2023).

Table 2. List of Contributing Sectors for Implementation of Mitigation and Adaptation Actions within Pergub 90/2021

No	Mitigation Actions	Adaptation Actions
1	Energy Sector: reduce emissions coming from direct emitters (industry, transportation, buildings, domestic, commercial), indirect emitters (electricity usage), and power plant	Health services: reduce the incidence of diseases suffered by the communities affected by weather related patterns of Climate Change;
2	Waste Sector: reduce waste through management of domestic waste, waste water, and industrial waste	Water resources management: increase resiliency by providing equal distribution of pipelines and services for clean water, dirty water, sanitation, as well as ensuring the availability of clean water for communities
3	AFOLU: reduce emissions through Agriculture, Forestry, Open green spaces	Management of coastal areas and small islands: increase resiliency by protecting coastal and small islands from hazardous events caused by climate change;
4	Industrial Processes and Product Use (IPPU): reduce emissions through materials and processing management	Energy management: encourage activities that ensure availability of greener energy in order to achieve energy independence;
5	Other: increase exposure to international collaboration through climate change diplomacy	Food security: encourage activities that ensure availability of healthy food
6	-	Housing and settlement: encourage activities that ensure the provision of safe, comfortable and healthy settlement areas;
7	-	Climate-resilient infrastructure: encourage activities that ensure the realization of a climate-resilient infrastructure system;
8	-	Other sector: to be added upon the needs of Jakarta

Source: Policy Brief Mainstreaming ICA Checklist on DKIJ 2025

Pergub 90/2021 provides the regulatory framework for mitigation and adaptation, requiring integration of climate action into Jakarta's development and spatial plans, environmental assessments, the RPPLH (Environmental Protection and Management), and the strategic plans of government offices and region-owned enterprises. However, inclusivity remains limited: while vulnerability assessments are mandated for adaptation, other tools such as stakeholder mapping, equity and needs assessments, and social impact analysis are not. The regulation encourages collaboration with non-government actors but lacks binding measures to ensure equal representation of marginalized groups.

c Jakarta's Climate Action MER Framework 2030-2050

Monitoring, evaluation and reporting are fundamental pillars of climate action.

This CAP establishes a structured system for DKI Jakarta to monitor, evaluate and report the progress and impacts of its climate action to:

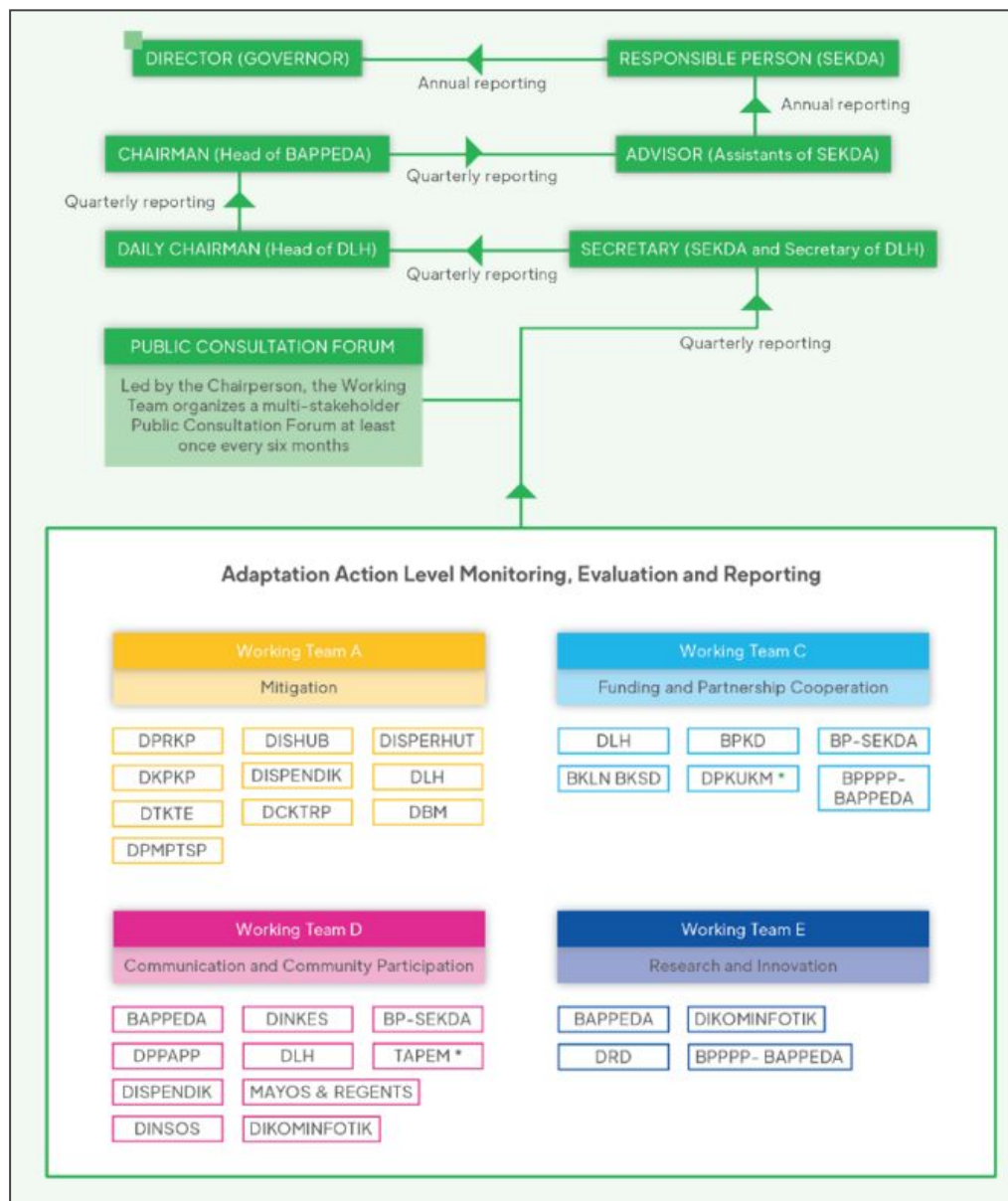
- assess progress and effectiveness and adapt climate actions and targets if needed
- continue to make the case for other possible climate actions
- provide relevant information to a wide range of partners and provincial inhabitants
- improve accountability and transparency

The monitoring, evaluation and reporting process set out in the Governor's Decree on Climate Disaster Mitigation and Adaptation Working Team is provided in Figure 6.

This Climate Action Plan supports the process by proposing prime indicators that should be used to monitor the progress of each strategic action as a minimum, setting out the critical questions that should be answered when evaluating climate actions and further details about reporting. Based on the original decree of MABI Team by Governor's Decree 96/2020, it is stated that The Climate Action Plan of DKI Jakarta is formulated, implemented, and reviewed every five years. The action plans goes through four main stages:

1. Strategic review and evaluation of the previous plan, including policy frameworks and regulations,
2. Assessment of data quality related to emissions, reductions, and vulnerability,
3. Identification and prioritization of climate actions with consideration of costs, impacts, mitigation–adaptation synergy, inclusiveness, and disaster preparedness, and
4. Monitoring and evaluation of achievements, governance, and impacts.

The action plan has its own monitoring cadence annually and at least every three months. Implementation of mitigation and adaptation actions is monitored annually in line with national guidelines. The Working Team coordinates through: Working Group meetings at least every three months, Plenary Meetings every three months, reporting of outcomes and recommendations to the Supervisory Board every three months, and Multi-stakeholder Public Consultation Forums at least every six months.

Figure 6. Development of Jakarta's Climate Governance Regulatory Framework**Source:** Jakarta's Climate Action Plan 2030-2050

DKI Jakarta will report the data and analysis gathered during monitoring and evaluation to stakeholders in order to communicate the benefits of climate action more broadly and to share knowledge.

This process is expected to encourage collaboration and dialogue, which are central to accelerating implementation. Reports are shared with a wide range of stakeholders, including national and provincial departments, the Governor, and the wider public, sometimes through public consultation forums. The purpose and timing of each report will depend on the type of action and its intended audience.



To ensure meaningful data collection, each responsible department must first establish a baseline.

This will provide a clear reference for measuring the impact of climate actions and communicating results effectively. **Reporting will include the following elements:**

Governor's Office and Responsible Person (SEKDA): An annual report will provide a strategic and operational overview, covering planning, implementation, newly identified barriers, and overall performance.	Advisors (Assistants of SEKDA), Chairman (BAPPEDA), Daily Chairman (DLH), and Secretaries (SEKDA and DLH) Quarterly reports will focus on outputs, outcomes, and impacts in relation to Jakarta's climate vision, goals, and targets.
Project management details Reports will highlight the allocation of human and financial resources, identify any potential gaps, and propose improvements to strengthen implementation. The responsible department is required to report every three months to the lower leadership levels (Advisor, Chairman, Daily Chairman, and Secretary) and annually to higher leadership (Director and Responsible Person).	Public consultation forums Organized every six months, these will present progress and impacts of climate actions to communities. Reports to the public will cover GHG emission reductions, adaptation progress, and broader socioeconomic benefits achieved through climate actions.

Across all target audiences, reporting must show the performance of climate actions against established baselines or in comparison with business-as-usual scenarios. This approach ensures that progress can be tracked clearly and transparently.

D

Sectoral High Impact Actions (SHIAs) of Jakarta's Climate Action

Jakarta, as a rapidly urbanizing city and one of the most vulnerable capitals to climate risk, has committed to a bold net zero emission (NZE) target by 2050 and is actively promoting Green Building initiatives. While the policy ambition is high, the path to implementation is fraught with challenges, especially around how success is defined, tracked, and improved upon over time. To support this, Jakarta's government with C40 Cities as international partner has developed a Monitoring, Evaluation, and Reporting (MER) Framework specifically for its Climate Action Plan (CAP). This framework isn't just a bureaucratic tool; it's a direct response to persistent gaps in tracking performance, enforcing climate policies, and ensuring that local actions lead to measurable outcomes.

1 Green Building Policy

Despite existing regulations promoting green building practices, Jakarta's building sector continues to be a major source of GHG emissions. 7 of the city's emissions are generated from residential, commercial, and institutional buildings, as well as manufacturing industries and construction. This is due to gaps in policy enforcement, the limited adoption of energy-efficient technologies and a lack of incentives for sustainable construction.

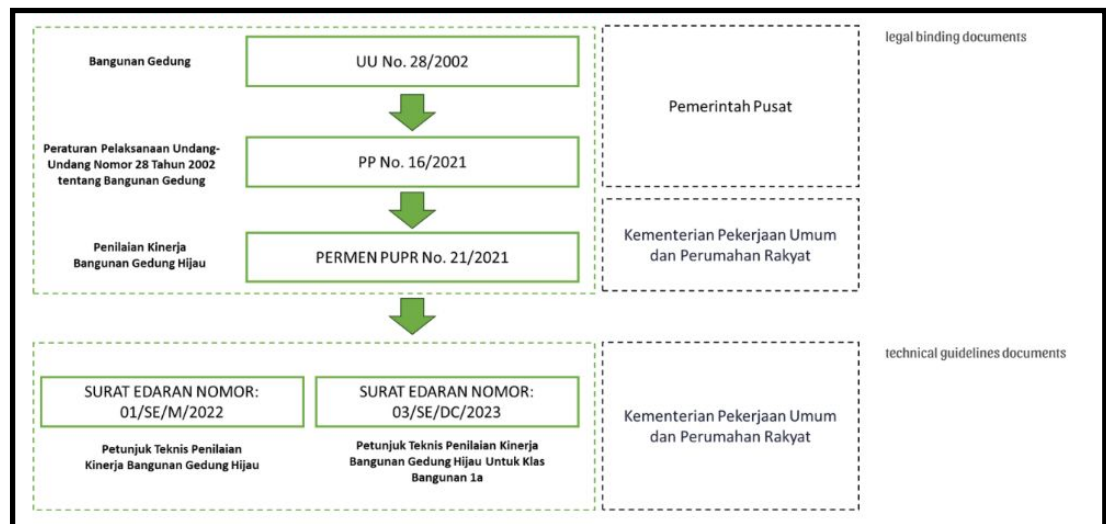


Figure 7. Regulatory Framework for Green Building Policies

Source: Green Building Assessment: Gedung Suku Dinas Kependudukan dan Pencatatan Sipil Jakarta Timur, Presentation by C40 Cities & EnerCoss (2023)

Problem statement: Despite existing regulations promoting green building practices, Jakarta's building sector continues to be a major source of greenhouse gas emissions. This is due to gaps in policy enforcement, limited adoption of energy-efficient technologies, and a lack of incentives for sustainable construction. To achieve the city's carbon reduction goals, it is imperative to revise and strengthen green building policies, ensuring they are comprehensive, enforceable, and aligned with international best practices.

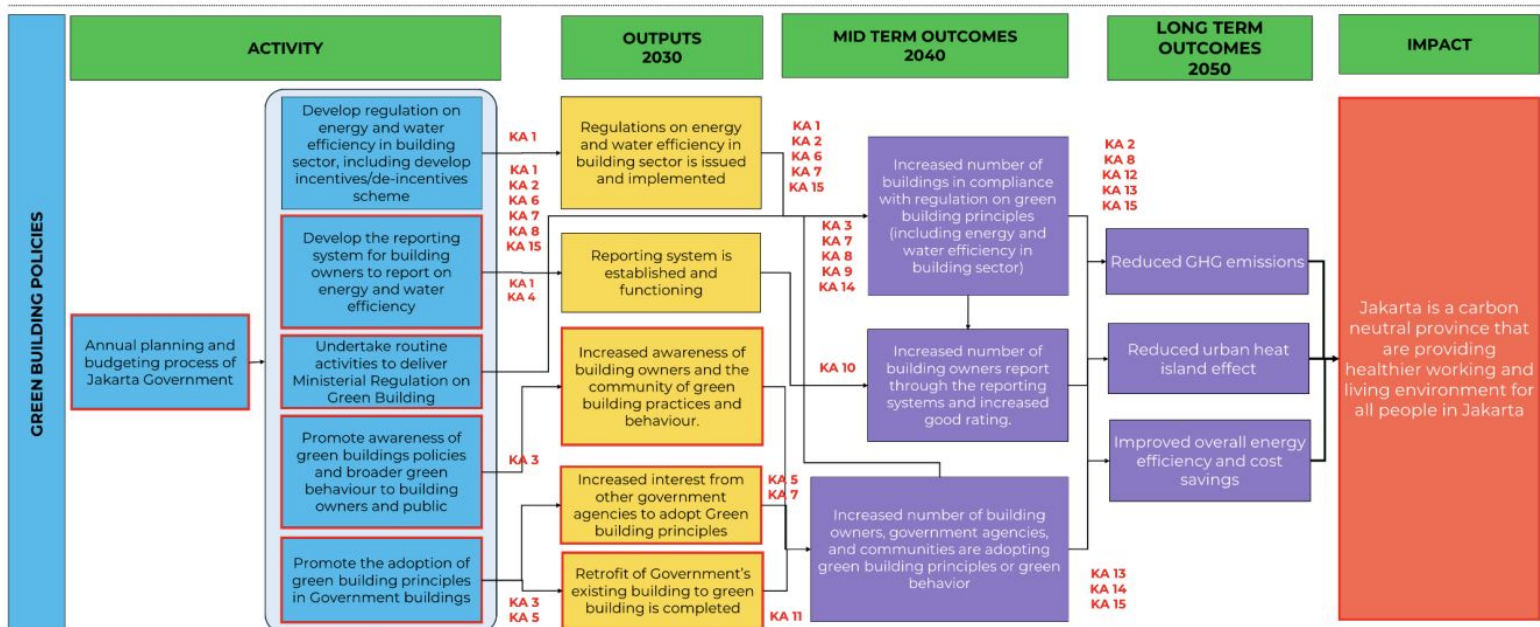


Figure 8. Jakarta Green Building Policy ToC

Source: Monitoring & Evaluation (M&E) Framework for Climate Action Implementation in Quezon City, Jakarta and Kuala Lumpur, 2025

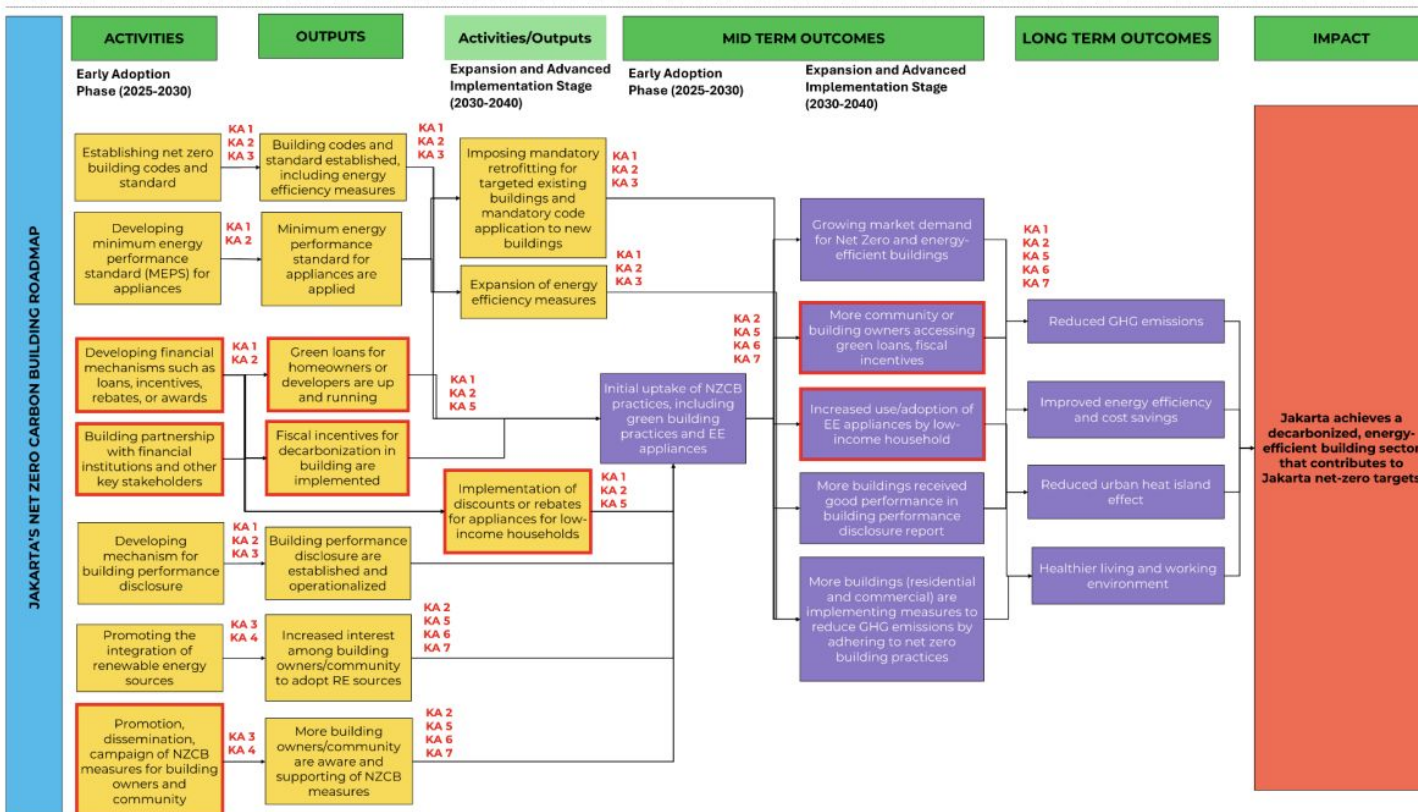
2 Net Zero Emission Roadmap

In Jakarta, buildings account for a significant portion of greenhouse gas emissions (69% overall GHG emission in 2021¹⁸), with 28% of GHG emissions contributed by commercial buildings and 27% contributed by residential activities. This is due to high energy consumption patterns and limited use of energy-efficient appliances, and unclear policy pathways towards achieving net-zero emissions from the building sector. If no climate action is taken, the impact of climate change will disproportionately affect vulnerable communities in Jakarta.

The SHIA on Net Zero Carbon Buildings (NZCB) supports Jakarta in carrying out its NZCB Roadmap for 2025–2050. This roadmap is a long-term plan to cut energy emissions from the building sector. The SHIA was first focused on improving energy efficiency in commercial buildings, as stated in the 2021 Climate Action Plan, but its scope has now widened to include both residential and commercial buildings such as hospitals, offices, schools, hotels, and public facilities.

Figure 28: Jakarta Net Zero Carbon Building (NZCB) Roadmap ToC

Problem statement: In Jakarta, buildings account for significant portion of greenhouse gas emissions, where 28% of GHG emission is contributed by commercial buildings and 27% is contributed by residential activities. This is due to the high energy consumptions, lack of energy-efficient appliances, or unclear pathways towards net-zero emissions from the building sectors. If there is no climate action taken; the impact on climate change will disproportionately affect vulnerable community in Jakarta.



Notes: Activities and outputs in Early Adoption stages will be continued to the Expansion and Advanced Implementation Phase. Boxes with red outline indicates the integration of inclusivity element.

Figure 9. Proposed ToC for Net Zero Carbon Building Roadmap
Source: Monitoring & Evaluation (M&E) Framework for Climate Action Implementation in Quezon City, Jakarta and Kuala Lumpur, 2025

The roadmap is divided into three phases:

- **Early Adoption (2025–2030):** Building the foundation through new policies, financial schemes, and public awareness on net zero buildings.
- **Expansion (2030–2040):** Applying and scaling up these efforts more widely.
- **Advanced Implementation (2040–2050):** Achieving broad adoption and deeper emission reductions.

An initial Theory of Change (ToC) has been developed using the draft version of the roadmap from June 2025. This version will be updated as the roadmap is finalized and as early results and market conditions are reviewed. The ToC describes how government actions are expected to create change through six parts: defining the problem, listing activities, expected outputs, and the short-, medium-, and long-term results.



Chapter III.

MONITORING, EVALUATION, & REPORTING FRAMEWORK **ANALYSIS:** UNCLEAR ALIGNMENT, MULTIPLE REPORTING DEMANDS, AND SILOED PROCESS



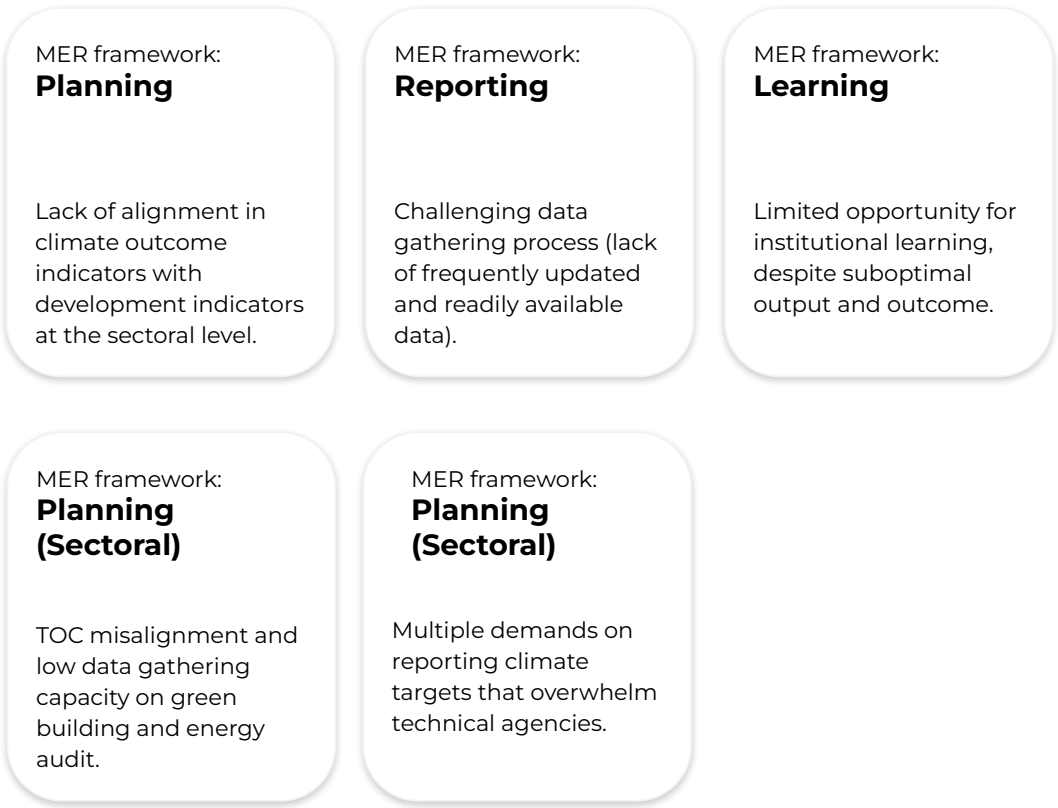
MONITORING, EVALUATION, & REPORTING

FRAMEWORK ANALYSIS: UNCLEAR ALIGNMENT, MULTIPLE REPORTING DEMANDS, AND SILOED PROCESS

This chapter will address gap analysis to outline the operational barriers that hinder DKI Jakarta from fully translating its climate targets into measurable and sustained action.

Strategic and organizational challenges are analyzed separately in the Governance Structure section; here, the focus is on technical and operational challenges that directly affect data, systems, and reporting practices.

Our finding is that Jakarta's MER framework is progressing but remains fragmented across institutional, technical, and operational dimensions. These factors collectively make it difficult for leadership to access consolidated, evidence-based insights that connect planning, budgeting, implementation, and climate outcomes. The current MER system captures important sectoral progress but struggles to present a comprehensive citywide narrative. Table 6 below summarizes key challenges addressed by the chapter.



Throughout this chapter, our “inclusive” term will refer to two meanings: general public inclusion and the targeted inclusion of vulnerable groups (considering the intersection of various power differentials within the population, such as gender, age, disability, income, location). We assess gaps for both.

A On Climate Targets: Unclear Indicators Alignment on Climate Outcome

Jakarta's city government has been committed to reducing the effects of climate change since 2018, even before the ratification of the Paris Agreement. In Pergub 90/2021, Jakarta outlined detailed sectoral targets to guide its climate action. For this analysis, we have compiled national and Jakarta-level policies that include versions of climate commitments. The aim is to compare the clarity of Jakarta's vision in achieving emission reductions.

Commitment to climate targets is visible not only at the national level but also at the regional (Jakarta) level. Both the RPJP and RPJMN have positioned emission reduction as one of the main targets for achieving Indonesia's 2045 Golden Vision. Each of these documents also proposes regional targets, including those for Jakarta. A full comparison of targets can be found in Table 2.

Table 3. Comparison of Jakarta's Climate Commitment Documents
Source: Analysis of Think Policy, 2025

Docs	Climate Targets (Emission Reduction Target)		
	Baseline	Target	Notes
MABI Action Plan (2020)	38.028 (2010)	BAU 106.558 74.196 (If 30% reduction) 54.772 (If 50% reduction)	2030 target in thousand tonne CO ₂ e Has sectoral details on: 1. AFOLU 2. Energy 3. Waste
RPJPN (2024)	38,6% (2025)	93,5% (2045)	National target as one of the 5 main 2045 development indicators
RPJMN (2024)	35,3% (2025)	45,17% (2029)	National target
	14,65% (2025)	22,01% (2029)	<i>Proposed Jakarta Target</i>
RPJPD (2025)	13% (2025)	25,43% (2045)	One of Jakarta's main target as Global City
RPJMD (2025)	18,86% (2024)	19,94% (2030)	Retrieved from Final Draft of RPJMD

Our policy review shows that Jakarta currently does not have detailed mitigation and adaptation indicators at the sectoral level. The existing plan focuses only on cumulative emission calculations. Although the MABI climate action plan includes sectoral targets, there is a need for stronger alignment between sectoral strategies and these targets, especially in adaptation planning. The only detailed data gathering process is shown through the implementation of GHG Inventory (IGRK) as the main indicator by DLH.

Interviews with various technical agencies confirm these gaps.
Key findings include:

- 1 **DLH** has a structured set of indicators for GHG inventory (IGRK) via IPCC frameworks but **struggles to integrate data from other sectors (e.g., energy, green building).**
- 2 **DTKTE** focuses on energy efficiency indicators like IKE and PLTS production but **needs standardized conversion to tCO₂e emissions reductions.**
- 3 **DCKTR** applies BGH indicators (13 principles) but only during design and construction stages; **there's no continuity in operational outcomes monitoring.**
- 4 **Biro Perkeu** has minimal indicator usage for climate-related programs, focusing instead on budgeting classifications without systematic links to climate outcomes.

While each agency's system is effective in its own domain, the absence of shared metrics means indicators remain incompatible across sectors. For example, DTKTE's energy efficiency gains are not systematically translated into emission reductions in DLH's inventories. Likewise, Biro Perkeu's budget tagging for climate-related programs is not consistently connected to measurable performance indicators. Without a shared indicator taxonomy that connects planning, budgeting, implementation, and reporting, Jakarta's leadership faces inconsistent narratives on climate progress.

Table 4. Recap on Greenhouse Gas Inventory (IGRK) Data collection
Source: Analysis of Think Policy, 2025

Data Sources	No. of Institutions	No. of Indicators	Summary
OPD	10	60	OPDs cover indicators across sectors (energy, building, waste, forestry, and agriculture). Mix of mitigation and adaptation indicators
BUMN/D	11	35	Energy indicators are mostly focused on mitigation, some overlaps in wastewater treatment
National Agencies	3	13	BPH Migas and NTMC support mitigation; BKSDA covers adaptation through AFOLU monitoring
Private	4	20	Focusing on energy efficiency, buildings, and fuel use. Most indicators are mitigation-oriented

On the other hand, GHG Inventory (IGRK) by DLH, collects data from government agencies (OPDs), state-owned enterprises, and private actors. Submissions are currently made through office memos, Google Drive, and the trial-based SIGRK dashboard. The system covers a broad set of mitigation indicators as well as adaptation-related data, including forestry, agriculture, and green space. It functions as a single data collection process used for multiple reporting needs. DLH formalizes the results through Office Memos (Nota Dinas), which serve as official communication channels. As shown in Table 3, IGRK requires inputs from a wide range of stakeholders and indicators.

Despite this coverage, IGRK primarily reports aggregate emissions and does not provide sector-specific analysis.

This limits its ability to show which programs have the most impact or where efficiency gaps remain. Developing a sectoral evaluation framework would make IGRK more actionable by improving transparency, identifying priority areas, and guiding policy adjustments.

This misalignment has led to a lack of granularity and detailed accountability in monitoring Jakarta’s climate targets.

Progress is tracked mostly through aggregated figures rather than sector-specific performance, making it difficult to pinpoint effective interventions or areas needing support. As shown in Table 3, there are “missing middle” indicators that should connect emission reduction targets at the impact level with the technical indicators managed by each OPD. Although the MABI climate action plan outlines sectoral targets, these are not yet reflected in the RPJMD. Without clear alignment between formal planning documents, OPDs will struggle to interpret and translate these targets into compatible, cross-sectoral indicators.

No	Wali Data	Variabel	Definisi operasional	Periode Data Dibutuhkan	Tingkat	Forma
1	Direktorat Direktorat Jenderal Pengelolaan Ruang Laut - Kementerian Kelautan dan Perikanan	Data spasial terkait batas wilayah pesisir	Data yang terkait dengan lokasi geografis atau ruang. Data ini mencakup koordinat geografis, geometri objek, dan informasi tambahan yang terkait batas wilayah pesisir	2022-2024	Provinsi	shp.; Tiff
		zona rawan bencana pesisir.	Area di wilayah pesisir Jakarta yang memiliki tingkat risiko tinggi terhadap berbagai bencana terkait pesisir seperti banjir rob, erosi pantai, dan intrusi air laut, yang diidentifikasi berdasarkan analisis data historis kejadian bencana, karakteristik fisik wilayah, dan proyeksi perubahan iklim.	2022-2024	Provinsi	shp.; Tiff
		keanekaragaman hayati di kawasan pesisir (karang, mangrove, dan lamun)	Informasi terkait sebaran keanekaragaman hayati seperti mangrove, lamun, dan karang	2022-2024	Kab/kota	Tabel
		sumber daya perikanan yang rentan terhadap perubahan iklim	Data jenis ikan/tangkapan yang terancam oleh perubahan iklim	2024	Kab/kota	Tabel
		program atau aksi adaptasi di pesisir dan kepulauan	Daftar kegiatan adaptasi yang telah dilakukan di wilayah pesisir dan pulau-pulau.	2024	Kab/kota	Tabel
2	Direktorat Adaptasi Perubahan Iklim - Kementerian Lingkungan Hidup	Peta tutupan lahan	Citra atau peta yang menggambarkan jenis penggunaan lahan.	2024	Kab/kota	shp.; Tiff
		Data indikator kerentanan	Indikator yang mencerminkan tingkat kerentanan wilayah terhadap dampak perubahan iklim.	2024	Kab/kota	Tabel
		Jumlah dan karakteristik proklam di Jakarta	Data jumlah dan deskripsi program kampung iklim di Jakarta.	2024	RT/RW	Tabel
		Rekomendasi Rencana Aksi Adaptasi	Saran strategis untuk implementasi aksi adaptasi iklim.	2024	Kab/kota	Tabel
		Kajian Dampak dan Aksi Adaptasi di lingkup Jakarta	Analisis dampak perubahan iklim dan respon adaptasinya di Jakarta.	2024	Kab/kota	Tabel
3	Direktorat Lingkungan Hidup - Bappenas	analisis kerugian akibat dampak perubahan iklim sektoral	Analisis kerugian baik materi dan fisik pada berbagai sektor (misalnya, pertanian, perikanan, infrastruktur, kesehatan) akibat perubahan iklim	2022-2024	Kab/kota	Tabel
		Daftar rekomendasi aksi adaptasi	Kumpulan tindakan atau strategi yang diusulkan untuk mengurangi kerentanan dan meningkatkan ketahanan terhadap dampak perubahan iklim	2024	Kab/kota	Tabel
		Indikator capaian pelaksanaan aksi adaptasi dan rencana pembangunan	Indikator yang digunakan untuk memantau dan mengevaluasi kemajuan dalam implementasi aksi adaptasi perubahan iklim di wilayah Jakarta.	2024	Kab/kota	Tabel
4	Deputi Bidang Informasi	Data historis kenaikan suhu air laut	Data suhu permukaan laut yang diukur secara berkala di	1995-2024	Kab/kota	Tabel; Tiff
Kebutuhan Data +						

Figure 10. List of GHG Inventory Data from Various Stakeholders
Source: DLH Internal Tracker, 2025

Table 5. Alignment of Jakarta's Sectoral Climate Commitments

Source: Analysis by Think Policy, 2025

Sectoral Indicators (Output/Outcome)		Sectoral Climate Target (Outcome)		ER Target (Impact)
OPD Sectoral Plans * <i>Several indicators as illustration</i>		RPJMD	MABI Action Plan (ER Target)	RPJMD & MABI Action Plan
1	Green Open Spaces Coverage (%)	Currently no existing sectoral ER targets formalized	AFOLU BAU 59,8	In MABI action Plan BAU 106.558
2	Integrated Green & Blue Infrastructure Coverage (%)		79,10 (If 30% Reduction) 32,37 (If 50% Reduction)	74.196 (If 30% Reduction) 54.772 (If 50% Reduction)
3	Waste Management Coverage (%)	Currently no existing sectoral ER targets formalized	Waste BAU 4.233	In RPJMD 19,94% (2030)
4	Housing coverage of waste management (%)		2.804 (If 30% Reduction) 2.175 (If 50% Reduction)	
5	Energy Consumption Index in Building Reduction (%)	Currently no existing sectoral ER targets formalized	Energy BAU 82.237	
6	Renewable Energy Coverage (%)		61.548 (If 30% Reduction)	
7	EBT Coverage in Primary Energy (%)		42.783 (If 50% Reduction)	
Review: Possible Alignment From the current document there is no clear alignment shown between output up to impact indicators. There needs to be a more indepth review.		Review: Partial Alignment Currently the mandated indicators on MABI action plan are not connected with the main planning and budgeting document.		Review: Aligned The impact indicators are formally aligned between RPJMD and MABI Action Plan

B On Reporting Framework: Multiple Demands on Reporting Climate Targets

Jakarta's Greenhouse Gas Inventory (IGRK) is the city's main tool for collecting and monitoring emissions data across sectors. Mandated under Governor Regulation No. 90/2021, it supports the Regional Low-Carbon Development Plan (RPRKD) and underpins Jakarta's targets of reducing emissions by 30 percent by 2030 and achieving net-zero by 2050. In reporting these targets the current reporting landscape is highly fragmented and burdensome.

In practice, however, **the reporting system that feeds into these targets is fragmented and places a heavy burden on local agencies.**

As previously said in the interview:

Setiap instansi punya sistem pelaporan sendiri: ada yang melalui nota dinas ke asisten, ada yang melalui sistem unggahan (uploading system) ke Bappeda. Ini menambah beban kerja dan membuat data sulit diintegrasikan." (Interview with OPD, August 2025)

The Environmental Agency (DLH) is the formal custodian of the IGRK and is responsible for consolidating climate data. While DLH is the only agency directly accountable for reporting on climate targets, it relies on inputs from many other OPDs. This resulted in DLH faced with data consolidation challenges, varying report needs, with a limit on coordinating authority.

For OPDs, this means they face multiple and overlapping reporting demands. Some of their data is already channeled into the IGRK through DLH, but many OPDs are also required to prepare separate reports for different city-level, national, and international stakeholders. This duplication consumes time and resources, often without giving OPDs a clear picture of how their contributions connect to Jakarta's broader climate goals.



The outputs are then disseminated upward to high-level stakeholders, each with distinct needs and systems

1. Bappeda uses the data for program monitoring and integration into planning tools like E-KSD and Smart Budgeting.
2. Bappenas requires inputs for national budgeting, particularly through the Aksara system.
3. The Provincial Secretariat (Sekda), including the Assistant for Development and Environment (Asisten untuk bidang PLH) and the Development and Environmental Bureau (Biro untuk bidang PLH), uses the data for coordination and reporting to the Ministry of Environment (KLHK).
4. MABI (Climate Mitigation and Adaptation Team) relies on the inventory to track progress toward Jakarta's climate action targets.
5. Global reporting platforms draw on the same dataset to assess Jakarta's climate impacts and carbon reduction achievements.
 - a. In 2023, Jakarta achieved an "A" score, the highest possible rating, in the global CDP-ICLEI (Carbon Disclosure Program-International Council for Local Environmental Initiatives) reporting platform. This recognition reflects the city's strong climate action planning, transparent disclosure, and commitment to international standards of climate governance.

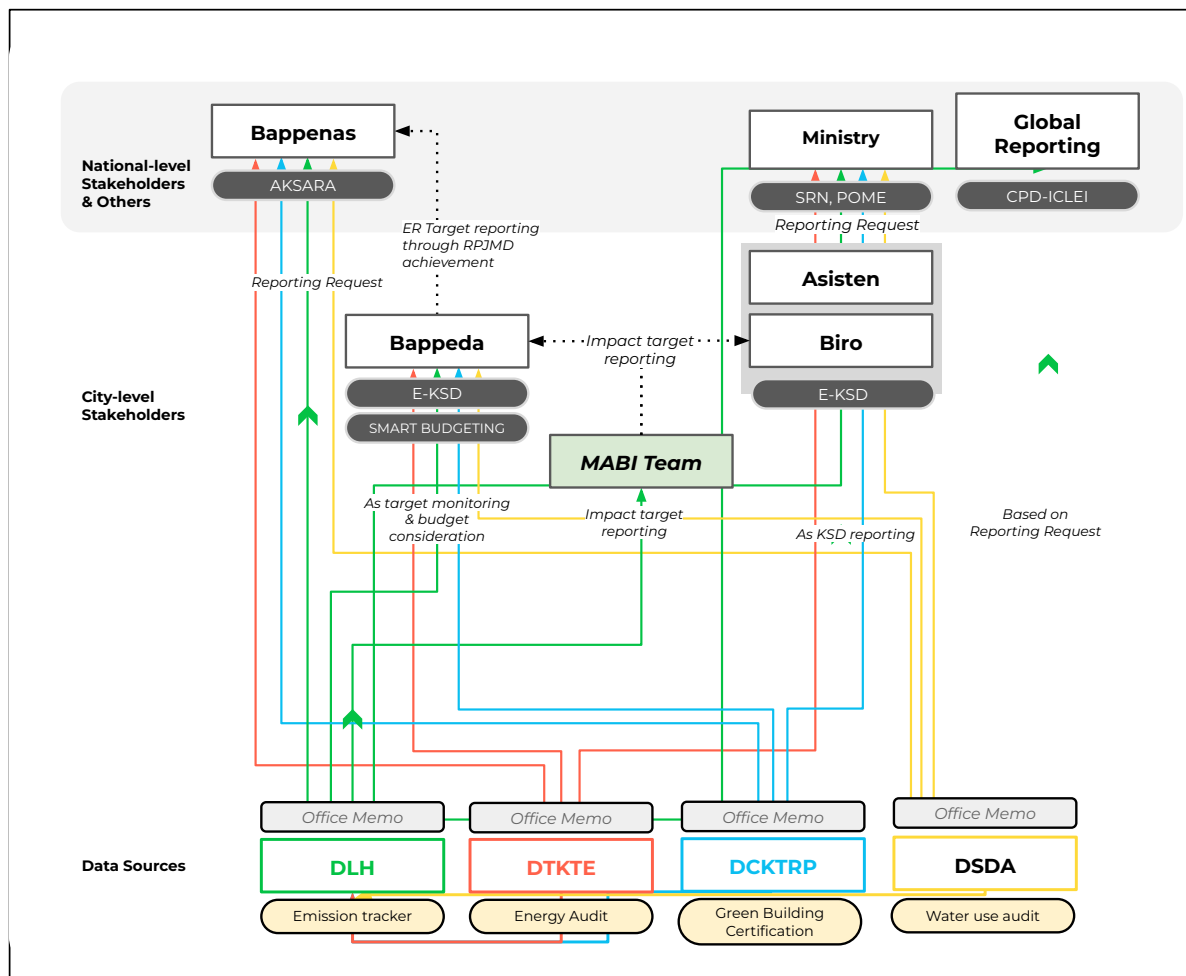


Figure 11. Illustration of the Multiple Reporting Flows Mandated for Various OPD

Source: Analysis by Think Policy, 2025

C

On Monitoring Efforts: Siloed and Challenging Data Collection Process

Data collection processes across Jakarta's OPDs are well-established within sectors but no established cross-sectoral management institutions which creates a very siloed and challenging process. Each agency collects, manages, and stores its datasets independently, often using variables and formats tailored to its mandate. Some key findings are stated in table 5.

Jakarta's climate governance system still faces challenges in monitoring and evaluating progress effectively. Although Jakarta's OPDs have made notable efforts to monitor and report on climate programs, the lack of a common data structure and an integrated monitoring, evaluation, and reporting (MER) process makes it difficult to combine data and connect program activities with real climate outcomes. Data collection remains a major challenge as previously said in the interview:

Untuk Tim MABI, ada juga monev berbasis kertas kerja dari Pergub 90. Masalahnya, akses data masih terbatas, DLH tidak bisa mengakses data dari instansi lain, padahal butuh untuk pelaporan GRK. Misalnya, di kertas kerja mitigasi bisa terlihat siapa yang sudah melapor, tapi diadaptasi belum lengkap karena data dari SKPD belum masuk."
(Interview with OPD, August 2025)

Many OPDs still rely on manual methods, limited staff capacity and the absence of specific monitoring roles often leads to delays and incomplete datasets.

For instance, DTKTE and DCKTR struggle to gather consistent data due to a shortage of technical staff and overlapping responsibilities, which affects the quality and timeliness of reporting (See Figure 12 as example of Internal Tracker). These gaps show that improving the MER framework and strengthening data management systems should be treated as a strategic priority to support better climate governance. As a result of the current situation, leadership often receives fragmented reports rather than consolidated, evidence-based insights.

Table 6. Insights on Data Collection and Management Process of DKIJ

Source: Analysis by Think Policy, 2025

Work Unit		Analysis
1	Bappeda	Bappeda currently relies on the KSD/e-KSD system to collect and monitor data on strategic activities and budget realization. While the system effectively captures planning and implementation milestones, it is not designed to collect or analyze climate-related outcome data.
2	Biro PLH	- Biro PLH mainly collects reports from various OPDs and compiles them for city leaders. However, there are no standard formats or guidelines for data collection and reporting. As a result, the quality, depth, and structure of the data vary between OPDs. - The lack of standardized methodologies weakens its ability to translate OPD reports into actionable insights for climate policy improvement.
3	DLH	DLH leads on emissions accounting through the SIGD platform, which tracks greenhouse gas inventories based on IPCC methodologies. However, SIGD depends heavily on activity data from other OPDs, including DTKTE, DCKTR, and Bappeda, and often receives incomplete or non-standardized inputs. DLH is also responsible for data conversion and analysis, with technical assistance provided by ITB to ensure methodological consistency and data quality.
4	DTKTE	- There are not enough resources on data collection for energy audit and gathering energy performances of Jakarta's government and private buildings (including green building practices); have led to inconsistent data inputs and quality, making it difficult to track progress and impacts accurately. - DTKTE has begun piloting IoT-based dashboards with technical support from UGM for real-time energy monitoring and continues to conduct energy audits and track rooftop solar (PLTS) generation. While this represents a significant technical advancement, these datasets are not yet connected to SIGD or KSD.
5	DCKTRP	- DCKTRP enforces compliance with Bangunan Gedung Hijau (BGH) principles using a 13-point checklist during the design and planning stages. However, once buildings are constructed, operational performance data, such as actual energy and water consumption, is not systematically collected. - The absence of post-construction monitoring limits the ability to evaluate whether BGH-compliant designs achieve their intended sustainability outcomes.
6	Biro Perkeu	- Biro Perkeu oversees climate-related budgeting through tagging mechanisms but still relies on manual reporting (nota dinas) without an integrated digital platform. Moreover, climate-related budget tags are not linked to performance indicators, making it difficult to assess whether investments translate into measurable outcomes. - Biro Perkeu's reports remain administrative rather than analytical.

No	Nama Bangunan Gedung Pemda	Luas Lantai Ber AC (Dikondisikan) *Estimasi m2	Konsumsi Listrik 2019 (kWh)====> LWB*WBP											
			Januari 2019	Februari 2019	Maret 2019	April 2019	Mei 2019	Juni 2019	Juli 2019	Agustus 2019	September 2019	Oktober 2019	November 2019	Desember 2019
1	Gedung Kantor Walikota Jakarta Pusat	9.100	91.320	90.704	83.120		88.733	86.120	88.733	88.733	88.733	88.733	88.733	92.400
2	Gedung kantor Walikota Jakarta Utara	21.002	503.000	546.000	497.800	527.650	512.400	497.200	408.250	545.450	509.400	515.500	575.700	547.400
3	Gedung Kantor Walikota Jakarta Barat	42.804	513.700	513.700	552.240	634.620	616.440	563.460	513.700	646.920	602.400	612.720	631.500	
4	Gedung Kantor Walikota Jakarta Selatan	29.652	516.480	518.800	471.200	498.080	503.680	493.360	410.880	547.360	520.480	517.600	577.680	
5	Gedung Kantor Walikota Jakarta Timur	61.798	729.890	724.990	658.490	688.170	699.650	709.170	666.050	747.740	718.060		760.270	710.248
6	Gedung Kantor Balai kota Blok G	45.599	969.240	1.000.440	897.000	949.200	929.640	954.600	853.440	1.024.080	988.680	963.000	1.052.760	980.520
7	Gedung Dinas PPAPP	4.480	2.640	17.923	25.200	25.200	25.200	41.208	36.792	43.720	41.816	43.344	48.984	46.016
8	Gedung Kantor Dinas Pendidikan	14.606	49.256	153.616	158.016	122.064	122.208	131.536	107.936	135.648	131.888	137.136	148.992	130.176
9	Gedung Kantor Dinas Teknis Abdul Muis	19.152	431.160	439.000	393.760	439.280	429.040	428.960	378.080	492.480	469.760	474.320	517.880	466.400
10	Gedung Dinas Perpustakaan dan Kearsipan	21.025	287.313	300.897	268.271	286.318	291.116	298.898	265.639	273.673	262.962	287.759	303.379	284.303
11	Gedung Dinas Perumahan Rakyat dan Kawasan Permukiman	7.820	75.336	75.840	69.368	71.616	71.832	74.704	62.632	81.208	75.048	77.872	87.936	82.816
12	Gedung Dinas PM PTSP	11.929	141.504	141.504	141.504	141.504	129.324	135.096	117.528	147.264	141.504	148.764	167.028	145.524
13	Gedung Dinas Kesehatan	7.519	137.590	148.940	132.590	139.740	143.220	154.640	116.630	152.040	147.540	157.900	167.820	137.440
14	Gedung Dinas Penanggulangan Kebakaran dan Penyelamatan	25.312	164.080	168.440	185.998	168.460	177.300	204.960	177.860	191.340	166.100	169.760		
15	Gedung Dinas Teknis Jatibaru	17.920	242.720	219.616	203.616	218.528	229.856	223.904	207.488		236.320	244.256	225.145	225.145
17	RATA-RATA Standar IKE Pergub 38/2012 = 250	22.648	323.682	337.361	315.878	350.745	331.309	333.188	294.109	365.547	340.046	317.047	382.415	320.699

Figure 12. Current Internal Tracker for Green Building and Energy (DCKTRP)

Source: DCKTRP internal tracker, 2025

As a result, leadership frequently receives fragmented reports instead of consolidated, evidence-based insights. There is also limited understanding of the extent of missing data within the Greenhouse Gas Inventory (IGRK). Several respondents noted that data gaps often remain unidentified until external audits take place. For instance, discrepancies were identified between the data compiled by DLH and the information submitted directly by other OPDs to BPK during an audit.

This reflects DLH's constrained authority in obtaining complete and timely data from multiple sources. Although DLH is responsible for coordinating the IGRK, its role depends on voluntary data submissions from various OPDs and external entities. Some stakeholders tend to prioritize reporting to higher-level institutions, which can result in incomplete datasets at the DLH level. Consequently, missing data are often detected only after external assessments, indicating a need for stronger data coordination, verification mechanisms, and internal oversight within the reporting process.

D On Learning Efforts: Ineffective Output and Outcome Level Problem-solving Loop

In Jakarta, the current MABI framework does not provide an optimal learning process. There is no programmatic feedback loop to improve climate action activities, and the only existing mechanism takes place annually through the MABI working group meeting. With only one cross-sectoral meeting per year, substantive feedback is limited, and the issues that can be addressed are often superficial. From interviews, it was clear that this results in climate action being implemented at only a minimum level, with no meaningful feedback generated to guide improvement.

In practice, each OPD continues to conduct its own data gathering and monitoring according to its specific mandate under DKI Jakarta's governance structure and Law 23/2014. As each agency works within its own scope of authority without any coordinated mechanism to integrate indicators/metrics across the city's climate agenda.

DKIJ has invested in multiple digital systems while also being connected with various national dashboards. Planning and budgeting tools such as KSD/e-KSD track strategic activities and budgets but do not capture consistent climate outcome data. Climate-specific platforms like SIGD, which manages GHG inventories, depend heavily on manual data entry from multiple OPDs, while DTKTE's IoT dashboards offer detailed energy monitoring but are not linked to emissions accounting or planning systems. Meanwhile, SIPD supports national budget alignment but functions separately from local climate tools, and Biro Perkeu continues to rely on manual processes rather than automated, digital approaches.

Together, these gaps highlight the urgent need for Jakarta to establish a learning cadence. Such a process should strengthen institutional improvement, create mechanisms for regular and substantive feedback, and connect existing digital platforms into a single interoperable dashboard.

E **Energy and Green Building Policy:** Ineffective Monitoring Process

Despite regulations promoting green building practices, Jakarta's building sector remains a major source of GHG emissions, with approximately 7% of the city's total coming from buildings and construction activities. While regulations for green buildings are in place, implementation has been constrained by uneven enforcement, gradual uptake of energy-efficient technologies, limited incentives for sustainable construction, and the absence of a dedicated MER framework to track progress.

In response, C40 and DKI Jakarta have collaborated to develop a theory of change and a set of activities to strengthen monitoring and reporting on Green Building Policy and Net Zero Emission Carbon Roadmap as a part of SHIA (Sectoral High Impact Action) in Jakarta CAP. This provides a strong foundation, though there remain opportunities to refine the framework to better capture outcomes and align with international best practices. (as shown in Chapter I: Introduction.

This section focuses on two critical sectors of Jakarta's Climate Action Plan (CAP): 1) Green Building and 2) Net Zero Carbon Building Roadmap). Both sectors are central to Jakarta's pathway toward emission reductions, given that buildings account for a substantial share of the city's GHG emissions. The analysis is structured around three dimensions: sectoral indicators, theory of change (ToC), and monitoring efforts, with a focus on how existing practices can be better aligned to deliver measurable mid-term and long-term climate outcomes.

1 Improving Green Building Policy Outcome

The existing ToC for Green Building Policy already identifies “increased compliance” as a key outcome. However, current indicators mostly capture process compliance (e.g., number of inspections), without reflecting substantive efficiency gains.

Current monitoring of building performance in Jakarta is based on the number of buildings submitting reports on energy and water efficiency. While this indicator tracks compliance, it does not reveal whether efficiency improvements are actually being achieved. As a result, reporting remains focused on inputs rather than on measurable outcomes that reflect progress toward sustainability goals.

To address this gap, it is necessary to revise the mid-term outcome indicator to focus on the proportion of green buildings in Jakarta that demonstrate real improvements in energy efficiency and emissions reduction. This shift would move the system from tracking compliance alone to capturing substantive sustainability performance. A complementary outcome would be stronger alignment between reporting requirements and actual environmental results, ensuring that compliance contributes directly to the city’s broader climate targets.

Monitoring efforts should also be strengthened by building on previous recommendations to establish a dedicated reporting system for building owners. Rather than serving as a one-way compliance tool, this system should operate as a feedback mechanism. It should be capable of recording energy and water savings at the building level, translating these results into greenhouse gas reductions, and feeding the information into Jakarta’s citywide GHG inventories managed by the Environmental Agency (DLH). This approach would improve data quality, enhance accountability, and ensure that building-level actions are meaningfully integrated into Jakarta’s overall climate strategy.

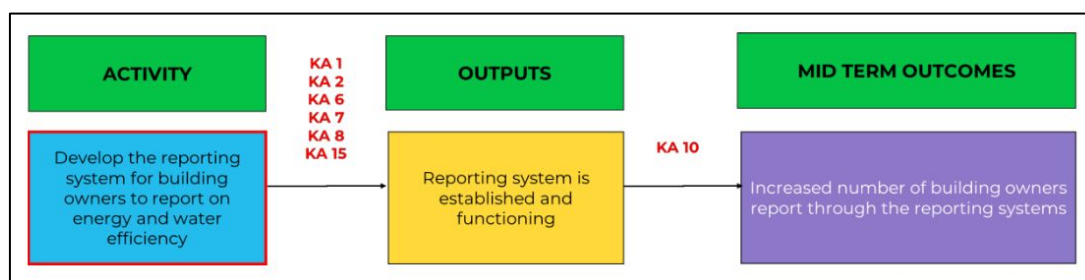


Figure 13. Causal Pathway from Developing The Report System for Building Owners to Output and Mid-term Outcome

Source: Monitoring & Evaluation (M&E) Framework for Climate Action Implementation in Quezon City, Jakarta and Kuala Lumpur, C40, 2025

2 Improving Net Zero Carbon Monitoring Process

In Jakarta, buildings are among the largest contributors to greenhouse gas (GHG) emissions, accounting for 69 percent of overall emissions in 2021.

Within this, commercial buildings contributed 28 percent, while residential activities contributed 27 percent. These high levels of emissions are driven by intensive energy use, limited adoption of energy-efficient appliances, and the absence of clear policy pathways toward achieving net-zero emissions in the building sector. Without decisive climate action, the risks of climate change will disproportionately affect vulnerable groups in the city.

The city government has already begun developing tools to monitor energy use in buildings. However, a clear monitoring plan and feedback loop are not yet visible. It remains unclear how often monitoring will take place, what cadence will be adopted, and which actors will review the data. These gaps risk limiting the usefulness of monitoring for policy adjustment and alignment with Jakarta's sectoral climate targets and the Regional Medium-Term Development Plan (RPJMD).

A stronger Monitoring, Evaluation, and Reporting (MER) framework is therefore needed. Building on previous consultant deliverables that tested MER frameworks across three cities, Jakarta can adapt and expand these approaches. The framework should begin with mapping the types of buildings (e.g., commercial, residential, public) and designing a clear reporting flow. This structure will help establish accountability for both data collection and decision-making.

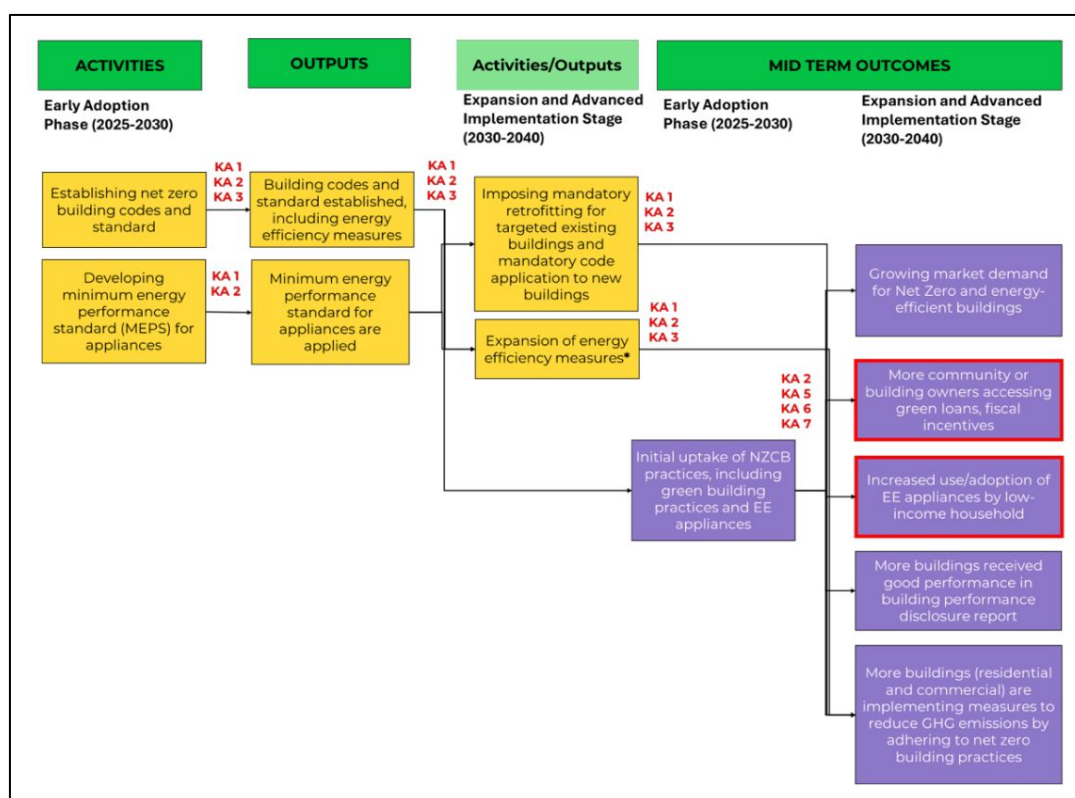


Figure 14. Causal Pathway from Activities to Establish and Impose Net-Zero Building and Appliance Standards to Outputs and Mid-term Outcomes

Source: Monitoring & Evaluation (M&E) Framework for Climate Action Implementation in Quezon City, Jakarta and Kuala Lumpur, C40, 2025

Box 1. Institutional and Technical Gaps in Energy Monitoring

Discussions with DTKTE highlighted ongoing difficulties in maintaining consistent energy efficiency monitoring and data reporting in Jakarta's government buildings.

Two main issues emerged: limited institutional resources and data input challenges.

First, the lack of qualified personnel in the Energy Manager role has disrupted the continuity of energy performance reporting.

Currently, the responsibility for managing and inputting energy data lies with the General Bureau (Biro Umum). Staff assigned to this task are usually trained through short capacity-building programs, even if they do not have a background in energy management. Since there is no formal career path or permanent position for Energy Managers, staff rotations happen frequently, causing interruptions in data collection. Although DTKTE has conducted training programs to improve technical skills, these efforts are not sustainable because trained staff are often transferred to other units. As a result, data entry is delayed, monitoring becomes inconsistent, and progress on energy efficiency is difficult to evaluate.

Second, while DTKTE utilizes the Pelaporan Online Manajemen Energi (POME) from Kemen-ESDM or online energy management reporting system to track building energy performance, reporting remains inconsistent. Building managers, who are expected to input data manually, face skill and technical barriers that limit the accuracy and regularity of reporting. This creates a significant data gap between planned energy reduction efforts and the ability to demonstrate tangible results.

Currently, to improve real-time monitoring, DTKTE is developing an Internet of Things (IoT)-based dashboard in collaboration with Universitas Gadjah Mada. The platform, currently piloted in ten government buildings, aims to automate energy tracking and support timely reporting. However, its long-term implementation will depend on budget allocation and integration decisions coordinated by Bappeda.

Overall, with the number of buildings existing in DKI, these findings illustrate the critical importance of DTKTE's capacity on auditing and automate data gathering efforts.

Chapter IV.

INSTITUTIONAL GAP ANALYSIS: UNCOORDINATED GOVERNANCE, EXPERTISE GAP, AND PLANNING-BUDGETING CHALLENGES



INSTITUTIONAL GAP ANALYSIS: UNCOORDINATED GOVERNANCE, EXPERTISE GAP, AND PLANNING-BUDGETING CHALLENGES

Understanding the institutional gap in MABI's governance will require understanding the broader governance process of Jakarta and the working ways of climate action.

This means evaluating the current regulatory framework of MABI on 90/2021, assessing the quality of stakeholder engagement, and examining the climate action planning process. This section will provide an in-depth outlook on how MABI works both internally and externally. Some of the findings are adaptive problems that need to be addressed by the decision making level of the DKI government (see Table 7).

Governance: Agenda Setting	Vulnerability of climate agenda to political interest.
Governance: Coordination	Lack of sectoral level coordination and unmonitored MABI implementation.
Capacity	Technical capacity gap in evaluating climate targets.
Inclusivity	Early adaptation of inclusive climate action implementation with limited indicators monitored.

Table 7. Underlying Institutional Challenges Summary

Source: Analysis by Think Policy, 2025

This section will provide an outlook on the dualism of each agency's role and the need to balance the day-to-day regional governance process with the “additional” role in MABI working groups.



A On Agenda Setting: Dependence of Planning and Budgeting MABI Agenda on e-KSD Tagging

Climate action must be integrated into the city's development planning and budgeting cycle before it can be implemented in Jakarta.

To understand the full landscape of implementation at the Jakarta level, **three key topics need to be considered:**

1. Translating climate targets into subnational actions
2. Understanding the regional planning cycle
3. Integrating development plans with climate actions and indicators

Climate targets begin with existing NDCs, LCDIs, and the Paris Agreement as the national basis. These national commitments are then translated into development targets through the RPJPN and RPJMN. From these documents, climate targets are further translated into regional development indicators within the RPJMD.

The planning cycle is governed by Permendagri 86/2017. This regulation outlines how the regional cycle operates and how it interacts with national planning and budgeting. Both national and regional governments prepare medium-term plans as well as annual workplans. Each plan includes its own indicators, programs, and budgets. At the regional level, these consist of the RPJMD, RKPD, and APBD.

Jakarta has its own climate targets set out in Pergub 90/2021, which include emission reduction targets up to the year 2050. However, this document has been treated more as a sectoral plan rather than a guiding document for all of Jakarta's development planning. As a result, additional processes are needed to ensure full integration



Separate from the formal planning process, Jakarta also uses the Regional Strategic Activity (Kegiatan Strategis Daerah, KSD) as the basis for developing the RKPD each year.

The KSD represents the Governor’s annual priorities, as stated in Governor’s Regulation 68/2018, which requires a quarterly breakdown of activities under each theme. The KSD process is monitored by the Regional Secretary (Sekda) and related bureaus. In 2023, there are 10 themes and 23 subthemes, including climate action (Governor’s Decree on Cita Provinsi, 2023).

Between 2018 and 2024, Jakarta’s climate action plan was implemented through the KSD mechanism. Climate action, which includes both mitigation and adaptation, was positioned as one of the sub themes within the KSD. In 2023–2024, for example, the plan included detailed activities assigned to each OPD. These activities were discussed together with their budgets and technical details, and the information was recorded in the E-KSD system and linked to agency performance indicators as said previously in the interview:

“Alur kerja sebenarnya sudah jelas. Tapi dari sisi monitoring dan evaluasi, pelaksanaannya masih parsial. Bappeda melakukan monitoring triwulanan, dan capaian SKPD diunggah ke sistem sebagai acuan tunjangan kinerja.” (Interview with OPD, August 2025)

However, in early 2025, based on Governor’s Instruction 1/2025, MABI was not included in the selected themes. As a result, climate-related programs were not tagged in the planning and budgeting system. The newly elected governor introduced a 100-day program as the basis for the E-KSD and prioritized different focus areas. This change marked a shift from the previous KSD approach and created uncertainty of CAP implementation in the KSD format.

RENCANA AKSI KEGIATAN STRATEGIS DAERAH TAHUN ANGGARAN : 2024 KEGIATAN STRATEGIS DAERAH : PERBAIKAN KUALITAS LINGKUNGAN HIDUP SUB KEGIATAN STRATEGIS DAERAH : MITIGASI DAN ADAPTASI BENCANA IKLIM						
RENCANA AKSI	SUMBER PENDANAAN	PENANGGUNG JAWAB	INSTANSI TERKAIT	KRITERIA KEBERHASILAN	TARGET	KETERANGAN
1	2	3	4	5	6	7
1 Monitoring implementasi dan evaluasi Tim Kerja MABI	APBD	DINAS LINGKUNGAN HIDUP	BIRO HUKUM,BADAN PERENCANAAN,PEMBANGUNAN DAERAH,DINAS CIPTA KARYA, TATA RUANG DAN PERTANAHAN,DINAS BINA MARGA,DINAS PERHUBUNGAN,DINA S KETAHANAN PANGAN, KELAUTAN DAN PERTANIAN ,DINAS PENANAMAN MODAL DAN	Tersedianya data Inventarisasi Profil Emisi gas Rumah Kaca dan Pelaporan Penurunan Emisi Gas Rumah Kaca Provinsi DKI Jakarta Tahun 2024	TARGET B.03 Dokumen Perencanaan Pengadaan Jasa Konsultansi	

Figure 14. Section of Detailed Breakdown on Quarterly Planning of Climate Action (MABI Subtheme) on Renaksi KSD 2024
Source: Rencana Aksi Kegiatan Strategis Daerah, 2024

In parallel with the e-KSD process, the implementation of Pergub 90/2021 continues to require monitoring and reporting by the MABI team through annual MABI meetings. This means that, although budgeting and planning for climate actions take place within the e-KSD system, a separate process is still maintained for oversight under Pergub 90/2021.

Although Jakarta already has systems to implement and monitor climate actions each year, the continuation of these programs still depends strongly on political decisions.

Since KSD priorities are reviewed and set every year, there is no certainty that climate action will always remain a top focus. Interviews with Bappeda show that, as of now, the 2025 KSD has not confirmed the inclusion of activities under MABI's implementation. This shows that the sustainability of Jakarta's climate agenda depends not only on technical readiness, but also on strong political commitment and consistent governance.

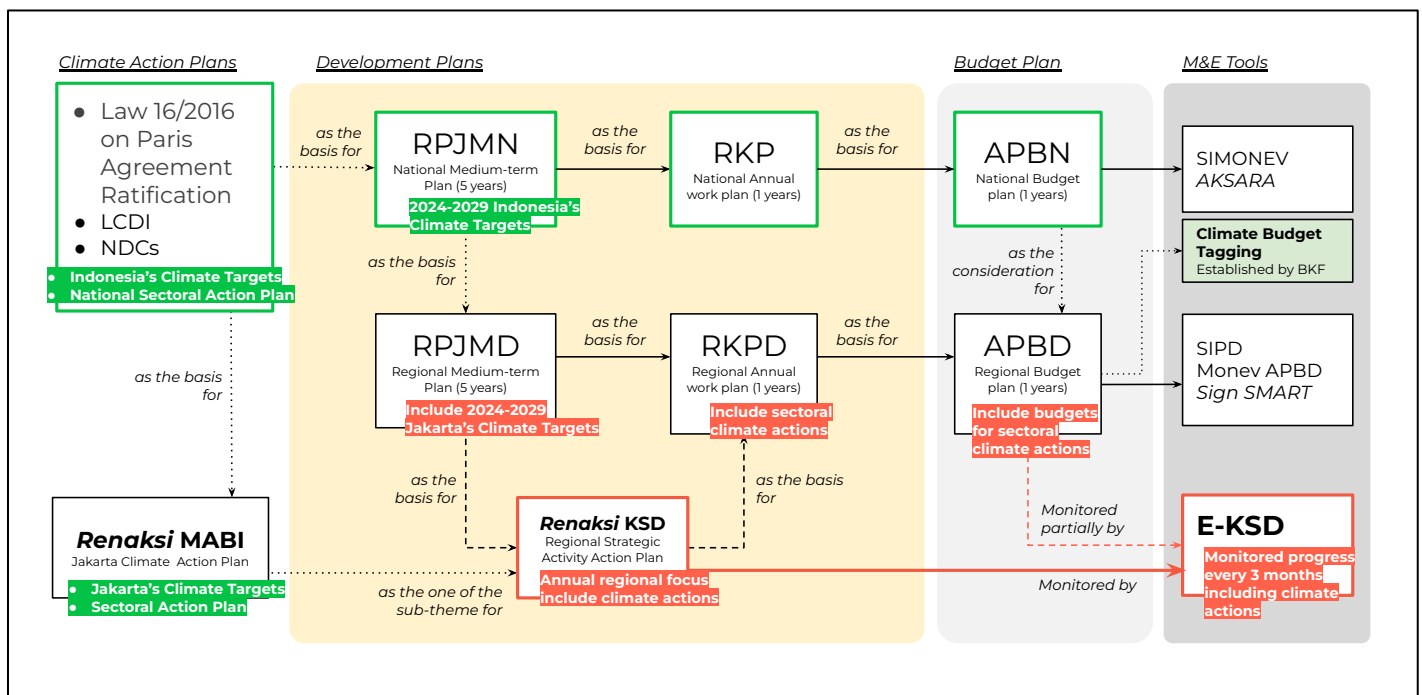


Figure 15. Illustration of Climate Action (Renaksi MABI) Alignment with Regional Development Plans & Budgeting (RKPD, RPJMD, APBD) Process

Source: Analysis by Think Policy, 2025

Box 2. Regional Climate Budget Tagging by BKF with DKIJ

Climate Budget Tagging (CBT) is a public financial management tool used to identify, track, and classify portions of government budgets that directly contribute to climate change mitigation and adaptation. In Indonesia, CBT has been adopted to strengthen accountability, transparency, and alignment between development financing and climate commitments, including the national target of reducing greenhouse gas emissions by 29 percent by 2030 (Ministry of Finance of the Republic of Indonesia, 2021). By “tagging” relevant budget lines, governments are able to assess how much of their expenditure supports low-carbon development and whether these allocations are producing meaningful outputs and outcomes.

In the context of Jakarta, where climate vulnerabilities intersect with urban challenges such as transportation, waste management, and energy use, CBT plays a crucial role in ensuring that climate considerations are not treated as a separate agenda but are fully integrated into regional planning and budgeting. Implementing CBT allows Jakarta’s government to track the extent to which sectoral programs, from public works to health and education, deliver co-benefits for climate action. This process also enables more evidence-based decision-making, strengthens transparency in the use of public funds, and ensures that fiscal resources are strategically aligned with Jakarta’s climate action commitments. By embedding CBT into its budgetary system, Jakarta positions itself not only to monitor climate-related spending but also to leverage its financial planning as a driver of systemic reform toward sustainable and resilient urban governance (Ministry of Finance of the Republic of Indonesia, 2021).

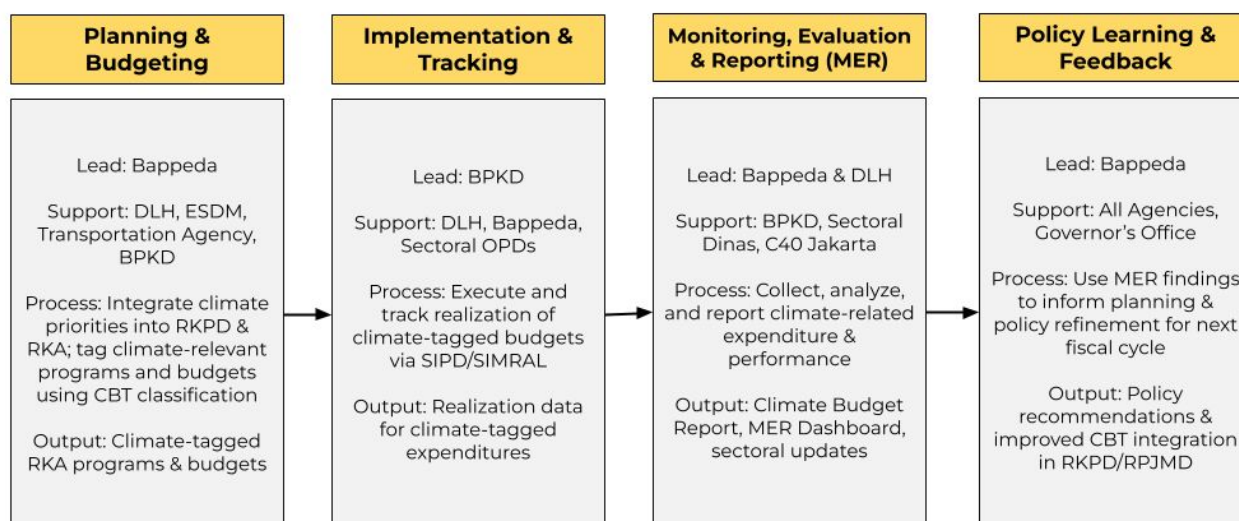


Figure 16. Climate Budget Tagging Mechanism Illustrated

Source: Ministry of Finance of the Republic of Indonesia. (2021). Climate budget tagging: Strengthening climate response through public financial management. Government of Indonesia

Based in the interview, MABI faces several operational challenges:

- 1 The Environmental Agency (DLH) acts as the daily chair of MABI, but its ability to oversee and monitor activities across all groups is limited..**
Some working groups, especially Groups 3–5, do not have clear output or outcome indicators, and their work is not directly linked to specific adaptation or mitigation measures.
- 2 MABI helps coordinate stakeholders, but it cannot enforce standardized reporting or require agencies to share data.**
This makes it hard to ensure that climate monitoring is consistent and complete.
- 3 Outside of annual climate action meetings, non-state actors have little visibility into planning and implementation,**
which limits opportunities for them to contribute to climate goals.
- 4 The lack of a cross-sectoral data management system makes monitoring even more complicated.**
Without clarity on where climate data is kept, who manages it, and how it is used in reporting, coordination becomes fragmented.
- 5 Because reporting happens only once a year, MABI does not have a regular system to monitor progress or learn from implementation.**
Without more frequent tracking and review, it is difficult to see progress, identify problems early, and adjust plans as needed.

After gaining a deeper understanding of the Monitoring, Evaluation, and Reporting (MER) framework through the training sessions, **Jakarta's OPDs identified several key challenges within MABI's coordination functions that affect the effectiveness and integration of MER implementation across the city. Similar but complex findings are identified, such as:**

1. Limited clarity on institutional roles in MER coordination

MABI units expressed uncertainty regarding how their administrative and coordination functions connect to the overall MER ecosystem. While they are often positioned as facilitators of governance processes, their role in ensuring cross-bureau accountability for climate-related monitoring and reporting remains unclear. This has led to fragmented follow-up between planning (Bappeda), implementation (technical dinas), and oversight functions.

2. Challenges in translating policy directions into measurable outcomes

MABI officers noted that many strategic objectives in governance reform and institutional efficiency are defined at the policy level but lack specific, measurable indicators. This creates difficulties in linking administrative reforms to climate-related results, as well as in reporting progress that reflects real governance impact.

3. Limited integration between administrative reforms and climate governance goals

The unit's focus on bureaucratic reform, service quality, and coordination does not yet explicitly incorporate climate-related performance targets. As a result, climate accountability is often viewed as a technical or sectoral issue rather than a governance issue, limiting the use of MER as a reform driver.

4. Absence of standardized reporting templates and guidance

Officers highlighted the lack of common reporting standards or guidance for documenting climate-related governance reforms. This creates inconsistencies in how progress is recorded, reviewed, and communicated across bureaus and offices under MABI's coordination scope.

5. Coordination challenges with technical agencies (dinas) and planning units

MABI's oversight role requires strong linkages with Bappeda, DLH, and sectoral agencies. However, communication remains ad-hoc and often reactive rather than strategic. This makes it difficult to ensure that monitoring results inform broader governance improvements or policy alignment.

These challenges result in the different levels of understanding about climate outcomes among OPDs.

Agencies interpret targets and progress differently, and the absence of a clear mapping of data dashboards across OPDs makes it hard to combine information for evidence-based decision-making.

c

On Capacity: Technical Capacity Gap in Evaluating Climate Targets

Jakarta's OPDs demonstrate significant technical expertise within their respective mandates, but capacity levels are uneven across institutions, creating challenges for cross-sectoral MER. For instance, DLH has developed strong capabilities in emissions accounting but faces difficulties integrating diverse datasets into comprehensive inventories. DTKTE leads on energy audits and IoT monitoring but requires additional skills to systematically convert technical energy data into emissions-based outcomes. DCKTR effectively enforces sustainable building design standards but lacks tools to monitor performance after occupancy. Bappeda consolidates activity data for leadership but faces challenges synthesizing technical sectoral information into outcome-oriented insights. Meanwhile, Biro Perkeu manages budget tagging effectively but has limited analytical capacity to connect financial data with climate performance.

These variations in technical skills, coupled with limited opportunities for cross-sector training, contribute to inconsistent reporting quality and reduce Jakarta's ability to assess the effectiveness of its climate-related investments.

Table 7 provides an outlook on the challenges that are addressed in the workings of MABI and the learning needs that can empower each MABI's roles.



Challenges	Learning Needs	PIC / Role In MABI
Reporting - Policy Brief Writing	- Provide actionable insights to support decision making process in climate targets' achievements - For Biro PLH: provide insights to fast track progress in climate targets - For Biro Perkeu: provide insights in economic outcomes/impacts of climate action	Biro PLH Biro Perkeu As adviser of regional secretary
Stakeholder Engagement	- Convening various stakeholders in achieving climate targets in Climate Action Plans - Some working groups involved various CSO or NGO that are relevant to climate action	MABI Working Group Leaderships
Translating Climate Targets	- Understanding in translating each agencies' output indicators with relevant sectoral climate outcomes - Understanding in each agencies' roles and activities in adaptation and mitigation landscape - Understanding connectivity of each data and information with other OPDs' data in the greater climate commitments	Technical Agencies on Climate Actions
Data Management	- Understanding in data management and interoperability of each data dashboards - Technical understanding in data analysis on climate targets	Technical Agencies on Climate Actions

Table 9. Need Assessment on Capacity Building of Climate MER

Source: Analysis by Think Policy, 2025

To address these gaps, Jakarta's OPDs and Bureaus participated in the Capacity Building Training on MER Framework and Governance of Climate Action. This initiative aims to strengthen institutional capacity for more inclusive and outcome-oriented climate governance. The training was designed to transform Jakarta's MER framework into a more inclusive and outcome-driven system, enhancing participants' technical and adaptive competencies through lectures, discussions, group exercises, and an interactive talk show. Over two days, participants deepened their understanding of key concepts such as Theory of Change, data collection, indicator development, reporting, and communication, while exploring strategies for inter-sectoral coordination that align Jakarta's climate initiatives with Indonesia's national commitments.

The training assessment confirmed the program's effectiveness in strengthening participants' understanding and practical application of MER in the climate context. Post survey showed an increase in core knowledge about MER in climate context, improvement in participants' ability to apply change within their work, and enhancement in core competencies such as empathy, critical thinking, and leadership in applying the MER knowledge into practice. Participants achieved an average quiz score of 83%, reflecting strong knowledge retention, and rated the sessions highly for learning something new, material relevance, applicability. Qualitative feedback showed that participants could now differentiate between outputs and outcomes, formulate outcome-based indicators, and apply MER principles more strategically within their institutions.

Overall, the training served as an important pilot effort to strengthen Jakarta's institutional capacity for climate action. It improved civil servants' confidence and ability to lead, measure, and report climate initiatives, marking a significant step toward building an integrated, accountable, and results-oriented MER system for the city. However, this remains an initial step rather than a comprehensive response to Jakarta's broader and long-term capacity-building needs.

D On Inclusivity: Early Adoption of Inclusive Climate Action

Based on the Jakarta ICA Needs Assessment Report 2024, progress has been made in integrating inclusivity into climate action, but significant gaps remain across three areas: inclusive process, inclusive planning, and equitable impact. Participation and assessments are often fragmented or superficial, and the government has not systematically addressed the barriers faced by women, people with disabilities, children, the elderly, and low-income groups, who are disproportionately exposed to flooding, heat stress, and poor air quality. This section builds on the findings of the Needs Assessment and examines both existing progress and remaining challenges.

In 2025, Jakarta has finalized the Inclusive Climate Action (ICA) Checklist, supported by C40 Cities and URDI, to mainstream equity and inclusion across climate planning, implementation, and monitoring. The checklist provides a practical tool to embed inclusivity at multiple levels of governance but is still in early adoption and requires continued collaboration for full impact.

Despite this progress, it is important to revisit some broader challenges highlighted in the Needs Assessment to provide context for the remaining gaps in Inclusive Climate Action.

A key issue across all three pillars is the tendency to equate inclusion with simply inviting vulnerable groups to participate or checking whether they benefit from programs. While the ICA Checklist provides guidance, its adoption has been limited and has not yet resulted in wider efforts to remove structural barriers. Civic participation alone is often treated as sufficient, without intentionally addressing the obstacles that prevent women, people with disabilities, the elderly, low-income groups, and youth from accessing climate programs or participating meaningfully.

Effective Inclusive Climate Action requires not only bringing diverse voices to the table but also dismantling structural barriers and designing actions that respond to heterogeneous needs.

This approach aligns with global frameworks on gender and social inclusion, emphasizing that true inclusivity goes beyond consultation and ensures that climate actions lead to tangible, equitable outcomes for all residents.



Photo: Nugroho Sejati

Table 10. Inclusive Climate Action Progress and Remaining Challenges

Inclusive Climate Action (ICA)		Analysis
1	Inclusive Process	- Engagement channels like MUSRENBANG, FGDs, and CAP/CIP exist but are used inconsistently and without a unified database. - Participation often stops at consultation and rarely reaches collaboration or co-design. - Inclusion of women, children, elderly, people with disabilities, and low-income residents depends on the program. - Agencies often treat accessibility measures, such as ramps, as inclusion without addressing broader barriers that prevent vulnerable groups from benefiting from programs.
2	Inclusive Planning	- Vulnerability maps and impact assessments exist but are fragmented and voluntary. Pergub 90/2021 maps focus on geographic risk, not the specific needs of different groups or the impact of actions. - Inclusive practices exist but are not standard across programs. - Existing datasets, such as BPS microdata and Jakarta Satu maps, contain demographic data but are not fully used, especially for disability and low-income groups. - Equity and social impact assessments should be mandatory to track whether programs actually reduce vulnerability instead of only producing technical results. - The ICA checklist has been implemented and ratified for adoption and use in the early 2025 planning cycle.
3	Equitable Impact	- Only 60 percent of units report awareness of evaluation methods. Monitoring focuses on technical results, not who benefits or who is excluded. - Pergub 90/2021 provides no guidance on equity-focused evaluation. - A framework is needed to identify how vulnerable groups are affected and to verify that climate risks are reduced over time. - Clear indicators are needed to track whether programs reduce risks for women, children, elderly, people with disabilities, and low-income households.

Source: DKIJ Climate Action Need Assessment with adjustments, C4O & Think Policy 2024

B On Coordination: Unmonitored Implementation of MABI

Jakarta has a strong regulatory framework for climate action, but it lacks clear guidance on how roles and responsibilities should be carried out. Pergub 90/2021 names MABI as the main body to coordinate climate strategies, but it does not explain in detail how monitoring, reporting, or data validation should happen. Since climate action is separate from OPDs' regular duties, many agencies see MABI-related tasks as extra work rather than part of their daily responsibilities (see Table 6 for a breakdown of its leadership roles).

Moreover, there are currently no audit records, supervision reports, or documented minutes of coordination meetings related to MABI's management, making it difficult to assess how effectively the coordination mechanism has been functioning in practice.

As stated in the interview:

Mandat MABI sudah melibatkan beberapa organisasi non-pemerintahan. Tapi sejauh ini implementasi kesehariannya, kehadiran organisasi tersebut maupun pelaksanaan rapatnya tidak ada dokumentasinya.” (Interview OPD, September 2025)

While the Pergub mandates regular coordination and quarterly meetings among members, **there is no available evidence that these meetings have taken place or that follow-up actions were recorded.**

Work Unit	Role in MABI's Management (SK MABI)	Role in Regional Governance (Law 23/2004; SOTK Jakarta)	Analysis
Regional Secretary - Sekretaris Daerah	Leads and coordinates all climate-related activities.	- Leads overall coordination of Jakarta's development and government administration. - Ensures policies, programs, and budgets are aligned across agencies.	Fully Aligned
Assistant and Development Bureau	Support and Responsible Person by offering policy recommendations on climate adaptation and mitigation to guide decisions across all leadership levels.	- Coordinates cross-sectoral development and economic policies under Sekda. - Provides technical support for planning, monitoring, and evaluation of strategic programs. - Facilitates inter-agency coordination on priority development initiatives.	Fully Aligned
Planning Agency - Bappeda	Responsible for coordinating working teams, ensuring proper implementation, and overseeing monitoring, evaluation, and reporting.	- Formulates Jakarta's medium-term (RPJMD) and annual (RKPD) development plans. - Aligns regional planning with national priorities and sectoral strategies. - Provides data, analysis, and policy recommendations to guide evidence-based decision-making.	Fully Aligned
Environmental Agency (DLH – Dinas Lingkungan Hidup)	- Acts as the technical lead for mitigation and adaptation measures, especially emissions inventory and climate impact monitoring. - Provides key data inputs on GHG emissions, waste, and environmental quality to MABI.	- Leads environmental management, including pollution control, waste management, and ecosystem protection. - Monitors air quality, waste services, and environmental permits for development projects. - Ensures development projects comply with environmental standards and safeguard sustainability.	Partially Aligned (DLH are incapacitated to lead cross-sectoral coordination)

Table 8. Comparison of MABI leadership's Authority in the Greater Regional Governance Process
Source: Analysis by Think Policy, 2025

Chapter V.

POLICY OPTIONS I: IMPROVING MER FRAMEWORK



POLICY OPTIONS I:

IMPROVING MER FRAMEWORK

Improving Jakarta's climate governance is not only about setting ambitious targets but also about ensuring that progress can be tracked and evaluated in a consistent way. The current MABI framework provides a clear regulatory framework, yet challenges remain, such as no sectoral reporting, limited monitoring cycles, and unclear learning process. To address these gaps, Jakarta needs solutions that strengthen cooperation among agencies and make monitoring and reporting more effective. The recommendations in this section focus on aligning climate indicators, creating regular feedback processes, and promoting reporting that measures real outcomes.

MER Framework Recommendation

1. Logical Framework Improvement: Sectoral Outcome & Equitable Indicators
2. Streamlined Reporting Flows through SIGRK
3. Alignment on Climate Metrics across Sectoral and Agencies' Plans (RKPD, Renstra, IKU)
4. Shift to Outcome Reporting
5. Green Building and Energy TOC Improvement (Sectoral High Impact Action)

1

Logical Framework on Climate Sectoral Outcomes

To ensure that climate actions contribute directly to overall GHG emission reduction targets, RPJMD indicators, Jakarta's Climate Action Plan, and Jakarta's net-zero carbon emission roadmap, it is essential that the city's action plan incorporates clear outcome-oriented sectoral targets. Current plans tend to focus on activities and outputs, but without measurable sectoral outcomes, it will be difficult to evaluate progress and make adjustments aligned with the city's long-term climate commitments. Incorporating sectoral outcome targets into the action plan will create stronger links between day-to-day implementation and broader climate objectives. These targets will also help synchronize city-level actions with national frameworks such as the RPJMD and Indonesia's nationally determined contributions. Some of the main justifications for adding these targets can be seen in table 9.

To complement Jakarta's output-focused climate indicators, an inclusive outcome framework is proposed to measure who benefits and who may be left behind from climate actions. The current system tracks outputs such as emissions reduced or energy saved but does not assess whether these efforts lead to equitable improvements for women, people with disabilities, children, older adults, or low-income households. Integrating population-level indicators across health, social, economic, and educational outcomes, disaggregated by sex, age, disability, income, and location, would address this gap.

This approach aligns fully with C40's methodology: the Urban Climate Action/Impact frameworks explicitly map co-benefits and their distribution, and the Inclusive Climate Action guidance emphasizes measuring equity, not just aggregate totals. To address this, we propose two complementary sets of indicators:

1. Indicators that track what the city delivers to achieve the targeted technical impact.
2. Indicators that measure what people actually experience across sectors, showing who benefits, who is excluded, and whether barriers are being reduced.

The following recommendations focus on the second type of indicator, measuring impacts at the population level to assess whether equitable climate resilience is achieved (See Annex 3).

Table 10. Inclusive Climate Action Progress and Remaining Challenges

Impact	Proposed Outcome Indicators	Justification
Emission Reduction Target In MABI action Plan: BAU 106.558 74.196 (If 30% reduction) 54.772 (If 50% reduction) In RPJMD: 19,94% (2030)	Increase in climate investment	To reflect climate budget tagging efforts
	Increase civic and vulnerable groups' participation in climate forums	To reflect the needs of inclusive approach on climate action
	Energy sector emission reduction	Sectoral targets; existed on the current Jakarta action plan
	Energy efficiency	To reflect Net Zero Carbon roadmap implementation
	AFOLU Sector emission reduction	Sectoral targets; existed on the current Jakarta action plan
	Green building compliance	To reflect green building implementation efforts
	Transportation sector emission reduction	Sectoral targets; currently there are no relevant ER targets for Jakarta.
	Waste sector emission reduction	Sectoral targets; existed on the current Jakarta action plan
	Increase income from circular economy	To reflect economic impacts of climate action
	Water use efficiency	To reflect green building implementation efforts
	Increase citizen resiliency	To reflect urgent issues of Jakarta and align the climate action efforts
Equitable Impact (Additional)	Inclusive outcome indicators that measure how climate actions address social inclusion and equity (Annex 3)	To reflect an outcome-level Urban Climate Action and Inclusive Climate Action methodologies. The recommended population-level indicators are detailed in the Annex section 2 and 3.

Source: Analysis by Think Policy, 2025

2

Streamlined Reporting Flows through SIGRK As a Part of Climate Action Dashboard

Jakarta has the opportunity to further strengthen its leadership in climate governance by simplifying how climate data is reported, consolidated, and applied in decision-making. Currently, there are a lot of reporting lines from each OPDs. Different Regional agencies (OPDs) submit data to multiple stakeholders, each requiring distinct formats and levels of detail. This increases administrative workload, creates redundancies, and makes it difficult to generate a clear and consolidated overview of progress.

The development of the SIGRK dashboard offers an opportunity to address these challenges. Designed to streamline the GHG Inventory (IGRK) system and support the implementation of Jakarta's Climate Action Plan (developed with C40), SIGRK is envisioned as a central platform to simplify reporting, integrate data from multiple sources, and provide accessible insights across government levels.

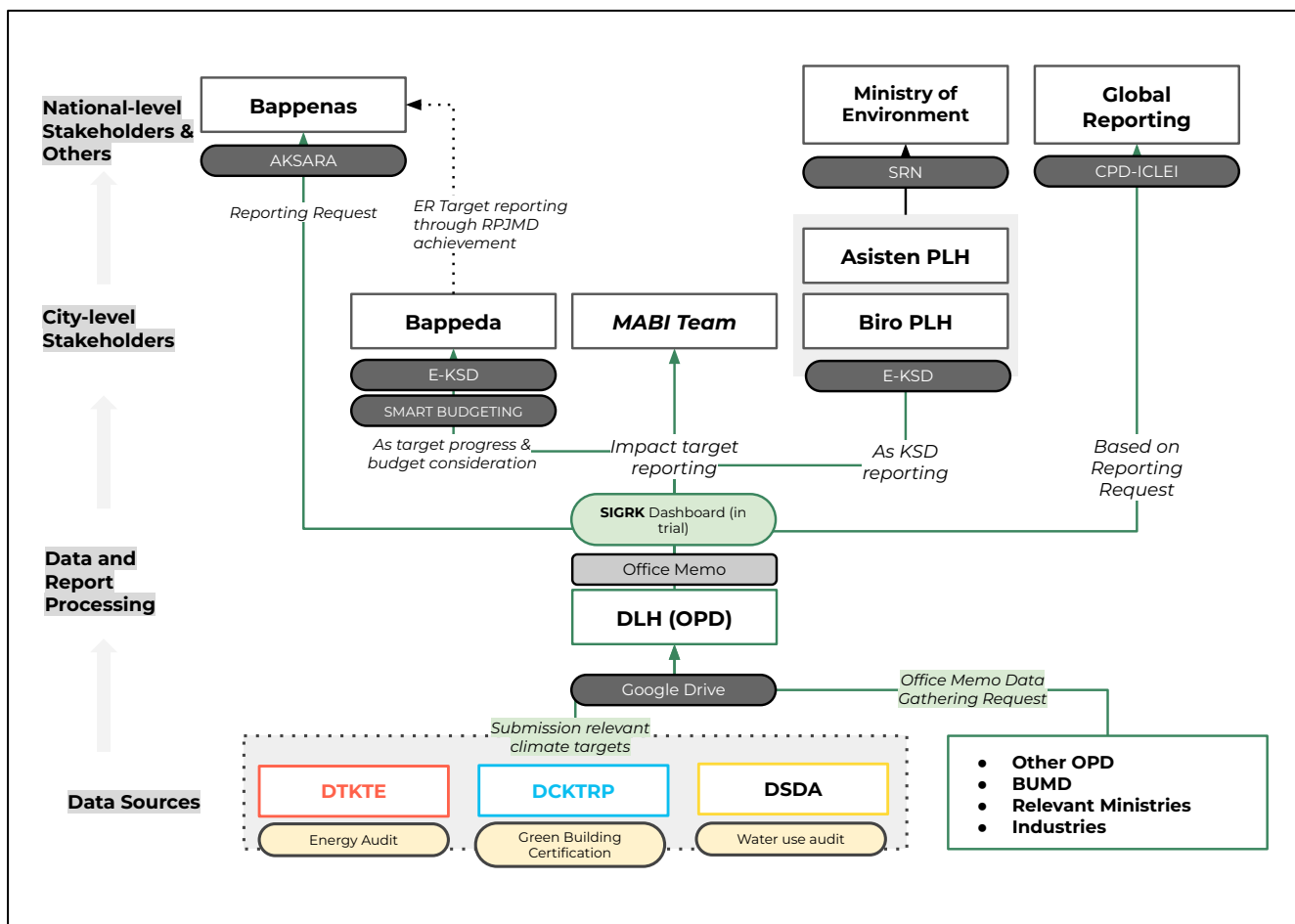


Figure 17. Illustration of Sectoral Climate Action Outcomes
Alternative Reporting Flow

Source: Analysis by Think Policy, 2025



We recommend that reporting flows be streamlined by maximizing the use of the SIGRK dashboard through three core functions:

1. **Simplifying reporting lines from each OPDs.** SIGRK should accommodate the diverse reporting needs of local, national, and international stakeholders within one system. This would reduce duplication of effort for OPDs while providing decision-makers (e.g., Bappenas, ministries, and global partners) with consistent and verified data.
2. **Capturing sectoral outcomes related to emission reduction.** Linking sectoral targets indicators to the SIGRK dashboard will not only demonstrate measurable progress on emission reductions but also generate actionable insights for improving sector-specific programs.
3. **Strengthening problem-solving loops.** By connecting sectoral reporting to city-wide climate targets, SIGRK can provide a more insightful learning on a program-level. This ensures that agencies receive clear feedback on their contributions, supports evidence-based adjustments, and improves alignment with Jakarta's long-term commitments.

Beyond improving the reporting process, SIGRK will address some of the challenges faced by DLH. A key constraint has been tailoring inventory outputs for multiple reporting requirements, from national ministries to global platforms. Automated reporting functions and customizable templates within SIGRK would significantly reduce the time and resources required, allowing DLH to focus on analysis and strategic guidance rather than administrative processing.

While challenges such as data harmonization and inter-agency coordination will require more comprehensive governance strengthening strategies, SIGRK can support this process. Features such as standardized data entry, validation protocols, and transparent reporting pathways can reduce inconsistencies and improve the timeliness of OPD submissions. Over time, this will enhance DLH's ability to convene stakeholders and provide credible climate data.

Building on the SIGRK tool, the Jakarta Climate Action Dashboard should expand the city's capacity from data management to data-driven decision making. This dashboard acts as a central coordination and adds an analytical layer to translate climate targets into actionable insights, while SIGRK focuses on inventorization and reporting of GHG emissions as a part of the Jakarta Climate Action Dashboard system. The dashboard is designed to translate high-level climate targets into operational and relevant insights by integrating multiple OPDs and external data sources. The table below summarizes the proposed core functions that can guide dashboard design and implementation.

Table 12. Proposed Core Function of The Jakarta Climate Action Dashboard
Source: Analysis by Think Policy, 2025

Function Area	Purpose	Features or Outputs
Spatial and Analytical Visualization	Translate climate actions and targets into area-based visuals for easier interpretation. Integrate multi-sector data with spatial context.	- Interactive map showing mitigation & adaptation actions by area (<i>kelurahan/kawasan</i>). - Overlay of emission levels, vulnerability, walkability, and service access. - Area-level summary (e.g., total actions, % achieved).
Index and Analytical Summary	Summarize performance into composite indicators for internal use and benchmarking. (Detail formulation to be defined by DKI Jakarta.)	- Area Index combining air, waste, water, and energy indicators. - Simple scoring or ranking to identify priority areas. - Comparative view across sub-areas or with peer cities.
Reporting and Communication Layer	Provide an accessible visualization and summary tool for leaders and stakeholders.	- Color-coded (traffic-light) progress view. - Auto-generated performance summaries aligned with MABI/C40 reporting. - Executive dashboard page highlighting key achievements and gaps.
Input and Documentation System	Facilitate structured data input from OPDs and working groups; strengthen activity documentation and traceability.	- Data-entry interface for ongoing programs. - Activity and output tagging by sector, area, and program type. - Upload and archive of supporting documentation.
Cross-OPD Data Access and Integration	Serve as a unified coordination platform across OPDs and link to other systems.	- Shared dashboard workspace with tiered access. - Integration with DLH, DTKTE, DCKTRP datasets. - Connection to budget tagging and fiscal data (BPKD, Bappeda).
Decision-Support and Insight Generation	Transform raw data into actionable insights for program planning and policy decisions.	- Automated analysis (trendlines, hotspots). - Insight cards summarizing outcomes by intervention type. - Exportable dashboards for decision briefings.

Jakarta Climate Action Dashboard implementation would follow a phased roadmap that focuses on achievable entry points or quick wins and long-term integration to ensure feasibility and gradual adoption at the institutional level.

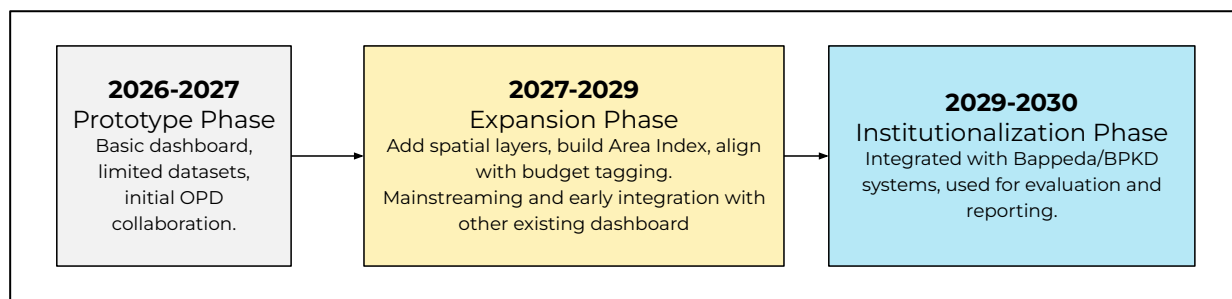


Figure 18. Implementation Roadmap for Climate Dashboard
Source: Analysis by Think Policy, 2025

3

Alignment on Climate Metrics across Sectoral and Agencies' Plans (RKPD, Renstra, IKU)

Jakarta should establish a standardized set of climate indicators that are consistent with both national targets (NDCs, RPJMN) and local commitments (Pergub 90/2021). These indicators should be integrated into the existing planning and budgeting cycle, ensuring that each OPD measures progress using the same framework. Alignment will reduce duplication, improve data comparability, and create a shared understanding of climate outcomes across agencies. Currently, at the regional level there already exists the same climate metrics. But on more sectoral plans (Renstra, RKPD) it needs to be formalized as metrics in the documents.

4

Shift to Outcome Oriented Format Reporting

With the establishment of sectoral climate targets, there is a strong opportunity to enhance Jakarta's MER framework by shifting from only focusing on activity and budget reporting toward measuring output and outcomes. This requires defining clear performance indicators linked to adaptation and mitigation goals, as well as disaggregating data to track equity and inclusivity dimensions. Currently, there is no one format that works across sectors. Most emphasize what has been done (activities implemented, budgets spent), which provides limited visibility on whether these actions are delivering the intended results (As illustrated in the current reporting templates of, DCKTRP internal data collection and GHG Inventory examples).

An outcome-oriented format would strengthen the system in several ways:

1

Clarity of Contribution: Clear linkages between activities, outputs, and outcomes help agencies see how their work contributes to Jakarta's larger adaptation and mitigation goals.

2

Performance Measurement: Tracking outputs and outcomes with defined indicators makes it possible to measure progress more accurately, including in cross-cutting areas such as equity and inclusivity.

3

Efficiency: The reporting format is designed to be simple and low-effort, minimizing the administrative burden for agencies while maximizing the usefulness of the information generated.

4

Learning and Accountability: By focusing on results, reporting becomes a tool for reflection and decision-making, rather than a compliance exercise.

5

Further Integration with Budget Tagging: With a more aligned logical framework, DKI Jakarta can track the broader context of climate action implementation by identifying which reported outputs are tagged as climate-related indicators, resulting in a more streamlined version of the Climate Budget Tagging from BKF.

Impact	ID	Outcomes	ID	Outcome Indicators	Stakeholder in Charge	Reporting Frequency	Progress	Initial	Current	Target
Emission Reduction Target In MABl action Plan: BAU: 106.558 30% reduction: 74.196 50% reduction: 54.772 In RPJMD: 19,94% (2030)	1	Jakarta achieves measurable GHG emission reductions across all major sectors.	1.1	# of emission reduction in Energy sector (in tCO ₂ e)			0%	0	0	100
			1.2	# of emission reduction in AFOLU sector (in tCO ₂ e)			0%	0	0	100
			1.3	# of emission reduction in Transportation sector (in tCO ₂ e)			0%	0	0	100
			1.4	# of emission reduction in Water sector (in tCO ₂ e)			0%	0	0	100
	2	Buildings and infrastructure operate more efficiently and comply with green and sustainable standards.	2.1	% of Energy efficiency			0%	0	0	100
			2.2	% Green building compliance			0%	0	0	100
			2.3	% Water use efficiency			0%	0	0	100
	3	The enabling environment for climate action is strengthened through finance and inclusive participation.	3.1	% Increase in climate investment			0%	0	0	100
			3.2	% Increase participation in climate action forums			0%	0	0	100
	4	Climate action generates socio-economic benefits and enhances citizen resilience.	4.1	% Increase income from circular economy			0%	0	0	100
			4.2	% Increase citizen resiliency			0%	0	0	100

Figure 18. Illustration on Outcome-level Tracker Reporting Format (See Annex I)

Source: Analysis by Think Policy, 2025

To support implementation, two tools are proposed: an Output Tracker and an Outcome Tracker.

These provide a clear pathway from activities to impacts, showing how daily work contributes to Jakarta's climate goals. The trackers are designed to be simple and low-effort, reducing duplication and making reporting more meaningful by aligning it with sectoral targets. This approach aligns with the logical framework used at the national level (Bappenas), where reporting already links inputs, outputs, and outcomes in a results-based manner. This offers a practical lesson for replication at the subnational level.

5 Green Building and Energy Theory of Change Alignment

a) Improving Green Building Policy Outcome

For Jakarta's Green Building Policy, outcome indicators on energy and water efficiency need to be added. In the current Theory of Change (ToC) developed through the C40 study, most indicators focus on whether building owners comply with policy requirements, rather than on the actual outcomes of implementation. Although the ToC identifies long-term impacts such as reducing greenhouse gas emissions, lowering the urban heat island effect, and improving energy efficiency, there are no relevant mid-term outcome indicators that directly measure progress toward these goals.

Each green building monitoring process should follow this framework:

- 1** **Preparation Stage:** The assessment begins with the BGH team preparing a detailed checklist and a set of tailored questions for the building managers.
- 2** **Initial Meeting:** An initial meeting is held with the building managers to discuss the schedule of the upcoming visit and the data collection methods that will be used.
- 3** **Field Visit:** The core of the assessment occurs during the field visit, where observations and data collection take place.
- 4** **Data Compilation:** After the visit, the BGH survey team compiles the findings into a structured slide presentation, organized according to the checklist for clarity and logical flow.
- 5** **Initial Report Preparation:** The compiled data is analyzed and formulated into an initial report.
- 6** **Data Review:** This step ensures completeness and accuracy, allowing the team to identify and fill any gaps in the collected data.
- 7** **Final Deliverable:** After review and verification, the final report is prepared and submitted. This report provides a comprehensive evaluation of the building's performance against BGH criteria and represents the culmination of the assessment process.

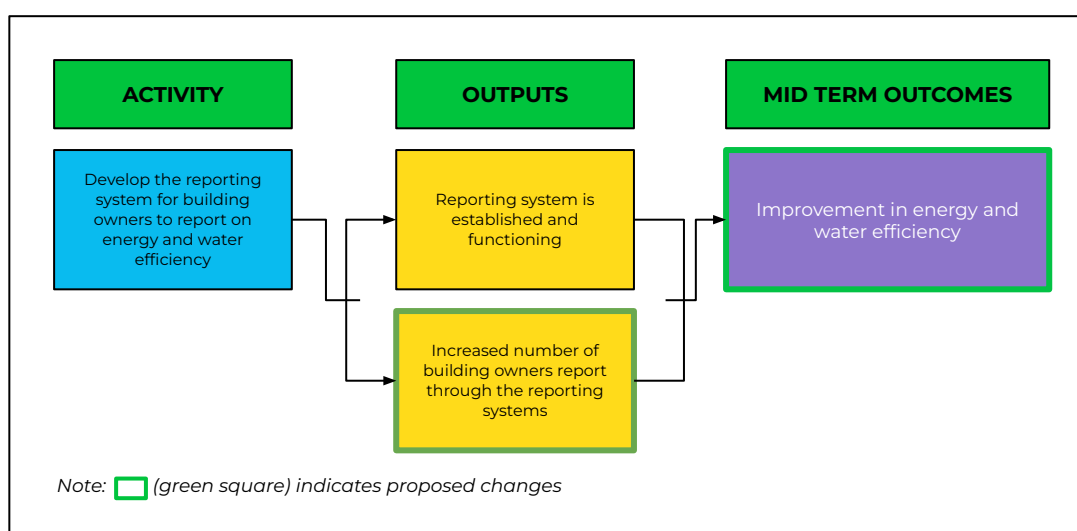


Figure 20. Proposed output and mid term outcome for Green Building Policy

Source: Analysis by Think Policy, 2025

b) Improving Net Zero Carbon Monitoring Process

To strengthen alignment with the net-zero roadmap, the following activities are recommended:

1

Introduce and enforce net-zero building codes and standards alongside Minimum Energy Performance Standards (MEPS) for appliances.

2

Develop a set of indicators, drawing from the existing theory of change, Ensure reporting is outcome-oriented, linking data not only to compliance but also to contributions toward sectoral and city-level climate targets.

3

Adopt a quarterly cadence loop Ensure reporting is outcome-oriented, linking data not only to compliance but also to contributions toward sectoral and city-level climate targets.

4

Ensure reporting is outcome-oriented, linking data not only to compliance but also to contributions toward sectoral and city-level climate targets.

Chapter VI.

POLICY OPTIONS II: STRENGTHENING CLIMATE ACTION



POLICY OPTIONS II:

STRENGTHENING CLIMATE ACTION

This section discusses alternative governance designs for DKIJ's Climate Actions.

Currently, Jakarta's climate action is driven by MABI Team which consists of Working Groups designed across Jakarta's OPD. These alternative options will explore ideas on how to optimize governance processes, whether it be on the planning, implementation, agenda setting, or MER process.

Governance Recommendation:

1. Reinforcing MABI through: Sectoral Pillar, Established Secretariat, and Dedicated MER Team
2. Establish a Dedicated MER Team
3. Community of Learning MABI Implementation
4. Provide Incentives and Disincentives on Reporting Data
5. Continuous Implementation of Inclusive Climate Action Checklist

1

Reinforcing MABI: Sectoral Pillar, Established Secretariat, and Dedicated MER Team

To make Jakarta's climate governance more effective, MABI needs to shift from being mainly a coordination forum to becoming a mechanism that delivers measurable results. The proposed restructuring focuses on three main improvements, such as:

1. **Working groups should be arranged by sector such as energy, transport, buildings, waste, water, and AFOLU.** Each sector should have clear outcome indicators, for example emission reduction, energy efficiency, or compliance with green building standards. This arrangement will make responsibilities clearer and progress easier to track.
2. **Formation of a permanent MABI Secretariat to take care of cross-sector tasks.** The Secretariat would handle planning, data integration, alignment with city and national strategies, and communication among stakeholders. Centralizing these functions will reduce overlap and ensure consistent progress.
3. **Establishing a Sectoral and Learning-focused Monitoring, Evaluation, and Reporting (MER) Team.** This team would manage the climate action dashboard, prepare outcome-focused reports, and create more proactive problem-solving loops so that data can inform climate action improvements. Key elements include: a matrix governance or team-of-teams model, function as the development fund enabler, learning-oriented quarterly evaluation, and strengthening data collection through external collaboration (see recommendation 2 of governance).

By adopting this structure, and linking it with Jakarta's theory of change and sectoral outcome targets (see Table 11), **MABI can become a results-oriented governance platform that helps the city achieve its net-zero and climate resilience goals.**

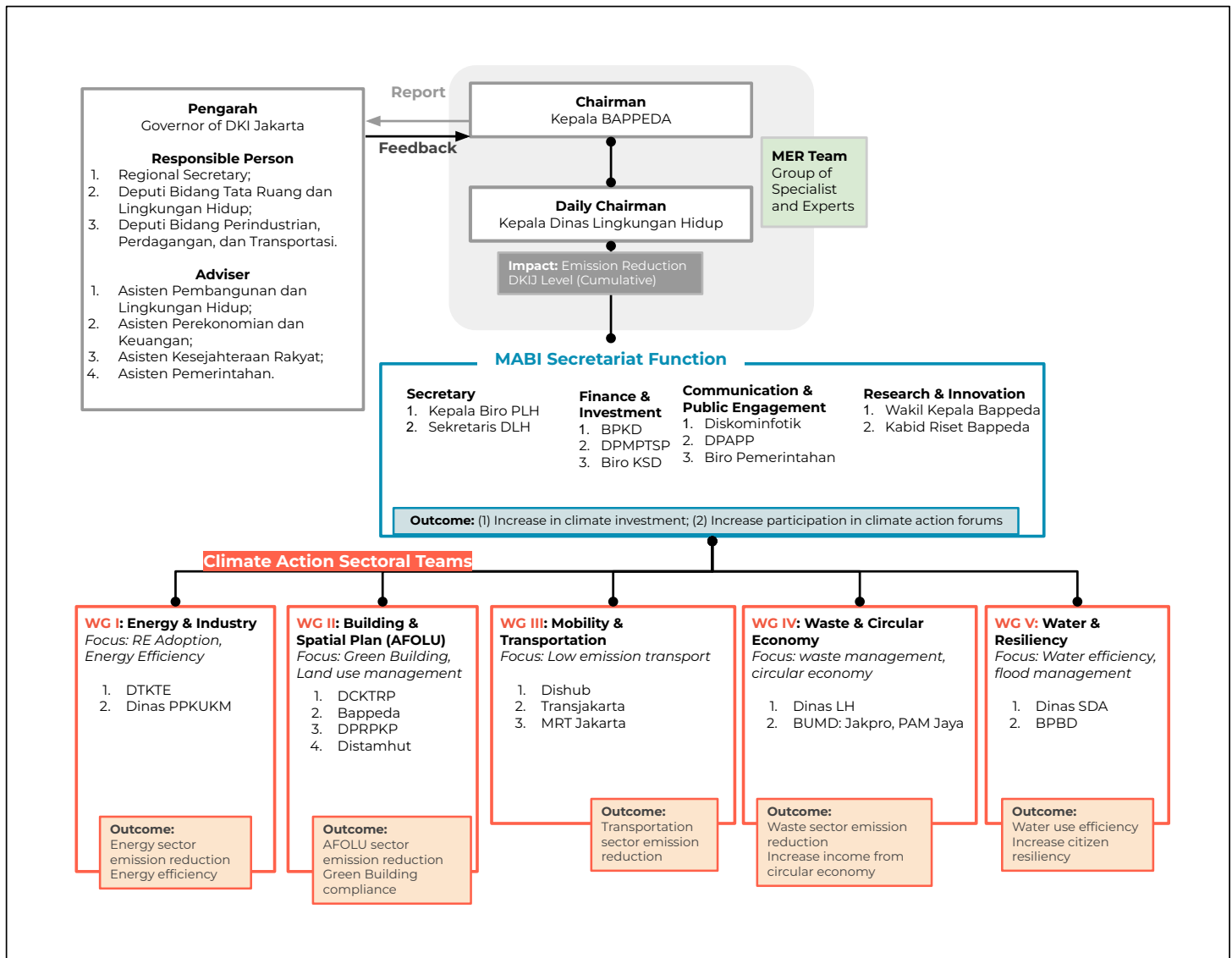


Figure 21. Illustration of Alternative Climate Action Governance on Jakarta - Interpretation of MABI's Structure
Source: Analysis by Think Policy, 2025

Table 13. Illustration of Alternative Climate Action Governance on Jakarta

Source: Analysis by Think Policy, 2025

Role	Description	PIC
Unchanged role from previous governance design		
Responsible Person	Provide direction across MABI in improving climate action of DKIJ	1. Regional Secretary; 2. Deputy Bidang Tata Ruang dan Lingkungan Hidup; 3. Deputy Bidang Perindustrian, Perdagangan, dan Transportasi.
Adviser	Provide advice to Responsible Persons in climate progress on the sectoral and regional level	1. Asisten Pembangunan dan Lingkungan Hidup; 2. Asisten Perekonomian dan Keuangan; 3. Asisten Kesejahteraan Rakyat; 4. Asisten Pemerintahan.
Chairman	Lead MABI team, integrate climate action in planning and budgeting process, cross-sectoral OPD convener in DKIJ	Head of BAPPEDA
Daily Chairman	Monitor and evaluate climate outcomes and lead MABI climate action implementation Provide reporting to DKIJ leadership	Head of Environmental Agency (DLH)
Regrouped OPD implementers and retain the same Functions		
Secretary	Document MABI monitoring and reporting	1. Kepala Biro PLH 2. Sekretaris DLH
Finance & Investment	- Lead finance and investment initiatives for DKIJ climate action implementation, also manage and document all creative financing initiatives undertaken by relevant dinas/OPD. - Support creative financing by generating reports that enhance credibility and attract private, NGO, and international funding.	1. BPKD 2. DPMPTSP 3. Biro KSD
Communication & Public Engagement	- Lead communication and public engagement in building DKIJ citizen's awareness on climate action - One of the main function to ensure inclusive participation in CAP implementation	1. Diskominfo 2. DPAPP 3. Biro Pemerintahan
Research & Innovation	Lead research and innovation initiatives in improving DKIJ climate action	1. Vice Head of Bappeda 2. Research Division of Bappeda
Newly added function with no pre-existing implementer		
Climate MER & Experts Team	- Establish a specialist team with deep understanding in climate action in subnational level - Monitor and track progress of climate targets - The specialist team involves personnel from outside of DKI Jakarta Officials. Including but not limited to: external consultants and advisors - Potentially require new budget allocation for the MER team	Supervised by and reporting to the Governor
Newly regrouped functions with the existing implementing OPD		
WG I: Energy & Industry	The working group focus on implementation Net Zero Carbon Roadmap, RE adoption, and energy efficiency policies in DKIJ level	1. DTKTE 2. Dinas PPKUKM
WG II: Building and Spatial Plan	The working group focused on monitoring green building policies and land use management. This WG will also focus on the development of minimum green spaces of Jakarta as CAP.	1. DCKTR 2. Bappeda 3. DPRPKP 4. Distamhut
WG III: Mobility and Transportation	The working group focuses on achieving low emission transportation policies and strategies. This also reflects that Jakarta has done a considerable amount of focus to build better city accessibility.	1. Dishub 2. Transjakarta 3. MRT Jakarta
WG IV: Waste and Circular Economy	The working group focuses on waste management and improving the economy through sustainable means. Reflect a more inclusive and equitable focused working group.	1. Dinas LH 2. BUMD: Jakpro, PAM Jaya
WG V: Water & Resiliency	The working group focus on water efficiency and flood management as pressing issue in DKIJ	1. Dinas SDA 2. BPBD

To make Jakarta's climate governance more effective, MABI can gradually evolve from a coordination forum into a mechanism that delivers measurable results.

The transition can be implemented through three stages of reform in the short, medium, and long term.

Short Term (2026-2027) - Sectoral Working Group Arrangements and Pilot MER Team

- Arrange sectoral working groups around key areas such as energy, transport, buildings, waste, water, and AFOLU.
- Each group should have clear outcome indicators such as emission reduction, energy efficiency, or compliance with green building standards. This will clarify responsibilities and make progress easier to track.
- Pilot the Monitoring, Evaluation, and Reporting (MER) Team to test tools such as the climate action dashboard, outcome-focused reporting templates, and data-sharing mechanisms. The pilot will also help identify capacity needs and refine data collection systems.

Medium Term (2027-2028) - Secretariat Function and Strategic Partnership

- Establish a permanent Secretariat function to coordinate planning, data integration, alignment with city and national strategies, and communication across stakeholders. This will ensure cross-sector collaboration and reduce overlap.
- Propose partnership and creative funding schemes through the MER Team, working with financial institutions and development partners to enable sustainable financing for climate actions.
- Formally establish the dedicated MER Team as a cross-sector platform for continuous learning, evidence-based evaluation, and adaptive management.

Long Term (2029-2030) - Institutionalizing Changes

- Institutionalize governance reforms through the revision of Pergub 90/2021 and alignment with the upcoming Governor's Decree on CEV and related working group structures.
- This will secure long-term policy coherence, ensure accountability, and embed the improved climate governance system within Jakarta's institutional framework.



Figure 22. Implementation Roadmap for MABI Restructuring

Source: Analysis by Think Policy, 2025

2 Establish a Dedicated Sectoral MER Team

Jakarta should establish a dedicated Monitoring, Evaluation, and Reporting (MER) team with the authority and technical capacity to oversee cross-sectoral climate action progress. This team could be positioned within Bappeda, Biro PLH, or the Governor's Secretariat to ensure institutional leverage and independence, and should report on a quarterly basis to both operational units (OPDs) and political leadership. The team's composition should include sectoral specialists (energy, transport, waste, buildings) and data analysts capable of producing actionable insights for policy and implementation. See Table x to describe how the sectoral MER team can operate effectively and sustainably within Jakarta's institutional landscape.

Aspect		Justification
1	Functional Model: "Team of Teams" Approach	- Adopt a matrix governance or "team of teams" model, inspired by UKP4 (Presidential Delivery Unit) under the SBY administration. - Combine civil servants and professional experts in a flexible structure that enables collaboration across sectors. - Allow members to coordinate across programs and supervisors to improve problem-solving, agility, and accountability. - Position Jakarta's MER team as a functional, adaptive unit integrating expertise from multiple OPDs with clear accountability for results.
2	Problem-solving and Learning Oriented Reporting	- Introduce quarterly, learning-oriented reporting sessions to complement MABI's annual reporting. - Organize sectoral groups (energy, transport, waste, buildings) to review outcomes, challenges, and lessons learned. - Focus sessions on peer learning and adaptive management, not just compliance. - Ensure insights directly inform OPD planning, leadership decisions, and citywide climate goal alignment.
3	Institutional Leverage: MER Team as Development Fund Enabler	- Expand MER's role beyond monitoring to support the grant management office under MABI. - Draw lessons from BPD LH (Environmental Fund Management Agency) in managing multi-sector funds (forestry, energy, carbon). - Use MER data to strengthen program budgeting, impact assessment, and reporting. - Diversify funding sources—domestic and international grants, investment partnerships—to sustain Jakarta's climate programs beyond annual budgets.
4	Strengthening Data Collection through External Collaboration	- Prioritize data collection improvement in the building sector, where coverage and consistency remain weak. - Enable building managers/owners to input energy and green building data directly through standardized templates. - Create clearer accountability at the building level and reduce DCKTRP's manual data burden. - Introduce incentives (e.g., fiscal benefits, certification recognition, or permit renewal priority) for accurate data reporting. - Partner with green building certification bodies (Greenship, EDGE, LEED, Green Mark) to integrate certification data into DCKTRP systems. - Make data reporting a requirement for certification and renewal processes. - Pilot this data-strengthening approach in the green building sector first, then expand to other areas like waste and transport.

Table 14. MER Team Design within DKIJ Climate Action

Source: Analysis by Think Policy, 2025

As this recommendation could significantly transform the current climate action MER system, it needs to be presented as practical and achievable. The proposed implementation can follow a gradual, sequential approach. First, the expert team can be established under DLH as a pilot focusing on climate management. Once the approach is tested and refined, the next step is to formalize and expand the team under Bappeda to ensure stronger cross-sectoral coordination. In the long term, this unit can be institutionalized through a regulatory framework, such as a Governor Regulation or Regional Regulation, to secure its mandate and sustainability.

The establishment of the additional MER team within DKI Jakarta's climate action governance structure is designed as a catalytic and transitional mechanism, not a permanent institution.

This team, composed of high-level specialists in performance management, data systems, and outcome-based evaluation, will serve as a scaffolding structure that helps the city's institutions transition toward a more integrated, outcome-oriented MER ecosystem.

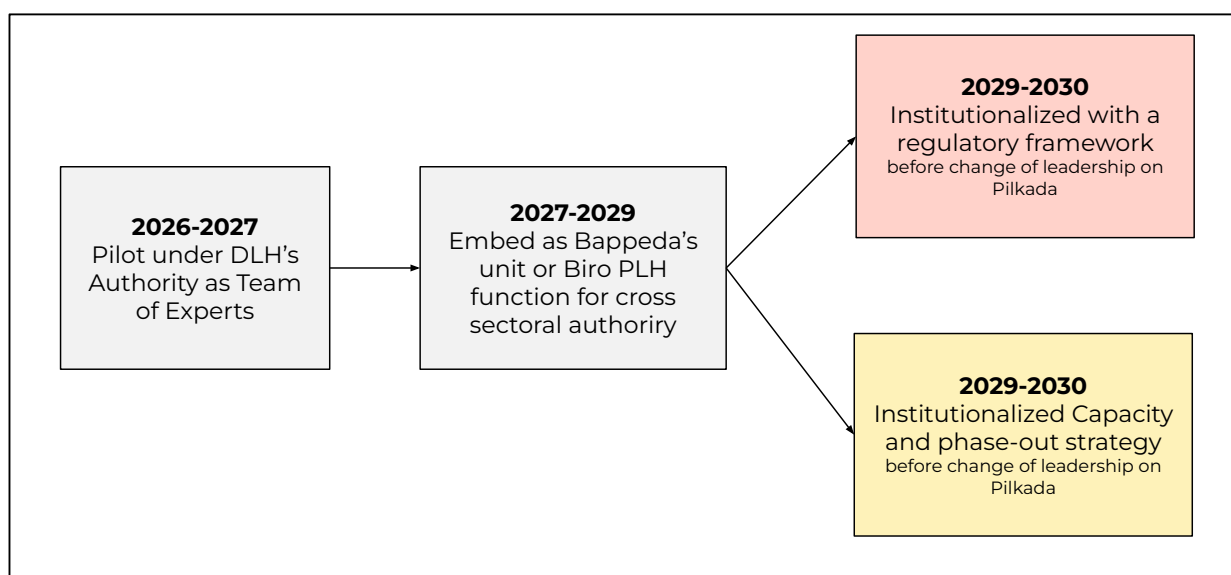


Figure 23. Implementation Roadmap for MER Team

Source: Analysis by Think Policy, 2025

However, consistent with the principle of institutional sustainability, this MER team will operate under a time-bound capacity-building mandate. It will not function as a permanent external unit, but rather as a temporary accelerator to embed strong MER practices within the existing DKI Jakarta system. To ensure continuity and independence, a phased exit and sustainability strategy will be implemented as follows:

1

Capacity Transfer

Implement a structured mentoring and side-by-side learning program where MER specialists co-develop and execute monitoring and evaluation processes with dinas/OPD staff. This ensures that institutional knowledge and technical skills are fully transferred.

2

System Institutionalization

Integrate the newly developed MER tools, templates, and data flows into existing city planning and budgeting mechanisms, such as Renja, RKPD, and RPJMD, so that monitoring, evaluation, and learning become standard operating components.

3

Governance Integration

Assign long-term oversight of climate-related MER to an existing coordinating body (e.g., Bappeda or Biro KSD) to maintain accountability and policy alignment after the MER team's transition period.

4

Progressive Handover Timeline

Establish a clear transition roadmap (e.g., Year 1: co-creation and piloting; Year 2: joint implementation; Year 3: full handover), with decreasing technical dependency and increasing local ownership over time.

5

Community of Learning

To sustain momentum beyond the team's tenure, the MER team will foster a community of learning within DKI Jakarta's ecosystem, comprising MER focal points from key dinas/OPD, supported by periodic knowledge-sharing sessions, peer reviews, and reflective learning forums. This platform will enable continuous exchange of insights, innovation, and adaptive practices in monitoring and evaluation, ensuring that institutional learning continues even after the MER team concludes its role.

Through this approach, the MER support team acts as both an enabler and a capacity catalyst, driving systemic change from within.

Its success will be measured not by permanence, but by the strengthened internal capability, shared learning culture, and sustainable, outcome-based MER processes that remain embedded within DKI Jakarta's governance long after its phase-out.

3 Establish a Community of Learning on Climate Action

To strengthen continuous learning and collaboration, MABI should establish a community of learning through a quarterly monitoring and reflection process. Although this cycle is formally part of the existing climate action monitoring framework, it has not been consistently enforced. Regular quarterly sessions would provide a platform for OPDs to share progress, discuss challenges, and exchange lessons learned, fostering collective problem-solving. This approach would improve coordination across sectors, help identify implementation gaps early, and support timely adjustments to programs.

Beyond monitoring, the community of learning should also serve as a platform for capacity development. Agencies need to be capacitated not only in technical climate expertise but also in adopting inclusive approaches that reflect equity and social outcomes. This means moving beyond conventional training to embedding equity-based indicators such as gender, income, and vulnerability into program design. A pool of technical advisers should be established to support OPDs in integrating these indicators into their planning and budgeting. Furthermore, climate inclusivity should be incorporated into the annual performance evaluation of agencies to ensure sustained commitment.

4 Provide Incentive and Disincentives on Reporting Data

Incentives and disincentives should be introduced to drive stronger emission reduction efforts. Performance-based budgeting that is similar to the Climate Budget Tagging process can be applied so that OPDs demonstrating measurable emission reductions receive priority access to resources. In addition, fiscal incentives such as tax breaks or preferential access to green loans can be offered to private actors who comply with energy efficiency and emission standards. These measures should be paired with clear penalties for non-compliance in reporting obligations or emission caps, supported by enforcement mechanisms.

In the building sector, this approach can reinforce data collection through external collaboration by promoting shared ownership and accountability among building managers.

As mentioned before, the gap between limited staffing and the number of private buildings in DCKTRP result in inconsistent building-level data. To address this, building managers should be mandated and incentivized to conduct self-assessments and input their own energy and green building data into the city's data management ecosystem. Incentives could include simplified or expedited permitting for compliant buildings, recognition in public reporting, or integration of third-party green building certifications into government databases to avoid double verification.

At the same time, disincentives such as stricter permit requirements or restricted access to incentives for non-reporting entities should be enforced to ensure accountability. This balanced incentive and disincentive approach would help embed a culture of data responsibility among both public and private actors, improve data accuracy, and enhance Jakarta's overall emission tracking system, beginning with the building sector as a pilot before expanding to other areas.

However, it is important to note that the idea of performance-based incentives for data reporting remains challenging under Indonesia's ASN (civil service) system.

Currently the system follows uniform evaluation criteria and limited room for localized reward mechanisms. Therefore, any incentive design must be aligned with BKD or other existing performance-based frameworks, such as the Sasaran Kinerja Pegawai (SKP) or other merit-based assessment tools, to ensure both legality and feasibility. Coordination with these oversight bodies would not only strengthen institutional accountability but also reinforce the principle that climate data management is a shared responsibility across the bureaucracy, not limited to technical units alone.

5

Continuous Implementation Inclusive Climate Action Checklist

As proposed in Policy Brief for ICA Mainstreaming (2024), DKI Jakarta staff should focus on strengthening their engagement and communication skills to foster more inclusive and effective interactions, particularly during the Musrenbang process. To improve the inclusivity of the Musrenbang process and align it with the ICA Checklist, we propose rethinking its execution to ensure broader participation and accessibility. While the Musrenbang has been participatory in principle, practical steps can be taken to deepen its inclusiveness.

But going beyond participation is critical. Inviting communities and vulnerable groups to meetings is not enough if their barriers remain unaddressed and if policies are not designed to respond to their differentiated needs. Inclusivity must be embedded into how evidence is gathered, how barriers are analysed, and how solutions are co-created and delivered (See BOX 2 and Annex for a more comprehensive explanation).



Box 3. Climate Governance Beyond Participation

Going beyond participation means moving from one-off consultations to embedding equity and inclusivity especially to vulnerable groups into every stage of climate action. See Annex for the comprehensive 6-steps inclusivity mainstreaming in the whole project life cycle.

Step 1 is to build a unified, disaggregated evidence base that links existing datasets (e.g., Jakarta Satu, DTKS, Susenas) and adds missing inclusion-focused assessments to complement the findings,

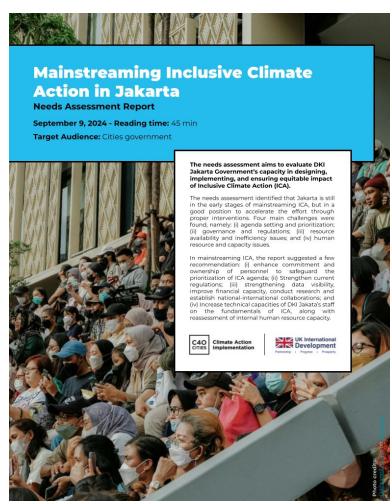
such as: (1) a gender-, age-, and disability-responsive climate risk assessment, (2) care-burden surveys, and (2) program participatory and accessibility mapping with women, people with disabilities, children, elderly people, and low-income households. This ensures decisions are based on who is most exposed, sensitive, and least able to cope.

Step 2 is to analyse the barriers and root causes that make these groups more vulnerable.

Legal exclusions from subsidies, inaccessible early warnings, unsafe evacuation routes for people with disability, or cultural norms concentrating unpaid care on women all translate climate risks into deeper inequalities. Analysing the barriers and root causes of the vulnerable groups is important so the government can intentionally move their barriers within the climate action/program/policy made.

Step 3 is to co-create climate actions with the vulnerable groups through a twin-track approach.

This means: (1) targeted measures to directly remove specific barriers; for example, subsidies or retrofits for women-headed households in flood-prone areas, which reduce asset losses and unpaid care burdens, or safer evacuation access for persons with disabilities, and (2) mainstreaming equity so that in every new investment, program, and service, vulnerable groups are genuinely consulted, can participate in decision-making, and can access and benefit from the programs.



Source: From left to right, (1) ICA Need Assessment, Think Policy 2024; (2) Mainstreaming of ICA Policy Brief, Think Policy 2024, (3) ICA Implementation Guide by URDI, Bappeda DKI Jakarta, 2025; all C40 Cities Materials

Chapter VII.

POLICY OPTIONS III: HIGH-LEVEL IMPLEMENTATION DIRECTION



POLICY OPTIONS III:

High-level Implementation Direction

This section provides high-level direction for implementing DKI Jakarta's Climate Action. Building on the findings from the MER (Chapter III) and institutional analysis (Chapter IV), as well as the recommendations from the reporting (Chapter V) and governance sections (Chapter VI), it consolidates them into actionable insights for senior decision makers.

Jakarta must move beyond fragmented isolated projects toward a framework of impact oriented implementation. This involves setting clear sectoral targets, aligning them with the net-zero roadmap, and establishing accountability through standardized monitoring and reporting systems. Strengthening the role of Biro PLH as a central hub for data analysis is essential, as it would enable the city to translate OPD reports into actionable improvements for climate policy.

By prioritizing institutional clarity, sectoral accountability, and regular feedback mechanisms, Jakarta can turn its climate commitments into measurable and sustained progress. In table 14, we provide sets of aspects and the implementation plan that are proposed to the high-level stakeholder.

Aspect	Implementation Plan	2026	2027
Planning			
Indicators	Formalized Sectoral emission reduction indicators on RPJMD, RKPD, and Renstra of OPD	✓	
	Require OPDs to integrate climate indicators into their annual performance plans (Renja SKPD).	✓	
Implementation			
Data Management	Create a centralized climate data repository under Bappeda with inputs from DLH, DTKTE, DCKTRP, Dishub, and other OPDs.		✓
Monitoring	Establish community of learning on MABI Implementation	✓	
Green Building Policies	Provide incentives (e.g., tax breaks, expedited permits) for developers adopting sustainable designs.		✓
	Regularly monitor and enforce green building codes on energy and water efficiency	✓	✓
Energy Policies	Implement Net Zero Emission Carbon Roadmap and align them to the current annual work plan of DKIJ's OPD	✓	
Evaluation/Reporting			
Reporting	Develop public-facing dashboards to increase transparency and citizen trust in climate action.		✓
Analysis	Conduct annual policy reviews to evaluate effectiveness of climate measures and adjust programs accordingly.	✓	

Table 15. High Level Implementation for Climate Action of DKIJ
Source: Source: Analysis of Think Policy, 2025

Chapter VIII.

SUMMARY AND CONCLUSION



SUMMARY and Conclusion

Jakarta has long shown its commitment to climate governance, starting with Pergub 131/2012, the city's first regulation on GHG emission reduction.

This early step aimed to mainstream climate actions into governance and across different sectors. The ratification of the Paris Agreement by the National Government in 2016 further strengthened this direction, paving the way for Jakarta to expand its climate agenda. This was followed by the enactment of Pergub 90/2021 on Jakarta's Low Carbon and Climate Resilient Development Plan, which marked a more concrete phase of mitigation and adaptation efforts. More recently, Jakarta has also developed several Sectoral High Impact Actions, such as the Net Zero Carbon Roadmap. Going forward, the city's climate governance will continue to evolve alongside insights gained from implementing the MER framework.

Table II. MER & Governance Matrix Summary

Technical Climate MER		
Planning	Implementation	Reporting
Problem Unclear climate indicators alignment on sectoral level ↓ Solution 1. Logical Framework on Climate Sectoral Outcome 2. Alignment on Climate Metrics across Sectoral and Agencies' Plans (RKPD, Renstra, IKU) 3. Adapt Equitable Impact Indicators	Problem 1. TOC misalignment and need of increasing data gathering capacity on green building and energy audit 2. Ineffective Problem-Solving Loop ↓ Solution Sectoral High Impact Action Improvement (TOC Alignment)	Problem 1. Multiple Demands on Reporting Climate Targets 2. Challenging data gathering process ↓ Solution 1. Streamlined Reporting Flows through SIGRK 2. Shift to Outcome Reporting
Climate Governance		
Planning	Implementation	Reporting
Problem Vulnerability of climate agenda to political interest ↓ Solution Reinforcing MABI through: Sectoral Pillar, Established Secretariat, and Dedicated MER Team	Problem 1. Unmonitored MABI implementation 2. early adaptation of inclusive climate action implementation. ↓ Solution 1. Establish a Dedicated MER Team 2. Continuous Implementation of Inclusive Climate Action Checklist	Problem Technical capacity gap in evaluating climate targets ↓ Solution 1. Community of Learning MABI Implementation 2. Provide Incentives and Disincentives on Reporting Data

Despite this long-standing commitment, **Jakarta's climate governance requires a clearer, more impact-oriented approach in practice.**



Unclear indicators



Poor data alignment



Weak efforts to connect actions with climate outcomes



Absence of a proper feedback loop

These have resulted in an MER process that does not provide a problem-solving pathway for program implementation. The current design of MABI, which relies mainly on DLH's data gathering and only conducts annual evaluations, does not create action-oriented climate policies. While the existing green building policies and Net Zero Carbon Roadmap have set the foundation for high-impact actions, these efforts must be balanced with a stronger outcome-oriented MER process and improvements in MABI's governance.

To address these gaps, this report provides a set of recommendations presented in Chapters 5 to 7. The recommendations are grouped into three categories—High Priority, Supplementary, and Game-Changing—to help DKI Jakarta prioritize action. The results of this prioritization are shown in Table 17 and Figure 24.

Table 17. Decision Matrix of MER & Governance Recommendations
Source: Analysis by Think Policy, 2025

ID	Recommendation	Impact	Effort
Game Changing			
1	Logical Framework on Climate Sectoral Outcome	High	High
2	Restructuring MABI: Sectoral Pillar, Established Secretariat, and Dedicated MER Team	High	High
3	Establish a Dedicated MER Team	High	High
High Priority			
4	Streamlined Reporting Flows through SIGRK	High	Medium
5	Alignment on Climate Metrics across Sectoral and Agencies' Plans (RKPD, Renstra, IKU)	Medium	High
6	Community of Learning for MABI Implementation	Medium	Medium
Supplementary			
7	Shift to Outcome Reporting	Medium	Medium
8	Green Building and Energy TOC Improvement	Medium	Low
9	Provide Incentives and Disincentives on Emission Data Collection	Medium	High
10	Continuous Enforcement of Inclusive Climate Action Checklist	Medium	High

Game-Changing recommendations are the most transformative but also the most demanding to implement.

1

First,

Jakarta's logical framework on climate action should be restructured to focus more on impact, with clear sectoral outcomes and aligned output indicators.

2

Second,

the MABI team structure should be reorganized based on sectoral logical frameworks with a dedicated MER hub role.

3

Third,

a dedicated MER team combining experts and civil servants should be established to manage climate funds, lead problem-solving and learning processes, and coordinate data collection efforts.

High Priority recommendations focus on low-hanging fruits.

These include streamlining all existing reports into a single data dashboard, introducing sectoral climate outcomes and reporting, and aligning climate metrics across different agency plans. On governance, the establishment of a Community of Learning for MABI implementation is also recommended. These steps can be taken as immediate priorities with medium to high impact on current initiatives.

Supplementary recommendations support and enhance the implementation of the core actions. These include improving the cadence and format of reporting, refining the Theory of Change for Green Building and Energy sectors, providing incentives and disincentives for emission data collection, and ensuring the continuous enforcement of the Inclusive Climate Action Checklist.

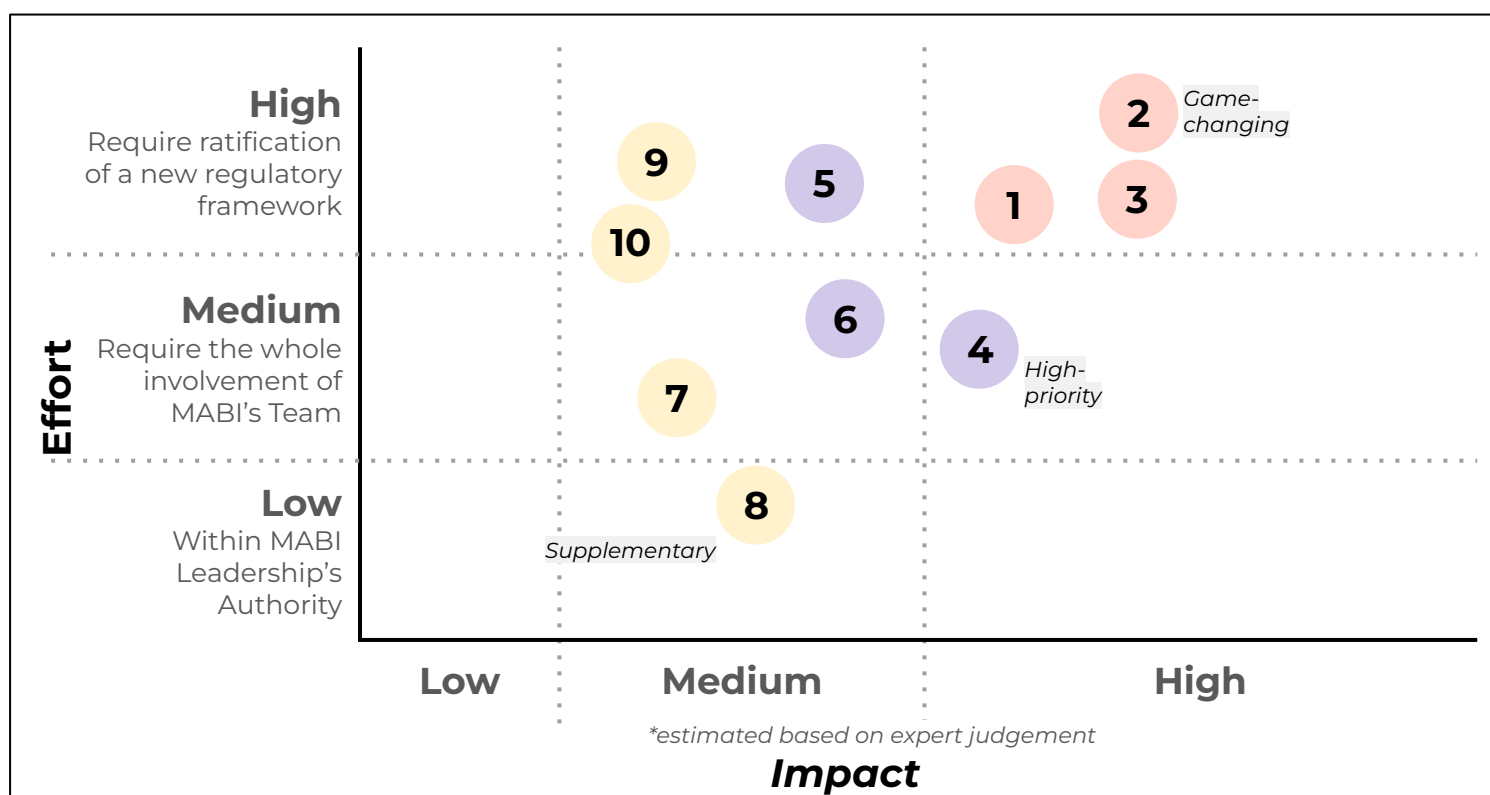


Figure 24. Decision Matrix for Climate Action DKI Jakarta
Source: Analysis by Think Policy, 2025

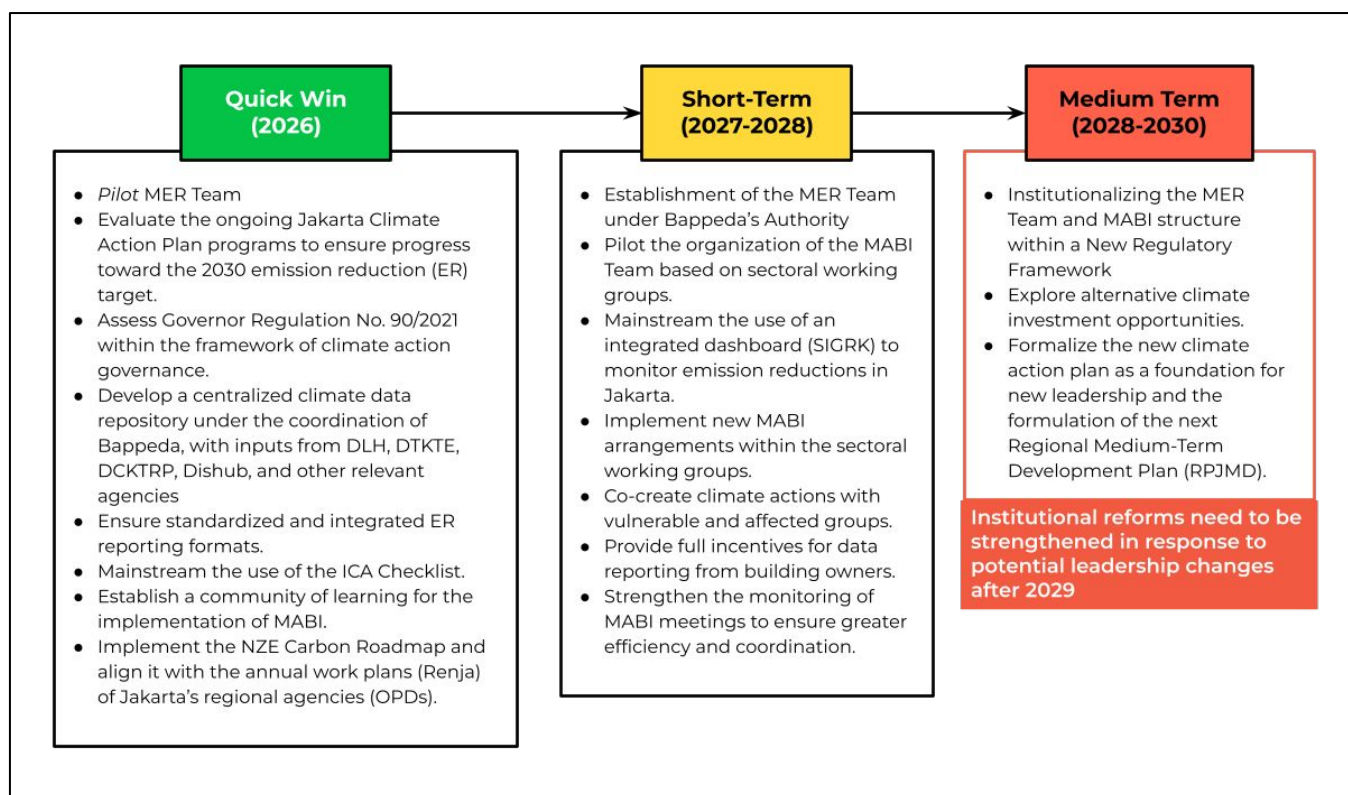
Beyond participation, **inclusivity and equity** also must be embedded throughout the policy process.

Simply inviting communities and vulnerable groups to meetings is not enough if their barriers remain unaddressed or if policies fail to reflect their specific needs. Annex II and III provides a more detailed analysis for applying the Inclusive Climate Action approach, outlining how evidence, analysis, and solution design can better capture and respond to diverse social realities.

In the long term, improvements in the climate action logframe, data governance, and coordination mechanisms will provide an integrated pathway for Jakarta to achieve its 2030 and 2050 climate targets. Jakarta already has the foundation for implementing climate action through its regulatory framework, MER tools, data gathering mechanisms, and governance structure. However, gaps remain that must be addressed to build a more problem-solving and impact-oriented climate action cycle.



Figure 24. Strengthening MER and Governance Recommendations Implementation Roadmap



Source: Analysis by Think Policy, 2025

Beyond 2050, sustaining the MER system will require strong institutional ownership of the framework, consistent political commitment, and integration into local government structures.

The MER system should operate independently of external funding or individual champions, becoming a permanent part of Jakarta's governance practice that evolves with new data, technology, and priorities. Long-term sustainability will rely on a culture of accountability and continuous learning across agencies to keep climate action adaptive, evidence-based, and resilient to leadership or institutional changes.

In conclusion, Jakarta is at an important stage to transform its climate governance and MER systems from being fragmented and compliance-focused into a more integrated, learning-oriented, and inclusive framework. By strengthening coordination under MABI, embedding equitable outcomes in planning and reporting, and building a culture of shared learning among government agencies and communities, Jakarta can achieve its emission reduction and resilience targets while showing leadership in climate governance reform. Improving data systems, promoting transparency, and ensuring participation from all groups in society will be essential to create a just and sustainable future where climate action brings real benefits for every Jakartan.

REFERENCES

- C40 Cities & EnerCoss. (2023). Green Building Assessment: Gedung Suku Dinas Kependudukan dan Pencatatan Sipil Jakarta Timur. Jakarta: C40 Cities and EnerCoss.
- C40 Cities & Think Policy. (2024). *DKI Jakarta Climate Action Needs Assessment (with adjustments)*. Jakarta: C40 Cities and Think Policy.
- C40 Cities. (2025). *Monitoring and Evaluation (M&E) Framework for Climate Action Implementation in Quezon City, Jakarta, and Kuala Lumpur*
- Department of Environment (DLH) of DKI Jakarta. (2025). *Internal monitoring tracker for climate action implementation*. Jakarta: DKI Jakarta Provincial Government.
- Department of Public Works and Spatial Planning (DCKTRP) of DKI Jakarta. (2025). *Internal project tracker*. Jakarta: DKI Jakarta Provincial Government.
- Fiscal Policy Agency. (2023). Arah Kebijakan Fiskal Perubahan Iklim di Daerah [Regional Climate Fiscal Policy Direction Report]. Ministry of Finance of the Republic of Indonesia.
- Government of DKI Jakarta. (2024). *Rencana Aksi Kegiatan Strategis Daerah (Regional Strategic Action Plan)*. Jakarta: DKI Jakarta Provincial Government.
- Government of DKI Jakarta. (2023). *Keputusan Gubernur Nomor 209 Tahun 2023 tentang Perubahan atas Keputusan Gubernur Nomor 96 Tahun 2020 tentang Tim Kerja Mitigasi dan Adaptasi Bencana Iklim (Governor's Decree No. 209/2023)*. Jakarta: DKI Jakarta Provincial Government.
- I4CE (2024). Social and Climate Budget Tagging: Insights from Indonesia. Based on data from Indonesia's Fiscal Policy Agency (BKF).
- ICLEI Indonesia. (2022). Ikhtiar Jakarta: Pembangunan Rendah Emisi Menuju Jakarta yang Berketahanan Iklim. Available at: <https://acp.iclei.org/wp-content/uploads/2022/05/ikhtiar-Jakarta-Bahasa-Indonesia-min.pdf> (Accessed: 25 October 2025).
- Just Stories. (n.d.). Advancing meaningful participation in planning Jakarta's climate action. Available at: <https://www.just-stories.org/database/advancing-meaningful-participation-in-planning-jakarta-climate-action> (Accessed: 25 October 2025).
- Kumparan Bisnis. (2023, November 8). *DKI Jakarta jadi daerah dengan anggaran perubahan iklim terbesar, capai Rp 7,6 T. [DKI Jakarta is the region with the largest climate change budget, reaching IDR 7.6 trillion]*. Retrieved from <https://kumparan.com/kumparanbisnis/dki-jakarta-jadi-daerah-dengan-anggaran-perubahan-iklim-terbesar-capai-rp-76-t-22q2ed3lfqz>
- Ministry of Finance of the Republic of Indonesia. (2021). Climate budget tagging: Strengthening climate response through public financial management. Jakarta: Government of Indonesia.
- Pikiran Rakyat Jakarta. (2023, August 17). Pemrov DKI Jakarta libatkan peran perempuan pilah sampah. Pikiran Rakyat Jakarta. Available at: <https://jakarta.pikiran-rakyat.com/gaya-hidup/pr-3308887325/pemprov-dki-jakarta-libatkan-peran-perempuan-pilah-sampah?page=all> (Accessed: 25 October 2025).

ANNEX

- I. Alternative MABI Structure
- II. Reporting Format - Output and outcome-level Climate Action Tracker
- III. Inclusivity Alignment for DKIJ Climate Governance
- IV. Equitable Impact Indicators

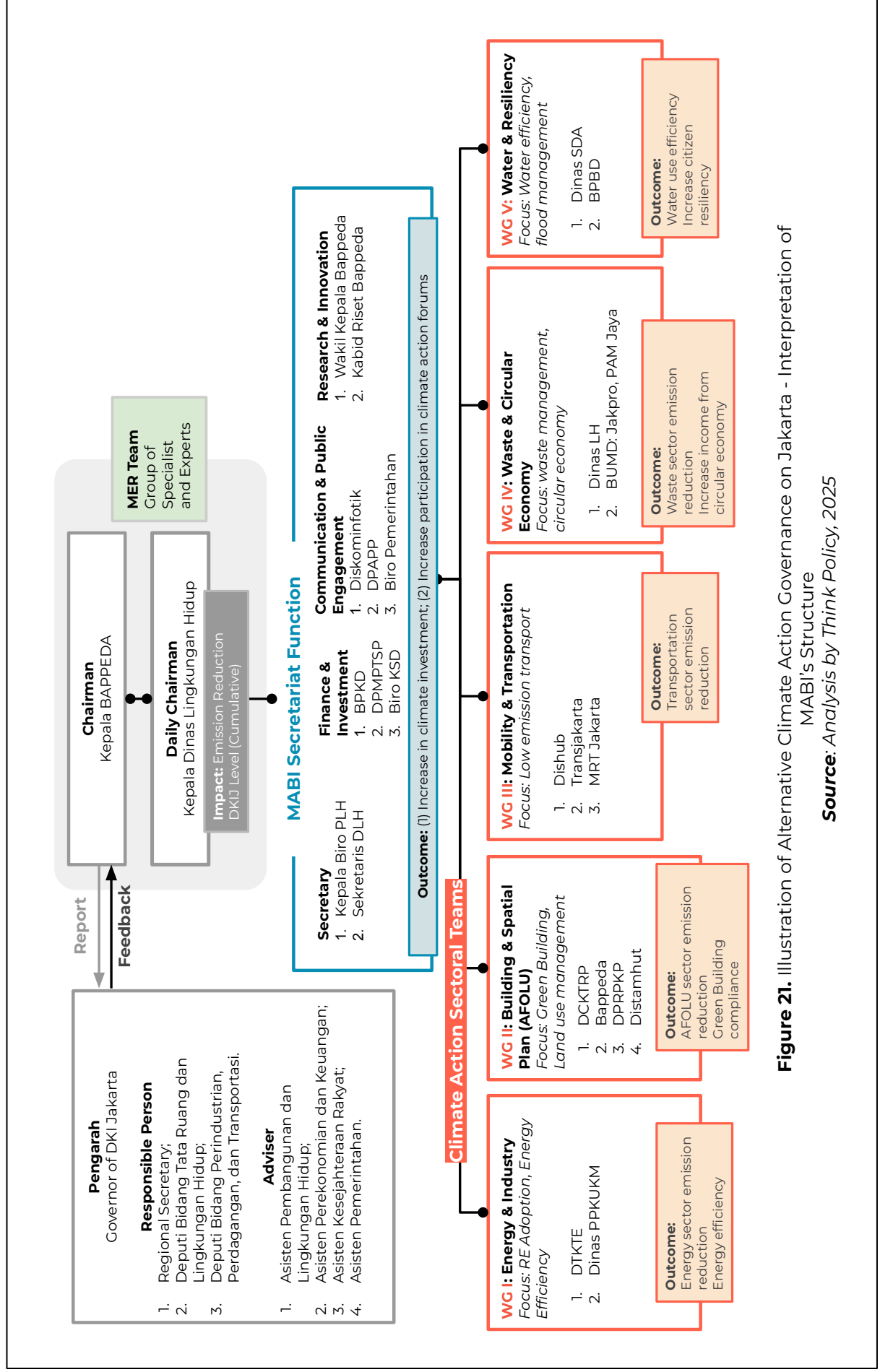


Figure 21. Illustration of Alternative Climate Action Governance on Jakarta - Interpretation of MABI's Structure

Source: Analysis by Think Policy, 2025

The Output-level Tracker records tangible deliverables produced by each agency. It answers the question: “What has been created or delivered as a result of activities?” This level of reporting captures immediate progress (e.g., systems, tools, pilots) and directly links outputs to higher-level outcomes. It ensures that agencies can clearly see the products of their work while recognizing how these contribute to broader goals.

Impact	ID	Outcomes	ID	Outputs	Stakeholder in Charge	Reporting Frequency	Progress	Initial	Current	Target
Emission Reduction Target In MABL action Plan: BAU: 106.558 30% reduction: 74,196 50% reduction: 54,772	1	Jakarta achieves measurable GHG emission reductions across all major sectors. Indicators: • Energy sector emission reduction • AFOLU sector emission reduction • Transportation sector emission reduction • Waste sector emission reduction	1.1	*Insert output here	*stakeholder in charge of the data	*frequency/ cadence of data input	0%	0	0	100
			1.2	# of renewable energy installations (MW)	DTKTE	Annually	0%	0	0	100
			1.3	# of hectares of reforested/rehabilitated land	Distamhuth	Quarterly	0%	0	0	100
			1.4				0%	0	0	100
In RPJMD: 19,94% (2030)	2	Buildings and infrastructure operate more efficiently and comply with green and sustainable standards. Indicators: • Energy efficiency • Green building compliance • Water use efficiency	2.1				0%	0	0	100
			2.2				0%	0	0	100
			2.3				0%	0	0	100
	3	The enabling environment for climate action is strengthened through finance and inclusive participation. Indicators: • Increase in climate investment • Increase participation in climate action forums	3.1				0%	0	0	100
			3.2				0%	0	0	100
			3.3				0%	0	0	100
	4	Climate action generates socio-economic benefits and enhances citizen resilience. Indicators: • Increase income from circular economy • Increase citizen resiliency	4.1				0%	0	0	100
			4.2				0%	0	0	100
			4.3				0%	0	0	100

The Outcome-level Tracker captures results and changes achieved through implementation. It answers the question: “What difference did the outputs make?” by including baselines and targets; the tracker emphasizes performance measurement over time. Linking each outcome back to relevant outputs strengthens understanding of the results chain and reinforces how short-term deliverables contribute to long-term climate objectives.

Impact	ID	Outcomes	ID	Outcome Indicators	Stakeholder in Charge	Reporting Frequency	Progress	Initial	Current	Target
Emission Reduction Target In MABI action Plan: BAU: 106.558 30% reduction: 74.196 50% reduction: 54.772	1	Jakarta achieves measurable GHG emission reductions across all major sectors.	1.1	# of emission reduction in Energy sector (in tCO2e)			0%	0	0	100
			1.2	# of emission reduction in AFOLU sector (in tCO2e)			0%	0	0	100
			1.3	# of emission reduction in Transportation sector (in tCO2e)			0%	0	0	100
			1.4	# of emission reduction in Water sector (in tCO2e)			0%	0	0	100
In RPJMD: 19,94% (2030)	2	Buildings and infrastructure operate more efficiently and comply with green and sustainable standards.	2.1	% of Energy efficiency			0%	0	0	100
			2.2	% Green building compliance			0%	0	0	100
			2.3	% Water use efficiency			0%	0	0	100
	3	The enabling environment for climate action is strengthened through finance and inclusive participation.	3.1	% Increase in climate investment			0%	0	0	100
			3.2	% Increase participation in climate action forums			0%	0	0	100
	4	Climate action generates socio-economic benefits and enhances citizen resilience.	4.1	% Increase income from circular economy			0%	0	0	100
			4.2	% Increase citizen resiliency			0%	0	0	100

How to Use the Format

Each participating Organisasi Perangkat Daerah (OPD) or technical agency is responsible for:

- Identifying and inserting relevant outputs under the corresponding Outcome ID that aligns with their sectoral mandate (e.g., energy, transportation, green building, waste, etc.).
- Filling in the “Stakeholder in Charge” field to indicate the unit or division responsible for data collection and verification.
- Completing the “Reporting Frequency” according to the type of output:
 - Quarterly for operational or performance-based indicators (e.g., hectares reforested, number of audits conducted).
 - Annually for cumulative or outcome-level indicators (e.g., total MW of renewable energy installations).
- Updating the “Progress,” columns to reflect the most recent data or achievements by putting the updated numbers on:
 - Initial = baseline value
 - Current = most recent progress
 - Target = agreed goal (aligned with RPJMD or MABI targets)

Roles and Responsibilities

- **Lead Coordination**
Biro PLH and Tim MABI will oversee overall coordination, consolidation, and verification of data submitted by OPDs.
- **Data Entry and Reporting**
Each technical OPD (e.g., Dinas Lingkungan Hidup, DTKTE, DCKTRP, Distamhut, DSDA) will fill in their respective data fields in collaboration with their internal monitoring staff.
- **Data Validation**
Bappeda will cross-check data consistency with the existing systems (E-KSD, SMART Budgeting, RPJMD indicators) before final submission to Asisten PLH and Biro PLH.

Reporting Cycle

- **Frequency**
Data should be updated quarterly (every 3 months) to align with MABI's monitoring cycle and the SIGRK dashboard trial.
- **Submission Flow**
 - OPDs compile and validate data internally.
 - OPDs submit updated tracker to DLH via SIGRK or shared drive.
 - DLH consolidates reports and submits to Tim MABI.
 - MABI Team reviews and shares progress with Bappeda/Biro PLH for integrated reporting to the Provincial and National levels (e.g., SRN, Aksara, CPD-ICLEI).

This reporting format complements the existing SIGRK Dashboard and is designed to ensure alignment across sectoral targets, climate budgeting, and RPJMD commitments. The format supports the shift from output-based to outcome-based reporting, improving the visibility of real impacts and progress on Jakarta's Net Zero and Green Building goals.

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

Jakarta's gaps analysis shows inclusion is still ad hoc in participation and planning, and limited to civic participation in general without consistent effort in vulnerable groups inclusion and mainstreaming. While these gaps remain, there are encouraging signs that Jakarta has begun laying the groundwork for more inclusive practices. For example, the *Ikhtiar Jakarta* low-emissions development plan was developed through broad public consultations, engaging 470 stakeholders, including vulnerable groups (women, youth, elderly, people with disabilities, fishermen community) with a minimum of 30% female participation and piloted community-based waste management projects to raise climate awareness. Likewise, the Climate Village program (ProKlim) integrates local wisdom and inclusive participation in over 250 neighborhoods, supporting community-based adaptation with diverse actors. In addition, the Jakarta provincial government is now directly involving women in household waste sorting and awareness campaigns by training and mobilising them through urban farming groups and community units. These initiatives aim to embed gender roles more actively into Jakarta's circular economy while shifting community behaviours. These examples show that equity principles are beginning to emerge in how Jakarta designs and delivers some elements of climate action.

However, these efforts remain scattered, often pilot-scale, and are not yet systematised to ensure consistent inclusion in all climate programs or governance structures. The step-by-step below is designed to close those gaps by hard-wiring equity into how actions are chosen, delivered, financed, and measured, so women, people with disabilities, children, elderly people, and low-income households are protected and included. We draw the solution from the draft MER framework (Solutions I–III on governance, data, and learning) and on gender-responsive Climate Risk Management guidance from GIZ, specifically the 2021 study *Diving into the gap: Gender dimensions of Climate Risk Management*, which emphasises disaggregated evidence, inclusive participation, and recognition of non-economic loss and damage.

The recommended inclusion process will be: (1) build a disaggregated evidence base, (2) analyse root causes, (3) co-design a twin-track package, (4) Design delivery, governance and accountability for inclusion, (5) Set up the measurement, evaluation and learning system, and (6) Set up the measurement, evaluation and learning system.

¹ ICLEI Indonesia (2022) *Ikhtiar Jakarta: Pembangunan Rendah Emisi Menuju Jakarta yang Berketahanan Iklim*. Available at: <https://acp.iclei.org/wp-content/uploads/2022/05/Ikhtiar-Jakarta-Bahasa-Indonesia-min.pdf> (Accessed: 25 October 2025)

² Just Stories (n.d.) *Advancing meaningful participation in planning Jakarta's climate action*. Available at: <https://www.iust-stories.org/database/advancing-meaningful-participation-in-planning-jakartas-climate-action> (Accessed: 25 October 2025)

³ Pikiran Rakyat Jakarta (2023) 'Pemprov DKI Jakarta Libatkan Peran Perempuan Pilah Sampah', *Pikiran Rakyat Jakarta*, 17 August. Available at: <https://jakarta.pikiran-rakyat.com/gaya-hidup/pr-3308887325/pemprov-dki-jakarta-libatkan-peran-perempuan-pilah-sampah?page=all> (Accessed: 25 October 2025)

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

STEP 1 *Build the evidence on how climate impacts differ for vulnerable groups*

The first task is to unify and link existing datasets so we can see who is most exposed, who is most sensitive, and who has the least capacity to cope—by sex, age, disability, income, and location. Start with national sources such as the National

Socioeconomic Survey (Susenas), the Labour Force Survey (Sakernas), the Social Registry (DTKS), the basic health survey and facility records, and education and school health records. Combine these with city sources: Jakarta Satu (flood history, land surface temperature, land use, building stock), the environmental agency's air quality monitors, the water resources agency's flood and drainage records, the transport agency's routes and ridership data, the health office's outpatient and emergency visits, the disaster agencies' event and loss data, and energy and building datasets. The city can select the most relevant sources for each programme, but the non-negotiable step is to link technical programme data (for example, green buildings, air quality, transport, energy) with distributional outcomes (who can access, who benefits, who is excluded), and to keep everything disaggregated.

Next, fill the information gaps with inclusion-focused assessments so decisions do not miss hidden barriers. Add a gender-, age-, and disability-responsive climate risk assessment; accessibility and safety audits of buildings, parks, evacuation routes, and information channels; a short time-use and care-burden module to capture spikes during heatwaves and after floods; a heat-health vulnerability analysis for elderly people; an energy affordability and burden survey for low-income and women-headed households; participatory and accessibility mapping with women, people with disabilities, children, elderly people, and low-income residents; and post-occupancy evaluations of green buildings and parks to test whether “universal design” works in practice. These additions let Jakarta track both economic and non-economic impacts (asset and income loss as well as health, safety, time, mobility, and dignity) and choose measures that truly reduce risk for the people most affected.

CASE STUDY 1: Evidence for flood-safe housing retrofits

Using DTKS as a powerful starting point: already official, existing dataset

DTKS is Indonesia's national social registry of poor and vulnerable households managed by the Ministry of Social Affairs and updated by local governments (including Jakarta). It typically includes household identifiers, address, poverty status, household composition, and basic housing and service access.

What vulnerable-group details may need to be added or validated?

For inclusive climate use, DTKS should be complemented (or locally validated) with: female-headed household status; disability flags using the Washington Group questions; elderly 65+ and “living alone” markers; tenure/tenancy status (owner vs renter); and geocoding (link to neighbourhood or coordinates) so households can be mapped to flood-prone areas. These enrichments can be done via lightweight local verification or short add-on survey modules.

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

CASE STUDY 1: Evidence for flood-safe housing retrofits**How to use it for flood-safe retrofits (step-by-step):**

1. **Map exposure:** Overlay Jakarta Satu flood-extent layers on neighbourhoods.
2. **Find vulnerable households:** Cross-reference those neighbourhoods with DTKS to identify female-headed households, elderly people living alone, and households reporting disability.
3. **Add health and care signals:** Pull nearby clinic/hospital records to confirm spikes in water-borne disease after floods, and run a short time-use module to measure extra hours of unpaid care during and after floods.
4. **Target the retrofit package:** Prioritise these households for roof raising, safe electrical rewiring, flood-resistant materials, and home health kits.
5. **Track results with disaggregated indicators:** For example, “percentage of female-headed DTKS households in recurrent flood zones receiving retrofits,” “reduction in asset loss among those households,” “reduction in post-flood illness cases in the surrounding area,” and “hours of unpaid care reduced during recovery.”

STEP 2**Analyse root causes and barriers behind the risks**

To have a more relevant climate risk assessment, translate the data into a barrier and root-cause analysis, such as: legal rules that exclude tenants from energy subsidies; financial barriers for low-income group such as collateral requirements; information barriers such as inaccessible early warnings; physical barriers for people with disability such as missing curb ramps or steep stairs on evacuation routes; social barriers such as unsafe routes for girls or women at night; and cultural norms that concentrate care work on women and limit mobility of elderly people. Include non-economic losses like safety, mental health, dignity and time, which are often invisible in standard project logic but are central for vulnerable groups. Gender norms and unequal access to resources shape these barriers. If they are not made explicit now, later measures will miss their mark.

CASE STUDY 2: Barriers in rooftop solar adoption

A review of the city’s rooftop solar pilots finds that many low-income tenants cannot participate because they lack roof rights, cannot pre-finance installation, and are not comfortable with digital applications. A root-cause lens reframes the “low uptake” problem into three solvable barriers: tenure, finance, and literacy. The city can then design a community-scale solar model on public facilities, offer pay-as-you-save financing, and provide in-person enrollment support.

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

STEP 3

Co-create a twin-track climate action with affected groups

Center the people most affected (women, people with disabilities, children and youth, elderly people, and low-income residents), and co-design a twin-track climate action that both removes their specific barriers and makes every core programme equitable by default. “Twin-track” approach here means the climate action will cover both: (a) targeted measures that directly remove the barriers identified for specific groups and (b) mainstreaming equity into the core programme so that all new investments, standards and services are accessible, affordable and safe by default. For the mainstream equity, the Jakarta government can make sure that the vulnerable groups are consulted and participate in the dialogue, and can access and receive the benefit from the programs. For the targeted measures, the Jakarta government can design targeted interventions under their climate action program that will address the specific barriers of the vulnerable groups that make them experience two-folds negative climate change impact (or risk) worse than the rest of the population.

CASE STUDY 3: Net-zero energy - Rooftop solar and efficient appliances adoption**Mainstreaming equity (embedded in the core programme):**

Citywide solar rollout requires open community consultations in every village (*kelurahan*), with specific sessions and participation of people with disability and their caregivers, women, elderly, and low-income households. All application portals are accessibility-compliant, and installers must provide in-home briefings for first-time users. Public buildings that host community services (clinics, schools, RPTRA) are prioritized so everyone can benefit from lower bills and backup power for essential services.

Targeted measures (specific sub-program, barrier-removal actions):

Under this program, Jakarta provides a dedicated Women- and Low-Income Solar Access Scheme that covers connection fees and offers pay-as-you-save for female-headed DTKS households. A Disability Solar Kit adds tactile labels, voice-prompt inverters, and preferential maintenance visits for households with people with disabilities; and a Cooling First Package provides super-efficient fans/AC vouchers for elderly households in heat hotspots. These are exclusive enrollment tracks with proactive outreach and assisted paperwork.

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

STEP 4

Design delivery, governance and accountability for inclusion

Translate the twin-track package into a concrete delivery plan that fixes roles, enrollment pathways, and accountability so inclusion happens in practice, not just on paper. Specify the lead agency, co-implementers, community partners, and private vendors, with clear handoffs and service standards for both the **mainstreamed equity elements and the targeted measures**. Build inclusion into the mechanics: publish information in multiple formats and languages; take outreach to where people are; schedule engagements around unpaid-care routines; provide sign-language interpretation and travel stipends; and operate grievance channels that are safe for women and persons with disabilities. Lock these requirements into procurement (accessible designs, inclusive hiring, user testing with vulnerable groups) and into contracts via milestones tied to independent accessibility audits. Walking with marginalised groups through the full cycle does not only meet ethical duties. It shifts power, improves take-up and safety, and ultimately makes climate risk reduction more effective.

CASE STUDY 4: Delivering an inclusive rooftop solar and efficient appliances program

Roles and governance

Lead: Energy office (DTKTE) chairs a delivery taskforce. Co-implementers: Environment agency (air-quality co-benefits), Social affairs office (DTKS targeting and community verification), Housing and public works (safety standards, building permits), Education and Health offices (public facilities as first host sites), Communications office (accessible information), and the utility interconnection team. Community partners: women's groups (PKK/KWT), disability organizations, youth councils, neighborhood associations (RT/RW). Private vendors: prequalified installers bound to inclusive service standards. The taskforce meets monthly, publishes minutes, and assigns a single "accountable officer" per sub-track (mainstreamed equity vs targeted measures).

Enrollment

and

outreach

Two parallel pathways:

- **Mainstreamed equity (for everyone):** Residents can apply for rooftop solar subsidies, efficient-appliance vouchers, and grid-interconnection approvals through an accessible online portal. For those who prefer in-person help, ward-level helpdesks assist with the same applications; the desks have wheelchair access, large-print forms, and sign-language interpretation, and they open in the evenings and on weekends so caregivers can attend. The city also runs roadshows at RPTRAs, schools, and Puskesmas to explain programme benefits, costs, safety and maintenance, how billing will change, and how after-sales support works.

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

CASE STUDY 4: Delivering an inclusive rooftop solar and efficient appliances program

- **Targeted measures (reserved tracks):** Jakarta operates reserved enrollment tracks for vulnerable groups into the rooftop-solar and efficient-appliance program, with tailored benefits and assisted delivery. Female-headed DTKS households get a Women & Low-Income Solar Access Scheme that waives connection fees and uses pay-as-you-save billing. Households with persons with disabilities receive a Disability Solar Kit (tactile labels, voice-prompt inverter) plus priority maintenance. Elderly-headed households in heat hotspots receive a Cooling-First Package (vouchers for super-efficient fans/AC and a basic home-safety check). Enrollment is proactive and by name, with mobile booths, queue-jump slots, assisted paperwork/home visits, and an in-home briefing after installation. All targeted tracks plug into the city's grievance and redress channels (phone, WhatsApp, in-person) with safe options for women and persons with disabilities, so issues trigger corrective actions and are reported in quarterly reviews.

Inclusion

All materials are in plain language, Bahasa Indonesia and local languages, with pictograms; videos include captions and sign language. Installers must provide in-home briefings post-installation and leave easy-read guides; devices get tactile labels and large-font stickers. Meeting schedules avoid school drop-off/pick-up and caregiving peaks; travel stipends are available for low-income and disability participants.

mechanics**Procurement****and****contracts**

Bid documents include mandatory clauses: (1) accessible customer journey (portal, helpdesk, home briefing), (2) inclusive hiring targets (women and people with disabilities in technician/customer-care roles), (3) safety standards for wiring and roof work, and (4) user testing with vulnerable groups before sign-off. Contracts tie milestone payments to independent accessibility audits and customer satisfaction thresholds disaggregated by sex, age, disability, and DTKS status.

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

STEP 5 *Set up the measurement, evaluation and learning system*

Build a measurement, evaluation, and learning system that proves the twin-track package is reaching priority groups and reducing their risks, not merely delivering installations. Define outcomes linked to Step 3 (for example, lower energy burden for low-income households, fewer heat-related symptoms among elderly people, improved usability for households with persons with disabilities) and outputs tied to Step 4 delivery (for example, number of in-home briefings completed, percentage of helpdesks meeting accessibility standards, number of targeted packages delivered). Establish baselines from Step 1, set quarterly targets, assign who collects what, and require disaggregation by sex, age, disability, income, and location. Track technical metrics (kilowatts installed, kilowatt-hours generated, appliance efficiency ratings) alongside equity and barrier-removal metrics (share of female-headed Social Registry households enrolled, priority-service response times, user-reported safety and ease-of-use), capturing both economic (bill reduction) and non-economic (time saved, comfort, health) effects. Publish simple dashboards, link grievances to corrective actions, audit vendors for accessibility compliance, and use quarterly reviews to adjust delivery (Step 4) and, when needed, revisit co-design choices (Step 3).

CASE STUDY 5: Measuring inclusive rooftop solar and efficient appliances

For the mainstreamed track, the city monitors kilowatts installed, kilowatt-hours produced, share of helpdesks passing accessibility checks, percentage of installations with an in-home briefing, and average days from application to installation, with age-, gender-, and disability-segregated data of the users or recipients.

For the targeted track, it tracks percentage of female-headed Social Registry households enrolled, number of Disability Solar Kits delivered and maintained within service-level timelines, median bill reduction for targeted participants, and self-reported heat-stress complaints one month after appliance installation.

Data come from the application portal and helpdesks (with disaggregation tags), vendor logs, brief post-installation phone surveys, and clinic summaries for heat-related visits in priority neighbourhoods. If indicators show, for instance, lower uptake among households with persons with disabilities or slow maintenance response times, the taskforce adds more mobile enrollment booths, simplifies forms, and adjusts vendor capacity, then checks the next quarter whether enrollment and response times improved.

CASE STUDY 6: Proposed indicators in ProKlim (Climate Village Program) for inclusive planning and equitable impact

ProKlim is a national community-based program implemented at the RW level to strengthen local climate resilience. In Jakarta, it supports adaptation activities such as waste management, greening, urban farming, water harvesting, and preparedness for flood and heat. Many of these actions are led by community units or PKK (women's family welfare groups). As the program expands, Jakarta could integrate equity-focused indicators to track both inclusive planning and equitable outcomes. Below are recommended examples:

Inclusive planning indicators:

1. **% of MABIs or RWs level consultation participation attended by women, youth, or persons with disabilities:** Measures whether participatory planning includes diverse community voices, especially vulnerable groups, not just general civic input
2. **% community proposals that include targeted actions for vulnerable groups:** Tracks whether planning explicitly identifies and addresses barriers experienced by specific groups

Equitable impact indicators (for more examples, please see Annex III):

1. **% of DTKS-registered households (social registry) benefiting from ProKlim-funded infrastructure:** Helps verify that infrastructure investments are reaching low-income or high-risk populations
2. **% of low-income/women/PWD participants reporting increased income or getting economic benefit from composting or waste bank initiatives supported by ProKlim:** Tracks economic and environmental participation of a key group often excluded from green livelihoods

ANNEX III

INCLUSIVITY ALIGNMENT FOR DKIJ CLIMATE GOVERNANCE

STEP 6

Transparent review and adaptation

Publish easy-to-read dashboards that show progress on outcomes for each vulnerable group and invite feedback through community forums and complaint channels. Hold periodic reviews to compare indicator trends with the original theory of change and the barrier analysis; then adjust the package—scale what works, redesign what does not, and retire what is not reaching the intended groups. This completes the learning cycle and keeps programmes accountable to the people they aim to protect.

CASE STUDY 7: Adaptive improvement for rooftop solar and efficient appliances

Three months into rollout, the public dashboard shows low enrollment by households with persons with disabilities, slow maintenance response times, and smaller-than-expected bill reductions for elderly-headed households in heat hotspots.

The taskforce holds a review with community reps and vendors, then adapts delivery: it adds mobile enrollment booths with assisted paperwork and sign-language interpretation, switches the online form to a screen-reader-friendly, plain-language version, and introduces a micro-grant for basic rewiring so elderly homes can safely use efficient fans or air conditioners.

Contracts are amended to include service-level penalties for late maintenance and a second prequalified vendor to expand capacity. In the next quarter, the city tracks whether Disability Solar Kit enrollment rises, maintenance turnaround meets the new target, and median bill reduction and self-reported heat comfort improve among elderly participants—closing the loop from evidence, to fix, to verified results.

ANNEX IV

ALTERNATIVE EQUITABLE IMPACT INDICATORS

Equitable impact measurement against “Equitable Climate Resilience” impact

INDICATORS	JUSTIFICATION
Economy	
Energy burden (% income or cost decrease/increase on electricity/fuel), especially for low-income and women-headed households	Captures positive/neutral/negative shifts in affordability from energy transition; aligned with C40 co-benefits framing
Share of low-income/women/PWD participants reporting stable or increased income from circular economy (from waste recycle and reuse action)	Tracks livelihood gains from climate action co-benefits
Out-of-pocket heat- or pollution-related health, or diseases caused by regular disaster (such as flood), costs per affected household	Economic impact of healthcare cost from the households that usually got affected or are vulnerable to those climate-impact-related health
Work absenteeism due to heat or hazardous air or regular disaster seasons, especially for informal workers or days- and hours-based workers (decrease or increase)	
Education	
Student absenteeism rate (decrease or increase) on heat-alert days or regular disaster seasons (such as flood), with schools in low-income neighborhood highlighted	Climate-related disasters, and health conditions affected by climate change can usually make children sick and then are absent in the schools
School days lost (decrease or increase) due to regular or any hazardous disasters	Climate-related disasters usually affects school closure when it happens
Social and well-being	
Hours of unpaid care added due to regular disaster seasons or any climate-related event (such as heat, etc), especially among women and low-income groups	Women usually spend more time taking care of the family when they are sick or affected by disasters; low-income groups have it harder to manage the family situation due to epidemic, disaster, or when their families got sick; nevertheless the indicator still relevant for the general population
Perceived mental well-being (index/score) during hot season	Green space, shade and cooling measures improve mental health and reduce stress. WHO and recent reviews link urban nature to mental well-being via stress relief, social cohesion and reduced heat exposure
Loneliness prevalence and social cohesion score	Access to green/public spaces raises social interactions and cohesion, which support health

ANNEX IV

ALTERNATIVE EQUITABLE IMPACT INDICATORS

INDICATORS	JUSTIFICATION
Health, safety, and loss	
Number of deaths and missing persons attributed to disasters, per 100,000 population, disaggregated by age, gender, disability, and economic status	Standard impact metrics per Sendai; report by vulnerable-group shares
Number of diseases types caused by heat and climate-related disasters or climate change impact in general, with focus on how they affect disproportionately pregnant women, children, elderly, and people with disability	
Number of people affected by diseases caused by heat and climate-related disasters or climate change impact in general, disaggregated by age, gender, disability, and economic status	

