Facilitative, Multilateral Consideration of Progress (FMCP) Indonesia's First BTR

By: Dr. Mitta Ratna Djuwita, S.P., M.A.
Director of GHG Inventory and MPV, Ministry of Environment

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GENERAL INFORMATION OF INDONESIA BTR 1

- Indonesia submitted the 1st BTR on schedule, December 2024 including NID, CRTs, and CTFs for tracking NDC progress and support needed and received as well as support provided and mobilized
- The BTR 1 document preparation process involved all relevant institutions/ministries and was supported by experts from universities.
- Using the methodology of the IPCC Guidelines 2006, Supplement 2013 and Refinement 2019.
- Using the IPCC Software for calculating GHG emissions and ETF tools for upload CRT, CTF NDC dan CTF Suport
- Documents being reviewed by TER :
  a. National Inventory Document Indonesia Greenhouse Gases Inventory 2000-2022 (NID) + CRTs: https://unfccc.int/sites/default/files/resource/Indonesia%20NID1.pdf
  b. Indonesia First Biennial Transparency Report (BTR-1) + CRFs: https://unfccc.int/documents/645082
  c. TER BTR-1: First Centralized TER based on MPGs: Decision 18/CMA.1 dan Decision 5/CMA.3
  d. Preparatory phase: questions and respond to the questions (120): 7 April – 9 May
  e. Online TER: 6 – 7 May 2025

AREA OF FLEXIBILITY

- GHG INVENTORY The GHG Inventory implemented flexibility in four areas:
  - **(i) Completeness**, The application of flexibility involves defining insignificant sources as those contributing less than 0.1% to the national total GHG emissions (without LULUCF) or 1,000 kt CO2 equivalent, whichever is lower
  - **(ii) Types of greenhouse gases**, The application of flexibility involves the exclusion of HFCs, PFCs, SF6, and NF3. Indonesia's GHG Inventory encompasses carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and perfluorocarbons (PFCs).
  - **(iii) Time series**, The application of flexibility to time series does not reflect the emissions data from 1990. The inventory offers only an estimation of emissions from 2000 to 2022.
  - **(iv) Quality Assurance and Quality Control**, The application of flexibility in QA/QC lacks a detailed process for conducting QA/QC for the GHG Inventory as outlined in the 2006 IPCC GL. The Directorate General of Climate Change Control, operating under the MoEF in Indonesia, oversees the coordination, execution, and management of quality assurance and quality control for the GHG Inventory

GHG INVENTORY

- The 2022 National GHG of Emissions and Sinks Inventory shows the total of the three main gases (CO_2, CH_4, and N_2O) has reached 1,382,854.50 kt CO_2e
- Primary contributor is energy, which accounted for 53.42% of total GHG followed by Lulucf, waste, agriculture and IPPU, i.e., 22,58%, 10,04%, 9,80% and 4.15% respectively
- In the absence of FOLU (Forestry, and Land Use) and peat fire, energy sector was the main contributor accounting for 69.01% of the total GHG emissions
- Using GWP values in IPCC AR5
- Uncertainty of the Indonesia's National GHG inventory with LULUCF (including peat fire) 2022 is approximately 13.79% and without LULUCF is approximately 10.27%

National GHG Emissions Trend (incl. LULUCF and peat fire) in 2000 – 2022

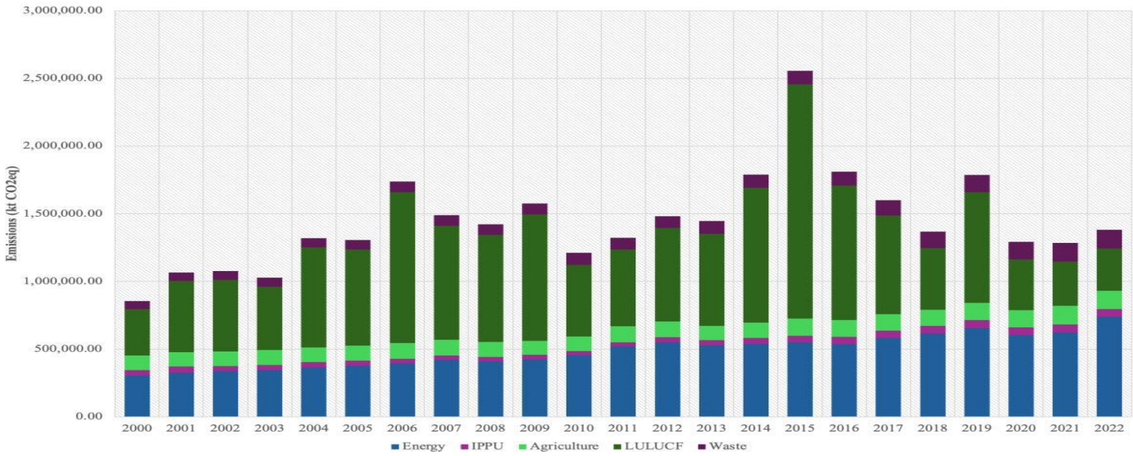


Figure 2 - 2 Contribution of emissions in 2022 by sector with LULUCF (left) and without LULUCF (right)

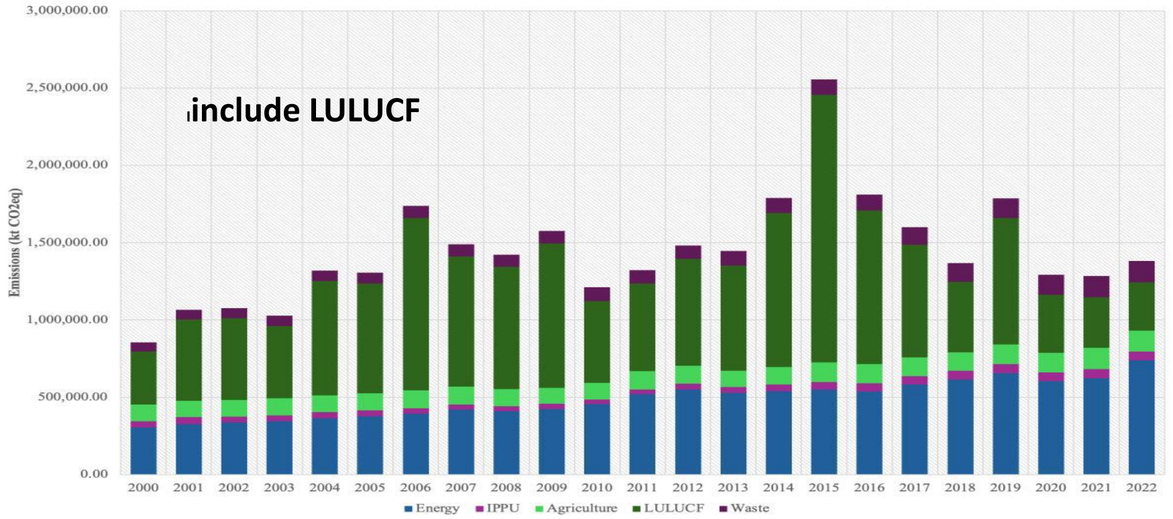
GHG INVENTORY (2000-2022) BTR1

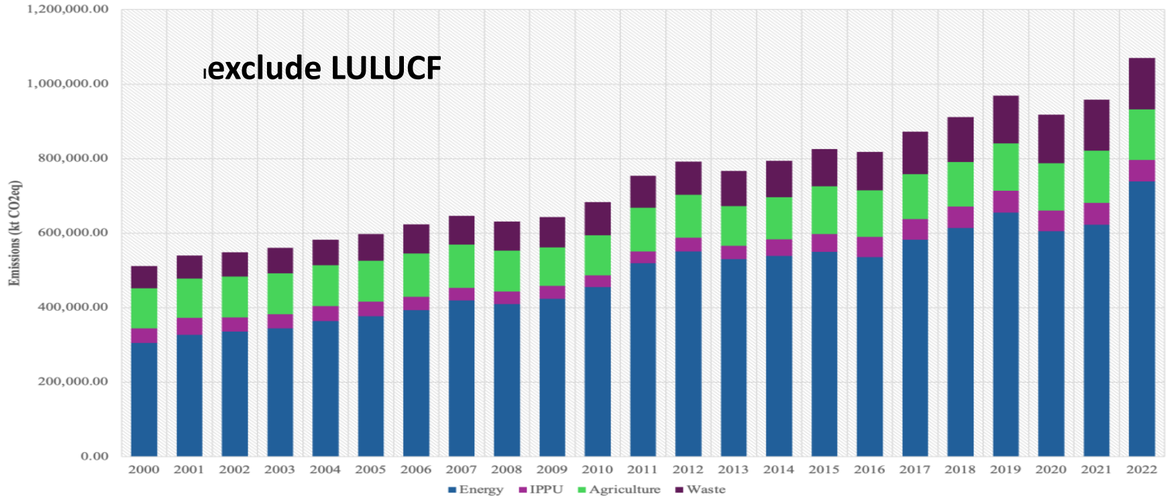
Table 2 - 1 Emissions and removals in 2022 by sector and type of gas

Source of Emissions and Removals	CO_2	CH_4	N_2O	PFCs	Total
	kt CO2e				
Energy	712,371.82	21,813.50	4,568.07	0.00	738,753.39
IPPU	56,337.73	102.84	865.45	55.61	57,361.63
Agriculture	6,206.43	86,197.38	43,162.03	0.00	135,565.84
Waste	2,383.23	133,341.96	3,136.87	0.00	138,862.07
Total without LULUCF	777,299.21	241,455.69	51,732.42	55.61	1,070,542.93
LULUCF	297,895.78	9,054.25	5,361.54	0.00	312,311.57
Total with LULUCF	1,075,194.99	250,509.94	57,093.96	55.61	1,382,854.50

Table 2- 5 GHG emissions and removals by gas type with LULUCF

Source of Emissions and Removals	2000	2005	2010	2015	2019	2022
	kt CO_2e					
CO_2 emissions with LULUF	636,746.28	1,056,773.60	963,673.91	2,218,311.73	1,453,324.70	1,075,194.99
CH_4 emissions with LULUF	176,275.40	205,363.87	200,907.83	278,805.84	274,224.17	250,509.94
N_2O emissions with LULUF	41,200.40	44,696.69	48,029.06	58,650.22	60,090.23	57,093.96
PFCs	281.23	281.23	159.17	51.15	46.74	55.61
Total	854,503.31	1,307,115.39	1,212,769.97	2,555,818.95	1,787,685.85	1,382,854.50





INFORMATION NECESSARY TO TRACK PROGRESS MADE IN IMPLEMENTING AND ACHIEVING THE NDC (MITIGATION)

Indonesia's Enhanced Nationally Determined

Sector	Emission 2010 ($Mt\ CO_2e$)	GHG Emission Level 2030			GHG Emission Reduction			
		$Mt\ CO_2e$			$Mt\ CO_2e$		% of Total BAU	
		BAU	CM1	CM2	CM1	CM2	CM1	CM2
1. Energy*	453	1,669	1,311	1,223	358	446	12.5%	15.5%
2. Waste	88	296	256	253	40	44	1.4%	1.5%
3. IPPU	36	69.6	63	61	7	9	0.2%	0.3%
4. Agriculture	111	120	110	108	10	12	0.3%	0.4%
5. Forestry and Other Land Uses (FOLU)**	647	714	214	-15	500	729	17.4%	25.4%
TOTAL	**1,334**	**2,869**	**1,953**	**1,632**	**915**	**1,240**	**31.89%**	**43.20%**

Description of the NDC

- **2015:** Intended Nationally Determined Contribution (INDC), submitted prior to COP-21 in December 2015.
- **2016:** First Nationally Determined Contribution (NDC), which strengthened the commitments set out in the INDC, particularly with regard to the Business-as-Usual (BAU) scenario used, clarification of sectoral BAU, emission reduction targets, and the assumptions applied in BAU projections and target allocation.
- **2021:** Updated NDC, representing a revision of the First NDC.
- **2022:** Enhanced NDC, with increased emission reduction targets from 29% in the previous NDC to 31.89% unconditionally (CM1, or with domestic actions), and from 41% to 43.20% conditionally (CM2, or with additional actions), relative to BAU (no-action) emissions by 2030.

Institutional Arrangement of Climate Change Mitigation

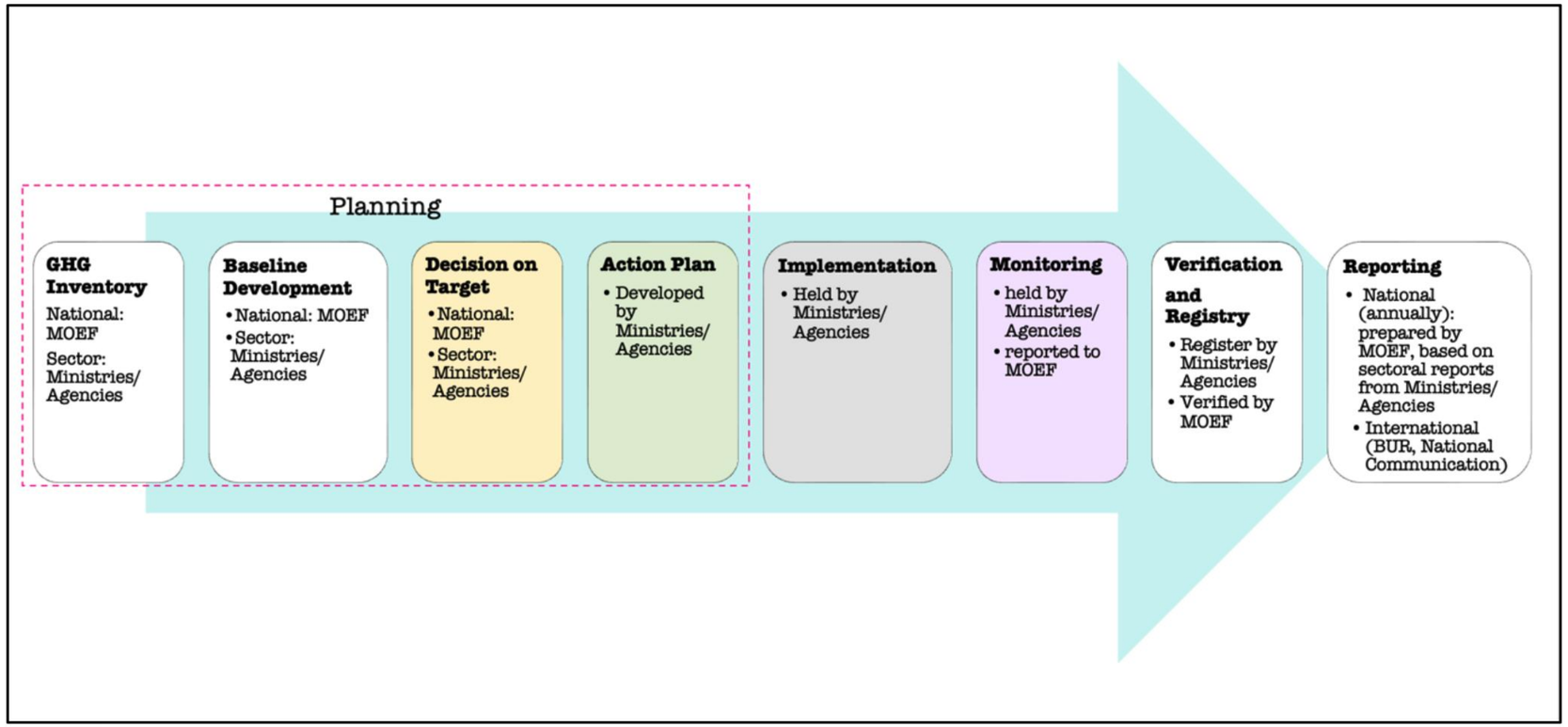


Figure 2- 12 Business Process of Mitigation of Climate Change

The management system, data provision, and information on actions and resources for Climate Change Mitigation, Climate Change Adaptation, and Carbon Pricing have been established through the SRN-PPI. The SRN-PPI serves as an integrated national transparency framework for mitigation, adaptation, and means of implementation, sourced from both national and international channels, which are measurable, reportable, and verifiable (MRV).

Projection of adjusted ENDC emission and GHG Inventory without LULUCF from 2010-2022

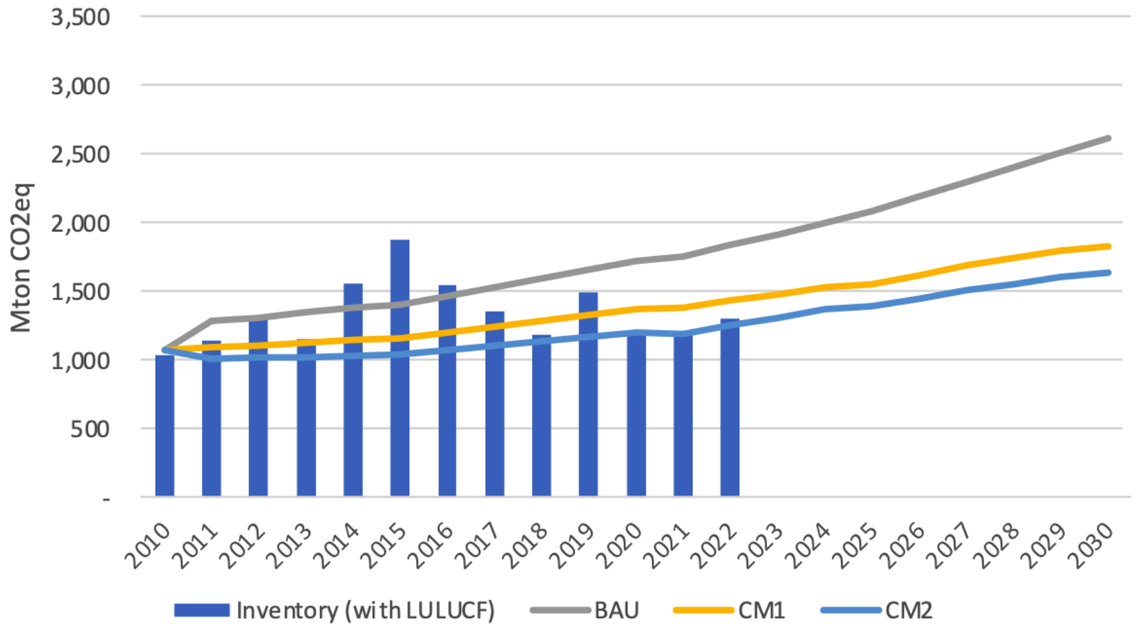


Figure 1. Comparison between GHG Inventory and emission projections of ENDC with LULUCF (2010-2022)

Table 6. Projection of adjusted Baseline, CM1 and CM2 of ENDC emissions and GHG Inventory with LULUCF from 2010 to 2022

Scenario	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	Million tonnes CO2e												
BAU	1,066.88	1,280.98	1,311.60	1,342.57	1,376.15	1,404.48	1,466.65	1,534.94	1,599.50	1,661.17	1,719.88	1,754.21	1,827.44
CM1	1,066.88	1,087.71	1,105.03	1,122.90	1,143.34	1,158.58	1,198.48	1,247.41	1,290.60	1,330.80	1,367.72	1,376.75	1,426.28
CM2	1,066.88	1,008.13	1,015.81	1,023.95	1,034.38	1,039.74	1,069.77	1,108.25	1,141.49	1,171.74	1,198.65	1,184.72	1,241.93
GHGI (with LULUCF)*	1,033.80	1,142.30	1,313.54	1,147.15	1,553.72	1,870.55	1,540.10	1,355.61	1,180.55	1,490.77	1,203.37	1,195.08	1,296.32

Note: Emission from LULUCF exclude categories which are not covered in the ENDC, i.e. emission of non-CO_2 from drained peat, CO_2 emission from living biomass for GL, WL, OL and ST as there are no emissions or removals recorded in these categories according to the ENDC.

- Indonesia has achieved both the unconditional (CM1) and conditional (CM2) emission reduction targets over the past three years (2020–2022).
- During the period 2011–2019, national emission levels (for certain sectors) in most years remained above the unconditional target (CM1).

Projection of adjusted ENDC emission and GHG Inventory with LULUCF from 2010-2022

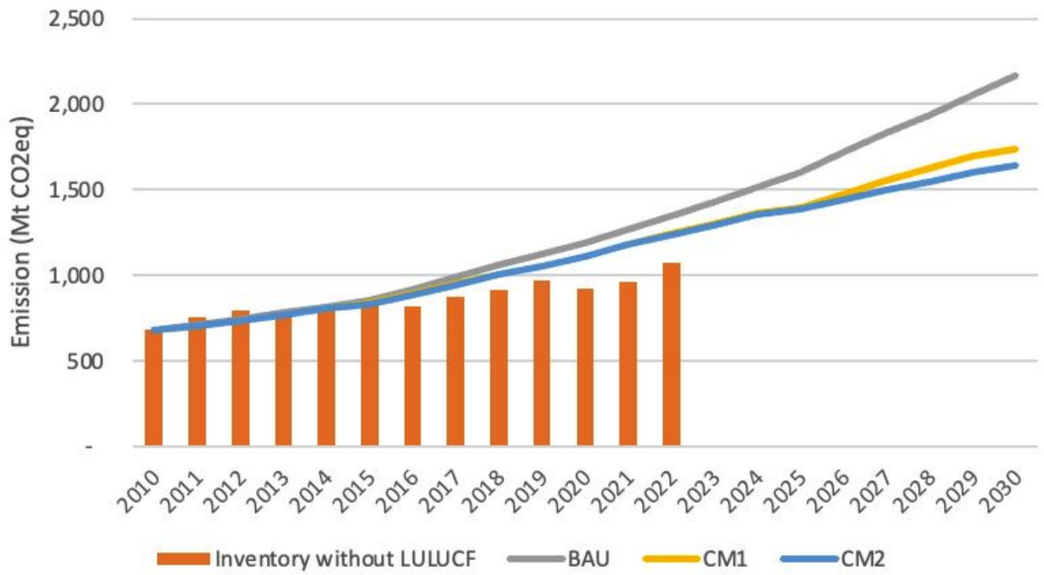


Figure 2. Comparison between GHG Inventory and emission projections of ENDC without LULUCF (2010-2022)

Table 7 Projection of adjusted ENDC emission and GHG Inventory without LULUCF from 2010-2022

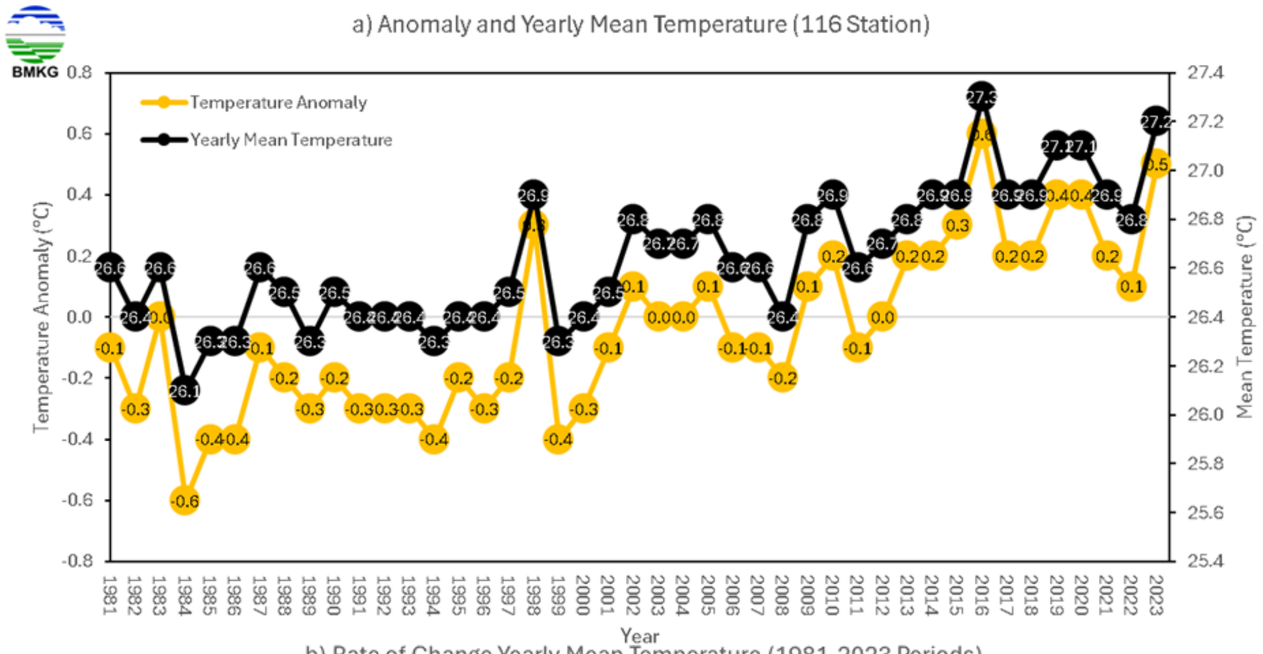
Scenario	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	Million tonnes CO2e												
BAU	678.03	708.43	743.64	779.35	817.85	851.29	918.77	988.06	1,057.17	1,123.61	1,187.31	1,268.71	1,346.54
CM1	678.03	705.14	737.22	769.84	805.10	835.24	890.10	946.81	1,003.18	1,056.62	1,106.82	1,179.07	1,241.11
CM2	678.03	704.93	736.88	769.32	804.15	834.02	888.67	945.34	1,001.60	1,054.94	1,105.02	1,177.13	1,238.30
GHGI (without LULUCF)	683.25	754.48	791.88	767.58	794.60	825.54	818.62	872.17	911.97	969.03	917.79	957.86	1,070.54

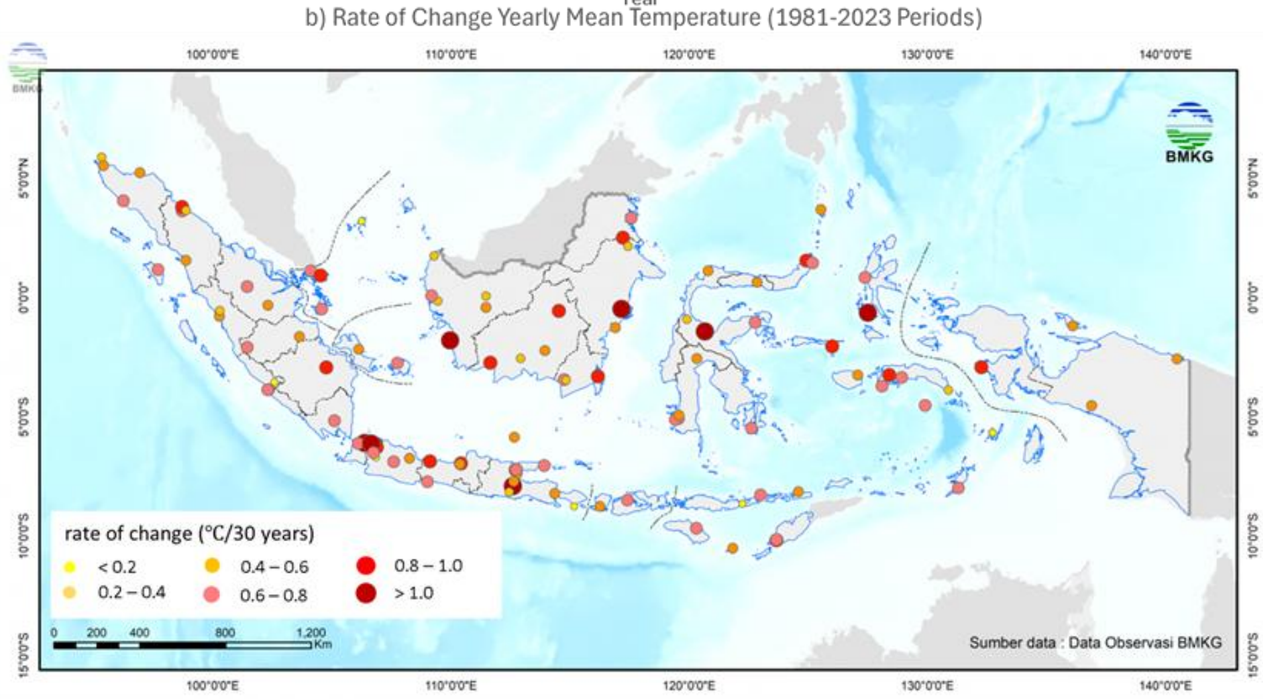
- The reason national emissions remain above the unconditional target (CM1) is the relatively high level of emissions from the LULUCF sector (land use, land-use change, and forestry).
- Excluding LULUCF, national emission levels have been below the conditional emission level (CM2) for the past ten years (2014–2022).

Climate Change Impact and Adaptation

INDONESIA HISTORICAL CLIMATE

- Over the observation period from 1981 to 2023 in Indonesia, **2016** was the warmest year, with a temperature anomaly of **0.6 °C. 2023** ranked as the second warmest year, recording an anomaly of **0.5 °C**.
- Indonesia's annual mean air temperature has exhibited an increasing trend, with a rate of increase of **0.6 °C per 30 years**, based on an analysis of data from **116 observation stations** covering the period **1981–2023.**
- Several observation stations located in **Banten, East Java, West Kalimantan, East Kalimantan, Central Sulawesi, and Maluku** show temperature increase rates exceeding **1 °C per 30 years**.





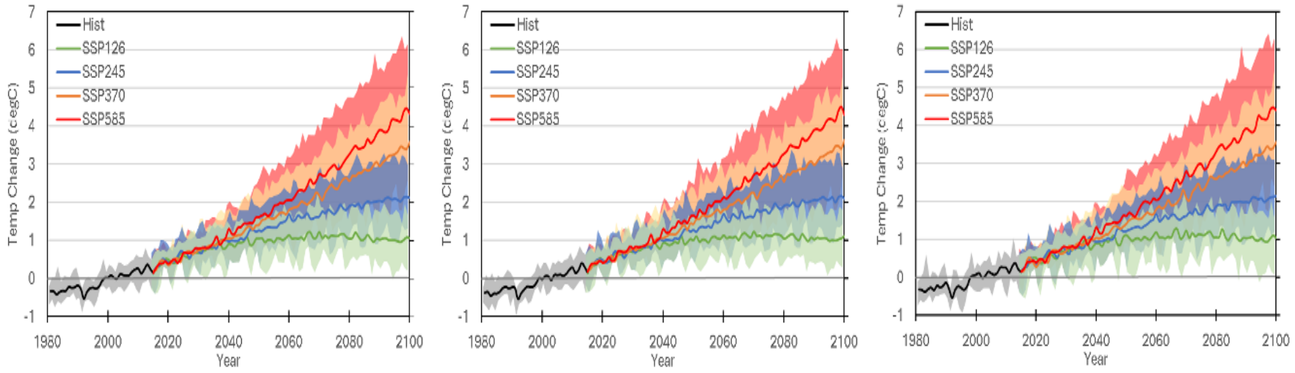
INDONESIA CLIMATE PROJECTION

- Air temperature is projected to exhibit a markedly increasing trend toward the end of this century.
- The average air temperature, maximum air temperature, and minimum air temperature are each projected to increase by up to 4.3°C, 4.4°C, and 4.2°C, respectively, under the highest climate scenario (SSP5-8.5), and by 2.1°C, 2.1°C, and 2.2°C, respectively, under the lower climate scenario (SSP5 126).
- Several observational station locations in Banten, East Java, West Kalimantan, East Kalimantan, Central Sulawesi, and Maluku indicate rates of temperature increase exceeding 1°C per 30 years.

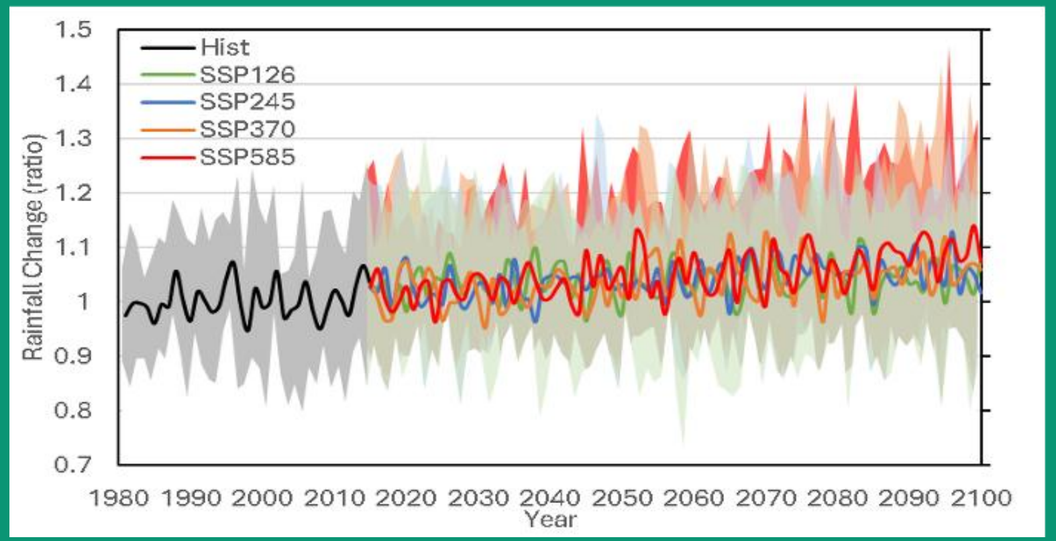
a) Trend of projected mean temperatures (Tmean)

b) Trend of projected minimum temperatures (Tmin)

c) Trend of projected maximum temperatures (Tmax)



d) Map and graphs of projected mean temperatures (Tmean, 2080-2099 periods)



- The average area-wide rainfall across Indonesia is generally projected to experience a highly diverse pattern of change, with an overall trend indicating an increase in the future.
- Rainfall during the wet season is projected to increase relatively, while rainfall during the dry season is expected to decrease. The highest percentage changes in rainfall are projected to occur in regions characterized by equatorial and local rainfall patterns.

INDONESIA ADAPTATION STRATEGY

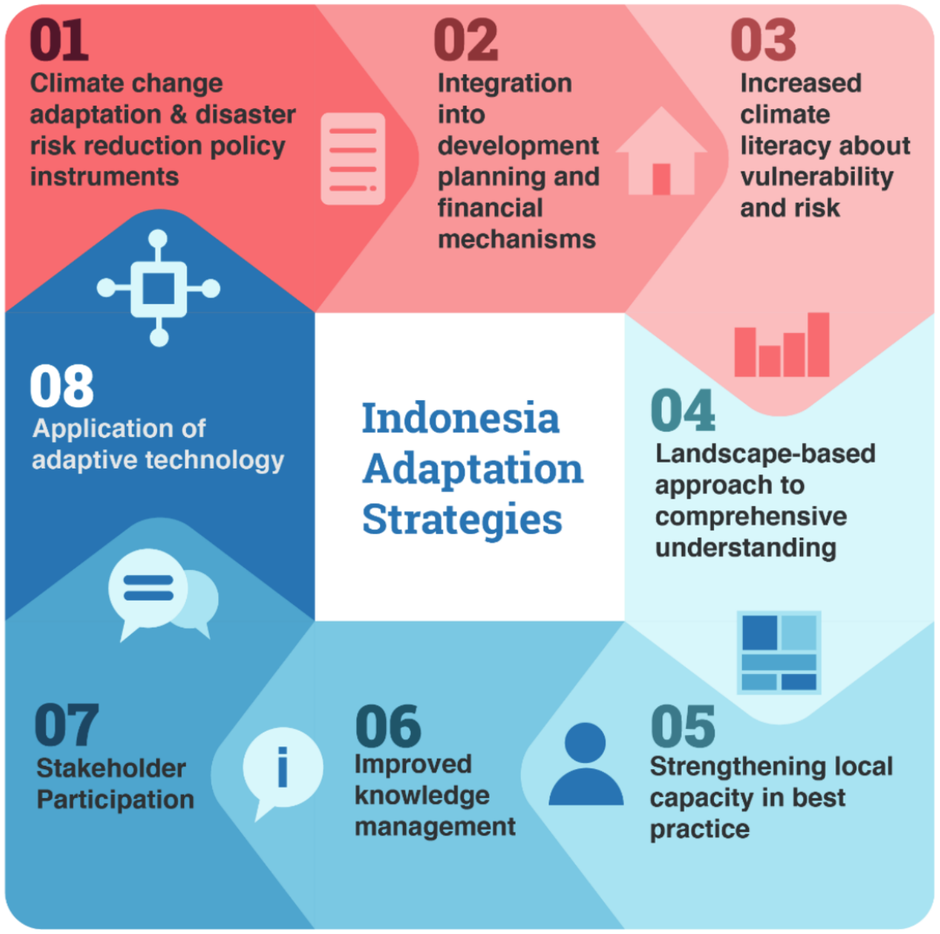


Figure 3- 11 Eight key climate change adaptation strategy groups

ADAPTATION ACTIONS IN ENDC:

Agriculture

- Development of local compost and microorganisms
- Organic cultivation and crop diversification
- Strengthening irrigation systems and water management
- Climate-Smart Agriculture technologies

Water Resources

- Increasing water storage capacity
- Landscape-based approaches to water resource management
- Development of climate-adaptive infrastructure
- Strengthening institutions and water management efficiency

Health

- Strengthening health monitoring systems
- Optimizing health services
- Education and collaboration between sectors
- Production of traditional and herbal medicines

Ecosystems

- Ecosystem-based adaptation (EbA) approaches
- Forest restoration and coastal rehabilitation
- Strengthening cross-sectoral collaboration
- Green infrastructure development and community-based monitoring

Key Program Implementation Achievements, Strategies, and Action Directions Indonesia's Adaptation Commitments in the ENDC

Table 3- 2 Summary of monitoring the achievement of action implementation based on ENDC

Adaptation Commitment	Key Program Directives, Strategies, and Actions *Source:* ENDC (MoEF, 2022a)	Achievements *Source*: ADCOM (MoEF, 2022b)	Actions Not Yet Planned
Economic Resilience	6 key programs, 10 strategies, 25 actions *Sectors: Food, Ecosystem, water, disaster management*	• Implemented / in progress: 20 actions • Planned: 1 action • Not yet planned: 4 actions	1. Identification and development of best practices in river basin management 2. Identification and development of best practices and local wisdom in the utilization of forest resources 3. Identification and development of best practices in land use and management. 4. Rehabilitation of degraded land with species suitable for energy
Social and Livelihood Resilience	6 key programs, 10 strategies, 20 actions *Disaster, Health, Ecosystem, Energy, Water*	• Implemented / in progress: 16 actions • Not yet planned: 4 actions	1. Capacity building for all stakeholders in responding to the Early Warning System (EWS) 2. Protection of historical and cultural sites 3. Integration of SIDIK into various related systems regarding vulnerability, risk, and impact 4. Integrating adaptation into infrastructure development and maintenance
Ecosystem and Landscape Resilience	5 key programs, 9 strategies, 21 actions *Sectors: Ecosystem, Disaster, Water, Energy*	• Implemented / in progress: 14 actions • Not yet planned: 7 actions	1. Identification and development of best practices in social forestry 2. Facilitation, supervision, and compliance with the principles of sustainability applied to each social forestry scheme 3. Application of EFT in social forestry 4. Restoration of degraded coastal areas as important ecosystems 5. Prevention and eradication of invasive alien species 6. Developing policy instruments and tools to assess vulnerability, risk, and climate impacts on national priority watersheds 7. Awareness campaigns on the importance of integrating vulnerability, risk, and climate impacts in urban planning and development

Source: Adaptation Communication - ADCOM (MoEF, 2022b) based on ENDC (MoEF, 2022a) directives

MONITORING AND EVALUATION TOOL

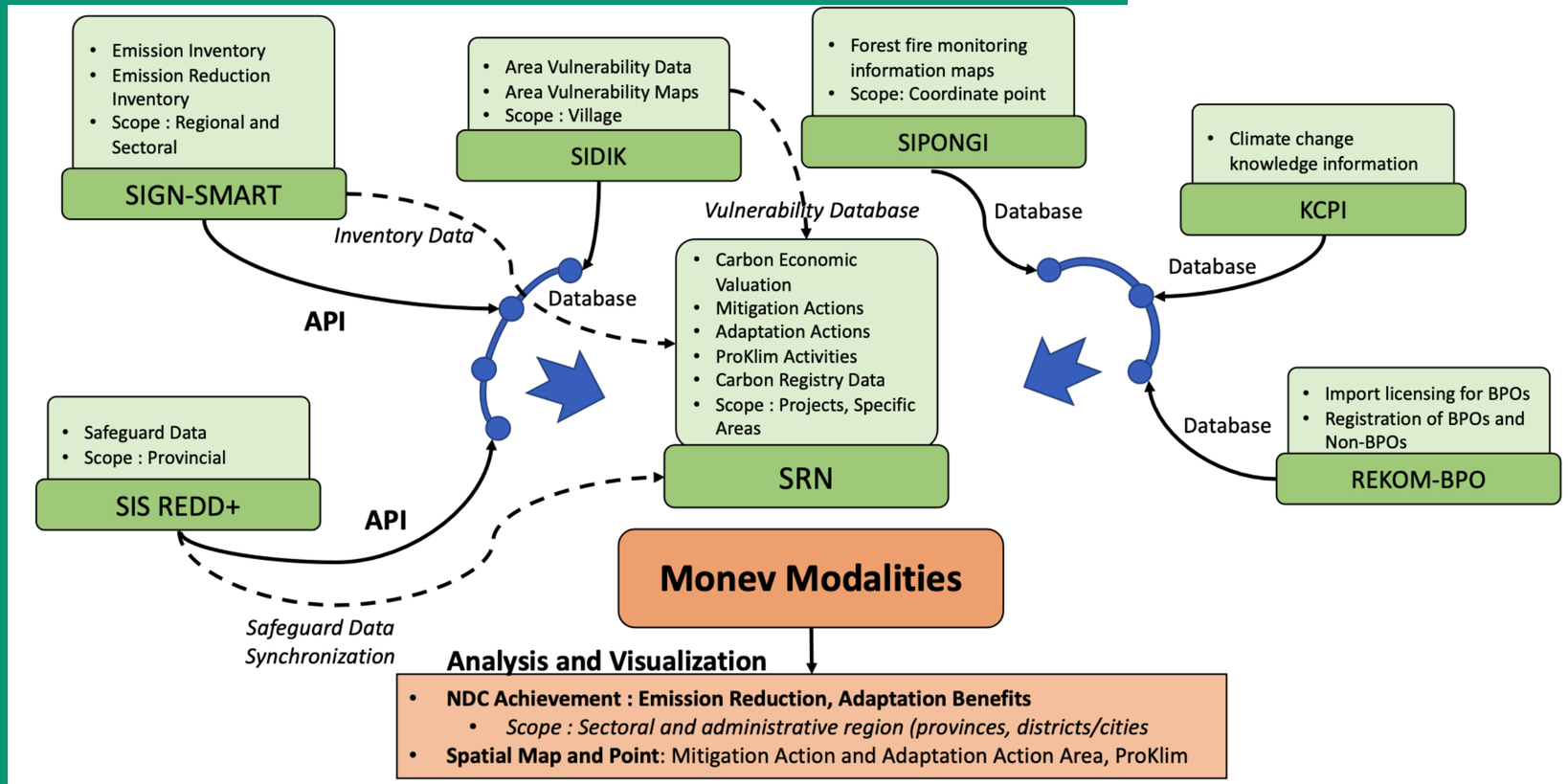
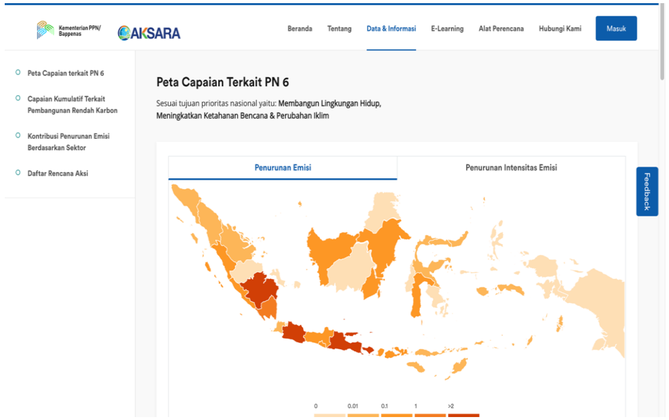
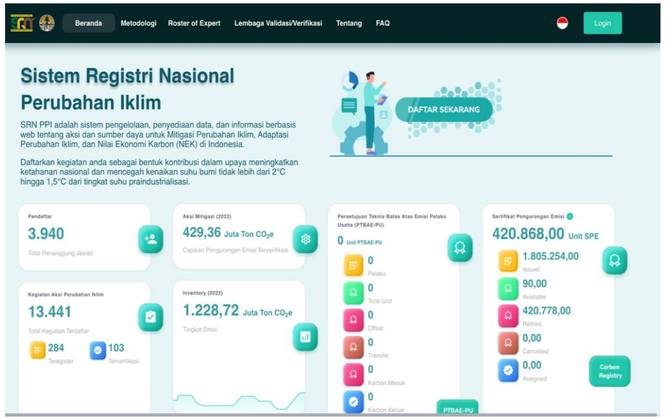


Figure 3- 23 Climate change-related modalities and tools operationalized by the National Focal Point.

AKSARA



SRN



INDONESIA ADAPTATION NEEDS

The Complexity of Climate Change Impact Analysis in Various Sectors

1. Identifying Affected Sectors
2. Need for Accurate and Integrated Data
3. Collecting Observational Data in the Agriculture and Water Sectors
4. Collecting Health and Ecosystem Data

Measuring the Contribution of Actions to Increasing Resilience

1. Economic Indicators in the Agriculture Sector
2. Efficient Water Resource Management
3. Health Indicators to Measure Social Resilience
4. The Role of Ecosystems in Environmental Resilience

Loss and Damage

1. Policy and program gaps remain in addressing slow-onset events and non-economic losses.
2. Institutional Capacity Building to Respond Comprehensively to L&D Related to Climate Change Impacts
3. Improving Flood and Landslide Early Warning Systems (FEWS & LEWS)

Determining Priority Adaptation Actions in Key Sectors

1. Climate Risk Approach and Priority Actions
2. Need for Adequate Infrastructure
3. Availability of Technology and Training
4. Need for Adequate Funding and Inter-Agency Coordination

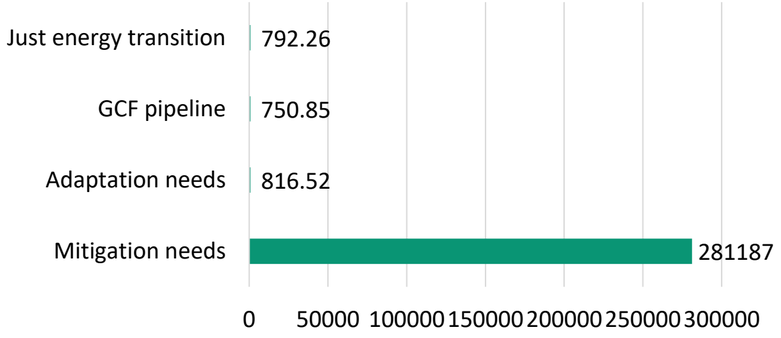
Need for Adaptation Action Development

1. Assessment Methodology Risk and vulnerability
2. Financing and integration into development plans
3. Strengthening institutional capacity and MRV systems
4. Empowering vulnerable groups and stakeholder inclusion

FINANCE, TECHNOLOGY AND CAPACITY BUILDING

FINANCE NEEDS DAN FINANCE RECEIVED 2021-2022

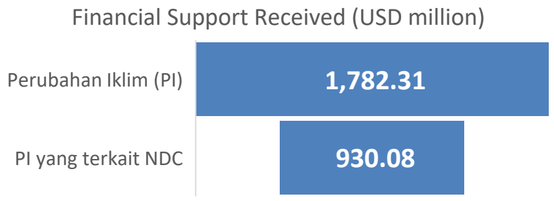
FINANCE NEEDS

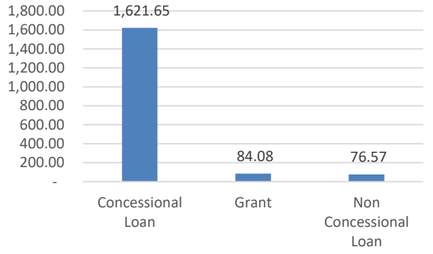


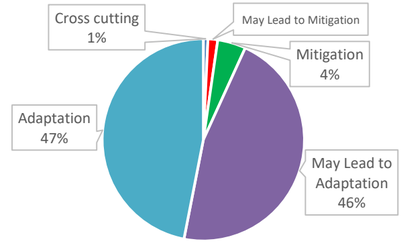
Gap di Finance Needs

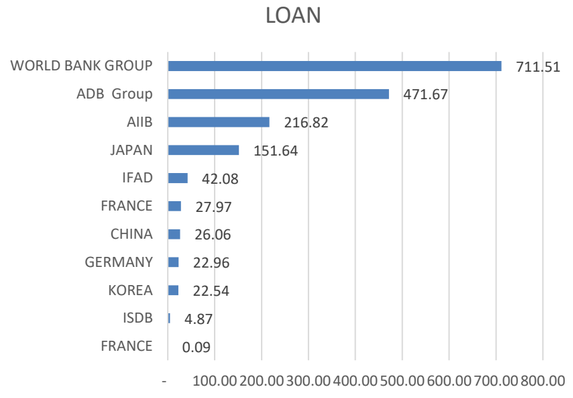
- The funding needs of implementing entities (PI) that can be identified are limited to those reflected in **BUR 3**, the **Adaptation Roadmap**, the **GCF Country Programme Pipeline**, and agreements signed in 2021–2022 for the **Just Energy Transition**.
- Meanwhile, **Table FTC 6a** only identifies the funding needs for mitigation and adaptation implementing entities based on the types of activities, as discussed through expert consultation forums with the line ministries (KL); therefore, the corresponding figures cannot yet be quantified.

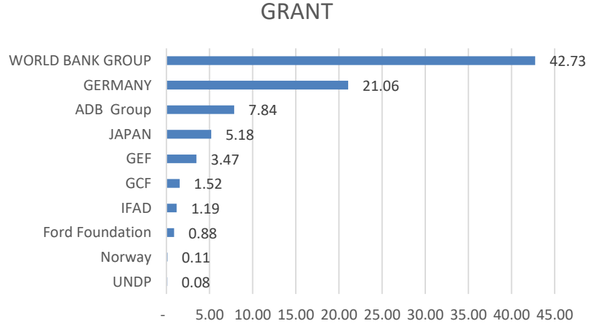
FINANCE RECEIVED











Gaps on Finance Received

- The total funding received during 2021–2022 amounted to USD 1,782.31 million; however, only USD 930.08 million was related to the NDC.
- The composition of the funding was as follows: concessional loans accounted for 91%, non-concessional loans for 4%, and grants for 5%.
- In terms of thematic allocation, 4% was directed to mitigation, 47% to adaptation, and 1% to cross-cutting activities. In addition, 4% of the funding may lead to mitigation outcomes, while 2% may lead to adaptation outcomes.
- International climate finance, in the form of loans and grants—whether provided, mobilized, required, or received—identified during the preparation of BTR-1 is still focused on activities managed by the Central Government (ministries/agencies) and does not yet include activities at the subnational level.
- Grant funding flows originating from bilateral and multilateral partners and channelled through non-governmental entities (e.g. NGOs, INGOs, think tanks, academic institutions, etc.) under off-budget and off-treasury arrangements cannot be recorded in the Government Financial Statements.
- The financial instruments covered in BTR-1 are limited to loans and grants and do not yet include other types of financial instruments.
- Climate finance flows to the private sector have not yet been accounted for in BTR-1.
- Climate finance flows from the GCF, AF, and GEF cannot be fully captured in BTR-1, except for those reported to the Directorate General of Budget Financing and Risk Management (DJPPR), Ministry of Finance.

Technology Development and Transfer

TECHNOLOGY NEEDED

Sector	Type of Technology (NEEDED)
Energy	PLTS, PLTA/M/MH, Coal Gasification PLT, EV & EV infrastructure, Boiler Optimization Guideline, Technology Catalogue; EE improvement; Increase Utilization of Low Carbon fuel technology
Agriculture	Satellite and Laboratory - Information System as the goal, Information Systems, Technology for sustainable intensification practices, Technology for developing high yield and low emission varieties, Balanced fertilizer application and technology for restoring soil fertility, Manure management, Increasing Carbon Stock from horticulture and Estate Cropiogas, organic fertilizer, etc), Technology for increasing grassland productivity and feed quality for livestock
Waste	LFG Recovery Plant, Sanitary landfill and LFG Recovery, Semi Aerob Landfill and LFG recovery, In-Vessel Composting, Composting (open window system), Bio digester - Low and High Solid, MBT (Mechanical Biological treatment), Thermal Conversion: Mass-fired combustion; RDF-fired combustion; Fluidised bed combustion, Gasification technology: Vertical fixed bed; Fluidised bed; Pyrolysis technology: Fluidised bed; Aerated, centralised domestic liquid waste treatment; Integrated domestic liquid waste treatment
IPPU	CCS Technology; Green Ammonia; Low Carbon Cement
Ecosystem	monitoring system for the utilization of environmental services; technological innovation and social-environmental safeguards in ecosystem restoration; Mobile Air Quality Monitoring System and Instrument
Health	Online health database system; Technology for rapid detection of Malaria and Dengue cases
Loss and damage	Integrated Monitoring and Early Warning System to Address Residual Impacts; Strengthening the Disaster Awareness Culture Movement through various platforms

TECHNOLOGY RECEIVED 2021-2022

Sector	Type of Technology	Title of Program
Energy	Solar Ice Maker	Solar Ice Maker Pilot Project
Energy	PV Boat	Photo Voltaic Boat Pilot Project
Energy	RMS PLTS	Installation of Remote Monitoring System (RMS) at Rooftop PLTS DKI Jakarta Province
Energy	Solar PV	Solar PV testing
Energy	Cold Storage for PLTS	Monitoring and Evaluation of Rooftop Solar Power Plant for Cold Storage
Energy	PLT RNE	Feasibility Study on PLN Solar Replacement Project
Energy	Solar Ice Maker	Replication of Solar Ice Maker Pilot Project in Kawa, Maluku
Energy	LED Lamps Standard	Strengthening Indonesian Forest and Land Monitoring for Climate Actions
Forestry	Monitoring system	Mangrove for Coastal Resilience (M4CR) Project
Forestry	National Mangrove Map	Forest Carbon Partnership Facility (FPCF) East Kalimantan
Forestry	Carbon Fund	Advancing Indonesia's Lighting Market to High Efficient Technologies (ADLIGHT)

GAPS ON TECHNOLOGY

- The technology support—whether provided, mobilized, required, or received—identified during the preparation of BTR1 remains largely focused on activities managed by the Government (ministries/agencies). As a result, it does not yet provide a comprehensive picture, as information from the private sector, non-governmental organizations, and communities has not been captured.
- Most of the reported technologies received are primarily related to technologies required for achieving the NDC targets in specific sectors.
- Project documents and sectoral consultations do not contain specific and measurable data on impacts, such as CO_2 emission reductions or energy savings. This absence highlights a gap in monitoring and evaluation of the effectiveness of technology implementation.
- No technology support reported in BR4 and BR5 from Annex I Parties was validated or confirmed during focus group discussions or bilateral consultations with sectoral ministries. This raises concerns regarding the alignment between the reported support and the actual adoption of technologies on the ground in Indonesia.

SECTOR	CAPACITY BUILDING SUPPORT NEEDED
Energy	Capacity Building Energy Planning (LEAP, plexos, system advisor Model, energy plus); Capacity building on Carbon Trading of RNE Power Plant; Capacity Building Energy Manager and Energy Audit for Local Government; Capacity Building Process of compiling DRAM for energy sector mitigation action activities; Validation and Verification Training on DRAM from energy sector mitigation actions; Capacity Building for the Implementation of Carbon Trading in the energy sector, especially in the field of Energy Efficiency
Agriculture	Training in the use of IPCC Software; NDC Roadmap; Determination of EF; Uncertainty Analysis; BTR on Agriculture; Assessment of adaptation of the agricultural sector; Development of an Early Warning System for the Impact of Climate Change for Horticultural Crops (EWS SIPANTARA); Agriculture insurance
Social and livelihood resilience	Food Self-Sufficiency (ASTA CITA 2); Water Self-Sufficiency (ASTA CITA 2)
Forestry	Green Economy (ASTA CITA 2); Encouraging Entrepreneurship to Create Quality Jobs (ASTA CITA 3); Promoting Creative Industries (ASTA CITA 3); Strengthening the Human Resources Quality Improvement System (ASTA CITA 4); Strengthening Education, Science, and Technology (ASTA CITA 4); Eradicating Poverty (ASTA CITA 6); Disaster Management (ASTA CITA 8)
All sectors	Technical capacity building related to GHG Inventory; Institutional strengthening; Capacity building on assessment of needs and support
Health	Capacity building in healthcare management; Training for surveillance personnel, vector control personnel and health information system operating personnel, especially in the underdeveloped, frontier, and outmost (Tertinggal, Terdepan, Terluar - 3T) regions.
Cross-cutting	Capacity building on climate-sensitive fiscal planning
Climate services	Scaling up and improvement of Climate field school (Sekolah Lapangan Iklim - SLI); Scaling up and improvement of Fishermen Weather Field School (Sekolah Lapang Cuaca Nelayan - SLCN); Scaling up and improvement of Aviation Meteorology Field School (Sekolah Lapang Meteorologi Penerbangan - SLMP); Maintain regular Climate Literacy for Youth and Community Climate Action; Improvement and introduction of Weather Education Program (Program Edukasi Cuaca - EDUCA) to wider audience; Improvement and introduction of Satellite Disaster Early Warning System (SADEWA) to wider target audience; Improvement and introduction of Sistem Embaran Maritim (SEMAR) to wider audience; Improvement and introduction of Indonesian Atmospheric Composition Information System (Sistem Informasi Komposisi Atmosfer Indonesia - SRIKANDI) to wider audience; Improvement and introduction of Local rain monitorig system (Sistem Pemantau Hujan - SANTANU) to wider audience ; Improvement and introduction of Medium term seasonal onset assessment (Kajian Awal Musim Jangka Madya Wilayah Indonesia - KAMAJAYA) to wider audience; Training on Agricultural and Disaster Preparedness System (Sistem Kesiapsigaan Pertanian dan Bencana - SKPB); Pilot Climate Smart Chicken Coop
Ecosystem and landscape resilience	Training for the use of monitoring and evaluation systems for program actions related to climate change adaptation; Development of a monitoring system for the utilization of environmental services; Maintaining contribution of relevant parties after the handover to continue to carry out maintenance, security and protection of plants at the Forest and Land Rehabilitation loci that have been handed over.; Application of technological innovation and social-environmental safeguards in ecosystem restoration in areas affected by climate change; Development of physical infrastructure and capacity building of responsible units on peat restoration
Health	
Water Resources	Strengthening the Disaster Resilient Village (Desa Tangguh Bencana - Destana) Program
Loss and damage	Disaster Early Warning System (EWS) training; Training on the use of digital strong-wind early warning tools (systems); Disaster-resilient family movement campaign for women and high school students; Strengthening DRR-movement program; Disaster resilient schools; Development of Resilient Coastal Villages (Desa Pesisir Tangguh)
IPPU	Capacity Building Process to develop DRAM for IPPU sector mitigation action activities; Validation and Verification Training on DRAM from IPPU sector mitigation actions; Capacity Building for the Implementation of Carbon Trading in IPPU sector; Low Carbon Cement; Low Carbon Fuel in Cement Industry; CCS in cement industry
Waste	Capacity Building in GHG estimate from domestic liquid waste; Capacity Building in developing methodology for data collecting; Capacity Building in the form of technical assistance in order to succeeded the use of reporting systems related to GHG data in each ministry/institution; Establishment of GHG data collecting governance for industries
IPPU/Industry	Capacity Building in determining emission sources in the IPPU sector, including understanding the chemical reactions that occur in industrial processess; Capacity Building for the improvement of technology for industrial process

Capacity Building Supports Received

General Instrument

- Policy framework and policy instrument design and development
- Legal and regulatory enforcement
- Cross-sectoral policy integration

Technical Instrument

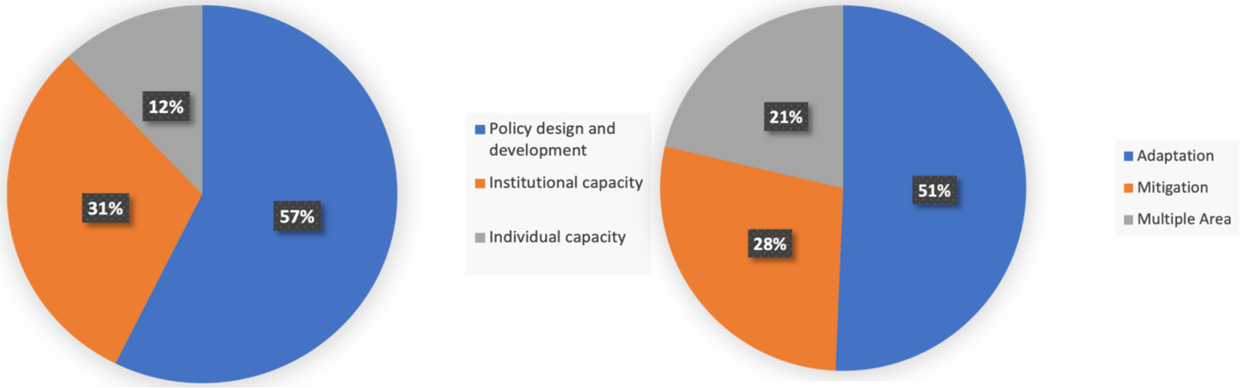
Institutional Level

- Governance and coordination
- Monitoring and evaluation
- Financial management and resources mobilization

Individual Level

- Technical cooperation
- Secondee/Peer-to-peer exchange/advisory
- Education and awareness raising
- Research and development
- Technical expertise trainings: climate data science, GHG inventory, other sector specific expertise.

Enhanced Nationally Determined Contribution (NDC).



GAP CAPACITY BUILDING

- Capacity-building support—whether provided, mobilized, needed, or received—identified during the preparation of this BTR1 has so far been focused primarily on activities managed by the Government (ministries/agencies).
- Consequently, a comprehensive picture of overall capacity-building efforts, including all actors and beneficiaries, has not yet been fully captured.
- This is reflected in the capacity-building data outputs, which indicate that the majority of support is directed toward policy design and development, in line with the mandates and functions of ministries and agencies.
- If further explored at the level of individual activity managers (technical directorates), it is highly likely that the scale of individual-level capacity-building components is greater than what is currently reflected.

THANK YOU