



CARBON PRICING FOR ACHIEVING NDC's TARGET IN INDONESIA

**Ministry of Environment and Forestry
Republic of Indonesia**





I. PARIS AGREEMENT AND INDONESIA's COMMITMENT



WHY IS INDONESIA COMMITTED?



**INDONESIA'S GEOGRAPHIC
LOCATION**



**HIGH CARBON STORAGE
AND OTHER NATURAL
RESOURCES**



**INDONESIA'S
VULNERABILITY TO
NATURAL DISASTERS
IMPACTED by CLIMATE
CHANGE**



**STRATEGIC
CONSIDERATIONS IN
ACHIEVING CLIMATE
RESILIENCE WITH RELATED
TO FOOD, WATER AND
ENERGY**

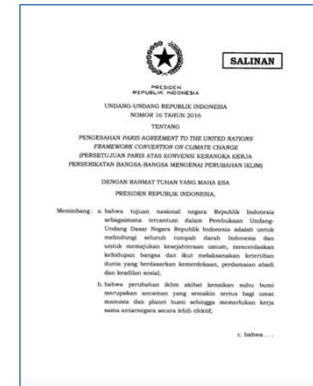
Paris Agreement: the First NDC Indonesia, Updated NDC, LTS-LCCR 2050



President of RI Joko Widodo
COP21/CMP11, Paris-France, 2015



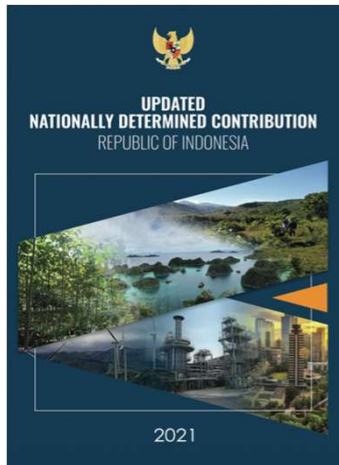
Minister of Environment and Forestry,
High-level Signature Ceremony of the Paris Agreement,
New York, USA, 2016



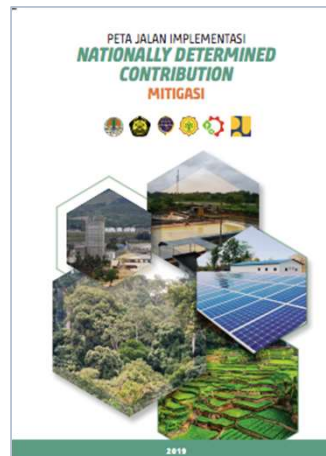
Ratification of the Paris Agreement
(UU No. 16/2016)



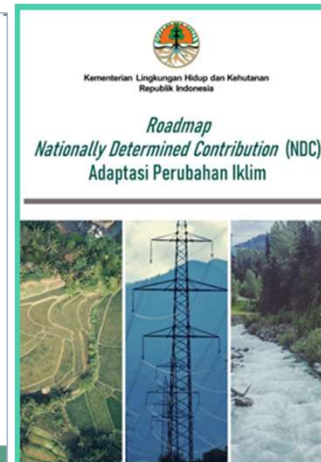
LTS-LCCR 2050 (July, 2021)



The Updated NDC (July, 2021)



NDC Roadmaps (2019, 2020)



The First NDC (Nov, 2016)

Table 1. Projected BAU and emission reduction from each sector category

Sector	GHG Emission Level 2010* (MTon CO ₂ e)	GHG Emission Level 2030			GHG Emission Reduction				Annual Average Growth BAU (2010-2030)	Average Growth 2000-2012
		MTon CO ₂ e			MTon CO ₂ e		% of Total BaU			
		BaU	CM1	CM2	CM1	CM2	CM1	CM2		
1. Energy*	453.2	1,669	1,355	1,223	314	446	11%	15.5%	6.7%	4.50%
2. Waste	88	296	285	256	11	40	0.38%	1.4%	6.3%	4.00%
3. IPPU	36	70	67	66	3	3.25	0.10%	0.11%	3.4%	0.10%
4. Agriculture**	111	120	110	116	9	4	0.32%	0.13%	0.4%	1.30%
5. Forestry and Other Land Uses (FOLU)***	647	714	217	22	497	692	17.2%	24.1%	0.5%	2.70%
TOTAL	1,334	2,869	2,034	1,683	834	1,185	29%	41%	3.9%	3.20%

Notes: CM1= Counter Measure 1 (*unconditional mitigation scenario*)

CM2= Counter Measure 2 (*conditional mitigation scenario*)

*) Including fugitive.

**) Only include rice cultivation and livestock.

***) Including emission from estate crops plantation.

NDC 2030: ADAPTATION TARGETS



Economic Resilience

- Sustainable agriculture and plantations
- Integrated watershed management
- Reduction of deforestation and forest degradation
- Land conservation
- Utilization of degraded land for renewable energy
- Improved energy efficiency and consumption patterns



Social and Livelihood Resilience

- Enhancement of adaptive capacity by developing early warning systems, broad-based public awareness campaigns, and public health programmes;
- Development of community capacity and participation in local planning processes;
- Ramping up disaster preparedness programmes for natural disaster risk reduction;
- Identification of highly vulnerable areas in local spatial and land use planning efforts.
- Improvement of human settlements, provision of basic services, and climate resilient infrastructure development.
- Conflict prevention and



Ecosystem and landscape resilience

- Ecosystem conservation and restoration
- Social forestry
- Coastal zone protection
- Integrated watershed management
- Climate resilient cities



UPDATED NATIONALLY DETERMINED CONTRIBUTION REPUBLIC OF INDONESIA



- 2021 -

Updated NDC Indonesia

- Low carbon and climate resilience development
- Indonesia' vulnerability to climate change
- Land-based and ocean adaptation and mitigation
- Transparency Framework
- Means of Implementation
- International cooperation

Key features

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Social and Livelihood Resilience



Economic Resilience



Ecosystem and Landscape Resilience

	DESCRIPTION
Type	emission reduction relative to BAU
Coverage	Nationwide with a landscape and ecosystem management approaches in adaptation and mitigation
Scope	CO ₂ , CH ₄ , N ₂ O
Baseline	BAU scenario

- Efficiency in final energy consumption
- Implementation of clean coal technology in power plant.
- Renewable energy in electricity production.
- Implementation of biofuel in transportation sector
- Additional gas distribution lines
- Additional compressed natural gas distribution (CNG)

Energy

- Decreasing deforestation rate*.
- Enhancing the implementation of sustainable forest management, both in the area or natural forest (decreasing forest degradation) and human tanaman*.
- Land rehabilitation.
- Peat restoration.

Forestry



- The use of low-emission crops.
- Implementation of water-efficient concept in water management.
- Manure management for biogas

Agriculture



- Solid waste management**
 - LFG recovery
 - waste utilization by composting and 3R (paper).
 - PLTSa/RDF implementation
 - Management of industrial liquid waste.
- Management of domestic liquid waste.**

Waste



- Clinker to cement ratio" (blended cement) in cement industry .
- Efficiency by feedstock utilization and CO₂ recovery in Primary Reformer in petrochemical industry (in particular ammonia production).
- Other actions:
 - CO₂ recovery in steel industry, improvement process in smelter and scrap utilization.
 - Remains of claim PFCs from CDM- activities (aluminum smelter).

IPPU - industrial processes and product use



MAIN MITIGATION ACTIONS



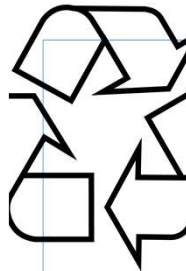
**Net sink in 2030,
Reduce deforestation, increase SFM,
peat restoration, afforestation and
reforestation, BECCS,**



**RE: solar PV, hydro, wind, EV,
biomass biofuel, tidal, waste
NE: hydrogen,
CCS/CCUS, BECCS,**



**Increase clinker cement ratio,
increase advanced tech in ammonia
plants, secondary catalyst in
destruction of N₂O, technology
improvement in metal industry**



**Increase the number of 3R,
composting, landfill+LFG,
biodigester, sludge recovery,
RDF/SRF, POME**



**Reduce land conversion for rice
field, maximum land conversion for
plantation, utilisation of
unproductive land**



INDONESIA Long-Term Strategy for Low Carbon and Climate Resilience 2050

- 2021 -

LTS-LCCR 2050:LTV ~ long-term vision

Role of LTS-LCCR 2050

- aligning the climate goals and targets with national, sub-national and international objectives including SDGs
- NPS, innovation, enabling communities

Visi Indonesia 2045
towards a developed and prosperous
Indonesia:

(a) HRD and science and technology advancement, (b) sustainable economic development, (c) equitable development, and (d) strengthening national resilience and public sector governance.

Mitigation

- three pathway scenarios on 5 sector categories (AFOLU, energy, waste, IPPU)
 - CPOS: extended NDC/current policy scenario
 - TRNS: transition scenario
 - LCCP: low carbon scenario compatible with Paris Agreement target

Adaptation

- the goal to reduce the impact of climate change on national GDP through increasing resilience on:
 - 4 basic necessities: food, water, energy, and environmental health
 - 3 following target areas of resilience : economy, social and livelihood, ecosystem and landscape

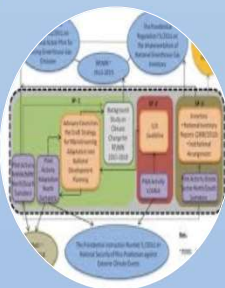
SUPPORT SYSTEMS AND MODALITIES



**NDC
Mitigation
Roadmap**



**NDC
Adaptation
Roadmap**



**GHG
Inventory
System
(SIGN-
SMART)**



**National
Registry
System
(SRN)**



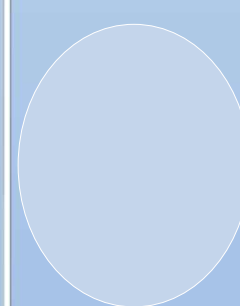
**Vulnerabi-
lity Index
Data
Informa-
tion
System
(SIDIK)**



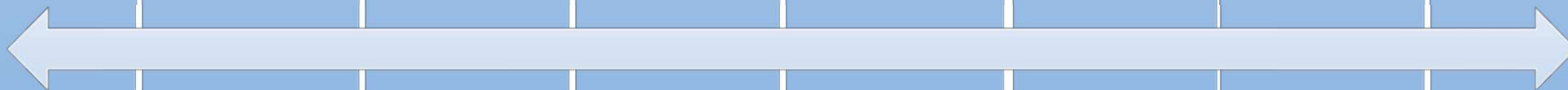
**Climate
Friendly
Village
Program
(ProKlim)**



**Safeguard
Informa-
tion
System
(SIS) on
REDD+
Indonesia**



Others

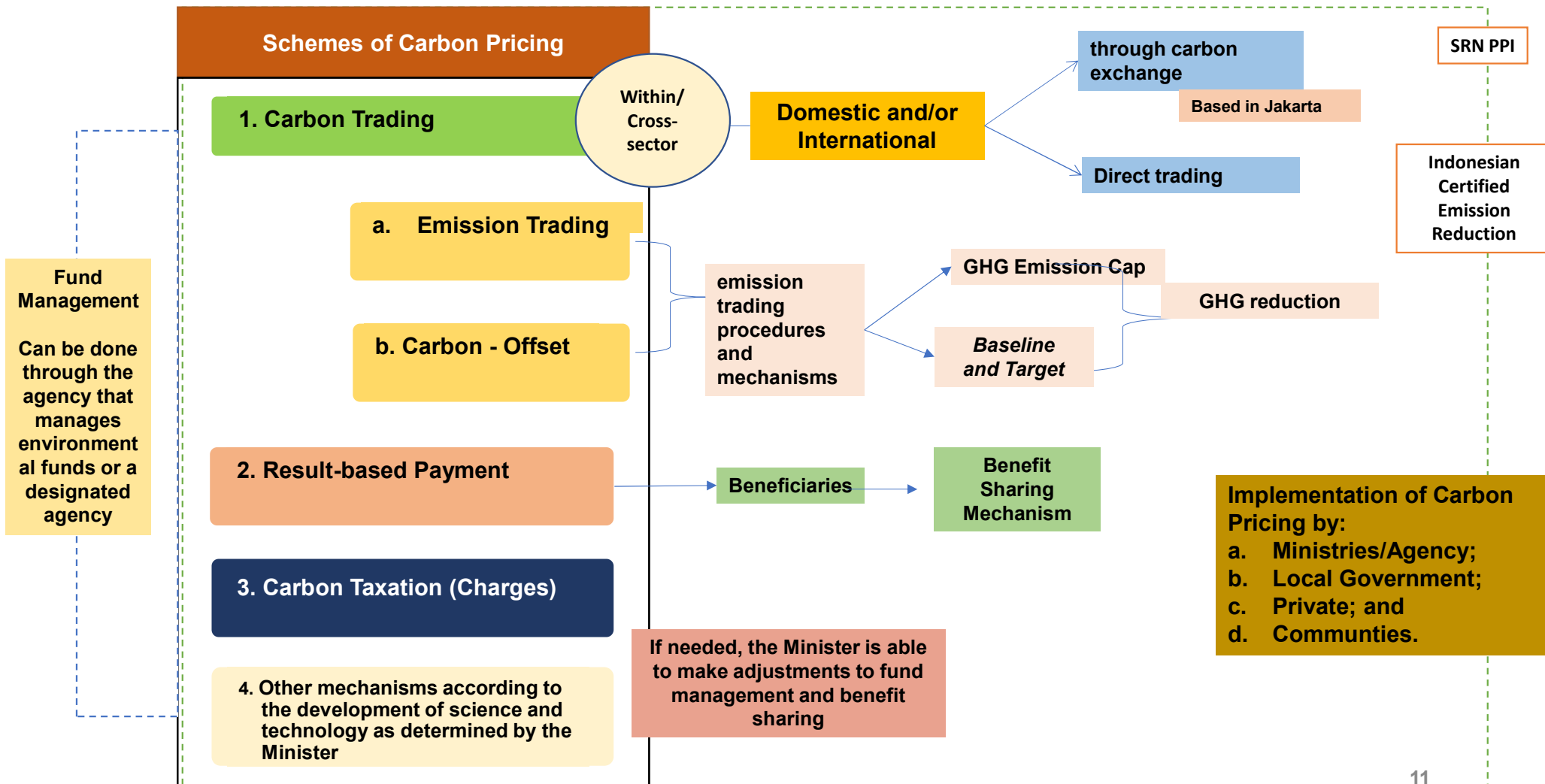




II. CARBON PRICING POLICY

**PRESIDENT REGULATION
Number 98 of 2021
Regarding
Implementing Carbon Economic Value to achieve Target
Nationally Determined Contribution and Control
Greenhouse Gas Emissions in National Development**

Schemes of Carbon Economic Value in Indonesia





MRV, SRN AND ICER LINKAGE MECHANISM

MEASUREMENT, REPORTING AND VERIFICATION (MRV)

1

MEASUREMENT

2

REPORTING

3

VALIDATION AND VERIFICATION

GHG EMISSION LEVEL REPORTING
(SIGN-SMART)

IGRK IMPLEMENTATION

1. Ministries/Institutions
2. Local government
3. Businessmen
4. Public

System Integration

MITIGATION ACTION REPORT
(SRN PPI)

ACTION IMPLEMENTER

1

1. Ministries/Institutions
2. Local government
3. Businessmen
4. Public

General Data Input, Technical Data and
Supporting Documents

2

NEK
Mechanism

1. Carbon Trading
2. Result Based Payment
3. Charges on Carbon
4. Other mechanisms according to the development of science and technology

INDEPENDENT
VALIDATION

INDEPENDENT
VERIFICATION

DETERMINATION
UPPER LIMIT OF
EMISSIONS

AGREEMENT
TECHNICAL

INTERNAL
VALIDATION

INTERNAL
VERIFICATION

MITIGATION/
ADAPTATION
ACTION

CERTIFICATE
OF
APPRECIATION

EMISSION
REDUCTION
CERTIFICATE
OTHER

EMISSION
REDUCTION
CERTIFICATE
(SPEI)

RECORDING

1. ICER holder list information
2. Available Units
3. Retired Unit
4. Authorization

Mutual
recognition



SYNERGY FOR INDONESIA

Achieving the NDC target and implementing the Carbon Economic Value in Indonesia requires the cooperation and support from all parties





THANK YOU

