

Ekonomi Hijau Paska Pandemi: Tantangan dan Peluang

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Diselenggarakan oleh Laboratorium Indonesia 2045 (Lab 45). Senin, 24 Oktober 2022*

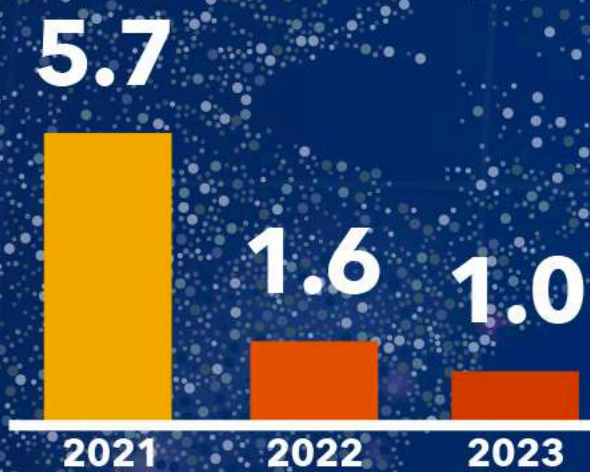
INDEF

GROWTH PROJECTIONS BY REGION

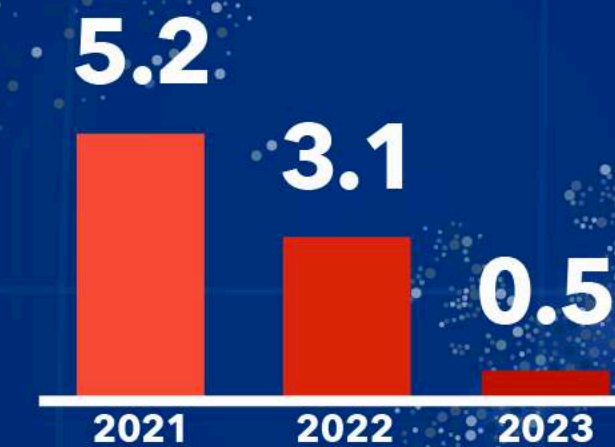
(PERCENT CHANGE)



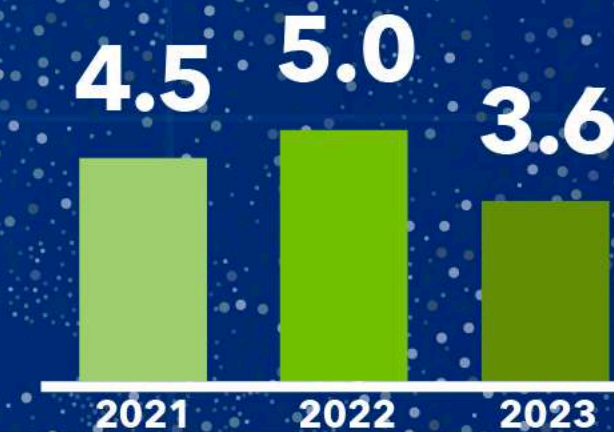
UNITED STATES



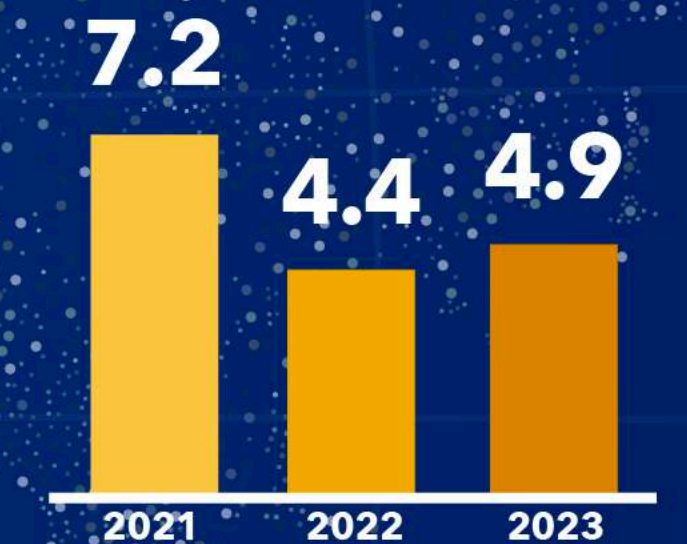
EURO AREA



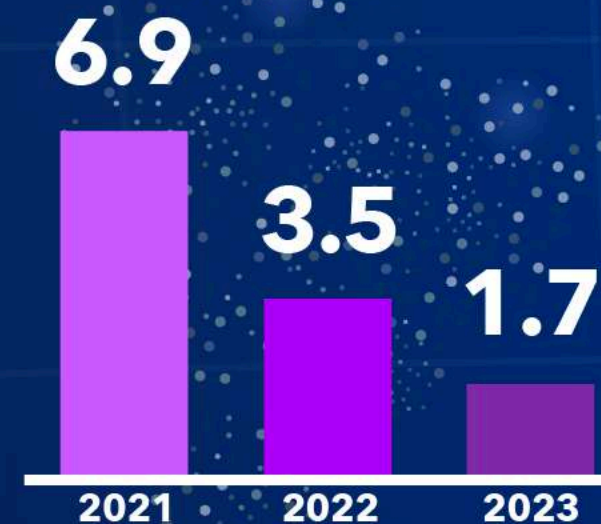
MIDDLE EAST AND CENTRAL ASIA



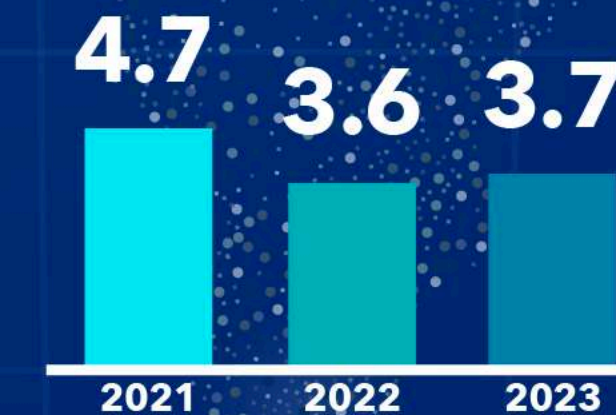
EMERGING AND DEVELOPING ASIA



LATIN AMERICA AND THE CARIBBEAN



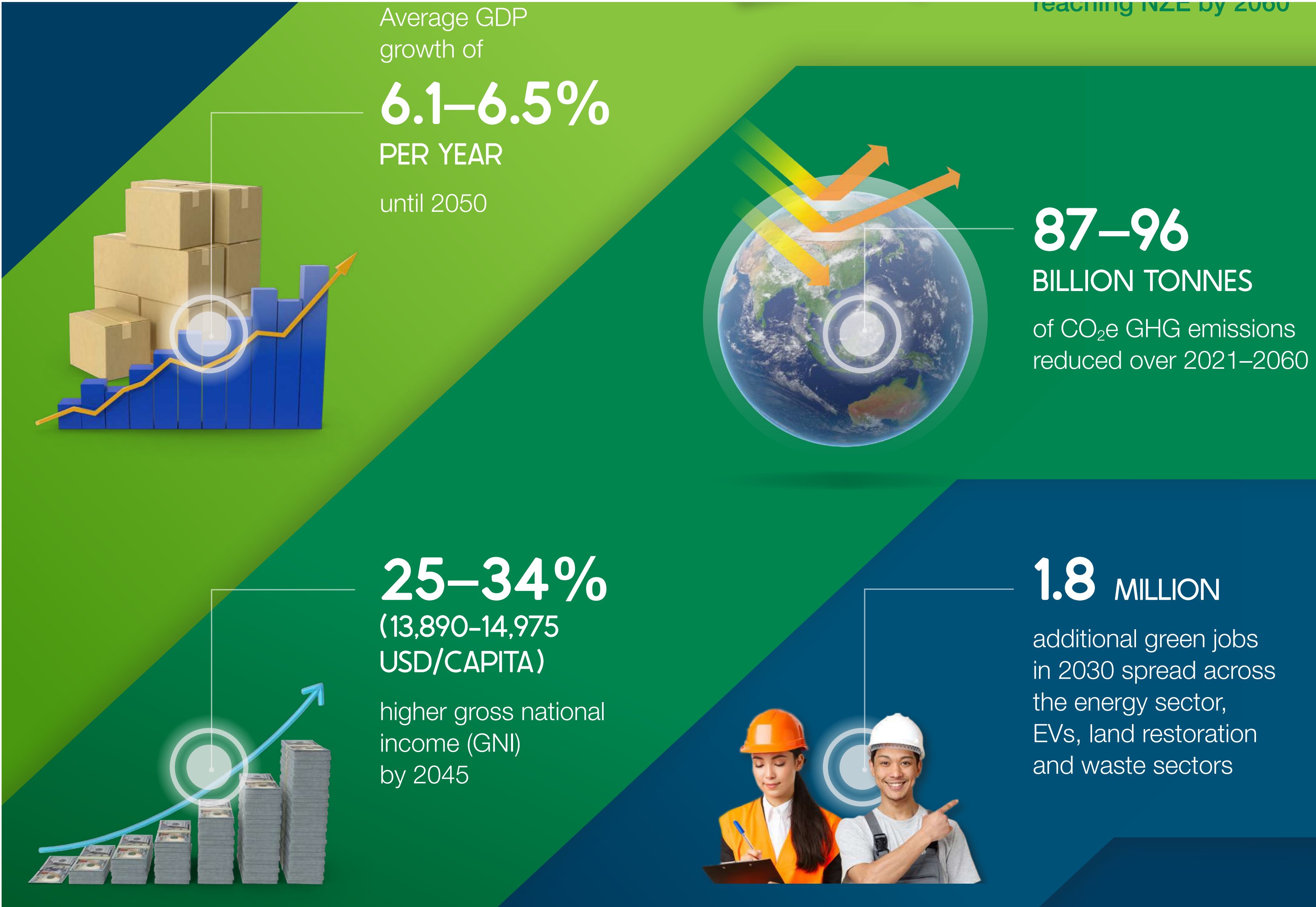
SUB-SAHARAN AFRICA



Source: IMF, *World Economic Outlook*, October 2022.

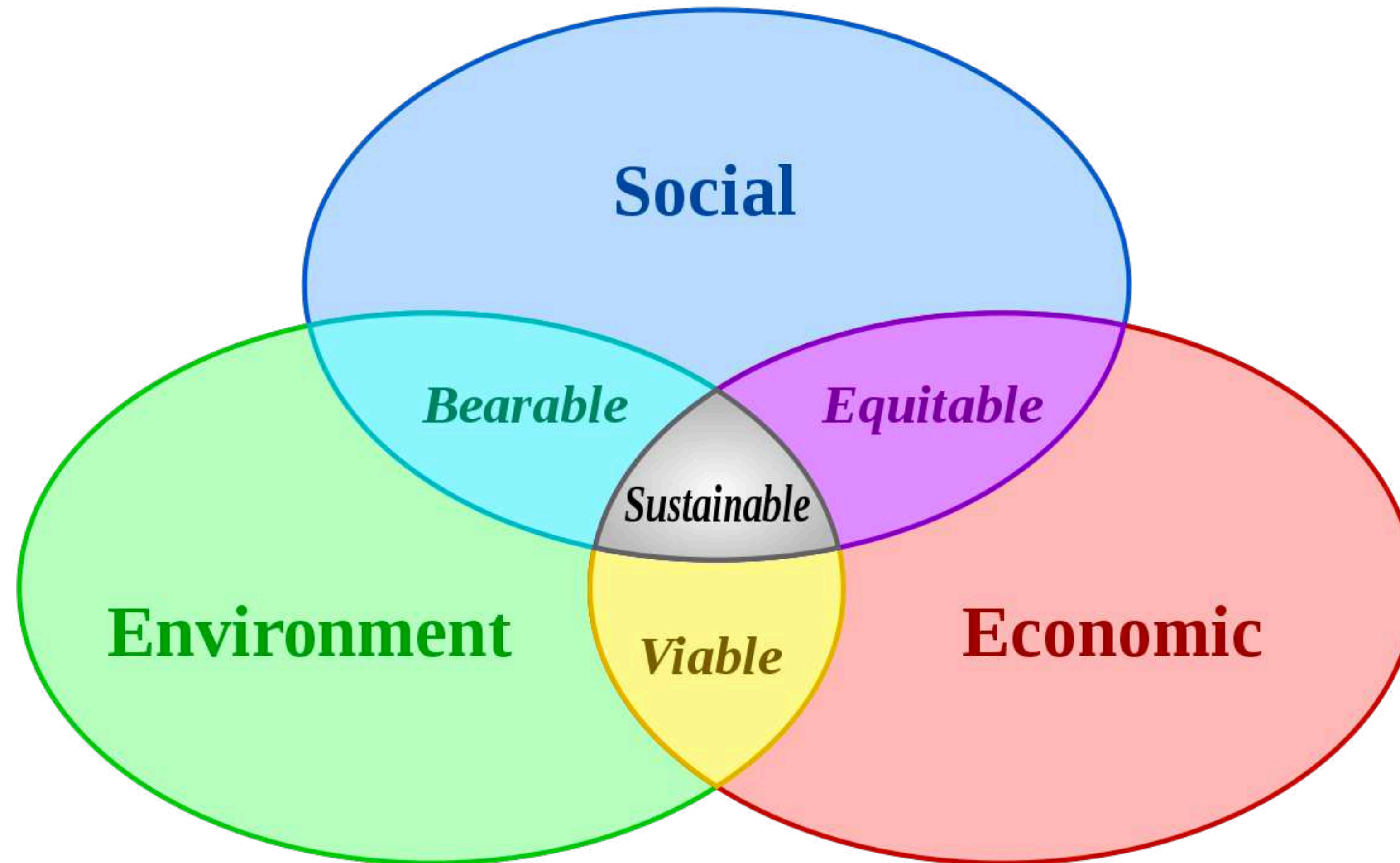
Note: Order of bars for each group indicates (left to right): 2021, 2022 projections, and 2023 projections.

Impact of Green Growth (Reduce emission 68 % in 2045 and NZE in 2060)



Source: Bappenas & LCDI (2022)

**To be (sustainable) or not to be
That is the question (for developing country)**



Give me sustainability, but not yet!

Tren Bencana di Indonesia Sepanjang 2009-2019

Banjir, longsor, dan puting beliung mendominasi bencana.



Sumber: BNPB data per 13 Januari 2020/ Grafis: CAKSONO

kepulauan + tropis = high risk climate crisis

Badan Nasional Penanggulangan Bencana (BNPB) mencatat dari Januari-19 Desember 2021, terjadi 2.931 bencana di seluruh Indonesia.

TAHUN 2021, TERJADI 2.931 BENCANA DI INDONESIA

Data kejadian bencana yang terjadi:

1.236	Bencana banjir
746	Cuaca ekstrem
595	Tanah longsor
265	Kebakaran hutan dan lahan
43	Gelombang pasang
31	Gempa bumi
15	Bencana kekeringan
1	Erupsi gunung api

Kerugian terhadap manusia:

8,26 juta	Orang mengungsi
14.105	Orang luka-luka
654	Orang meninggal
93	Orang hilang

Kerugian terhadap bangunan:

140.829	Unit rumah rusak
3.670	Fasilitas publik rusak
504	Perkantoran rusak
417	Jembatan rusak

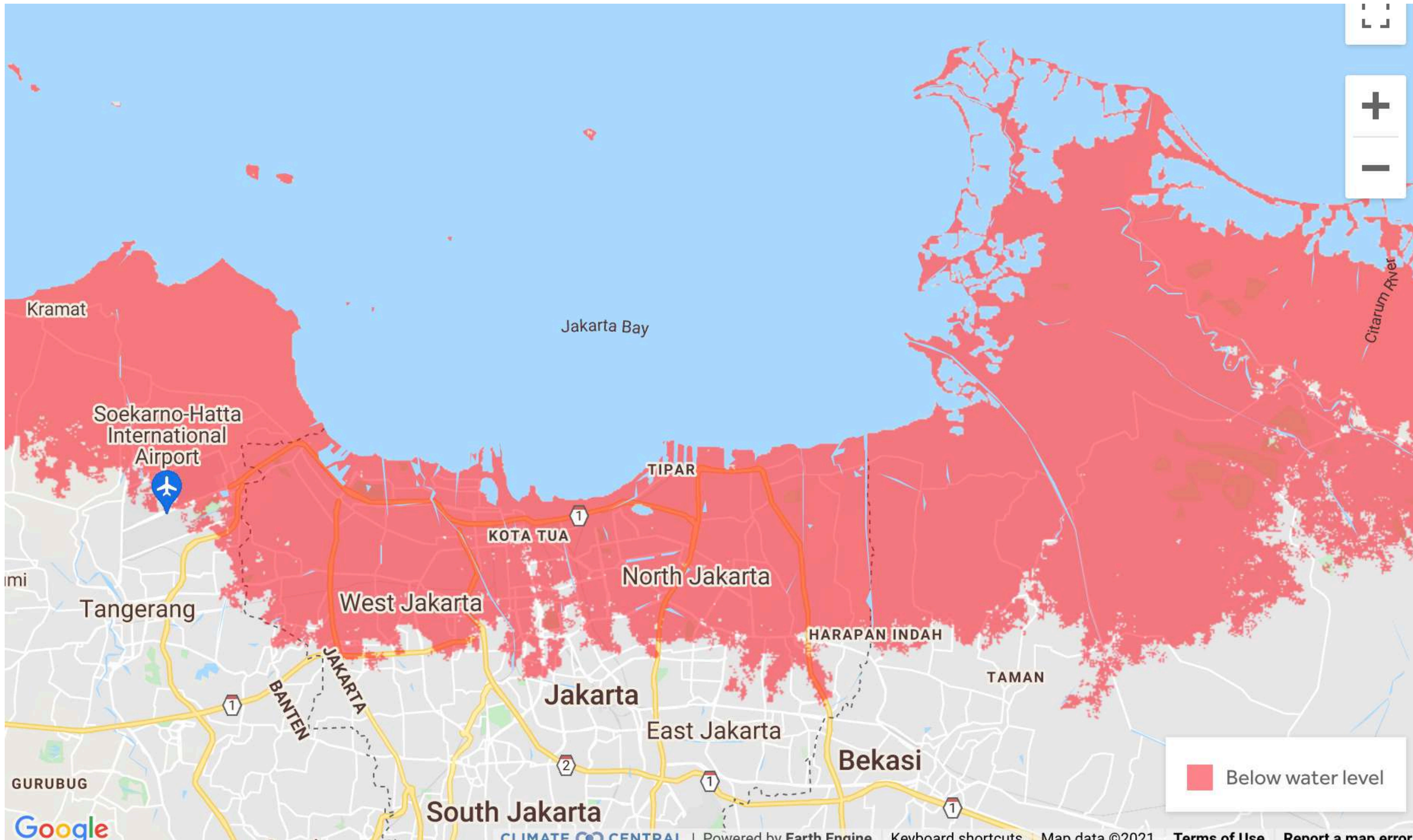
Mayoritas bencana terkait krisis iklim

Effect of sea level rise 15 feet (5 m) to Indonesia



Source: <https://coastal.climatecentral.org/>

Effect of sea level rise 15 feet (5 m) to Jabodetabek



Source: <https://coastal.climatecentral.org/>















Effect of sea level rise of 25 feet (7,5 m) to Indonesia



Source: <https://coastal.climatecentral.org/>

Periode 2015-2020:

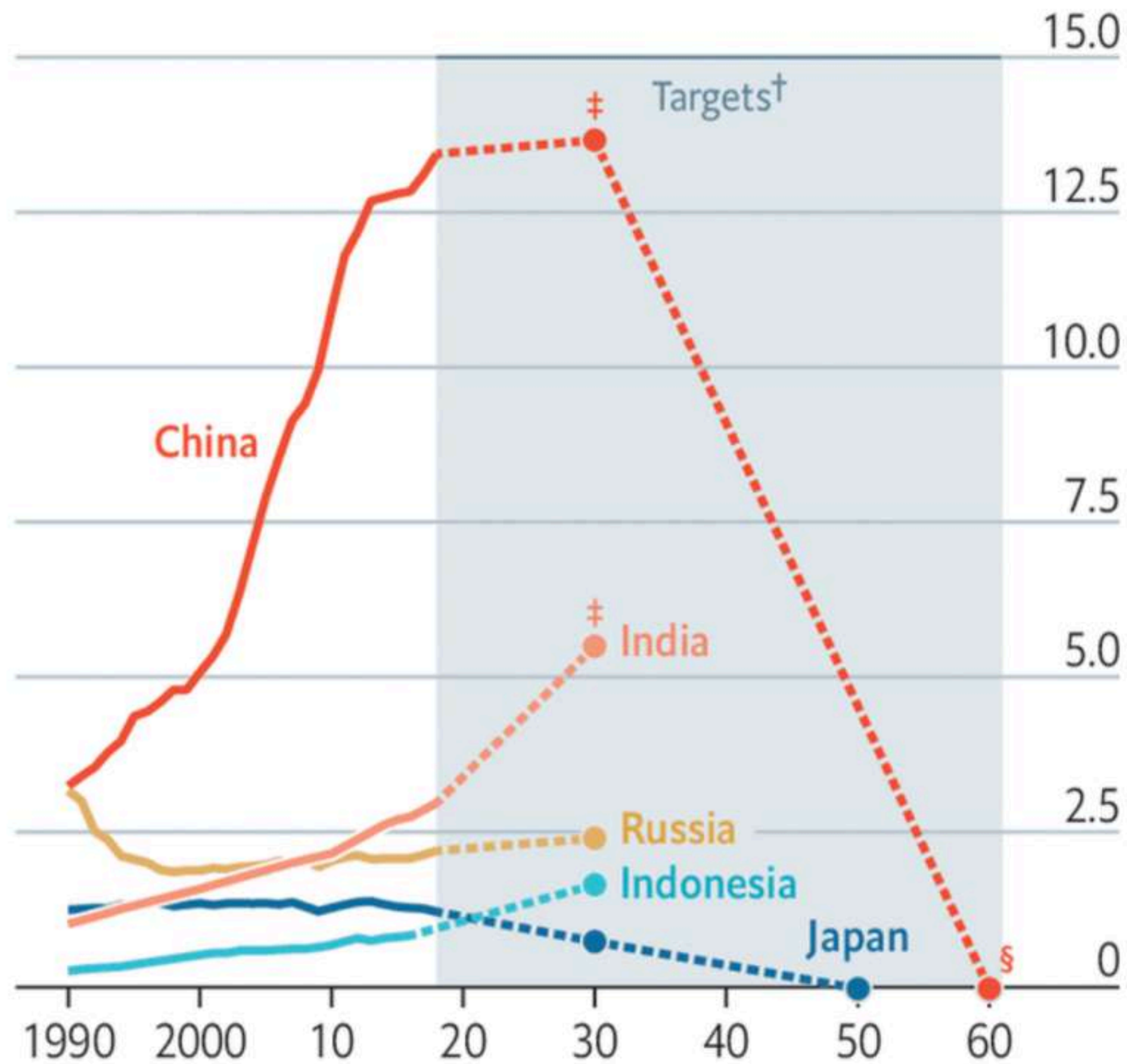
Total Emisi Indonesia rank #5 tapi naik 10,9 %

	COUNTRY	EMISSIONS EST.	PERCENTAGE CHANGE !	EMISSIONS / CAPITA !	GLOBAL
1	 China	79.51 BT of CO2e	+5.84% 	55.24 (+29.4%)	26.16%
2	 USA	38.45 BT of CO2e	-5.42% 	116.17 (+66.4%)	12.65%
3	 India	22.03 BT of CO2e	+5.89% 	15.96 (-59.1%)	7.25%
4	 Russia	14.69 BT of CO2e	+0.01% 	100.64 (+61.2%)	4.83%
5	 Indonesia	8.23 BT of CO2e	+10.89% 	30.10 (-22.8%)	2.71%
6	 Japan	8.21 BT of CO2e	-5.05% 	64.90 (+39.9%)	2.70%
7	 Brazil	7.40 BT of CO2e	-2.12% 	34.81 (-10.8%)	2.43%

Sumber: climatetrace.org

Heights to fear

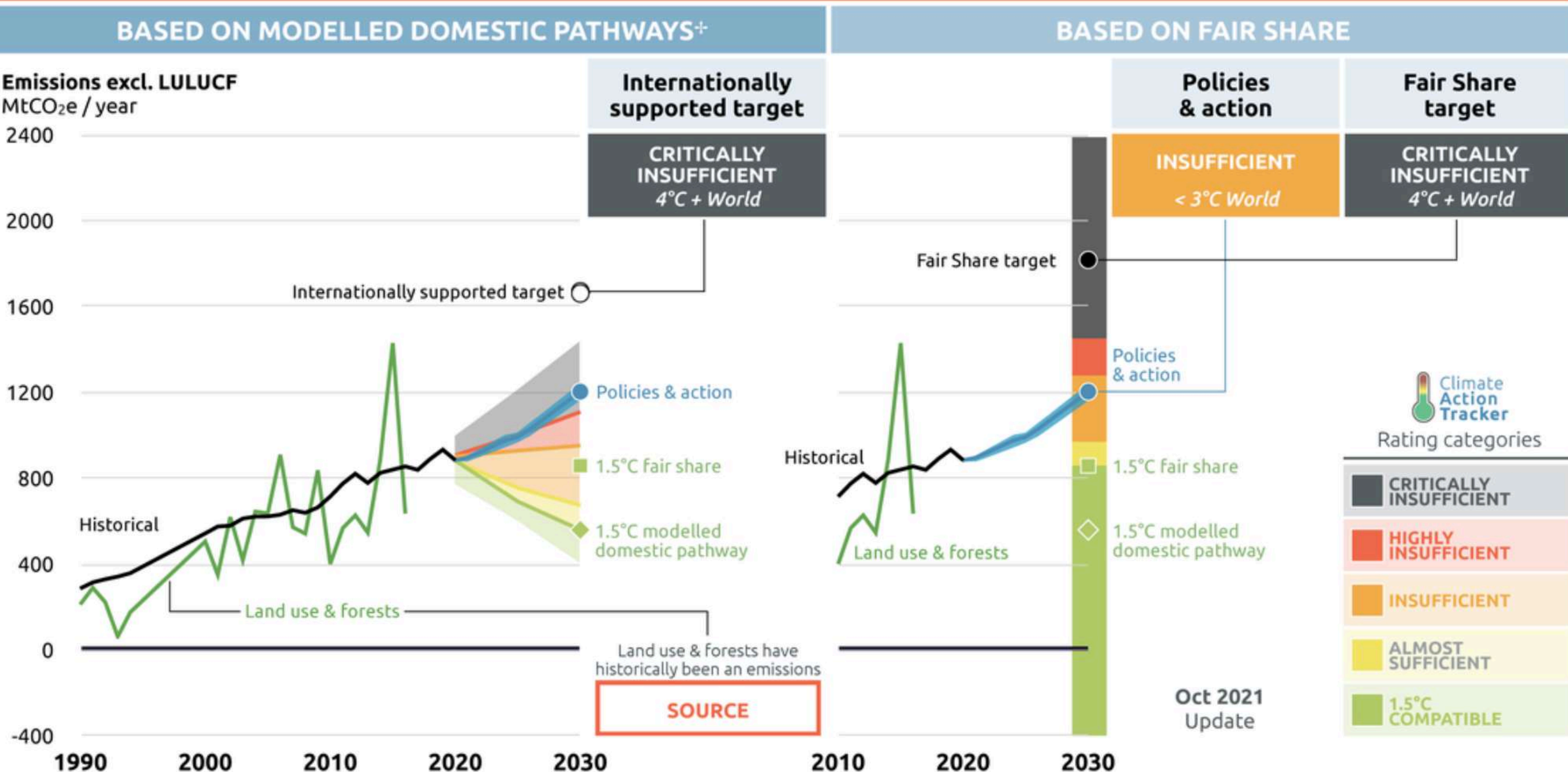
Greenhouse-gas emissions*
Gigatonnes of CO₂ equivalent



*Excluding forestry and other land use, except net-zero targets which include emissions removals from these sources †When target is a range, central estimate is shown ‡Multiple targets §Unclear if this targets CO₂ or all greenhouse gases Source: Climate Action Tracker

**Business as usual (BAU) scenario:
Indonesia overtake Russia soon**

INDONESIA OVERALL RATING HIGHLY INSUFFICIENT

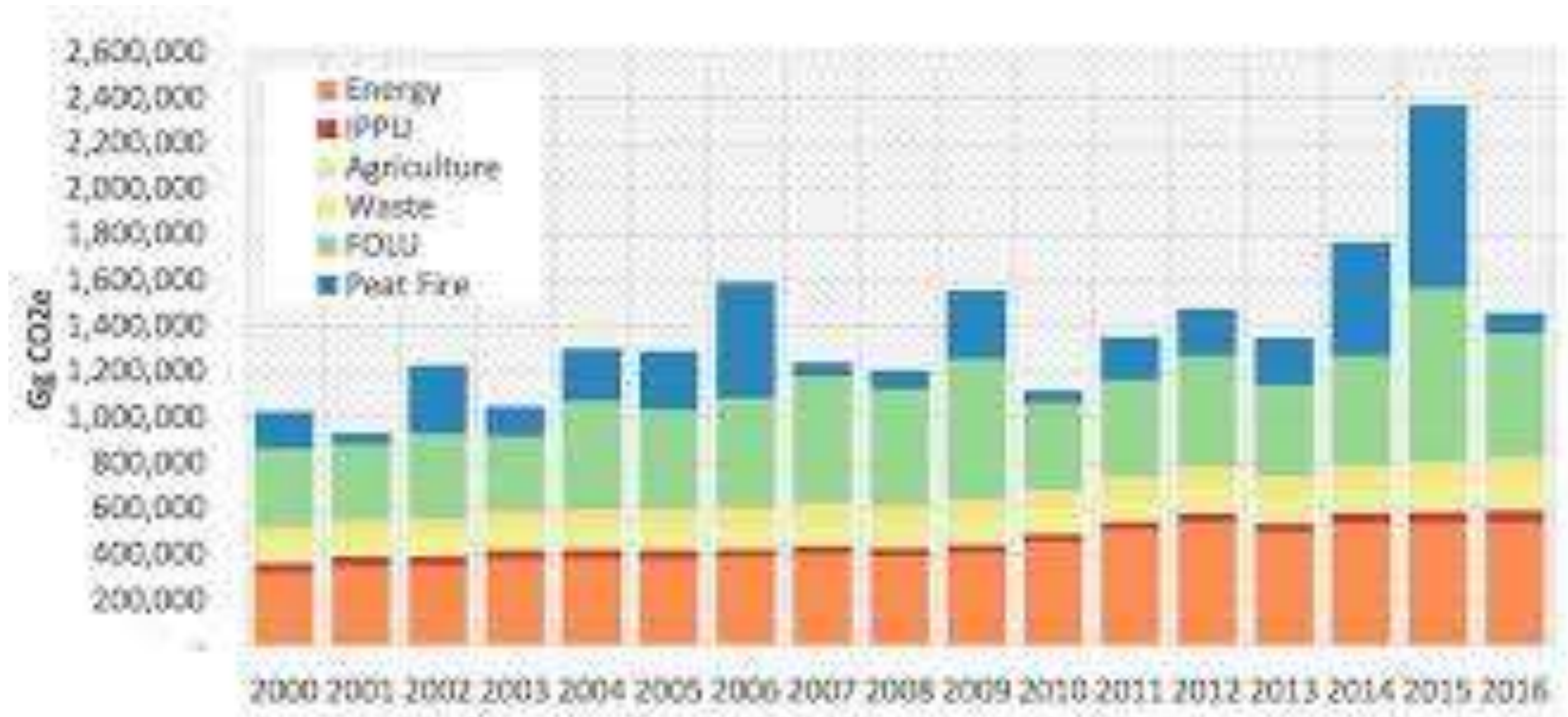


⁺ Modelled domestic pathways reflects a global economic efficiency perspective with pathways for different temperature ranges derived from global least-cost models

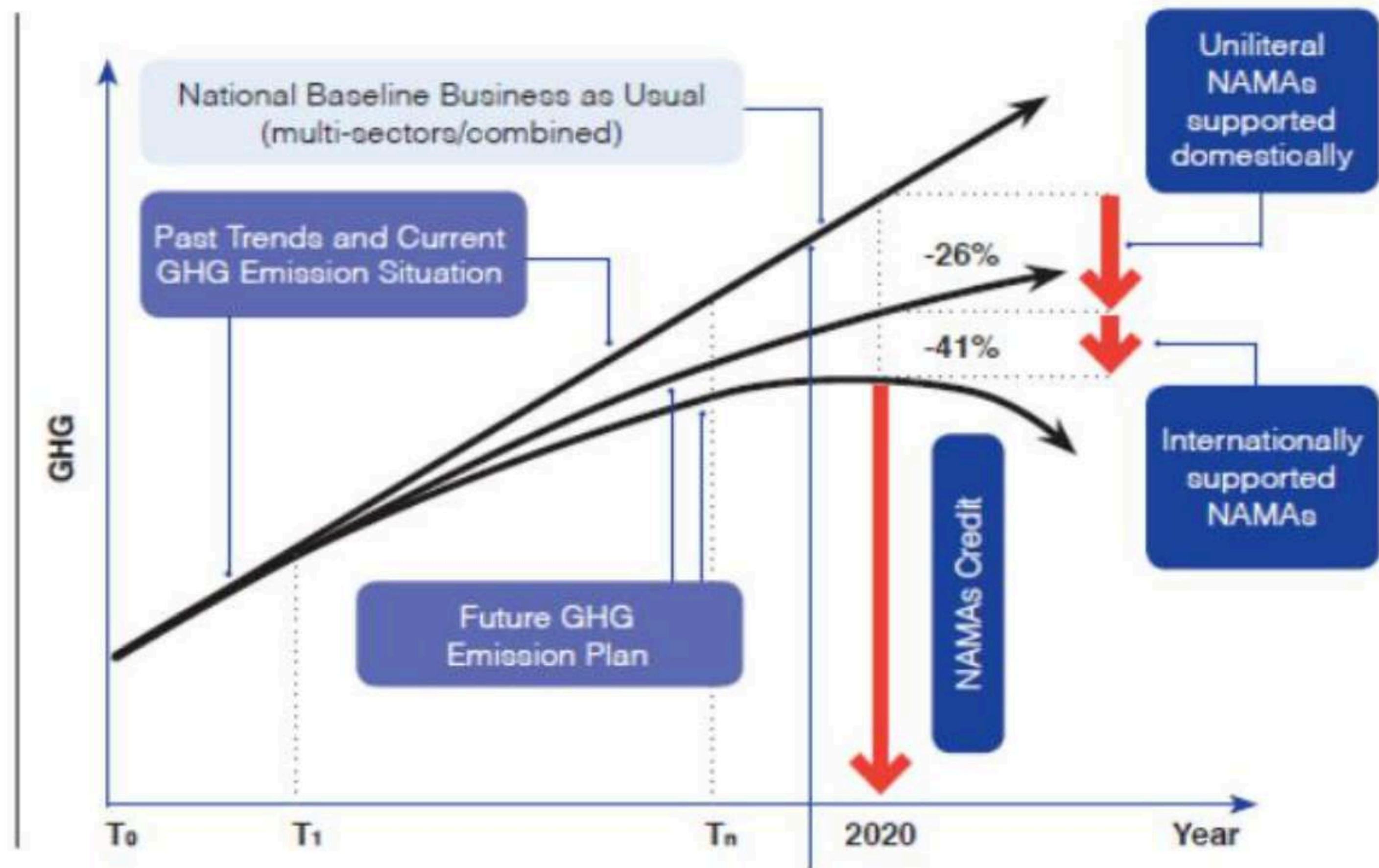
Kenapa Indonesia harus lakukan Transisi Ekonomi Hijau?

- Indonesia negara tropis dan kepulauan —> high risk to climate crisis (banjir, topan, sea level rise, kebakaran hutan, kekeringan dll)
- National interest turunkan climate crisis: *climate mitigation & proofing/adaptation*
- Menunaikan 3 (tiga) Janji Kemerdekaan:
 - Melindungi segenap bangsa dan seluruh tumpah darah Indonesia
 - Ikut melaksanakan perdamaian dunia
 - Meningkatkan kesejahteraan umum: migas & tambang non-renewable, hutan rusak, cuaca ekstrem & kekeringan/banjir —> krisis pangan dan pendapatan turun

Energy, Transport & FOLU dominate Indonesia emission



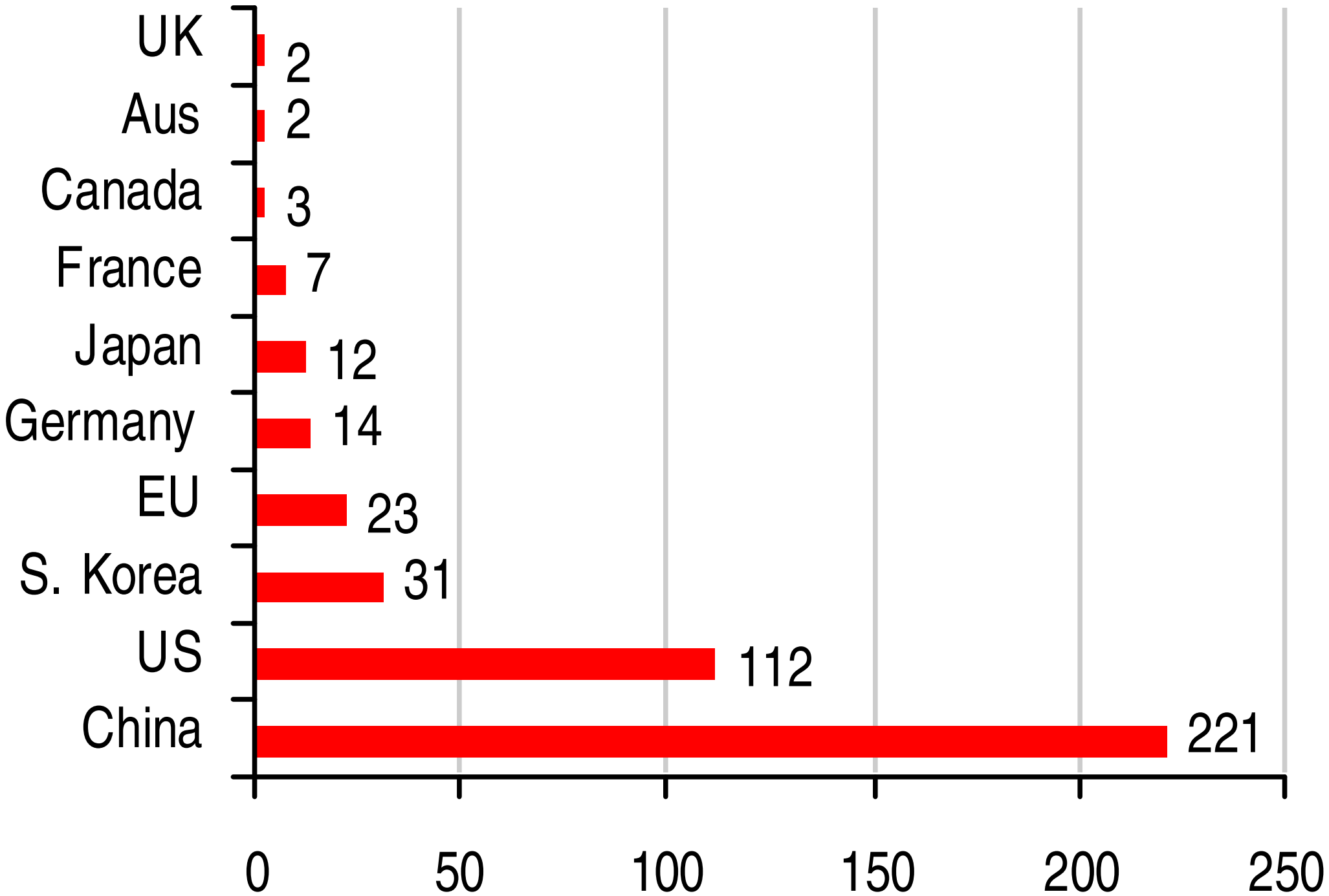
Indonesian GHG Emission Reduction Target in 2020



Committed at G20 meeting in Pittsburg 2009

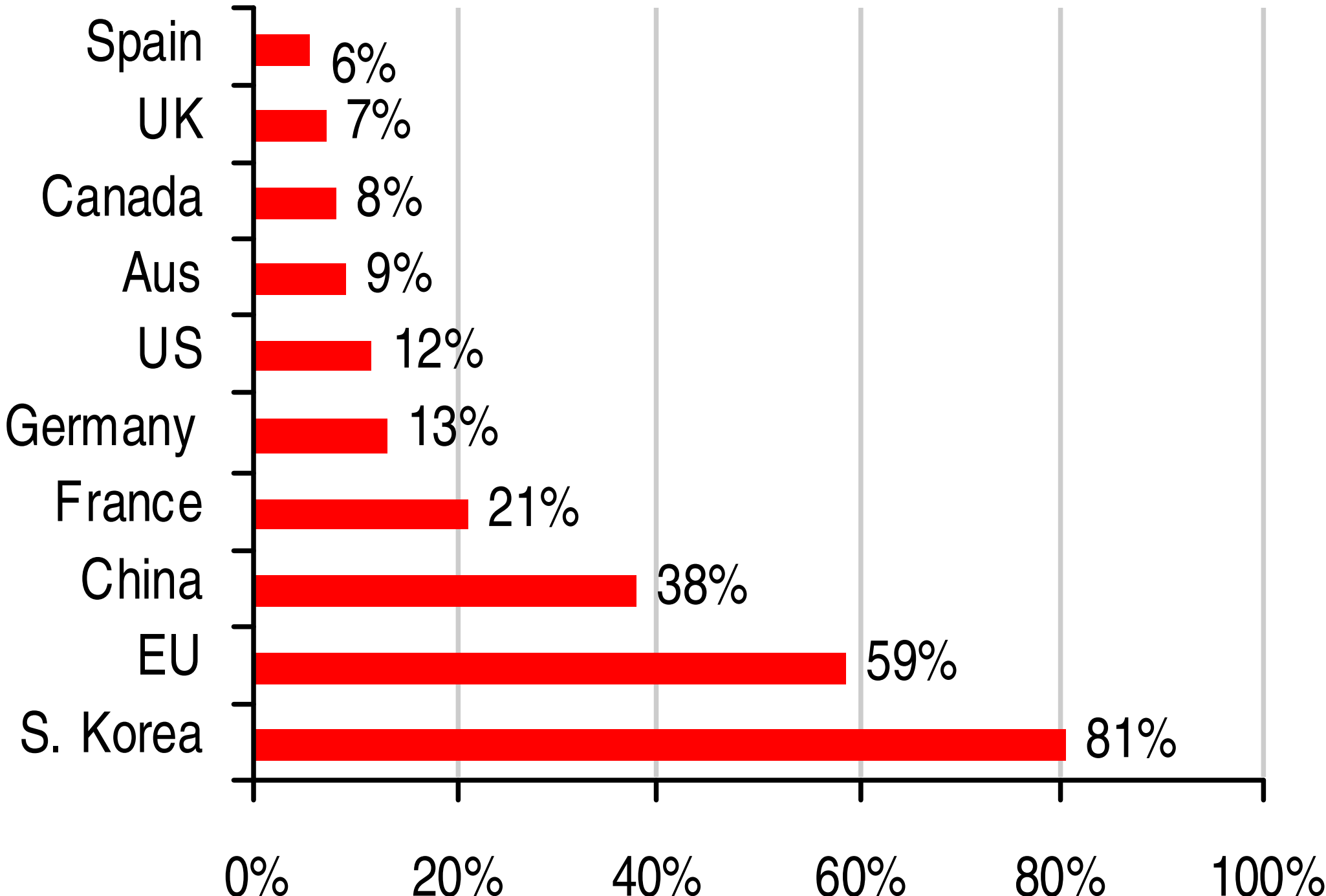
2008 Sub-prime mortgage crisis respond were green

Green stimulus regional ranking (USDbn)



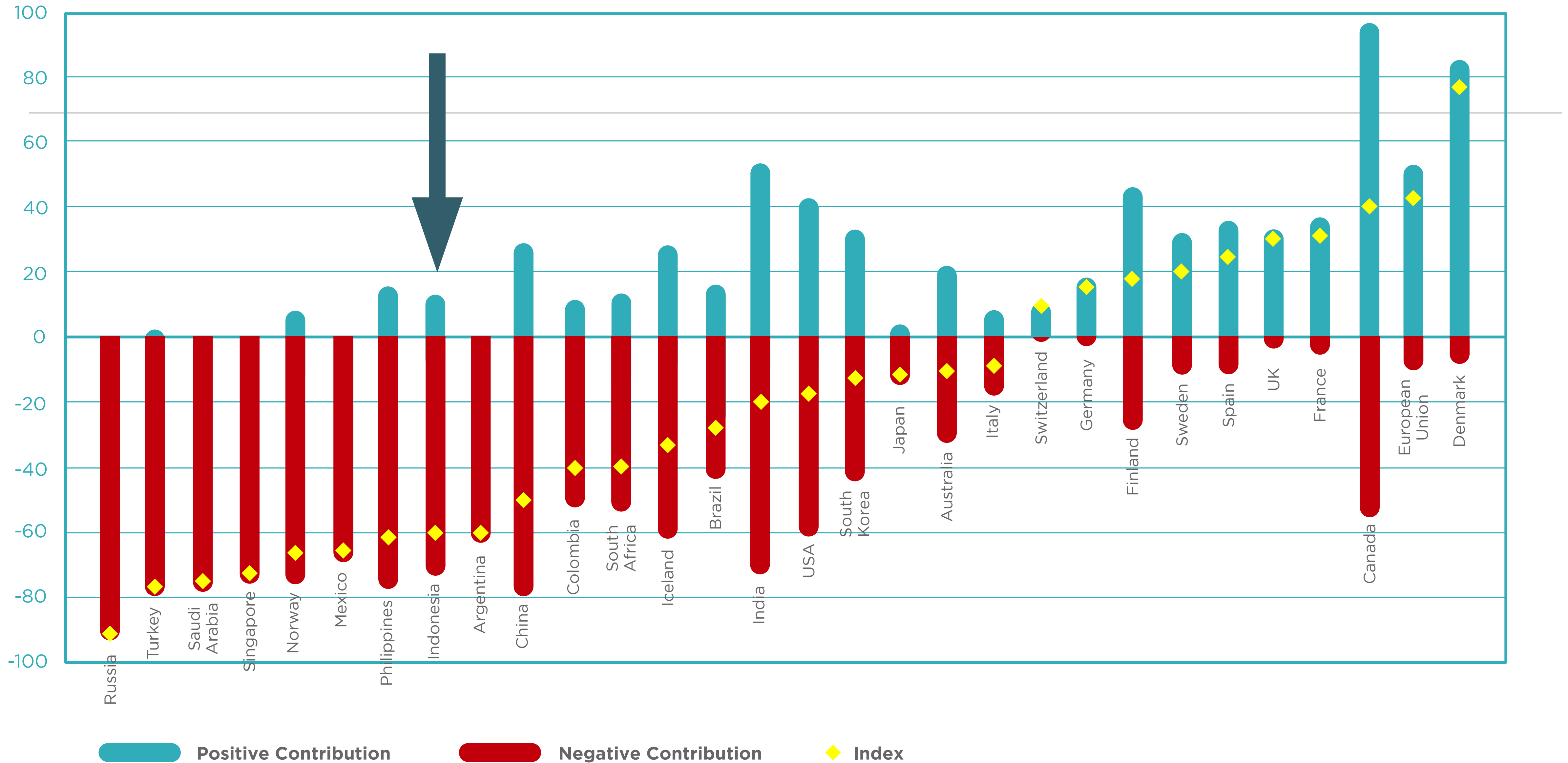
Source: HSBC estimates

Green stimulus regional ranking as a % of total stimulus



Source: HSBC estimates

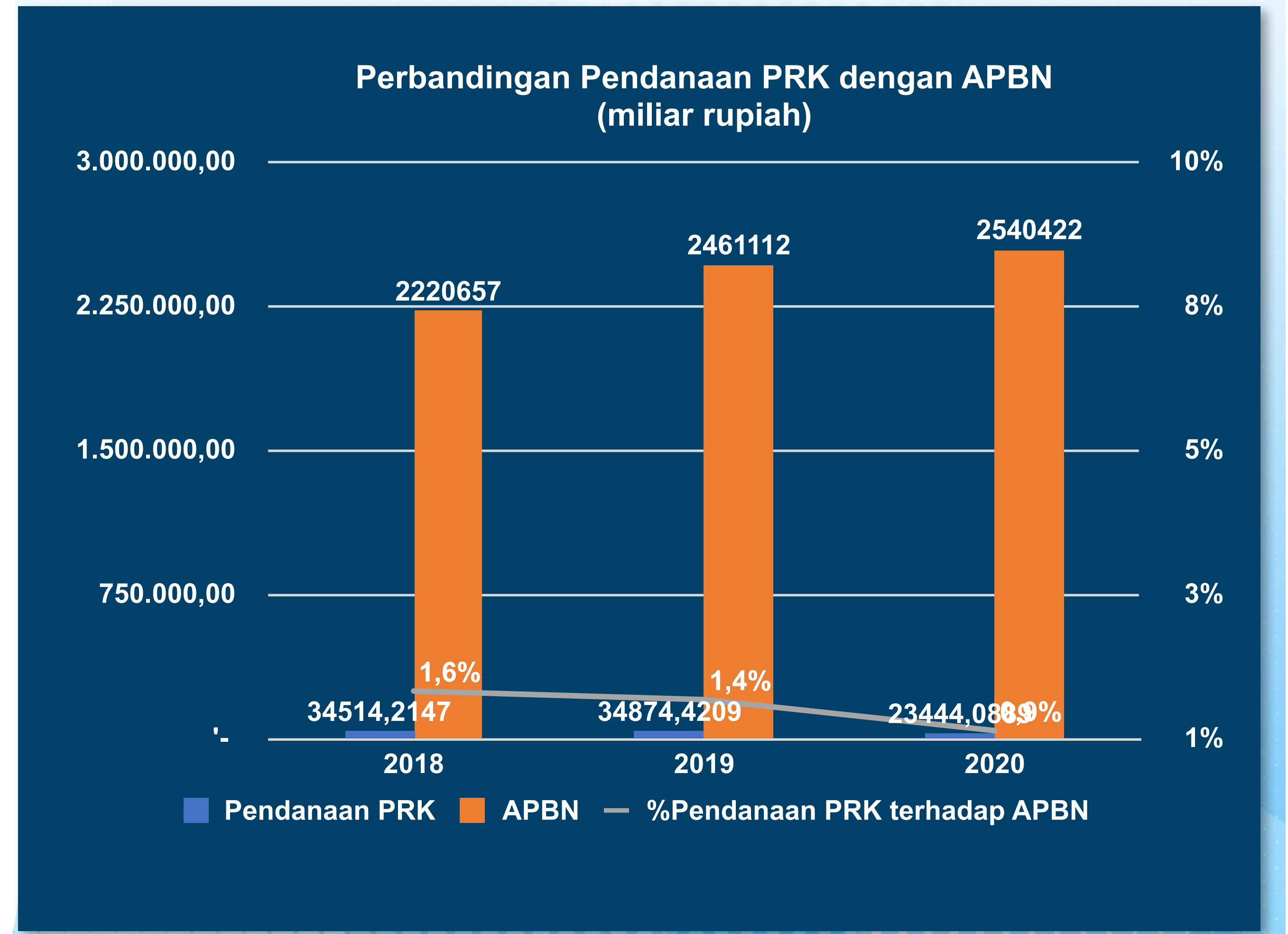
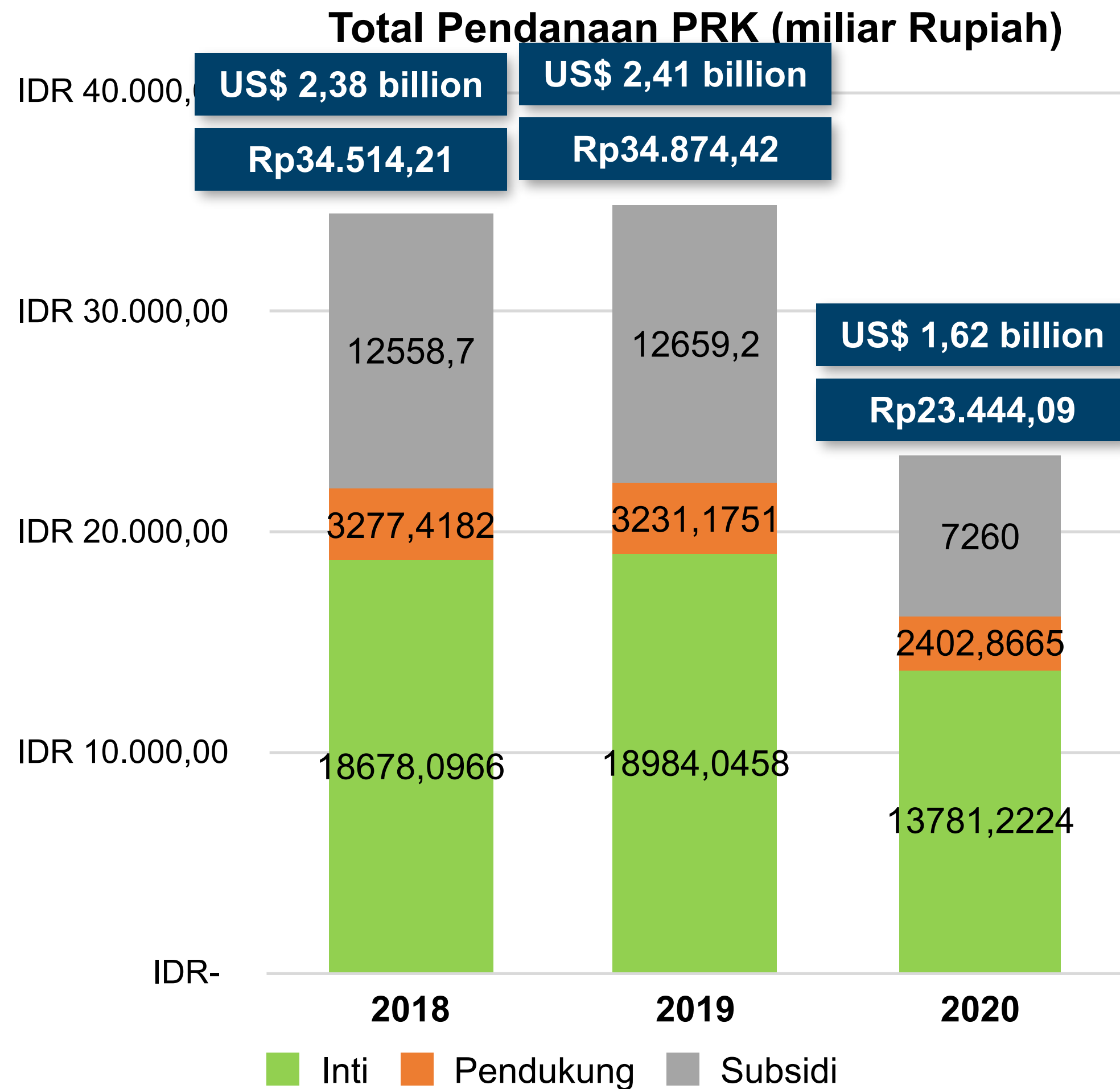
Indonesia Covid stimulus is not so green



Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources

Note: Updated on 1 February 2021

Gov allocated 0,9 % - 1,9 % of national budget (APBN) for climate mitigation in 2018-2020



Source: Bappenas, INDEF & Smeru (2021)

Economic, Social & Environmental in SDGs

—> Green economy



SOCIAL GROUP



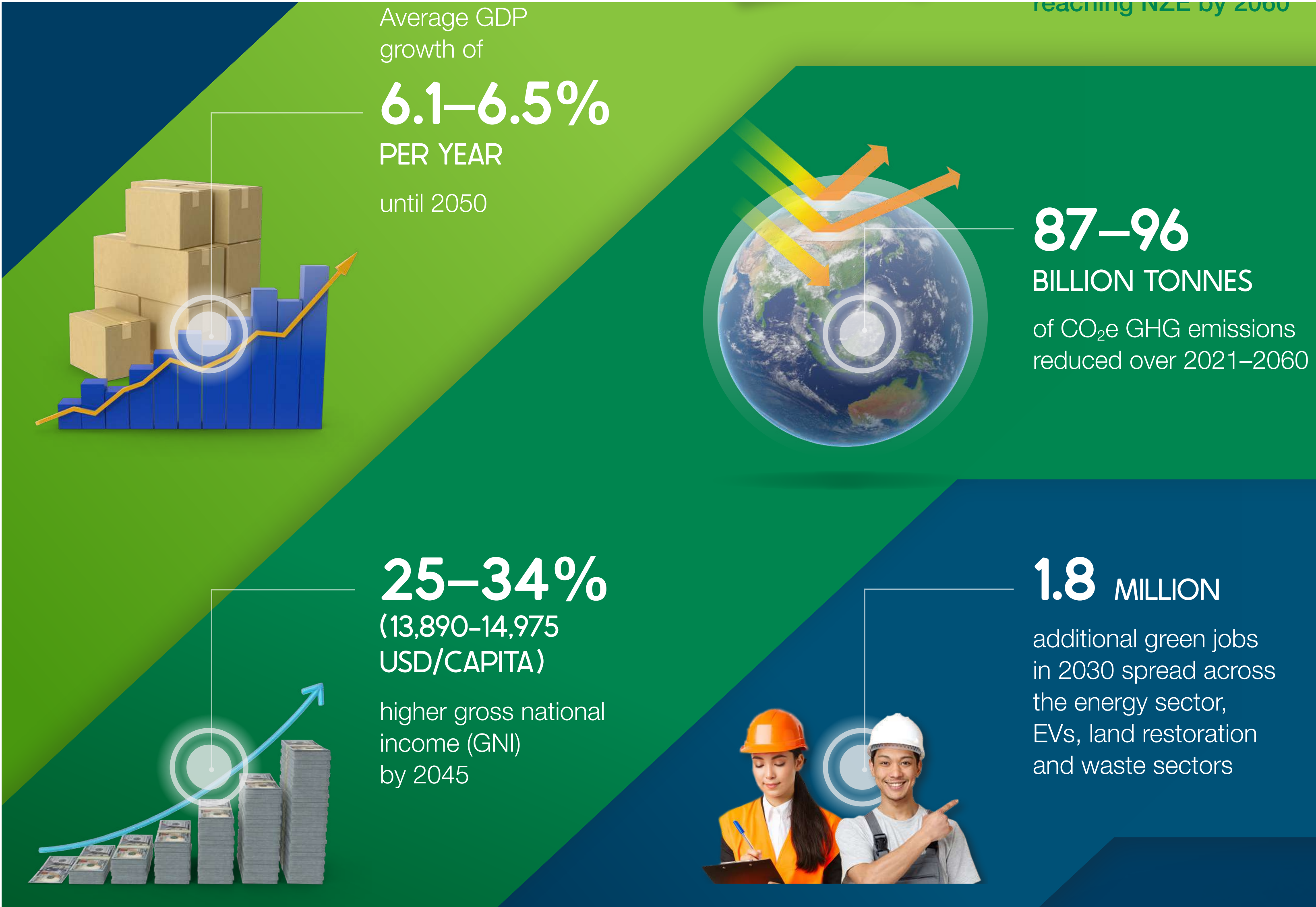
ECONOMIC GROUP



ENVIRONMENTAL GROUP



Impact of Green Growth (Reduce emission 68 % in 2045 and NZE in 2060)



Source: Bappenas & LCDI (2022)

**BROWN-BASED
ECONOMIC
INVESTMENT,
ACTIVITIES, AND
INFRASTRUCTURE**



Fossil fuel based industries and transportation system



High GHG emission based industries



Linear Economy activities



Over exploitation bio-based economy activities



Economic activities causing deforestation and peatland and marine ecosystem and mangrove loss and degradation

T R A N S I T I O N

**GREEN-BASED
ECONOMIC
INVESTMENT,
ACTIVITIES, AND
INFRASTRUCTURE**

TERRESTRIAL



Renewable Energy based industries and transportation system



Low Carbon Industries



Circular Economy



Environment friendly bio-based industries



Improved economic productivity on land-marine based activities

**MARINE
(BLUE ECONOMIC)**



**HIGH AND GREEN
ECONOMIC
GROWTH**



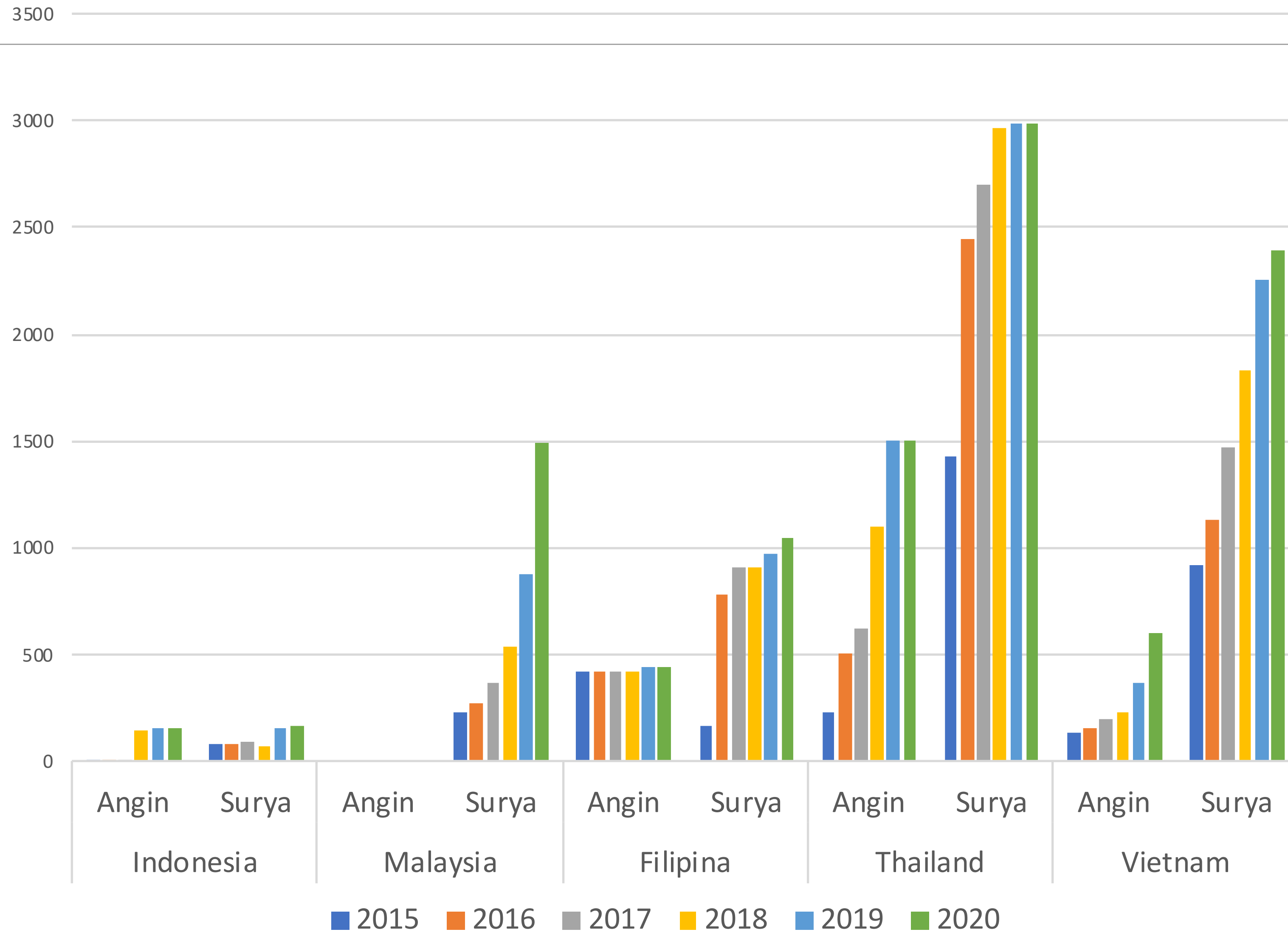
**FOSTER
SOCIAL
COHESION**



**IMPROVE
CARRYING
CAPACITY**

Green Growth by
Bappenas & LCDI (2022)

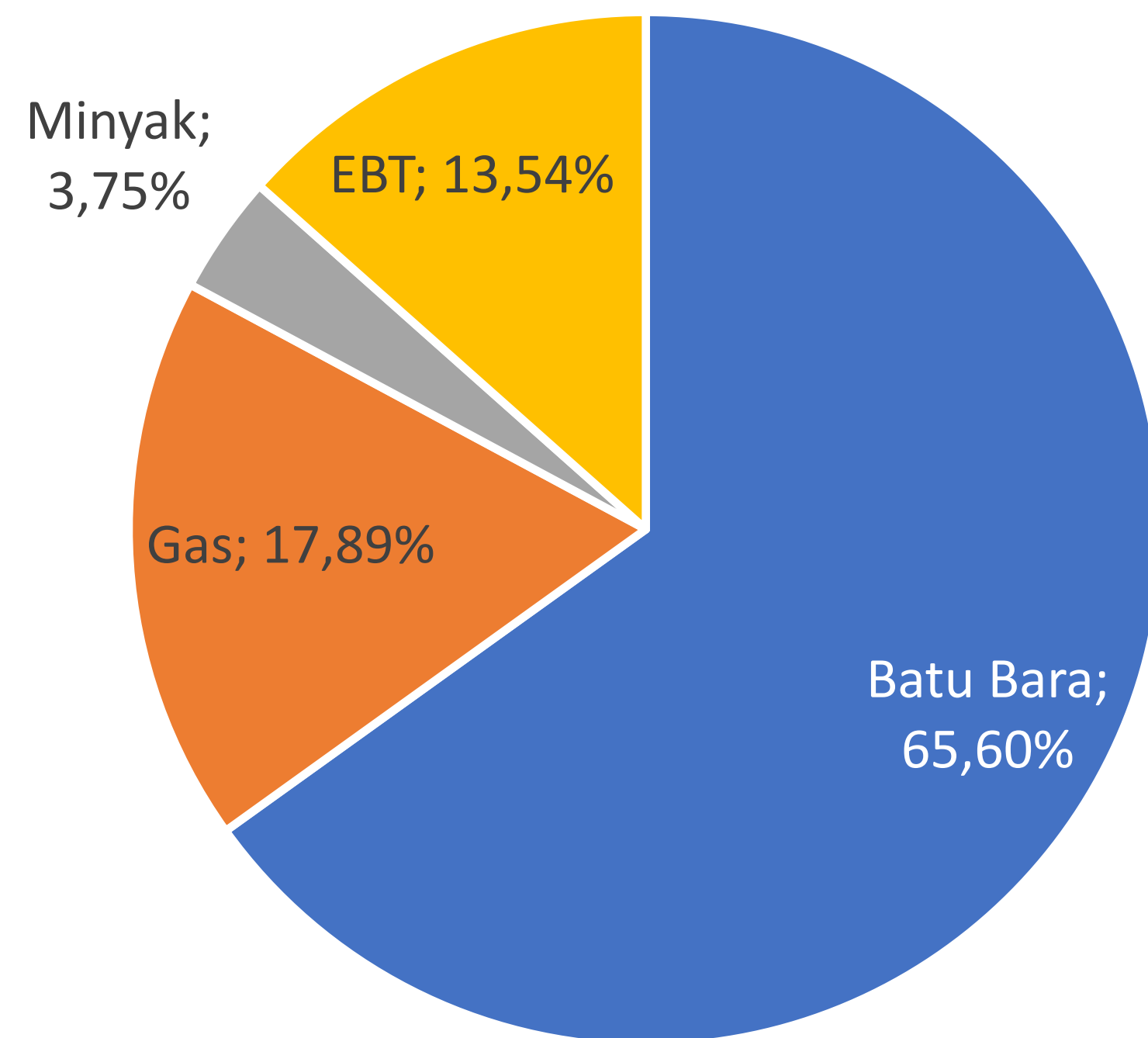
Kapasitas Terpasang PLTS dan PLTB Negara ASEAN (dalam Megawatt)



Kapasitas & Pertumbuhan Energi
Terbarukan Indonesia rendah

Tinggi Potensi EBT, Tinggi Fossil di Produksi Energi

Bauran Energi Indonesia, Agustus 2021



Sumber: Direktorat Jenderal Ketenagalistrikan, Kementerian ESDM (2021)

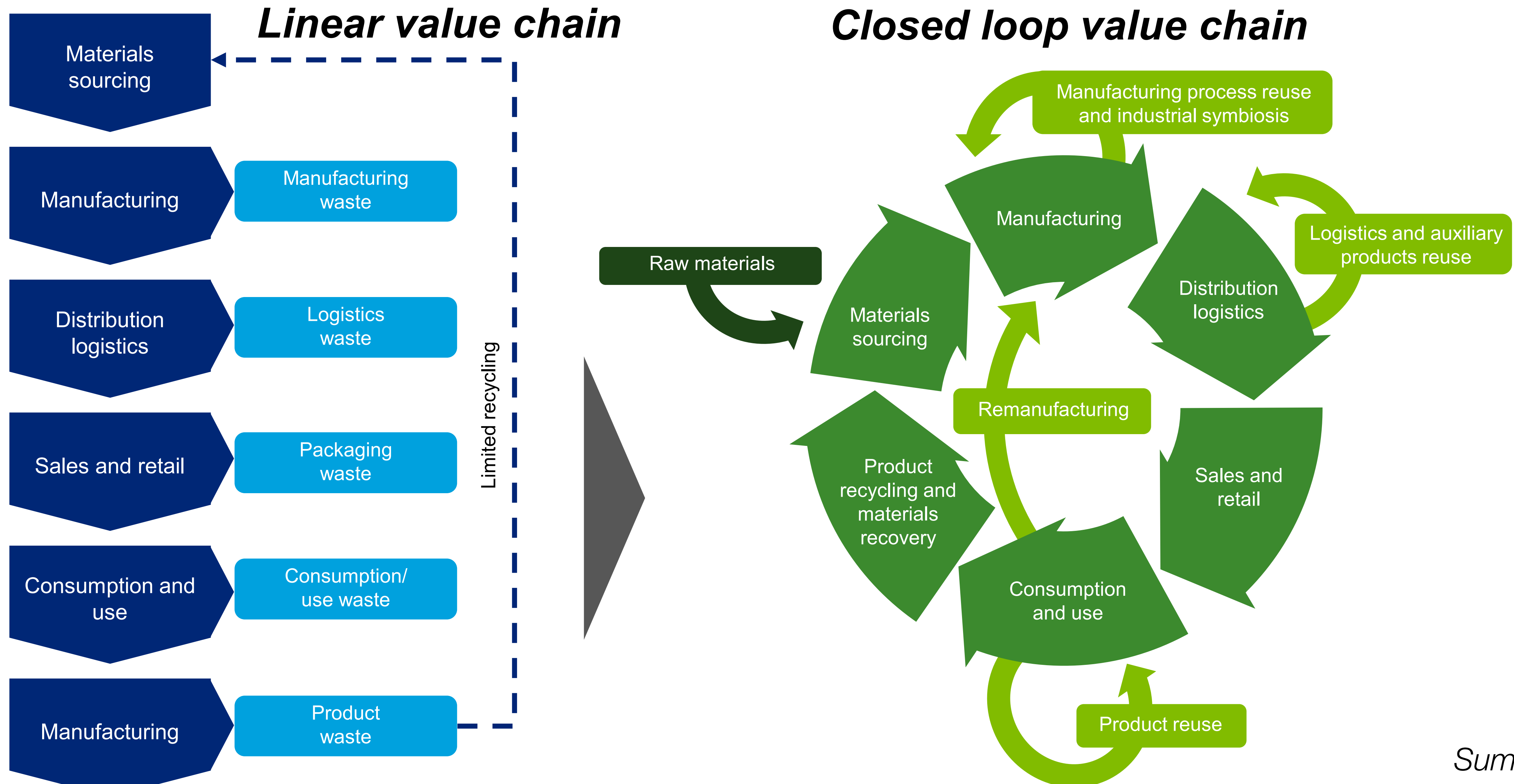
Potensi dan Pemanfaatan EBT Indonesia

Jenis	Kapasitas (gigawatt/GW)	Pemanfaatan (megawatt/MW)	Pemanfaatan (persen)
Surya	3.295	221	0,01
Hidro	95	6.660	7,01
Bioenergi	57	2.284	4,01
Bayu	155	154	0,10
Panas Bumi	24	2.293	9,55
Laut	60	0	0

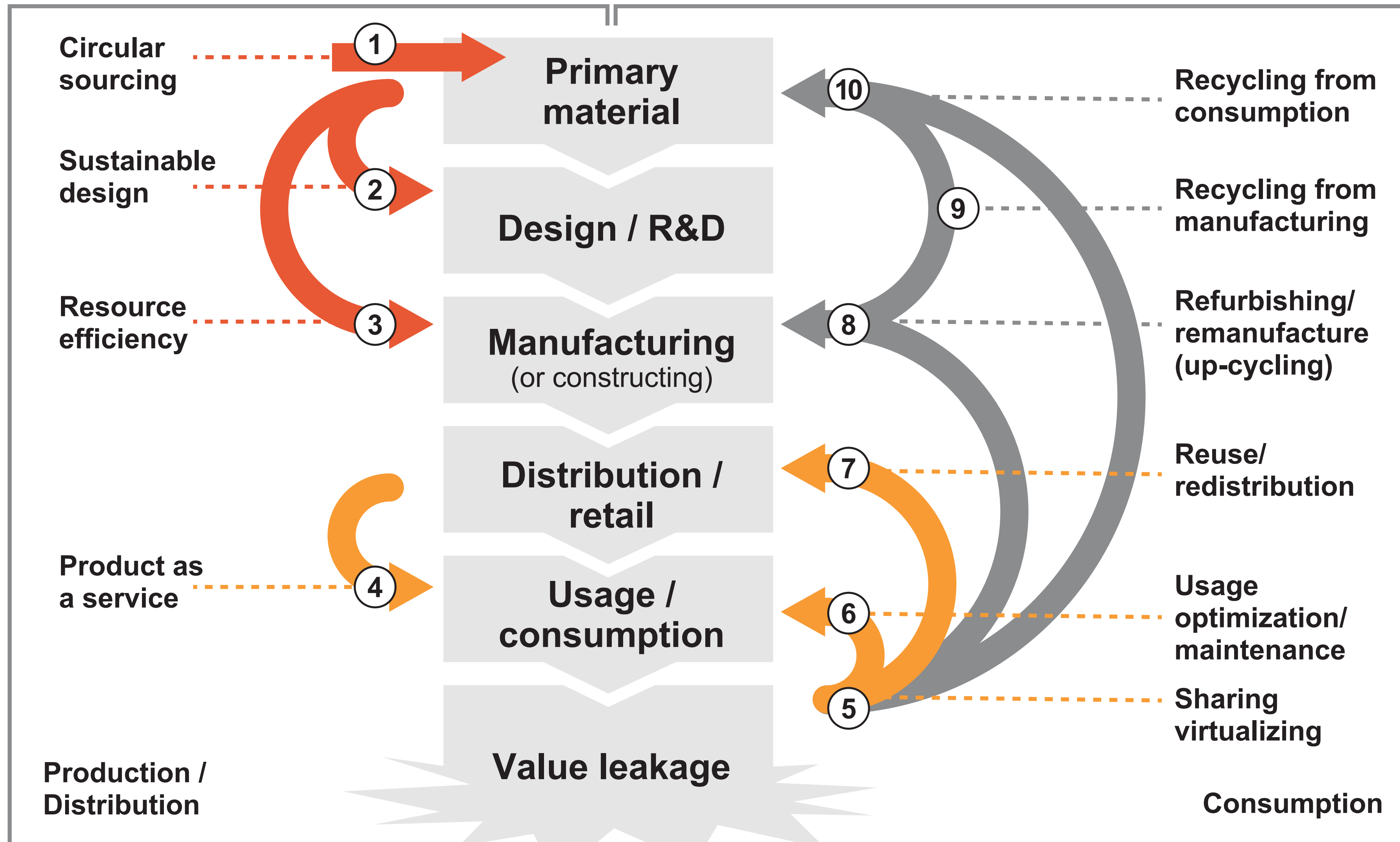
Ket: Realisasi Juni 2022

SUMBER: RUPTL PLN

Linear vs Circular Economy

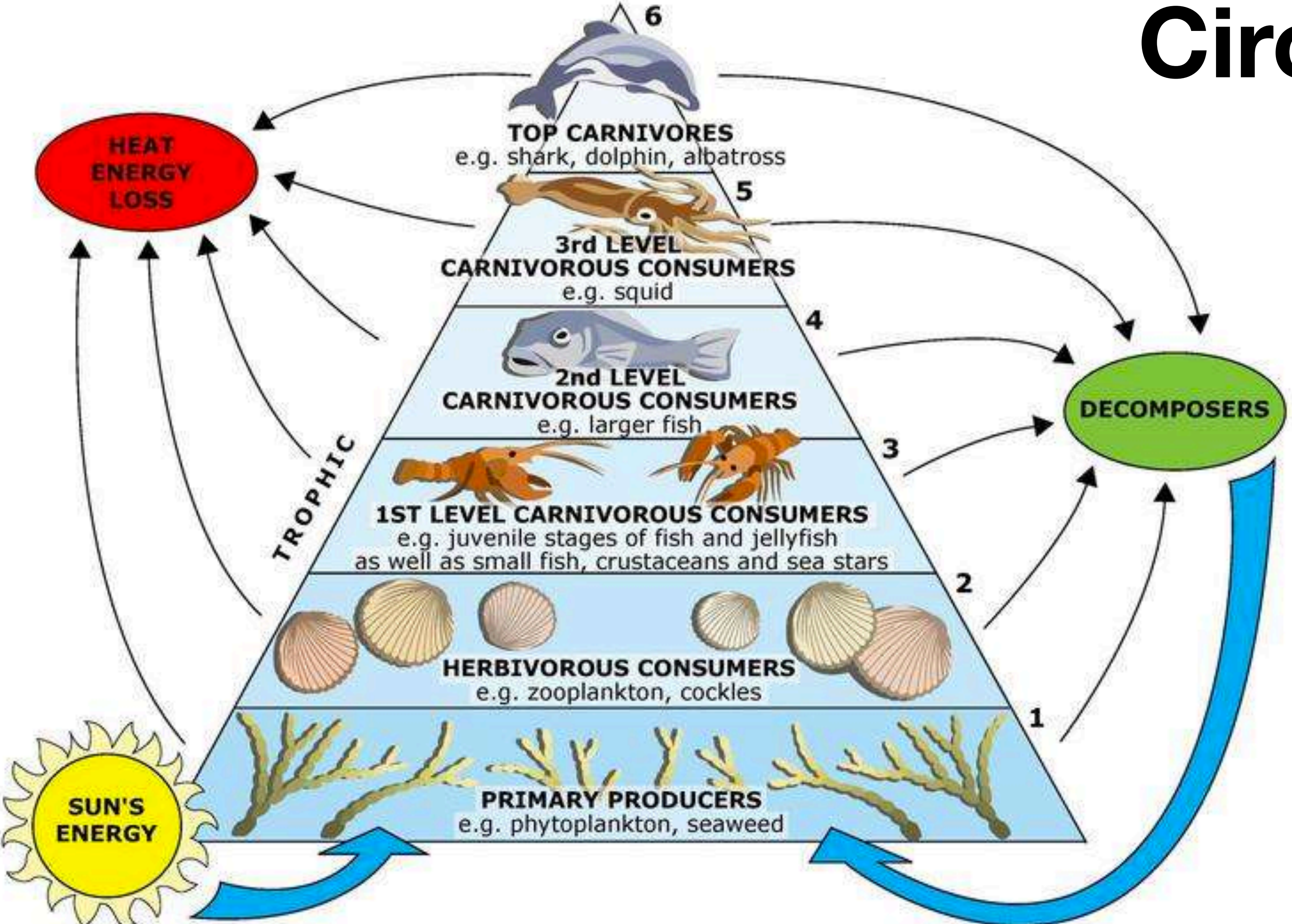


10 Strategies for Circular Economy



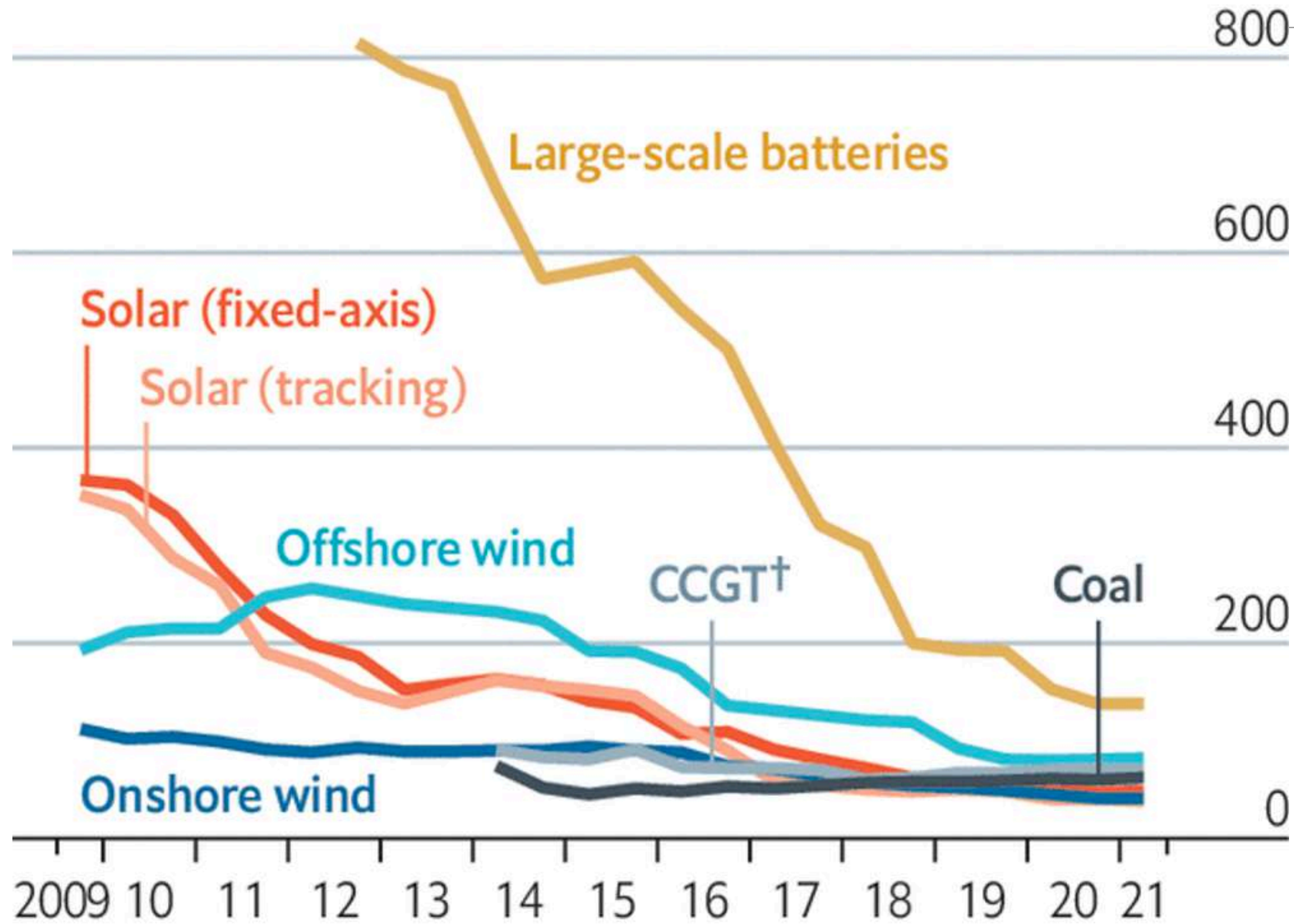
Sumber: PWC (2019)

Circle of Life



Falling fast

Levelised cost of electricity*, \$ per MWh



Source:
BloombergNEF

*Excludes subsidies, tax-credits or curtailment

†Combined cycle gas turbine

**Decrease Cost of Renewable Energy:
Opportunity for energy transition**

**Coal skyrocketed in 2022:
More expensive than Renewable if
not for DMO and DPO**

Batu Bara: mahal dan polutif

Challenges of Green Growth

- Low fund: Government and financial sector
- Forest & Land use change (alih fungsi lahan hutan)
- High existing fossil fuel based power plant
- Low Public Awareness & Priority
- Short time window before $> 1,5$ celcius increase

Opportunities and Options for Green Growth in Indonesia

- Protection and limit to land use change
- Green policy & regulation
- Green Finance & Invest: de-risking, VGF
- Green Business: ESG, green disclosure & reporting, certification/labeling
- Green Energy and Transport
- Green awareness & collective action

