

Indonesia Sustainable Finance Outlook 2022

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Pressing Issues in the energy and financial sectors

1

Secure sufficient funding to achieve 23% RE in 2025 and NDC 2030

2

Financing fossil fuel phase-out

3

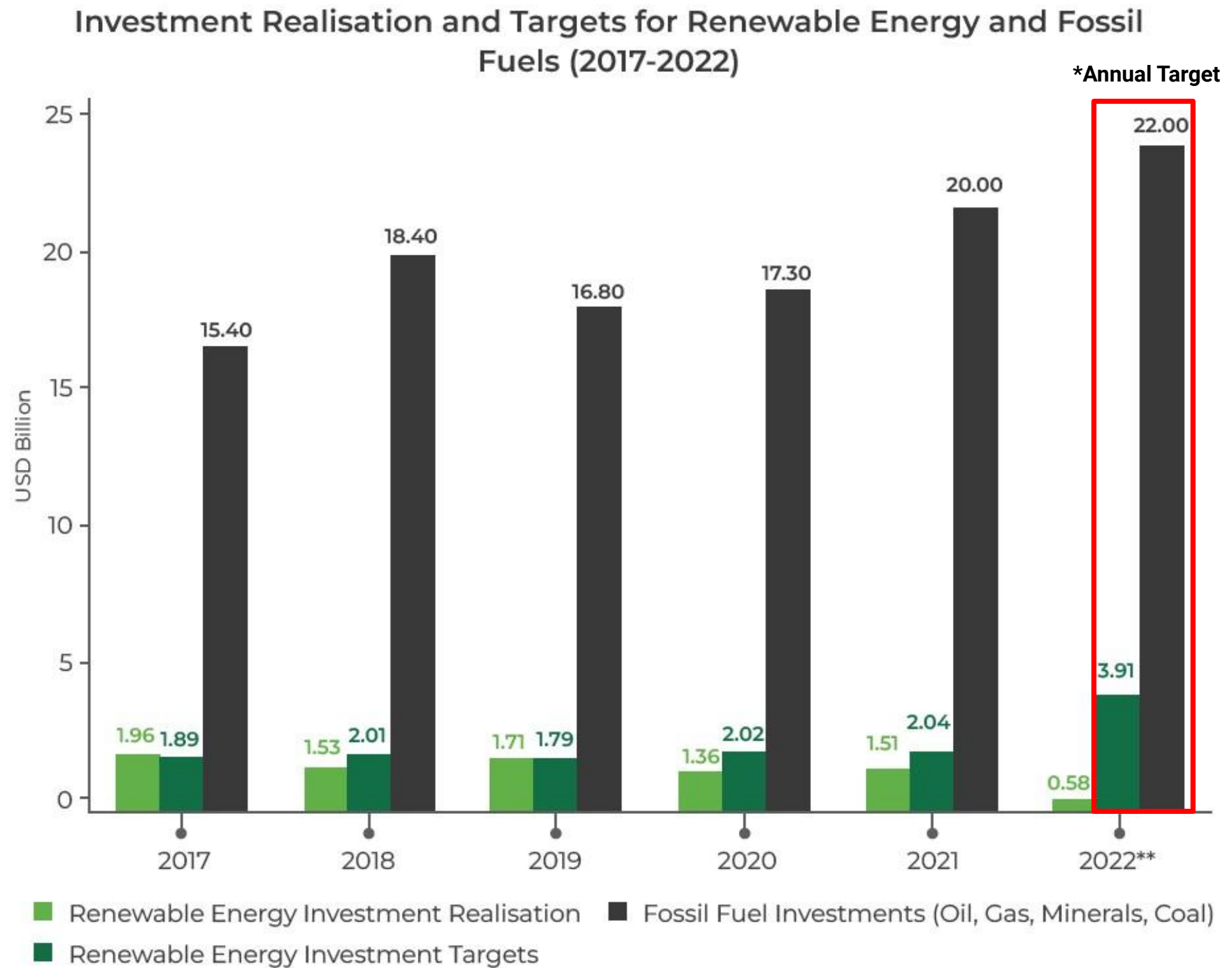
Mitigate “transition risks” and avoid disruptive transition

Challenges for sustainable finance

- Technical, financial, regulatory challenges in the RE sector hindering RE project access to sustainable financing
- Insufficient fiscal capacity to support RE deployment
- Securing non-public financing
- National energy plans supporting fossil fuels
- Fossil fuel subsidies
- Lack of regulatory framework incentivising transition by FIs
- Tools such as Green taxonomy still under development
- Domestic SF market is still developing

Indonesia's energy transition targets won't be met with only USD 1.62 billion in annual renewable energy investments from 2017-2021

- To reach 23% of RE share in 2025 in line with KEN and the NDC, **at least USD 8 billion is required annually, totalling USD 36.9 billion by 2025.**
- **Throughout 2018-2021, investments have fell short of the target.**
- **Average RE investment in the past five years is only USD 1.62 billion.**
 - ➔ Only 20.2% required annually to achieve 23% target in 2025.
 - ➔ USD 18-23 billion short of the annual investment required to achieve 2030 NDC target.

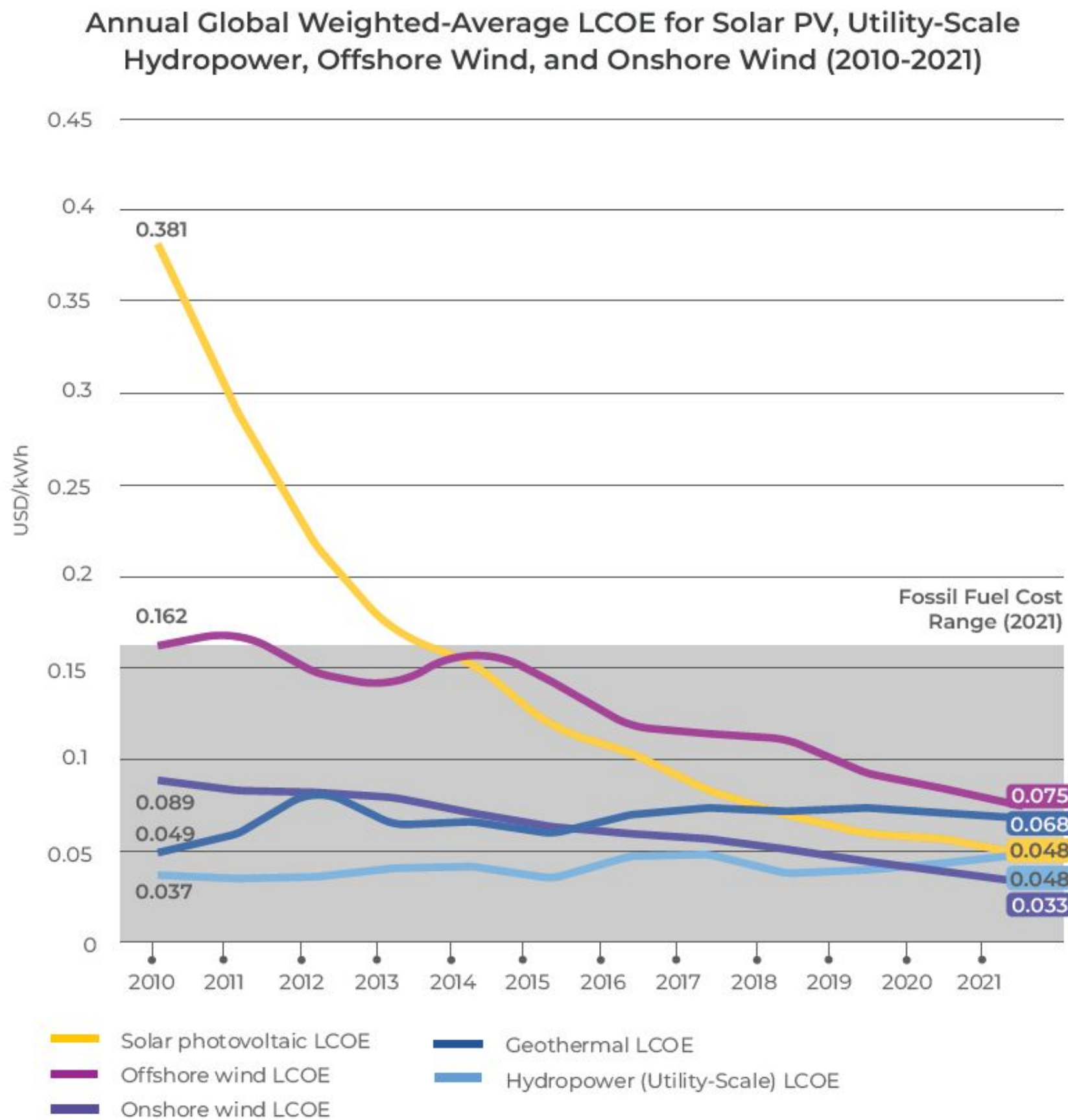


Note:

** USD 0.58 billion of Investment realisation in 2022 is an accumulation as per June 2022, and value of fossil fossil fuel investments in 2022 only accounts for targets set for 2022.

Compiled Sources: MEMR, 2022; MEMR, 2021; MEMR, 2017; International Institute for Sustainable Development, 2021; IESR, 2019.

Due to exorbitant costs of RE in Indonesia, investors lack faith in renewable energy projects.



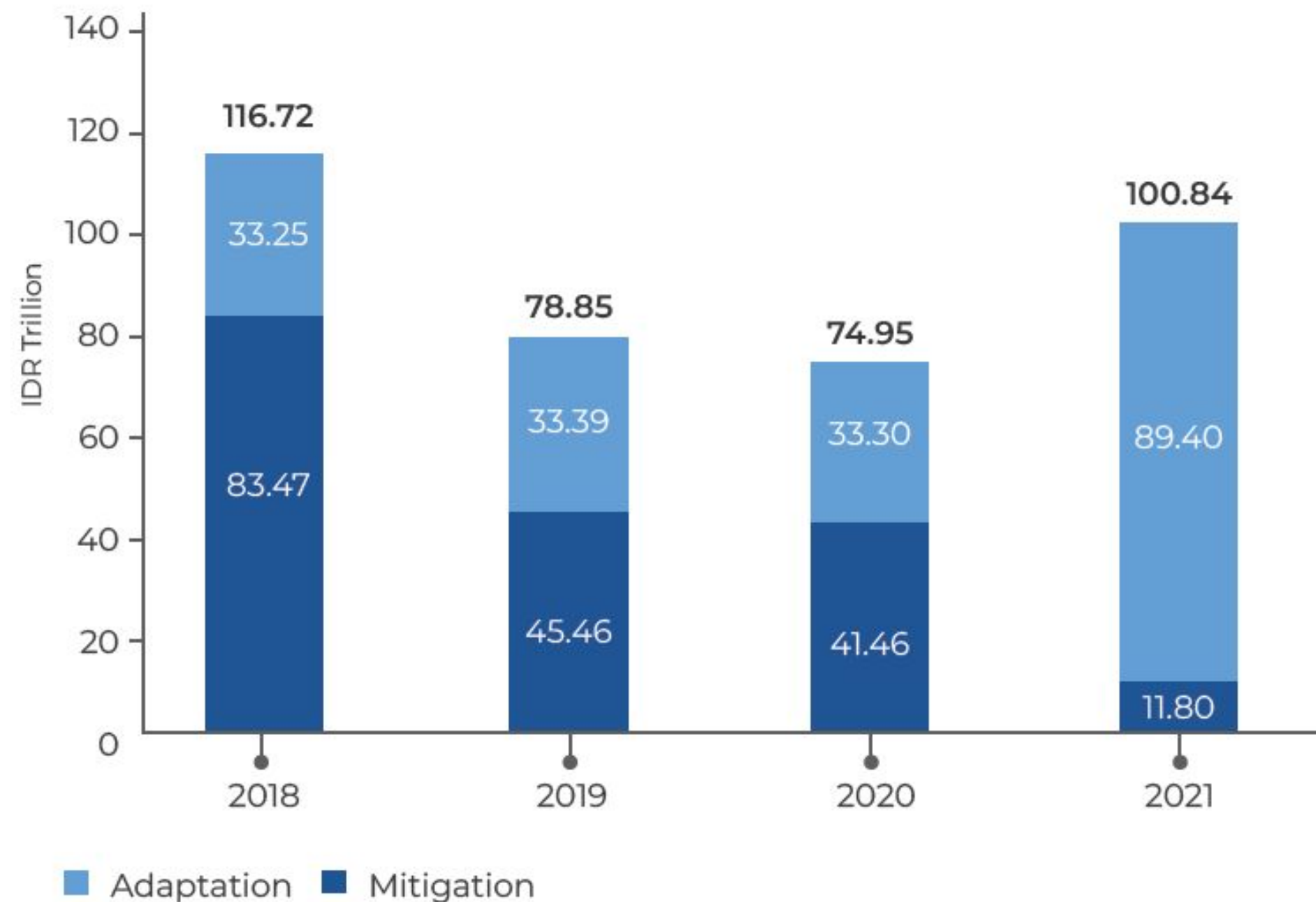
- Geothermal in Indonesia (0.066 USD/kWh) is the only RE technology cheaper compared to its global LCOE (0.074 USD/kWh) in 2019.
- **Challenges that makes local RE more expensive:**
 - Lack of local industry for RE components, high local content requirements, High CAPEX, unattractive RE tariffs, pricing uncertainties, lack of transparency in procurement process and financial flows.

➔ **These challenges creates investment risks, signals the need for improvements in investment environment and bankability of RE projects.**

Indonesia's public budget is insufficient to reach 23% renewables by 2025, requiring non-public funding.



National Budget for Climate Mitigation and Adaptation (2018-2021)

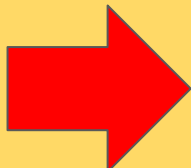


Source: MoF, 2022; MoF, 2021.

- Total annual govt. budget is only 0.83% from what is required to reach 23% RE share in 2025.
 - Ditjen EBTKE budget in 2021: IDR 539.4 billion, for: waste-to-energy power plants, biomass co-firing, geothermal exploration, solar power plants, solar light bulbs, and solar street lighting installations.
 - Central Java ranked first in public spending for RE, followed by Aceh and East Java.
 - ➔ However, budget for RE is less than 0.1% of the total annual provincial budget.
- ➔ **The GoI should utilise its budget to leverage renewable energy investments.**

Indonesia's reliance on fossil fuels requires the country to spend **20.8%** of its national budget for energy subsidies in 2022.

- Fossil fuel-dominated energy system: **oil & gas 50.5%, coal 38%, RE 11.5% (2021)**
- Total existing Coal-fired power plants (CFPPs): 31.4 GW. Additional 13.8 GW of CFPPs will start operating by 2023.

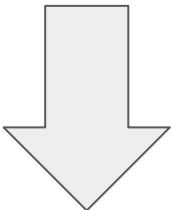


Approximately, 10.5 GW of CFPPs require retirement before 2030. **Early retirement is therefore vital.**

Subsidies totalling IDR 89.62 trillion, while IDR 104.78 trillion are compensations towards PT. Pertamina and PT. PLN.

| | 2019 | 2020 | 2021 | Jan-Jul 2022 | Updated projections (Jul 2022)* | Updated projections (Sep 2022)* |
|------------------------------------|------|--------|-------|--------------|---------------------------------|---------------------------------|
| Fuel and Gas Subsidy | 84.2 | 47.7 | 83.79 | 62.7 | 149.3 | |
| Electricity Subsidy | 52.7 | 61.1 | 56.61 | 26.92 | 59.6 | |
| Fuel and Electricity Compensation* | 0 | 92.77 | 50.1 | 104.78 | 293.5 | |
| Total | 62.7 | 201.57 | 190.5 | 194.4 | 502.4 | 649 |

Further **required** increase of energy subsidies up to IDR 649 trillion - MoF (September, 2022)

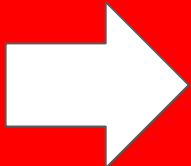


20.8% of the 2022 national budget of IDR 3,106.4 trillion.

Source: Ministry of Finance

In July, **allocates an additional IDR 349.9 trillion** for energy subsidies from its initial target of IDR 152.5 trillion for 2022.

5% of the total national budget expenditure in 2021 are for fuel, gas, and electricity subsidy throughout January-December 2021.



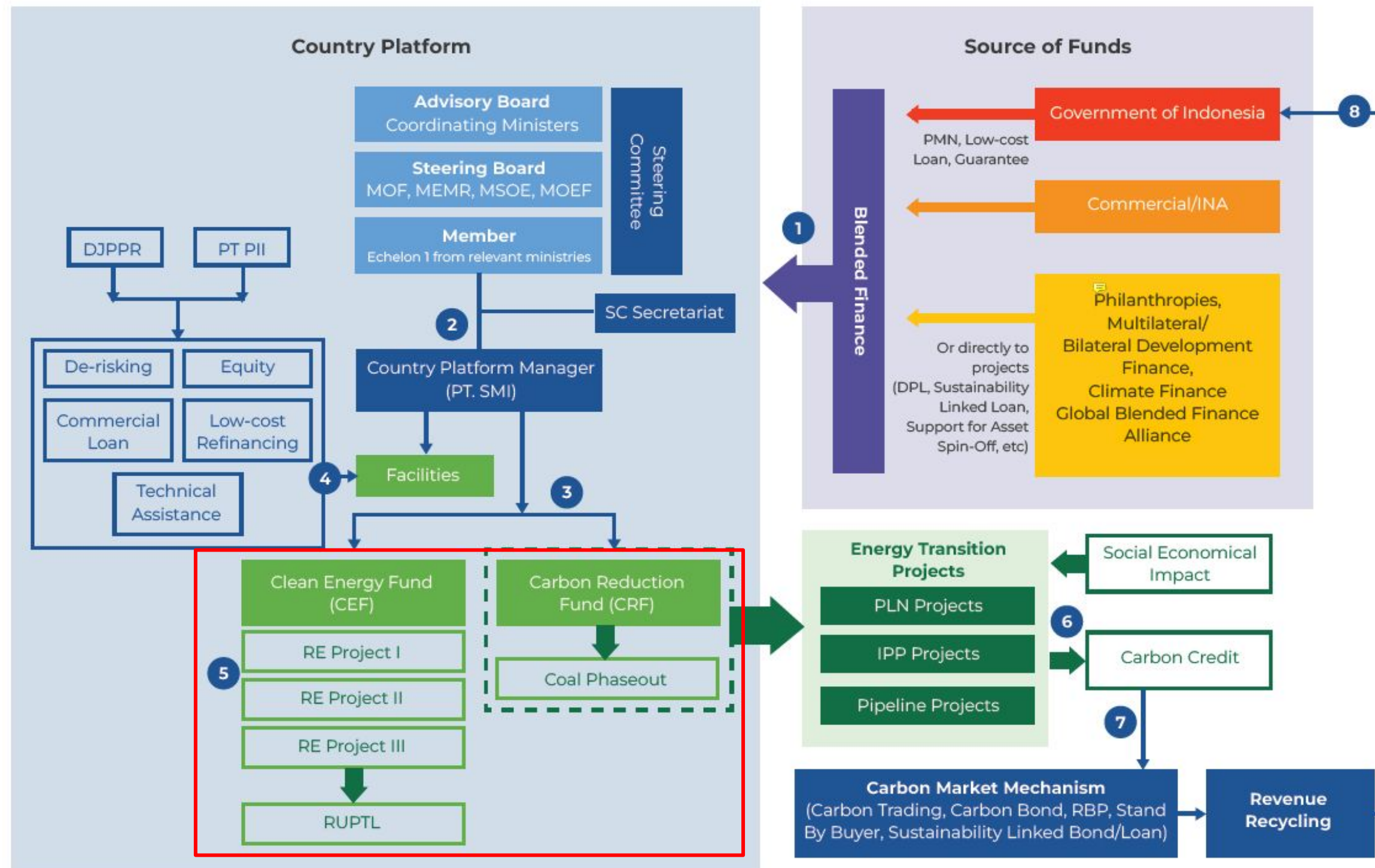
- Electricity subsidy is considered as a support for fossil fuels: more than 90% of electricity consumption comes from fossil fuels.
- **Indonesia's power system's reliance on fossil fuels also puts RE at a competitive disadvantage in terms of pricing.**

To speed up the energy transition, Indonesia has developed the Energy Transition Mechanism Country Platform, a blended finance instrument.



ETM Country Platform Scheme

Source: Ministry of Finance (2022)



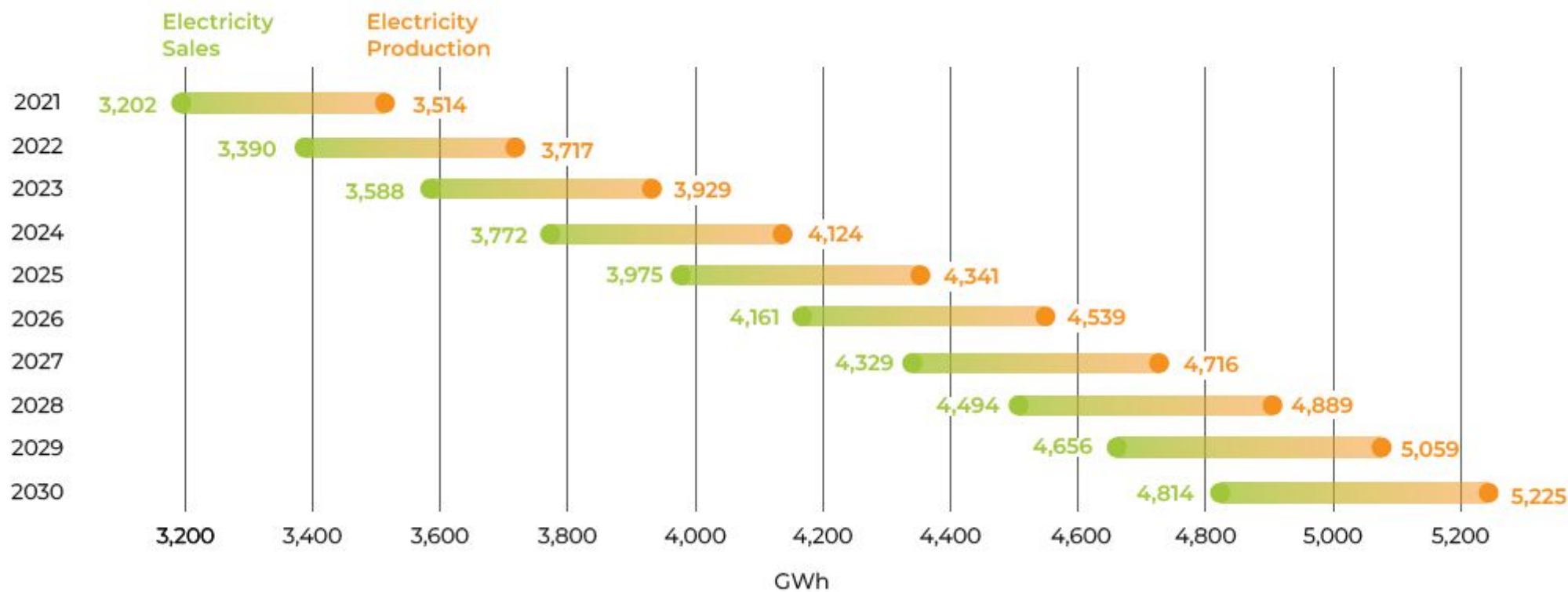
- The ETM Country Platform aims to accelerate investments for CFPP phase-out and RE deployment **in line with RUPTL 2021-2030.**
- **The MoF is planning to release a ministry regulation on the ETM Country Platform in November 2022**
- Challenges of the ETM Country Platform
 - Oversupply issue
 - A mismatch between investor's appetite and Indonesia's current needs
 - The high share of coal in power mix generation compared to RE

Due to energy oversupply, Indonesia still faces difficulties in balancing coal phase-out and RE deployment under the country platform, despite current progress and future goals.



- **Priority Funding Source:** Concessional loans and equity that incurs a low cost to support the Carbon Reduction Fund (CRF) to phase-out CFPP.
- **Gol Support:** Public budget for interest subsidy, and project guarantees.
- PT. SMI & INA plan to establish a business entity that will acquire, maintain, and raise equity capital from IPP CFPP assets.
- **The list of CFPPs to be decommissioned are still under discussion.** Referencing studies and CFPP nominations from PLN, MEMR, and ADB.

Projected Electricity Demand Versus Electricity Production (2021-2030)



Source: RUPTL 2021-2030, Indonesia State-Owned Electricity Company (2021)

Challenges of the ETM Country Platform:

1

Current electricity oversupply hinders PPAs for new RE power plants under the platform.
Creating a dilemma between implementing the platform's CRF and CEF facilities sequentially, or in parallel.

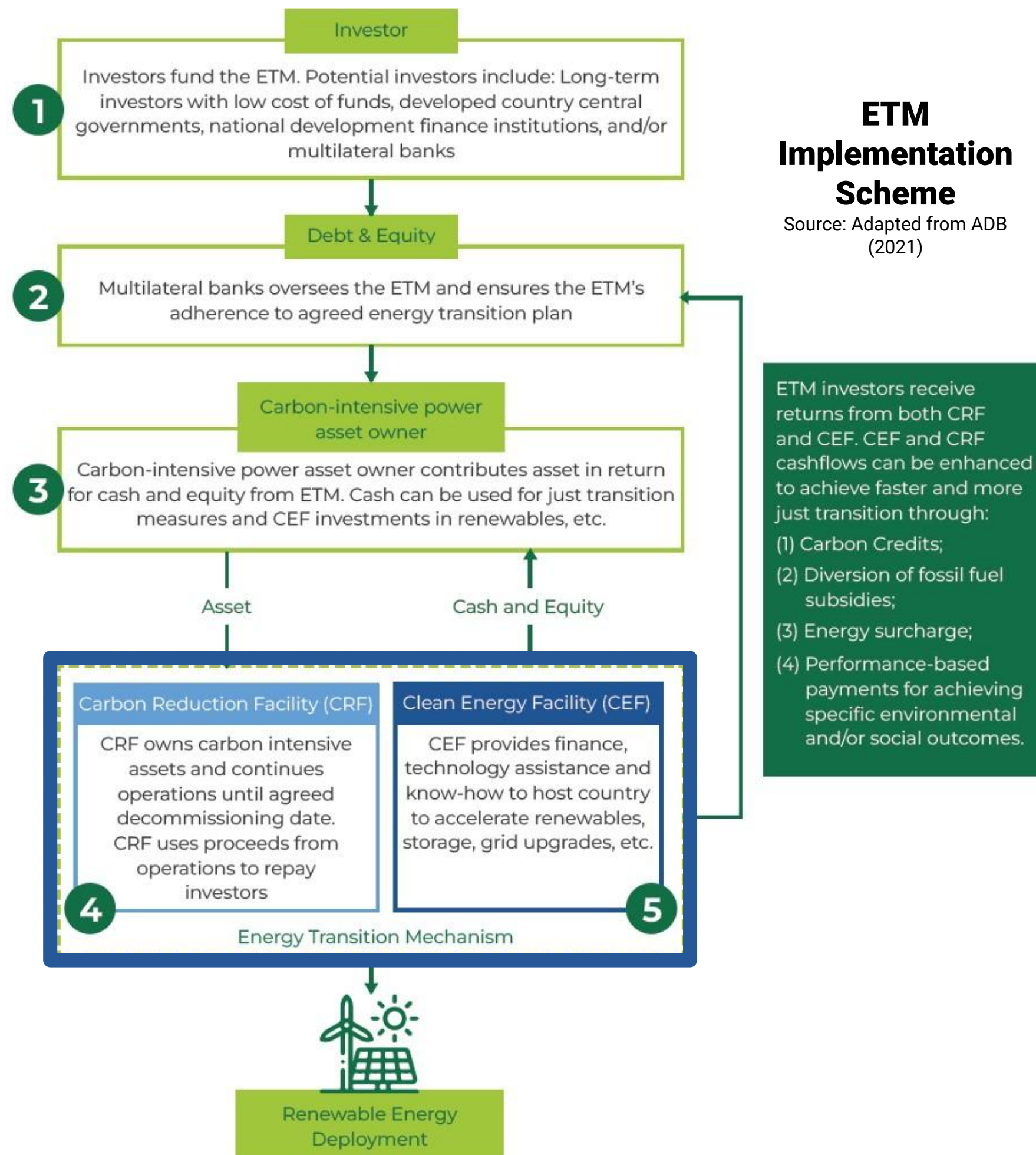
2

Share of CFPP in 2030 is 59.37% and RE is 24.79%, according to RUPTL 2021-2030.

3

A mismatch between investor's appetite and Indonesia's current needs to accelerate CFPP phase out.

ADB's ETM pre-feasibility study recommended 1.77 GW of CFPPs for early retirement between 2022-2023, half of the total installed capacity until 2025



- **ADB's ETM** pre-feasibility study nominated 3 CFPPs with a total capacity of 1.77 GW for early retirement through ETM between 2022 and 2023: **Keban Agung (240 MW), Sumsel 5 (300 MW), and Paiton 1 (1230 MW).**
 - ➔ Total nominated capacity: 1.7 lower than capacity of new CFPPs in 2022
 - ➔ Only account for 46.8% of total CFPP capacity planned until 2025.
- **No new coal power plants as precondition for any deal.**

In 2022, the Gol will put in place the Carbon Cap, Tax, and Trade mechanism for 92 units of CFPPs. The carbon tax rate and the emission cap will be adjusted over time.



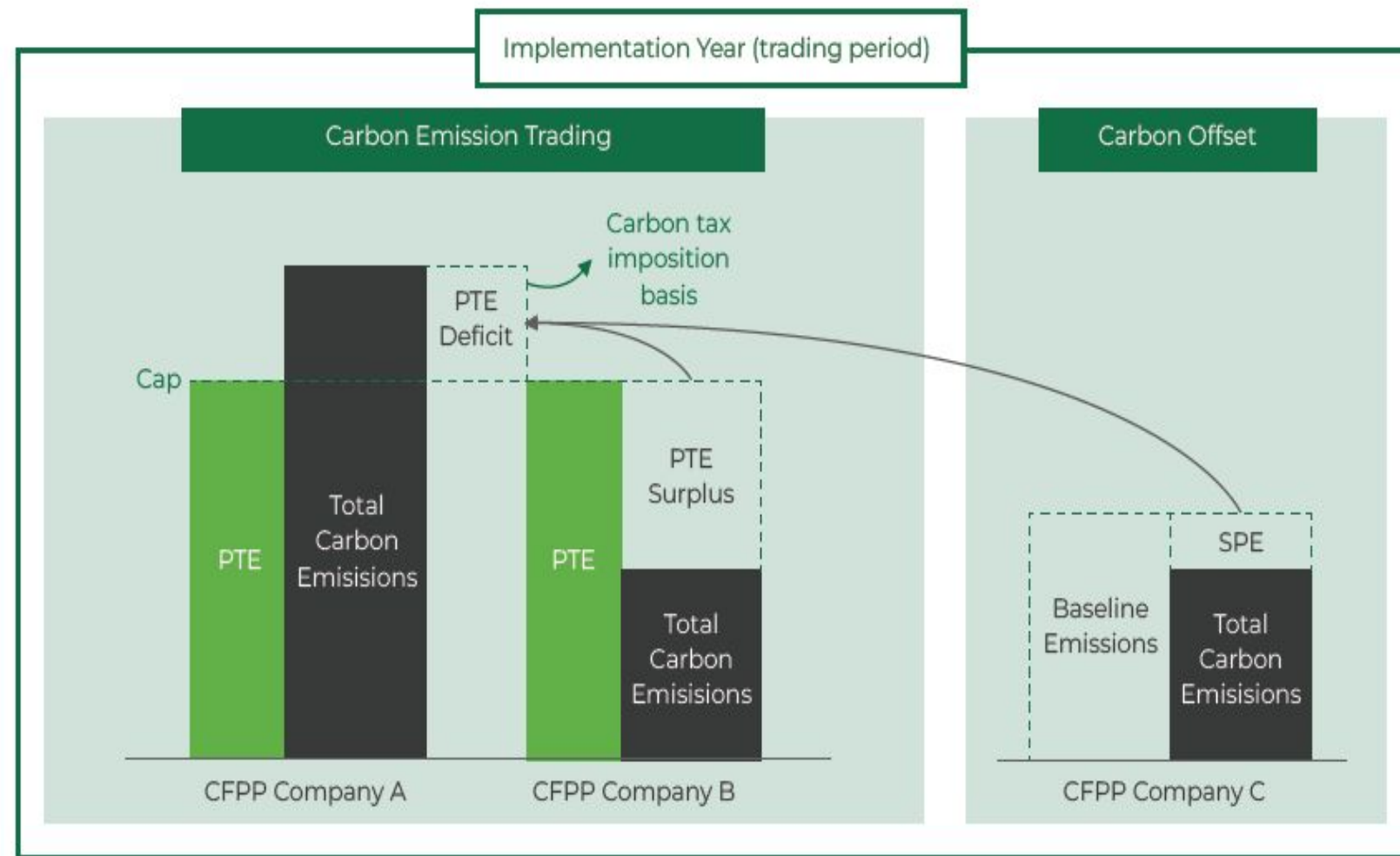
- Will first be imposed on CFPPs owned or operated by PLN and IPPs in 2022.
 - RE power plants with emission reduction certificates (SPE-GRK) can participate as carbon emission offset providers.
- The Gol is currently still assessing how the carbon tax applies to other sectors beyond 2025, such as waste and transportation.
- Tax revenue allocation is determined via the state budget mechanism, carbon tax revenue is not earmarked.

Carbon Tax Rate and Emission Cap

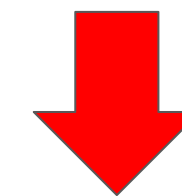
Source: MEMR (2022)

| Tax Rate | | |
|---|---|--|
| 2022 IDR 30/kg CO ₂ e (USD 2.1/tCO ₂ e) | → | 2023 1.2 x average carbon price |
| Emission Cap | | |
| PLTU non-MT > 400 MW (2022 - 2024) 0.911 tCO ₂ e/MWh | PLTU non-MT 100 ≤ 400 MW (2022 - 2024) 1.011 tCO ₂ e/MWh | PLTU MT ≥ 100MW (2022 - 2024) 1.089 tCO ₂ e/MWh |
| 2024: PLTU non-MT / MT 25 MW ≤ 100 MW → 1.297 tCO ₂ e/MWh | | |

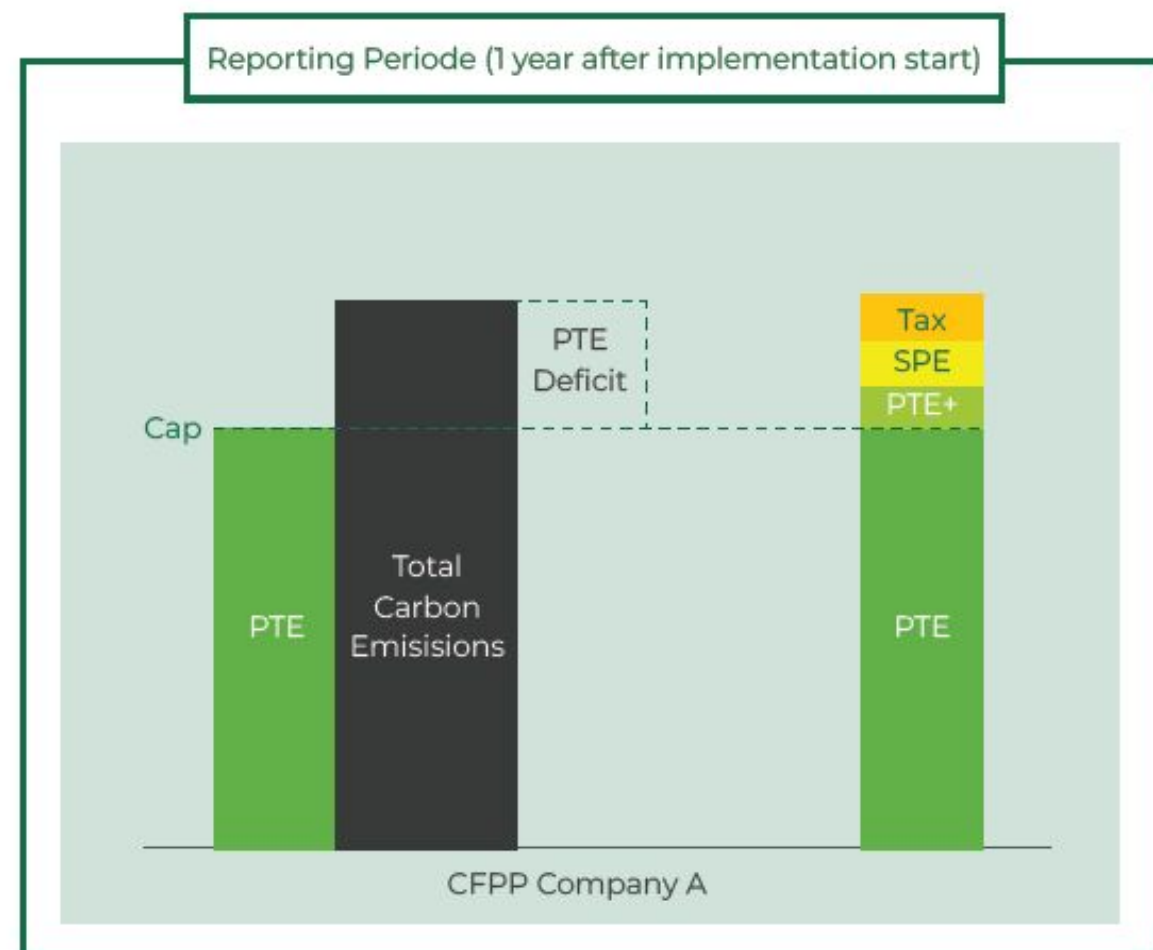
Paiton CFPP emissions of 6.5 million tCO₂ would require carbon trade or IDR 39.4 billion in carbon tax



Paiton CFPP in 2021 yields emissions above the emission cap **(PTE deficit) of -1,315,440 tCO₂**.



With IDR 30/tCO₂e carbon tax rate, carbon trading of **IDR 39.4 billion is required.**



*Annual income of PT. PJB, which owns six units of CFPPs in 2021, accounts for IDR 5.8 trillion.
Carbon tax cost only for Paiton is 0.6% of its annual income.

Blended Financing: SDG Indonesia One

Since 2018, has mobilised:

- USD 789 million through grants and loans
- USD 223 million through other instruments
- 62 projects up to 2022, 90% are RE projects.
- **Specifically for 2022:** 22 RE projects with PT. Pertamina, and two mini-hydro power plants

Main challenge:

Low number of projects that have acquired PPAs with the State Electricity Company (PLN) causing bottleneck in the project pipeline.

International Financing: Bilateral Pledges

| No. | Country | Type | Amount |
|-----|----------------|---------------------------|---------------------------------|
| 1. | United Kingdom | Investment target | USD 340 Million |
| 2. | Japan | Memorandum of Cooperation | N/A |
| 3. | United States | USAID-SINAR Project | Targets USD 5 billion for RE |
| 4. | Germany | Grants | USD 2 billion |
| 5. | France | Technical assistance | USD 544 million |
| 6. | Norway | Technical assistance | USD 28,7 million |
| 7. | Singapore | Investment | Targets USD 5 billion for RE |
| 8. | New Zealand | Project Grant | USD 3.6 million (Project value) |
| 9. | Australia | Cooperation Grant | USD 200 million |

- Total value of pledged financial support: USD 13.1 billion
→ **35.4% of the total projected financing needs by 2025**
- Total pledge indicates positive international support for RE development in Indonesia.

Despite the decline in global coal financing, **29 Indonesian financial institutions still financed coal until 2021 ... including four Banks with highest total asset value**

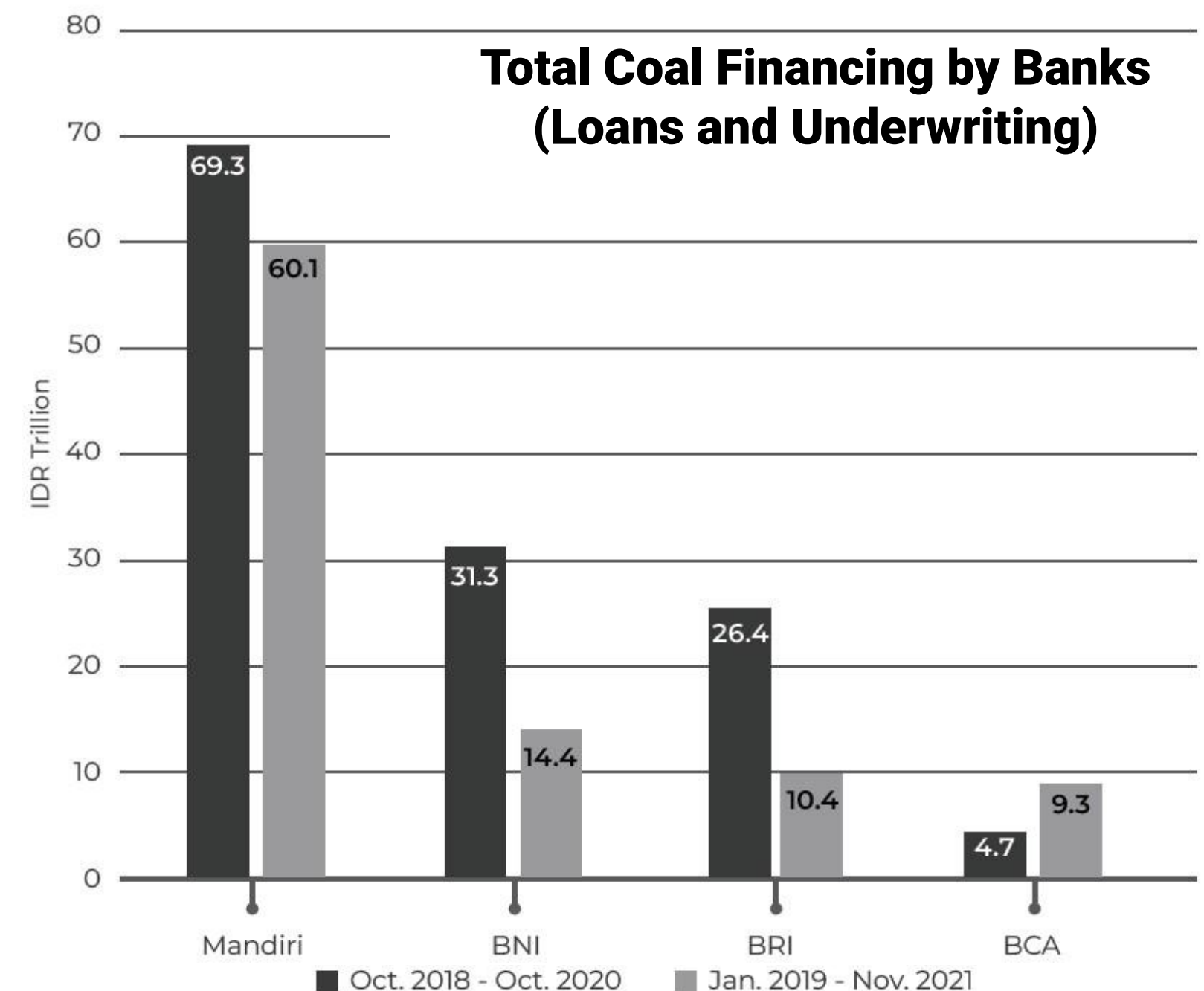


Transition towards a low-carbon economy produces “Transition Risks”

This risk could also stem from the economic consequence of stranded assets, e.g., CFPPs.

Early transition implying a gradual phase-out of financing for fossil fuels should be done, to contain future losses borne by the financial services sector and avoid disruptive effects on the financial system.

- **29 Indonesian commercial banks, asset managers/owners, and insurers/reinsurers still financed coal as per 2021.**
- Four banks with the largest assets have disbursed **IDR 93.6 trillion in total for coal financing in the last three years.**
- **Only Bank BRI and Bank Mandiri** have announced measures to limit the allocation of credit towards the sector.
- POJK No.51/2017, as the only sustainable financing regulation governing financial institutions, **does not mandate stakeholders in the financial sector to limit financing towards fossil fuels.**

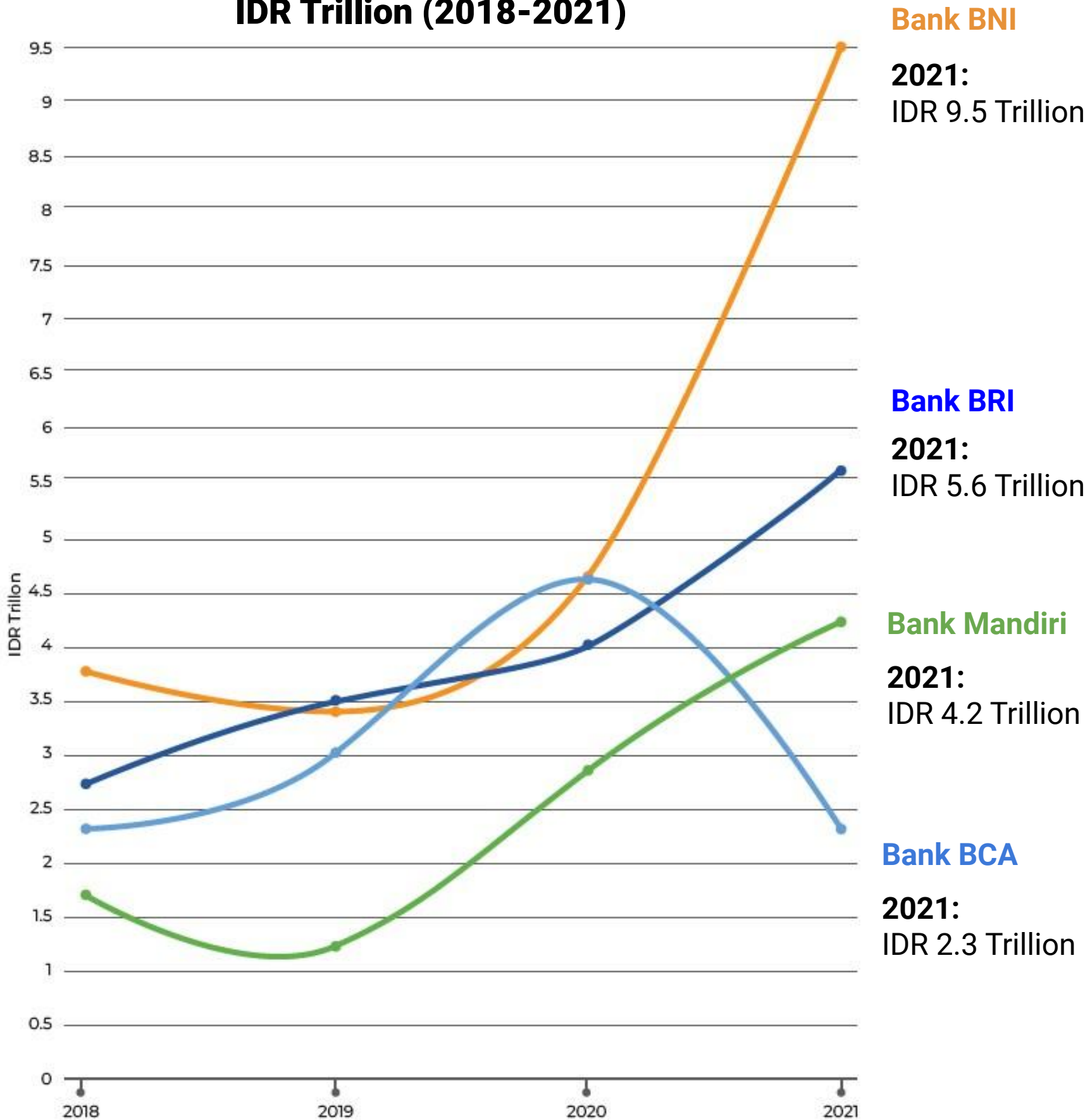


Source: Financing Global Coal Exit List Report 2021 & 2022



Financing for RE only accounts for 0.9%-5.5% of the total sustainable portfolio of four domestic commercial banks with the highest total asset value in 2021.

Credit Mobilisation by Banks for Renewable Energy in IDR Trillion (2018-2021)



- The most commonly funded RE in 2021 is **hydropower**, followed by **biogas**, **solar PV**, **biomass**, and **geothermal**.
 - **The total credits disbursed for RE is only 0.9%-5.5% from the sum of sustainable portfolio** of these banks' in 2021.
- ➔ **Low credit allocations for RE from the banking sector is due to:**
- 1) **Lack of regulatory frameworks** encouraging credit allocation for RE.
 - 2) **Lack of bankability and high risk of RE projects**, including high capital costs and the longer tenor required for project finance;
 - 3) **Lack of familiarity of banks with RE projects' features**;
 - 4) **Low awareness and confidence of domestic investors** to invest in RE.

Sources: Banks' Sustainability Reports

Indonesia's Green Taxonomy utilise a 'traffic light' system. Sectors undergoing transition, e.g., coal mining, fall under the yellow category.



- From 919 sectors classified, only 15 sub-sectors were automatically categorised as green.
- RE belongs under the same KBLI category as non-renewable sources, RE is not categorised as green.
- **The yellow tier is not supported by defined greenhouse gas emissions criteria.**
- The taxonomy rating system is based on assessments of sub-sectors or business activities, not projects or assets.
- The current version of the taxonomy does not provide a clear framework on how FIs can implement the taxonomy.

15 Sub-sectors Automatically Categorised as Green Under Indonesia's Green Taxonomy Document

| KBLI level 1 | KBLI level 5 |
|--|--|
| Agriculture, forestry and fishing | Tobacco plantation |
| | Coconut fruit plantation |
| | Oleaginous fruit plantations |
| | Pepper plantation |
| | Clove plantation |
| | Aromatic plantation / fresh |
| | Rubber plantations and other gum producing plants |
| | Freedom agriculture and other annual plants |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | Five-foot retail trade and fishery product commodity market |
| | Retail trading of five feet and los processed meat and fish market |
| | Retail trading five feet and los food, poultry and fish food markets |
| Transportation and storage | Non-motorized transport for passengers |
| | Non-motorised transport for general goods |
| Administrative and support service activities | Business rental and rental activities without the right to option of music tools |
| Public administration and defence; compulsory social security | Activities of government institutions in mining and quarry, electricity, water and gas |

Source: Indonesia Green Taxonomy Document Version 1.0 (2022), Appendix Section

Required Improvements:

1

Provide a clear implementation framework on how SJKs can use the taxonomy for classifications of their portfolios and loan books.

2

Ensure that the taxonomy can facilitate project-level classifications in future iterations.

3

Align the taxonomy with internationally acceptable standards.

Green bonds account for 81% of the Green, Social, and Sustainability Bond (GGS) market in Indonesia, with sovereign bonds in Foreign Currency (FCY) seeing the most issuance.



Government-Issued Bonds (2018-2021):

- Sovereign green bonds: USD 1.5 billion
- State-owned enterprises: USD 153 million.
- **As of Q3 2022, Only two private companies have issued green bonds to fund RE since 2017.**
- **Only 0.01% (USD 49.68 million) of green bonds were issued in local currency (LCY), while USD 2.2 billion were issued in foreign currency (FCY) in 2018-2021.**
- The low share of LCY demonstrates:
 - Lack of domestic green bond market.
 - Reliance on foreign currency lending.
 - Increased exchange rate risk of green projects.

Green Bonds (Non-Sukuk) Issued by Government and State-Owned Enterprises



Source: Compiled Sources.

The GoI has only allotted USD 371 million from 2019-2021 Green Sukuk earnings for renewable energy initiatives.



Issuance of Green Retail Sukuk and Global Green Sukuk by the Government of Indonesia (2019-2021)

| Green Sukuk | Value (IDR Billion) | Tenor (Years) | Yield |
|-----------------------------------|---------------------|---------------|-------|
| Green Retail Sukuk (ST006) - 2019 | 1,460 | 2 | 6.75% |
| Green Retail Sukuk (ST007) - 2020 | 5,400 | 2 | 5.50% |
| Green Retail Sukuk (ST008) - 2021 | 5,308 | 2 | 4.00% |
| 2019 Global Green Sukuk | 11,090 | 5.5 | 3.90% |
| 2020 Global Green Sukuk | 11,090 | 5 | 2.30% |
| 2021 Global Green Sukuk | 11,090 | 30 | 3.55% |

Source: Compiled Sources

Value of **Green Retail Sukuk** issuance per year showed **growth** throughout 2019-2021.

GGs issuance remains the same for 3 consecutive years, **with longer tenor period**.

Green Sukuk Use of Proceeds for RE

| Green Retail Sukuk | | |
|--------------------|---------------------------------|--|
| Year | Value of Use of Proceeds For RE | % for RE from total proceeds for all sectors |
| 2021 | USD 84.3 million | 22.80% |
| 2020 | USD 72.29 million | 21.1% |
| 2019 | USD 42.9 million | 0 |

| Global Green Sukuk (GGs) | | |
|--------------------------|---------------------------------|--|
| Year | Value of Use of Proceeds For RE | % for RE from total proceeds for all sectors |
| 2021 | USD 164.8 million | 21.9% |
| 2020 | 0 | 0 |
| 2019 | USD 42.9 | 5.4% |

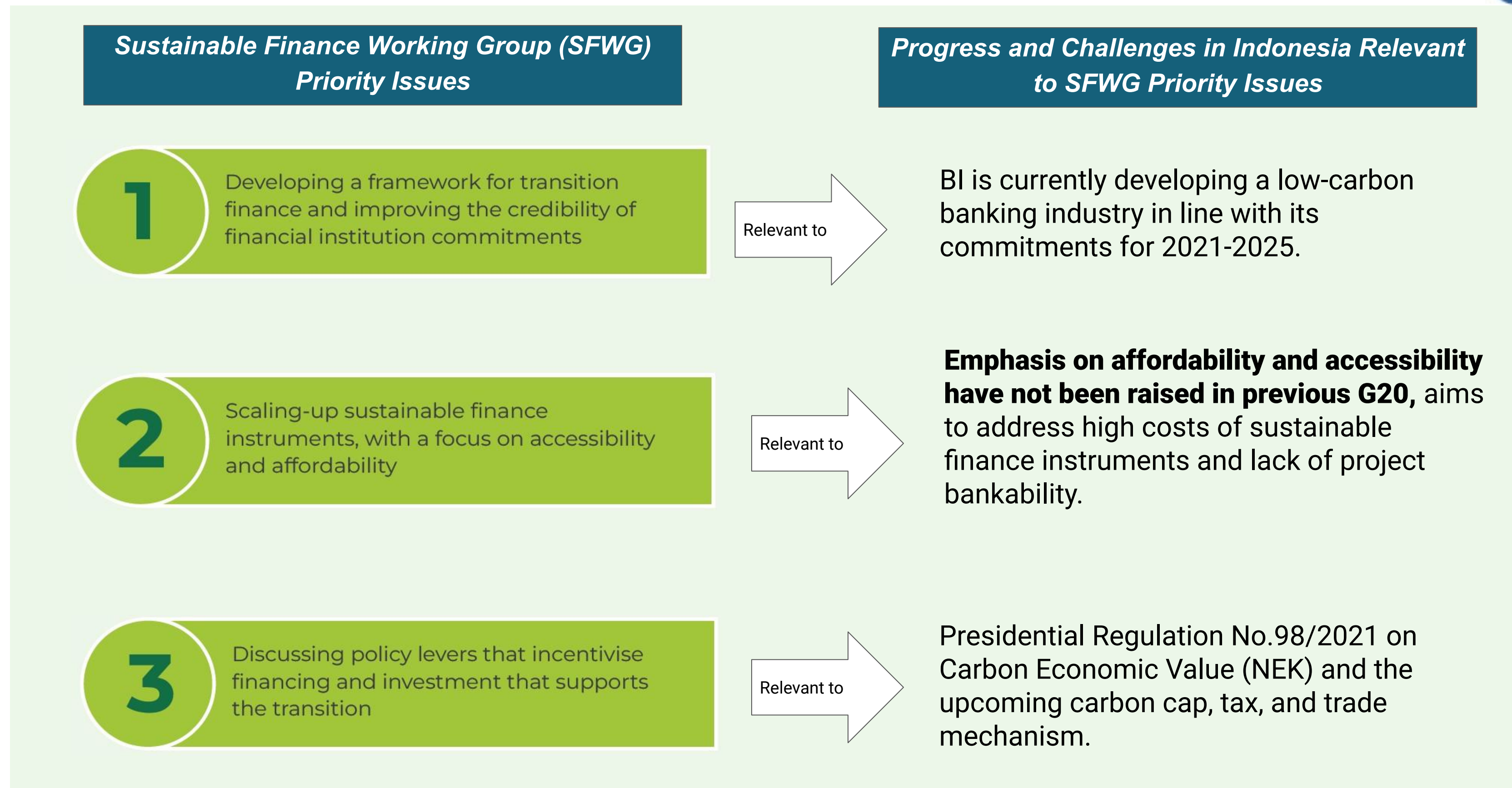
Use of proceeds of **Green Retail Sukuk** allocated for RE has shown recent **trend of growth**, while allocation of GGs use of proceeds for RE has been significant only in 2021.

RE project bankability and challenging MRV remains a central issue for use of proceed allocation



Spotlight: G20 Indonesia Progress on Sustainable and Climate Financing

The G20 Indonesia SFWG addresses global and local challenges on sustainable financing, including transition finance, with a focus on accessibility and affordability



G20 Indonesia must continue to emphasise the issue of the USD 100 billion climate finance objective and loss and damage financing (L&D)



USD 100 billion climate finance Goal

- The climate finance goal of USD 100 billion per year by 2020 has fallen short by USD 20 billion in aggregate from its target in 2019. It was concluded that the goal is likely to be met in 2023.
- As of Q2 2022, additional international pledges have amounted to USD 60 billion through the voluntary channelling of Special Drawing Rights (SDRs).

Finance for Loss and Damage (L&D)

- The last 3 years of G20 presidencies have addressed loss and damage indirectly.
- The lack of an agreed definition of L&D makes it challenging to identify existing loss and damage finance.
- The IPCC 2022 report: about 24% of all approved GCF projects correlated with L&D, but only 16% of the projects explicitly refer to L&D.
- **Dialogues concerning L&D should be raised within the G20 for future developments of its enabling instruments and mechanisms, considering the increasing prevalence of climate-induced disasters.**

Summary of Key Recommendations



ETM Country Platform

PLN should take into account the potential of ETM Country Platform in its national energy plan

Ensure that Coal Phase-out and RE deployment is implemented in parallel

Carbon Tax

Ensure allocation of carbon tax revenue for climate mitigation & adaptation, and social safety nets

Transparent to the public regarding carbon tax payments & carbon transactions

Financial Services Sector

Implement recommended improvements for the green taxonomy document

Develop a National strategy/policy framework to guide transition for the FSS

Green Bonds

Strategize to develop the local green bond market and support non-sovereign green bond issuance

Green Sukuk

Evaluate the CBT mechanism utilised for green sukuk use of proceed allocation, including for RE

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