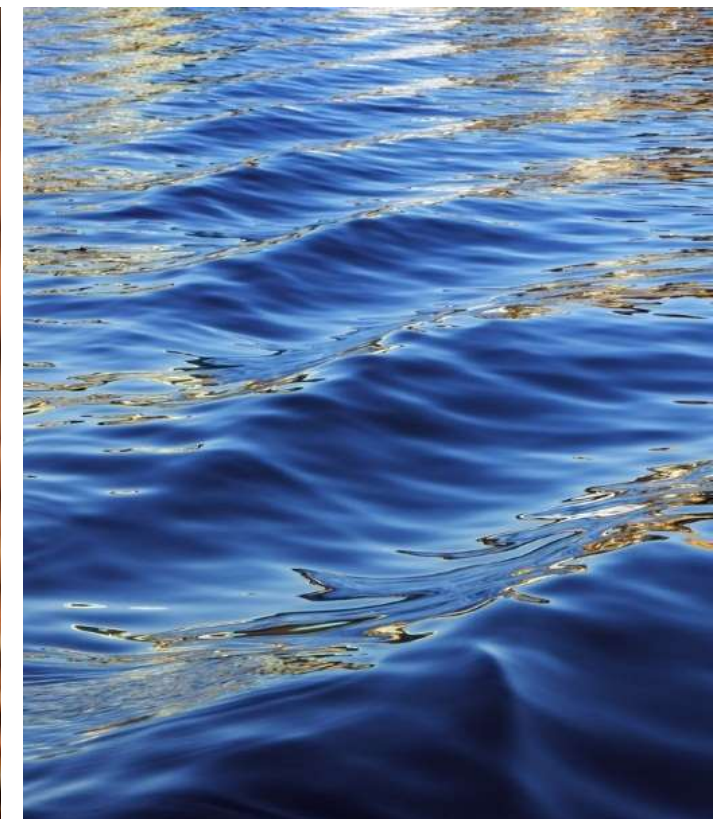


Mercury emission from coal

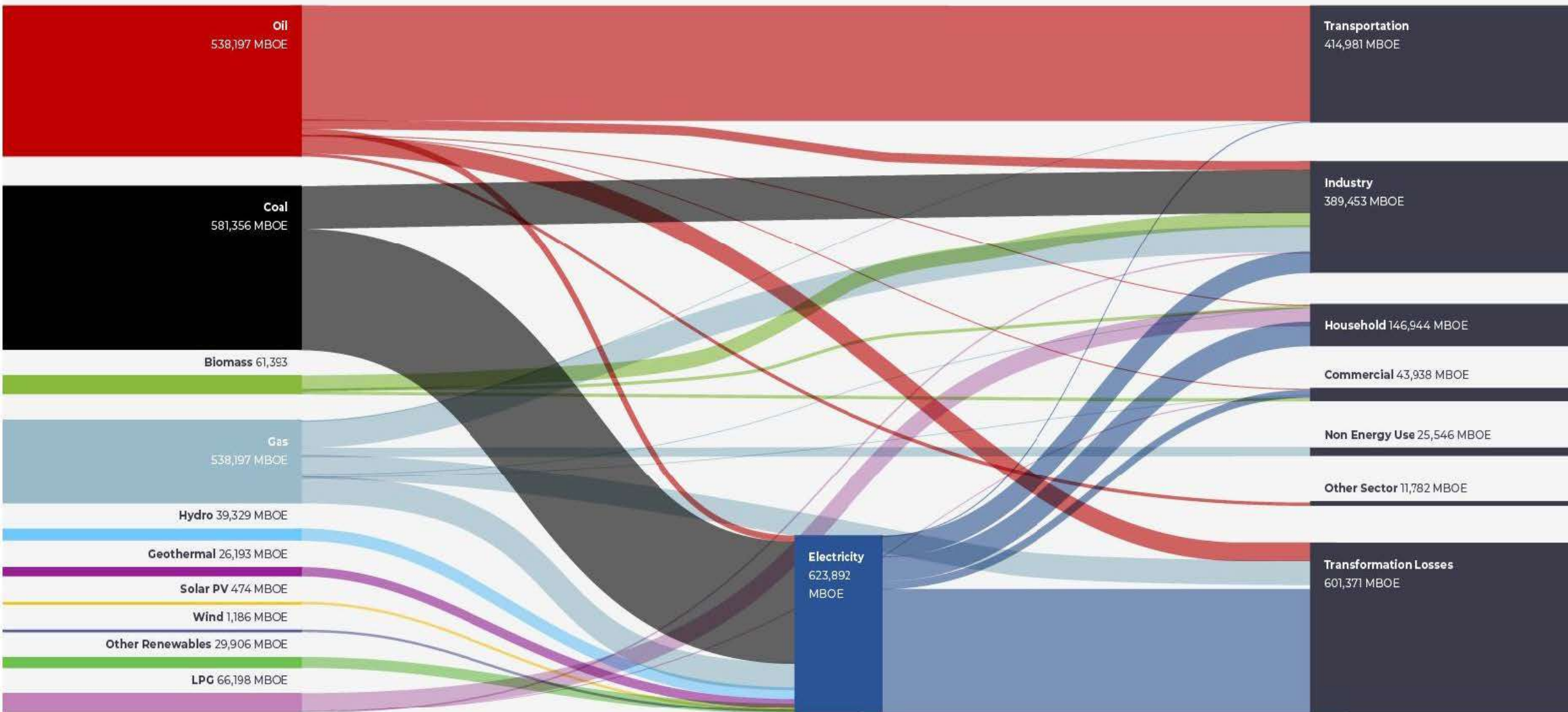
The challenge for Indonesia

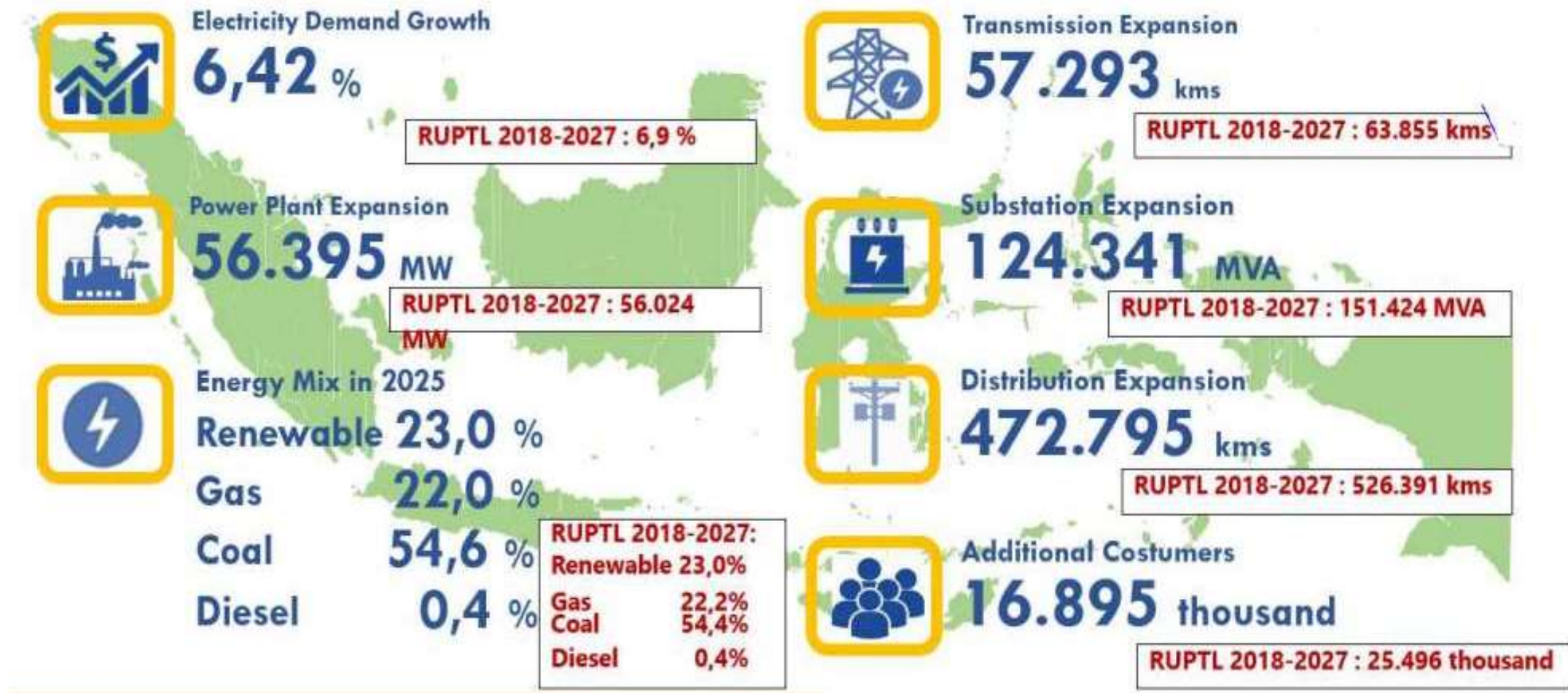
Anton Purnomo
Basel and Stockholm Conventions
Regional Centre for Southeast Asia

17 November 2021
Mercury Science
Minamata Online season 2

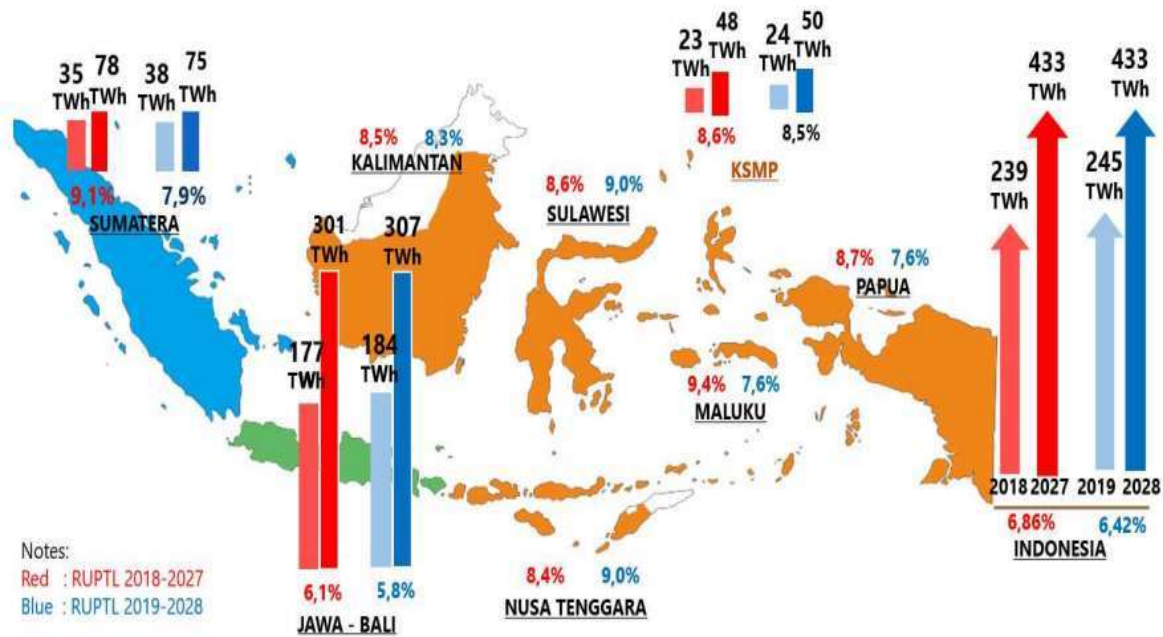


Indonesia primary energy supply and final energy consumption 2019

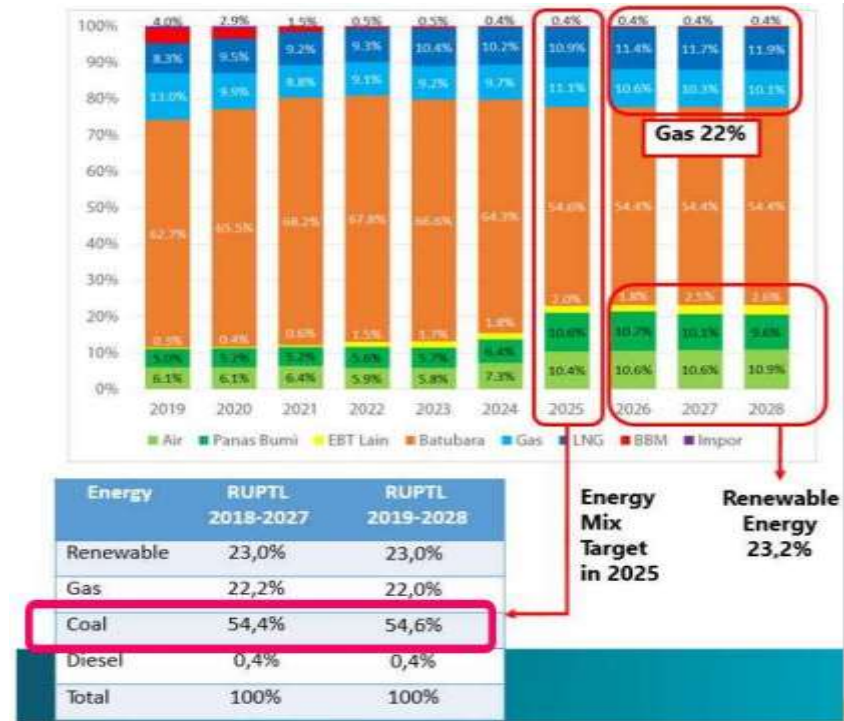




Indonesia Electricity development plan based on Electricity Supply Business Plan (RUPTL) 2019-2028 (MEMR)



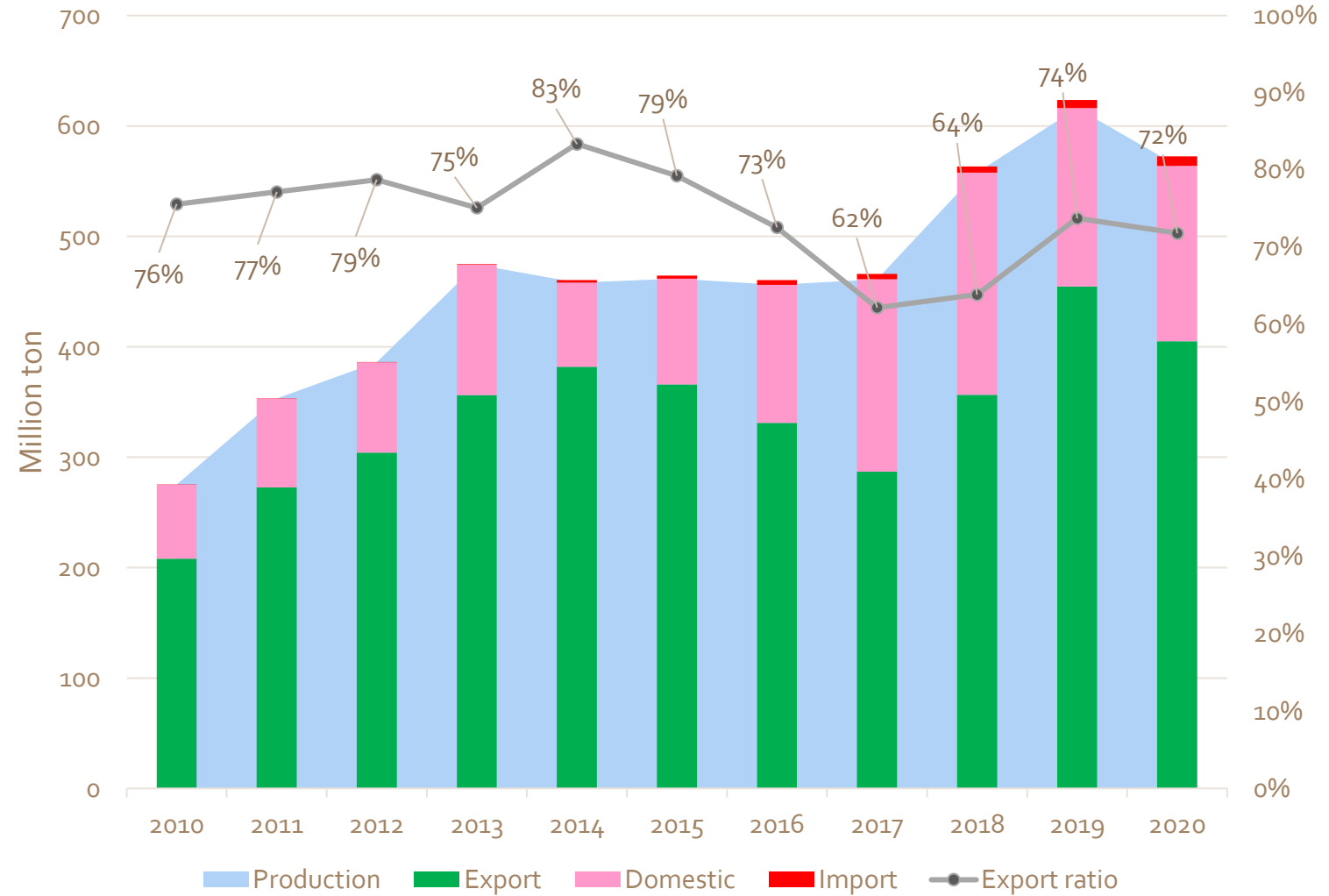
Demand projection based on RUPTL 2019-2028



The energy mix under RUPTL 2019-2028

Coal Sector in Indonesia

- Production of 563 million ton in 2020
- Export 405 million ton in 2020
- Import 8 million ton in 2020 (coking coal)
- Domestic consumption 167 million ton



Coal Production and Use

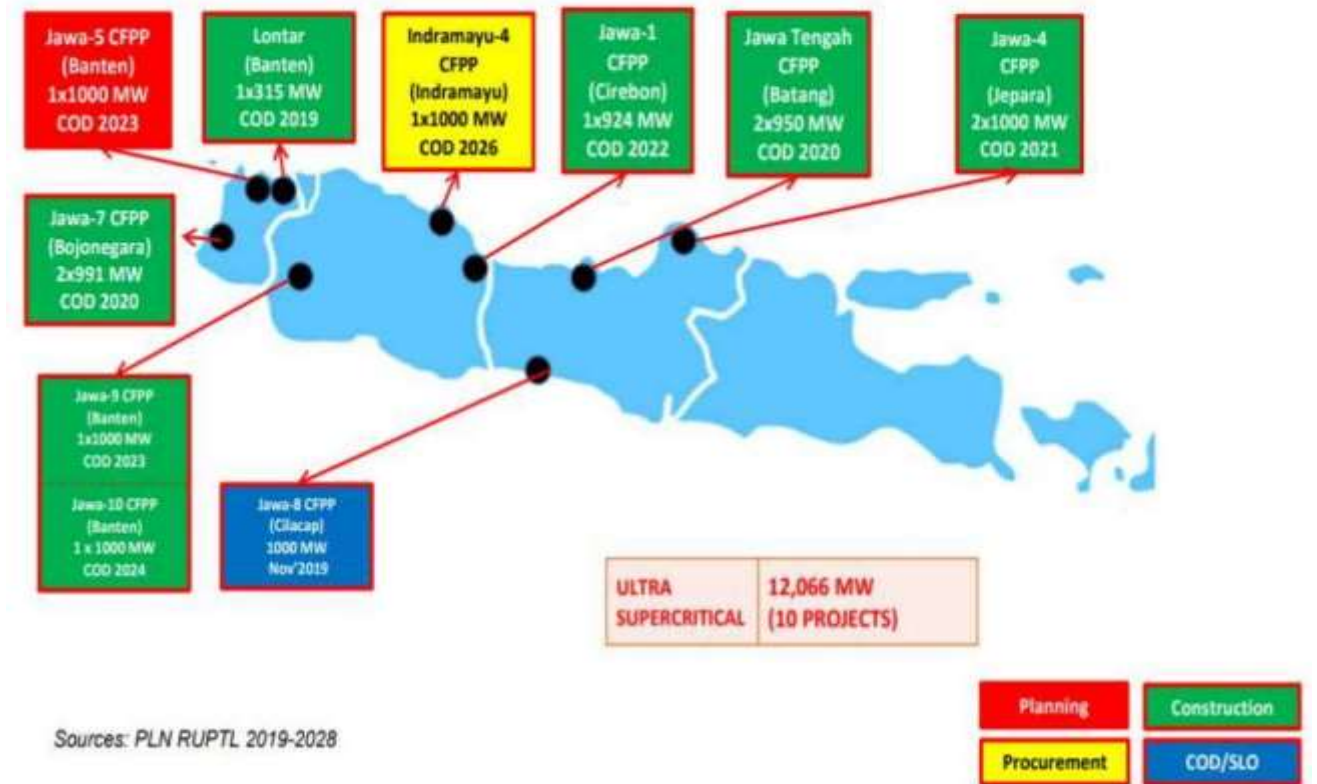
Source: Handbook of Economy and Energy Statistic Indonesia (HEESI), 2020

Indonesian Coal Fleet



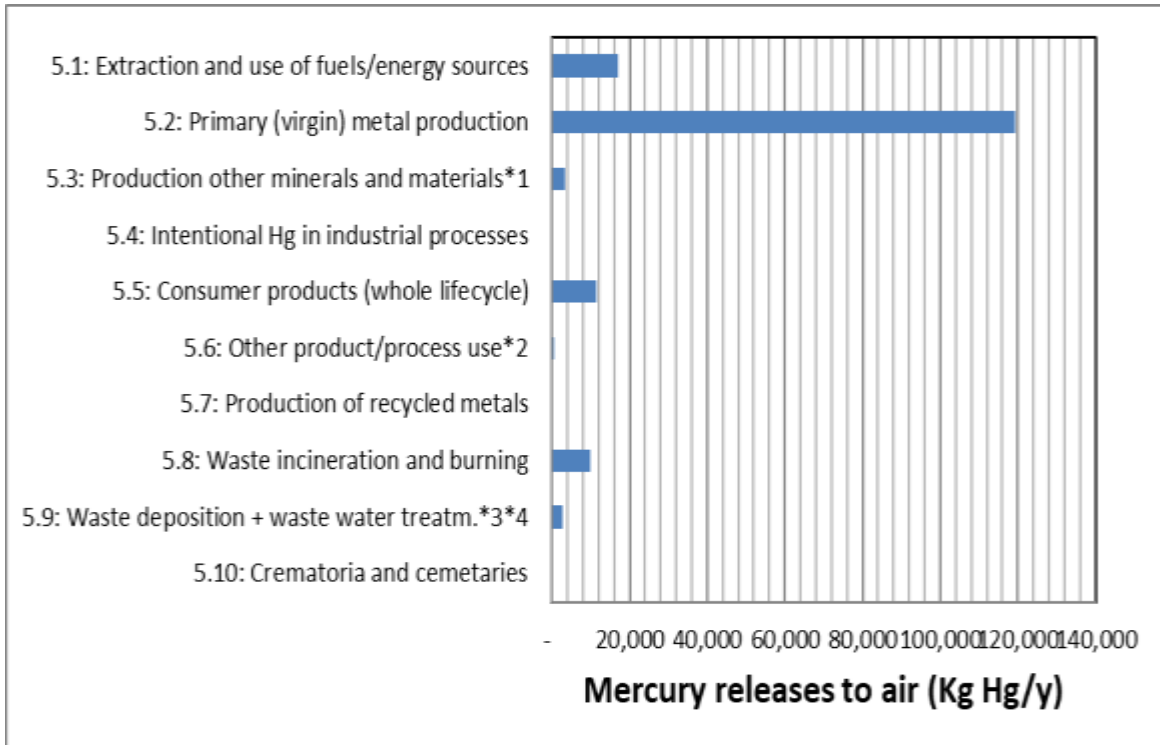
Region	Coal Capacity, MW	
	Mine mouth	Non-mine mouth
Sumatra	4,790	2,530
Java-Bali-Nusra		14,766
Kalimantan	900	1,945
Sulawesi		1,882
Maluku-Papua		250
TOTAL INDONESIA	5,690	21,373

Coal-fired power plant expansion under RUPTL 2019-2028

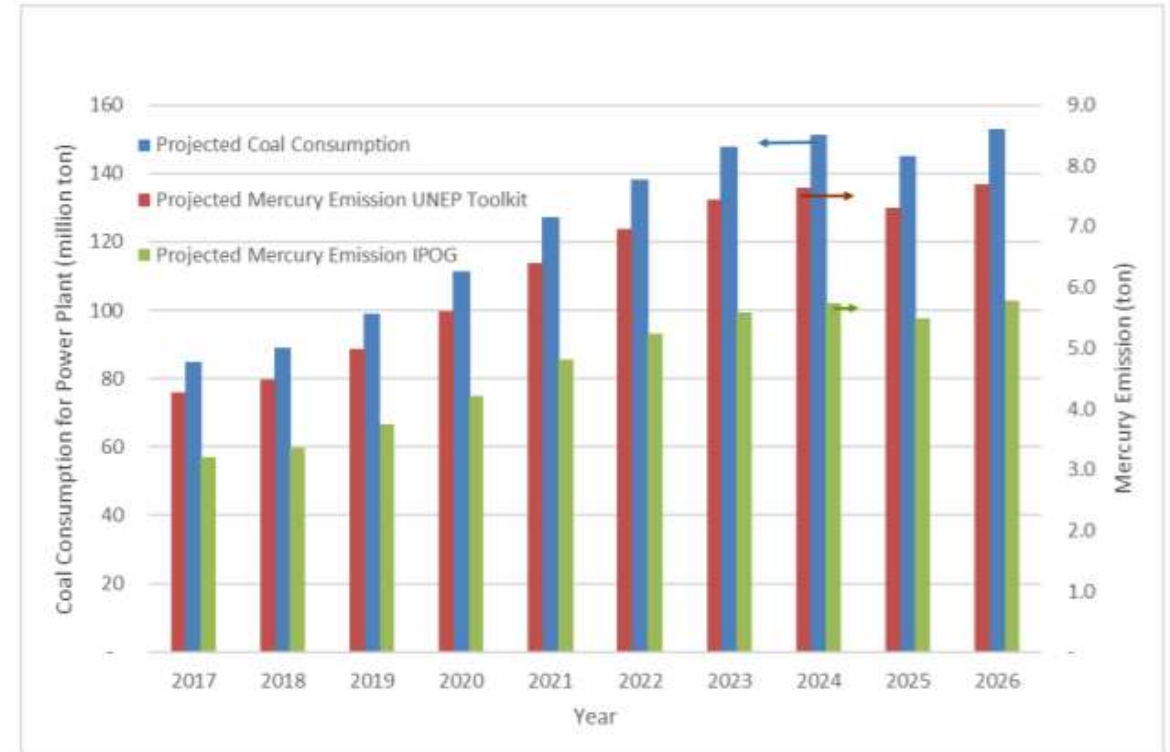


USC coal plants in Indonesia

The challenge for Indonesia



Estimation of mercury release to air using UNEP Toolkit level 2 (Minamata Initial Assessment, 2021)



Mercury emissions from Indonesian coal-fired power plants, 2017-2025 (UNEP, 2017)

The challenge for Indonesia

EMISSION LIMITS FOR COAL-FIRED POWER PLANTS IN INDONESIA

Pollutant	Old emission limit, mg/m ³		New emission limit, mg/m ³	
	Plants operating pre-Dec 2008	Plants operating post-Dec 2008	Existing plants (operating pre-Apr 2019)	New plants (post Apr 2019)
Particulate matter	150	100	100	50
SO ₂	750	750	550	200
NO _x (as NO ₂)	850	750	550	200
Mercury	N/A	N/A	0.03	0.03

The challenge for Indonesia

Article 8 of the convention obliges Indonesia to comply with the following requirements:

- “*New sources*” (those coming online at least 1 year after the ratification date for Indonesia, this means plants becoming operational after September 2018) must apply BAT/BEP (best available technology/best environmental practice) strategies to reduce mercury emissions within 5 years of ratification (therefore by September 2022);
- “*Existing source*” (those not defined as “*new*”, as per the above definition) must apply BAT/BEP within ten years of ratification (by September 2027).



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