



DIRECTORATE GENERAL OF NEW RENEWABLE ENERGY AND ENERGY CONSERVATION
MINISTRY OF ENERGY AND MINERAL RESOURCES
THE REPUBLIC OF INDONESIA



NRE DEVELOPMENT TOWARD NET ZERO EMISSION (NZE)

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On
ReInvest Indonesia Investment Forum 2022 – China



INDONESIA'S NRE POTENTIAL, ELECTRICITY CONSUMPTION & NRE MIX

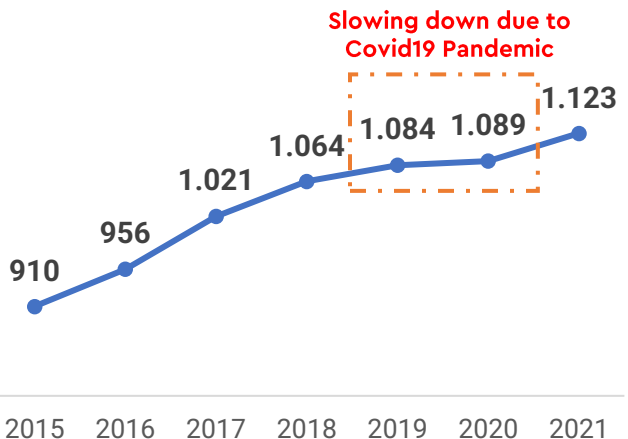
The increasing electricity consumption should be in line with increased NRE utilization

NRE POTENTIAL

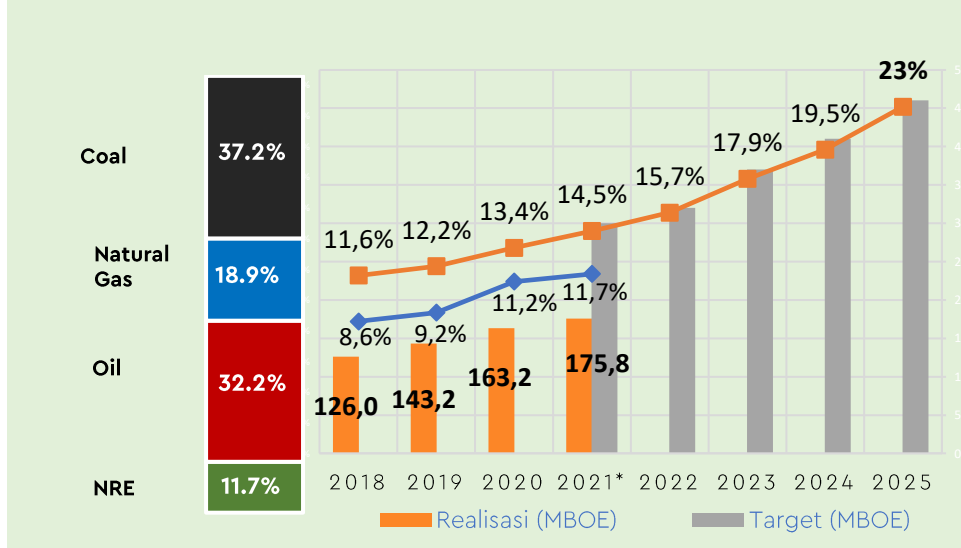
ENERGY	POTENTIAL (GW)	UTILIZATION (MW)
SOLAR	3.295	212
HYDRO	95	6,628
BIOENERGY	57	2,284
WIND	155	154
GEOTHERMAL	24	2,291
OCEAN	60	0
TOTAL	3.686	11,569

ELECTRICITY CONSUMPTION

Unit: kWh/capita



NRE MIX 2021



Indonesia has **abundant, various, and spreading** NRE resource, Currently, **only 0.3% of the total potential has been utilized. The potential of new renewable energy is distributed as follows:**

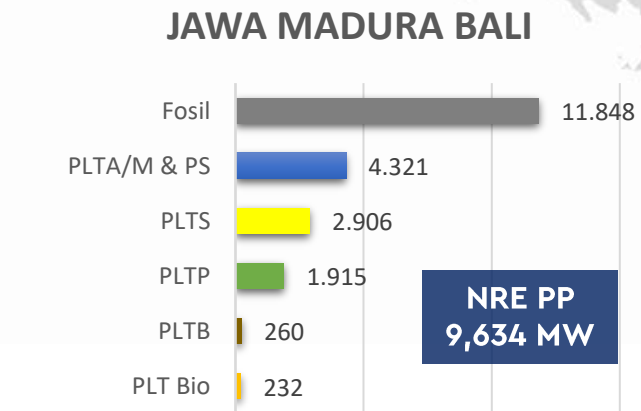
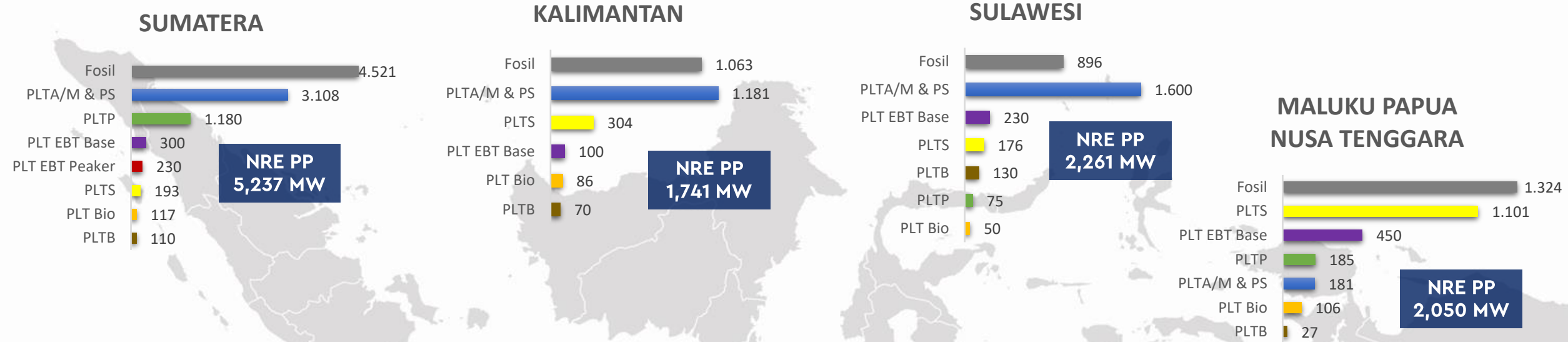
- **Hydro** potential spreads all over Indonesia's areas, particularly in North Kalimantan, NAD, North Sumatra and Papua.
- **Solar** potential spreads all over Indonesia's areas, particularly in East Nusa Tenggara, West Kalimantan and Riau which has higher radiation.
- **Wind** potential (>6 m/s) is particularly located in East Nusa Tenggara, South Kalimantan, West Java, NAD and Papua.
- **Ocean** energy potential spreads all over Indonesia's areas, particularly in Maluku, East Nusa Tenggara, West Nusa Tenggara and Bali.
- **Geothermal** potential spreads in ring of fire areas, including Sumatra, Java, Bali, Nusa Tenggara, Sulawesi, and Maluku.

Acceleration Measures:

- 1 Completion of Pres. Reg. Draft on NRE Tariff
- 2 Implementation of Solar PV Rooftop
- 3 Mandatory Biofuel Utilization
- 4 Fiscal and Non-fiscal Incentives for NRE Projects
- 5 Ease of doing business
- 6 Stimulating demand towards electricity, namely electric vehicle, electric stove

NRE PP DEVELOPMENT PLAN YEAR 2021-2030 - GREEN RUPTL

- NRE additional capacity is targeted to reach 20,9 GW (51,6% of the power plant in RUPTL 2021-2030).
- NRE development has been carried out in accordance with the systems' electricity balance.



No	PP	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
1	Geothermal (PLTP)	136	108	190	141	870	290	123	450	240	808	3,355
2	Large Hydro (PLTA)	400	53	132	87	2,478	327	456	1,611	1,778	1,950	9,272
3	Mini Hydro (PLTM)	144	154	277	289	189	43	-	2	13	6	1,118
4	Solar PV (PLTS)	60	287	1,308	624	1,631	127	148	165	172	157	4,680
5	Wind Turbine (PLTB)	-	2	33	337	155	70	-	-	-	-	597
6	Bioenergy (PLT Bio)	12	43	88	191	221	20	-	15	-	-	590
7	NRE PP - Base	-	-	-	-	-	100	265	215	280	150	1,010
8	NRE PP - Peaker	-	-	-	-	-	-	-	-	-	300	300
Total		752	648	2,028	1,670	5,544	978	991	2,458	2,484	3,370	20,923

OPPORTUNITIES FOR INVESTMENTS IN NRE

Encouraging economic growth and employment

01



SOLAR PV ROOFTOP

Additional Capacity until 2025 : 3.61 GW
GHG Emission Reduction : **5.4 million tons CO2e**
Investment Required : **3 Billion USD**

Investment opportunity through:

- Installing Solar PV Rooftop on Buildings and Houses
- Installing Solar PV Rooftop in Industries

02



LARGE SCALE SOLAR PP

Additional Capacity until 2030 : 4.68 GW
GHG Emission Reduction : **6.97 million tons CO2e**
Investment Required : **3.2 Billion USD**

Investment opportunity through:

Offer on Solar PP Quota from PT PLN (Persero)

03



HYDRO PP

Additional Capacity until 2030 : 104 GW
GHG Emission Reduction : **46.46 million tons CO2e**
Investment Required : **25.63 Billion USD**

Investment opportunity through:

Development of Large Scale, Mini, Micro Hydro and *Pump storage*

04



NRE PP - BASE

Additional Capacity until 2030 : 1.01 GW
GHG Emission Reduction : **4.51 million tons CO2e**
Investment Required : **5.49 Billion USD**

Investment opportunity through:

NRE PP which can fulfill baseload generation needs, i.e. Geothermal PP

05



GEOTHERMAL PP

Additional Capacity until 2030 : 3.35 GW
GHG Emission Reduction : **22.4 million tons CO2e**
Investment Required : **17.35 Billion USD**

Investment opportunity through:

- Offer on Working Area dan Geothermal PSPE Area
- Implementation of geothermal supporting industries and services

06



BIOENERGY PP

Additional Capacity until 2030 : 590 MW
GHG Emission Reduction : **4.61 million tons CO2e**
Investment Required : **2.2 Billion USD**

Investment opportunity through:

Development of Biomass, Biogas, and Waste PP

07



WIND PP

Additional Capacity until 2030 : 597 MW
GHG Emission Reduction : **2.22 million tons CO2e**
Investment Required : **1.03 Billion USD**

Investment opportunity through:

Development of Wind PP by through offers from PT PLN (Persero)

08



NRE PP - PEAKER

Additional Capacity until 2030 : 300 MW
GHG Emission Reduction : **2.01 million tons CO2e**
Investment Required : **0.28 Billion USD**

Investment opportunity through:

Utilization of NRE PP – Peaker quota listed on the electricity balance i.e. *Battery Energy Storage System (BESS)*

Thank you

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