ENHANCED SUSTAINABLE FINANCING FOR INVESTMENT IN RENEWABLE ENERGY AND INFRASTRUCTURE DEVELOPMENT

PLTS Pulau Messa, Nusa Tenggara Timur

ISO 37001 ANTI-BRIBERY MANAGEMENT
ISO
37001

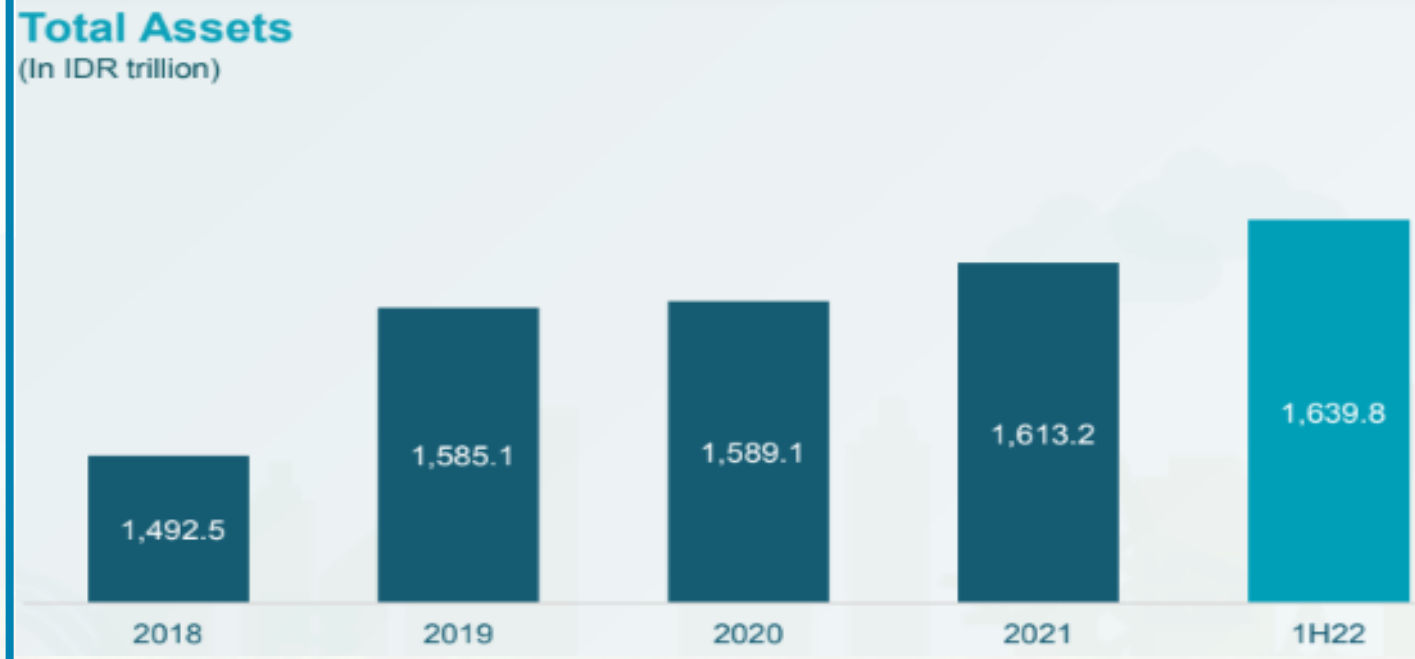
Sistem Manajemen
Anti Penyuapan (SMAP)

Energy Transition in PLN

PLN as the heart of Indonesia, keep growing on progressive beat to encourage development of Indonesia

"PLN is the heart of Indonesia. Because electricity is the center of economic growth. That's why, like or not, industrialization requires electricity."

Minister of State-Owned Enterprises, September 21 2022



PLN has six strong characteristics for investments

1. Strong government support
2. Experienced board and management team
3. Solid national fundamentals driving strong electricity demand
4. Well-positioned for growth
5. Efficient operations with continuing improvement
6. Strong and stable credit statistics

Company Overview

> PLN is Indonesia's state-owned electric utility company (generation, distribution, transmission and other services related to electricity), wholly-owned by the Government of the Republic of Indonesia through the Ministry of State-Owned Enterprises

A fully-integrated Indonesian electric utility company since Jan 2023

100% owned by the Government of Indonesia

Holding

PLN

Sub Holding

As of Jan 1, 2023

- 99.99% — PLN Indonesia Power — **PT. PLN Indonesia Power** — Power Generation
- 99.99% — PLN Nusantara Power — **PT. PLN Nusantara Power** — Power Generation
- 99.99% — PLN Icon Plus — **PT PLN Icon+** — Telecommunication Provider
- 99.99% — PLN Energi Primer Indonesia — **PT PLN Energi Primer Indonesia** — Coal Supplier
  - 99.99% — BAg — **PT Pelayaran Bahtera Adhiguna** — Shipping Activities
  - 99.99% — PLN GAS & GEOTHERMAL — **PT PLN Gas & Geothermal** — Geothermal Generation

Sub Holding | N-1 Sub Holding

Subsidiaries

- 100% — Majapahit Holding BV — **Majapahit Holding B.V.** — Financial Institution
- 99.99% — Trusted PLN-T — **PT PLN Tarakan** — O&M, Engineering Service in Eastern Indonesia
- 99.99% — Haleyora Power — **PT Haleyora Power** — O&M, Engineering Service in Western Indonesia
- 99.99% — bright. PLN Batam — **PT PLN Batam** — Regional Fully Integrated Electric Utility
- 99.99% — PT. EMI (Persero) Energy Management Indonesia — **PT Energy Management Indonesia** — New Renewable Energy Utilization
- 95,00% — MCTN — **PT Mandau Cipta Tenaga Nusantara** — Electricity Co-Generation
- 99.99% — PLN ENJINIRING — **PT PLN Enjiniring** — Engineering & Construction Services

N-1 subsidiary

Number of Employees

51.411 (42.071 Holding & 9.340 Subsidiary)

Total Assets of Q3 2022

USD 106 mio (equivalent to 1.624 Tn IDR)

Issued and Fully Paid Capital

USD 9,5 bio (equivalent to 145,5 Tn IDR)

Bonds Code

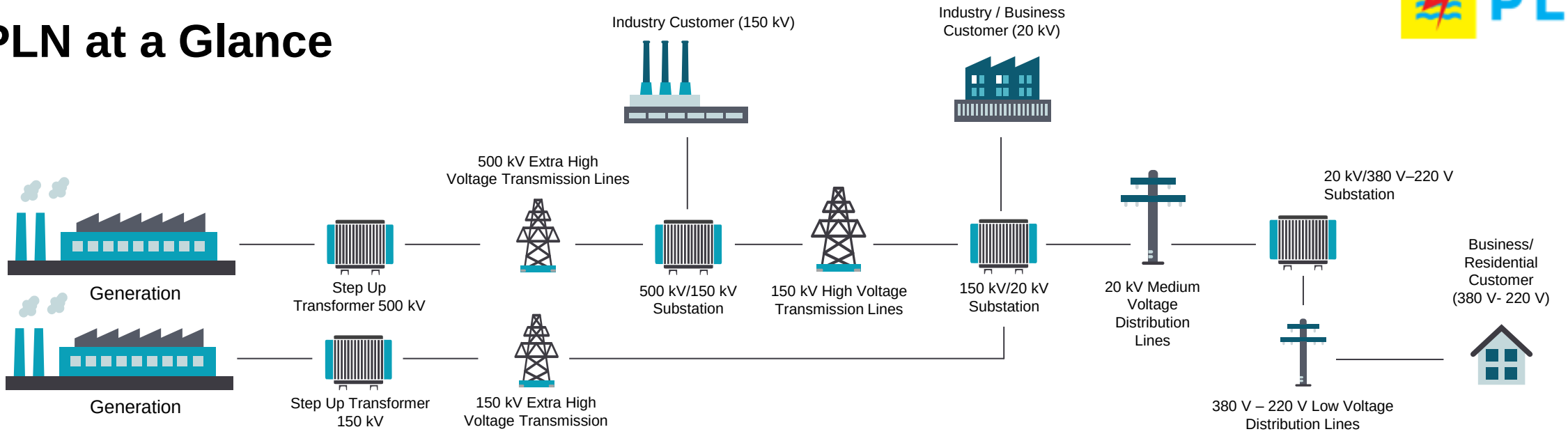
PPLN

Exchange rate 1 USD = IDR 15.260

Central Government Oversight

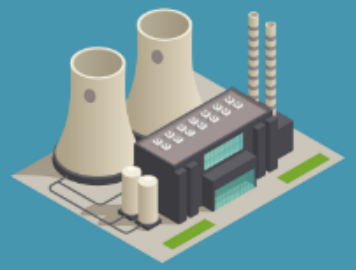
- Ministry of State Owned Enterprises (MSOE)
- Ministry Of Energy and Mineral Resources (MEMR)
- Ministry Of Finance (MOF)
- Ministry Of the Environment & Forestry (MOEF)
- Ministry Of National Development Planning Authority

PLN at a Glance



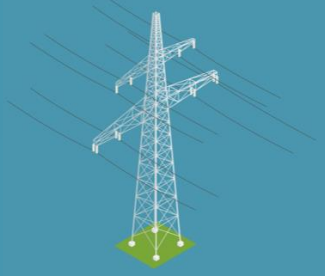
Installed Capacity

69 GW



Transmission Length

68,2 k KMS



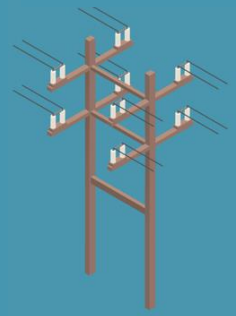
Substation Capacity

161,617 MVA

2,327 UNIT

Distribution Length

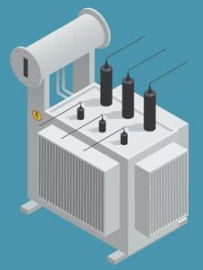
1 Mio KMS



Distribution Substation Capacity

65,508 MVA

551,303 UNIT



Electrification Ratio

99.63 %

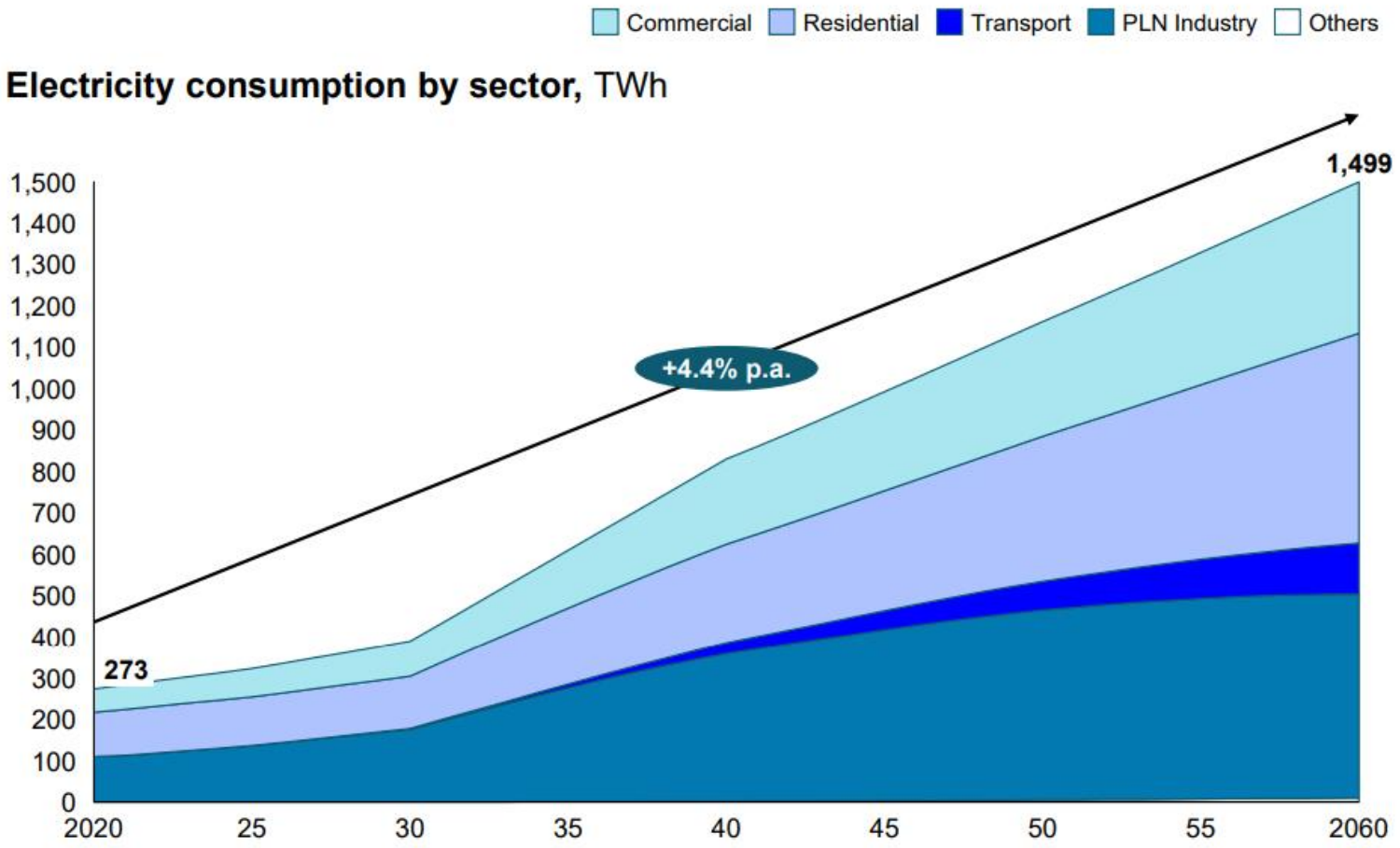
Self-Production	Buy	Rent
44.747,19	23.109,08	1.115,91

EMPLOYEES
~51,000

CUSTOMERS
~85 Mio

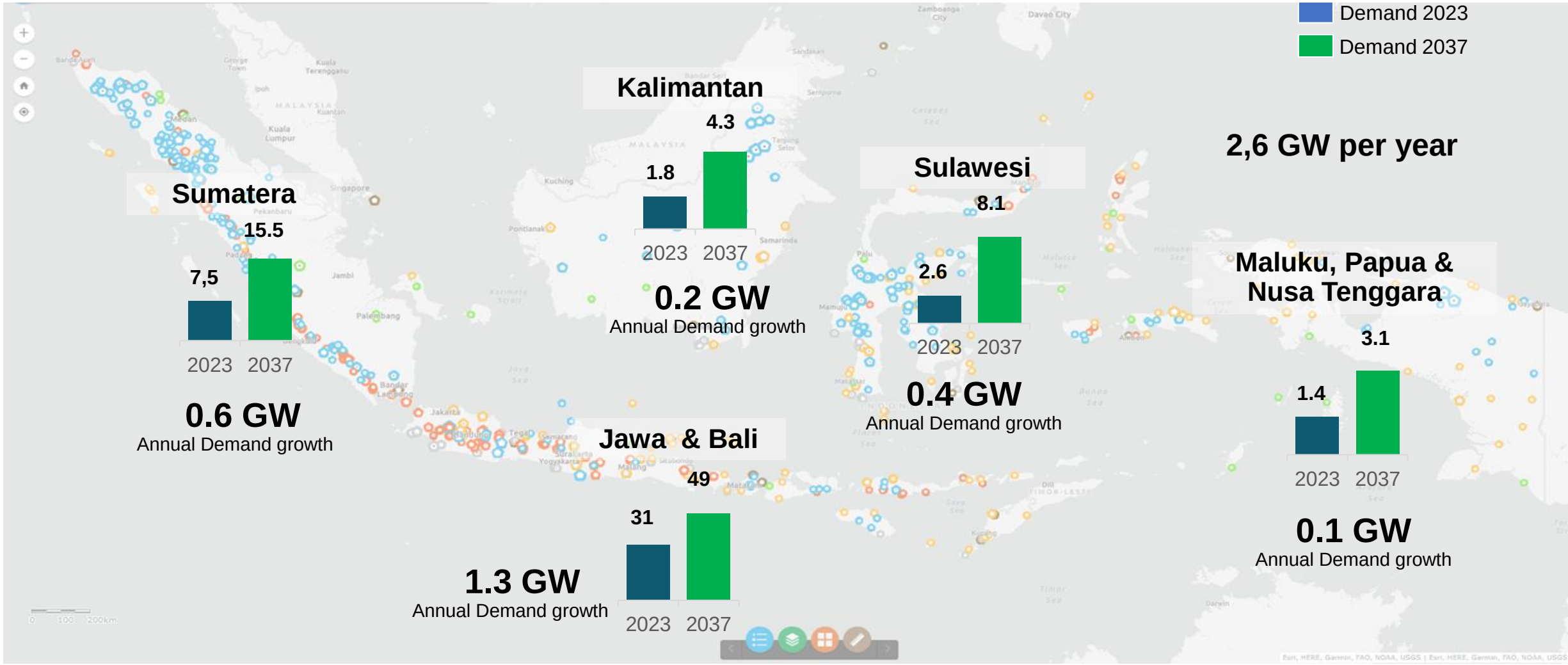
Source: SILM Period: Jan 2023

In 2060, the projected electricity demand in Indonesia is projected to be ~1499 TWh with an average growth of 4.4% p.a



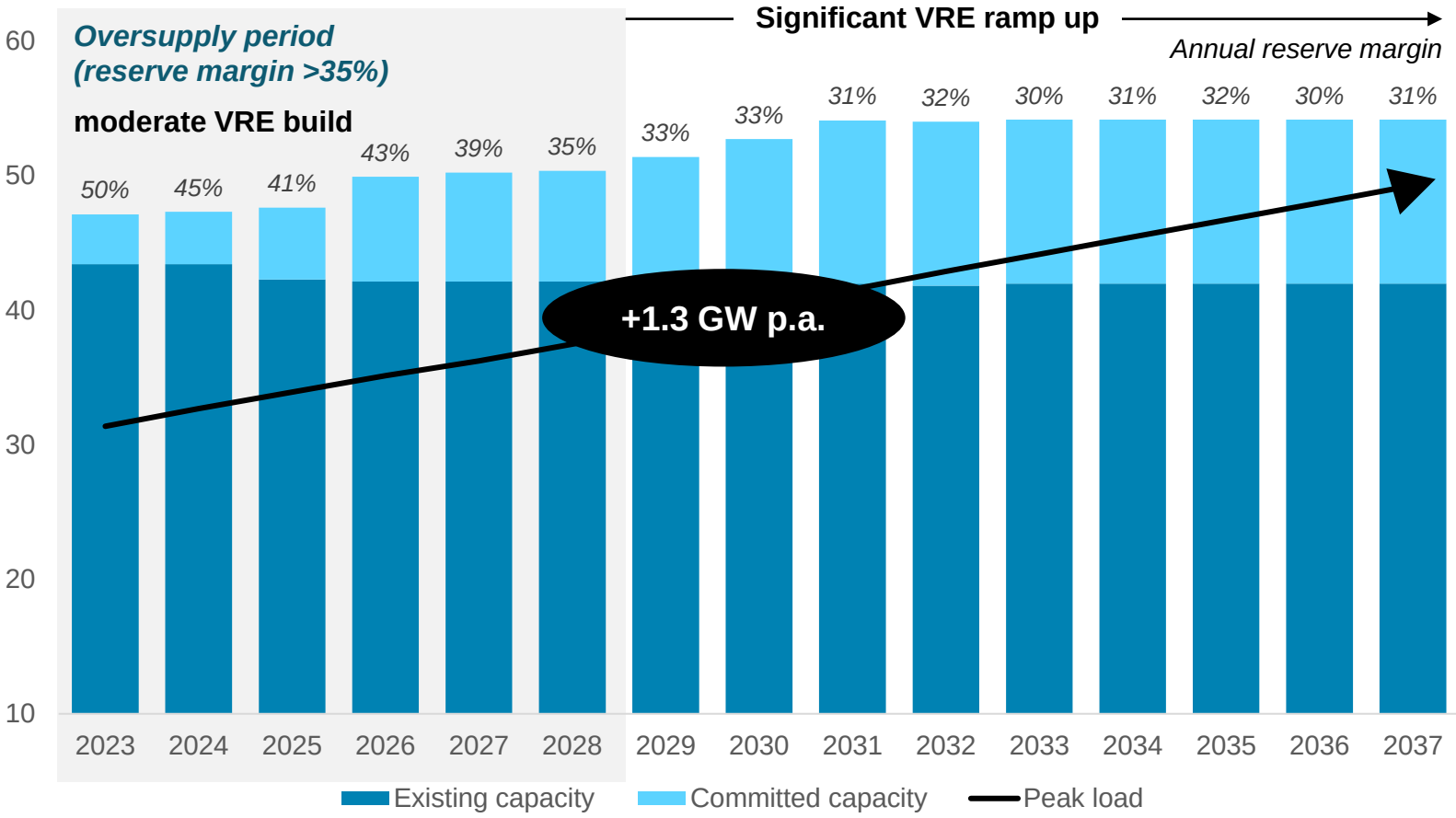
- PLN's demand projection is in line with the national demand projection for the electricity sector from the Ministry of Energy and Mineral Resources.
- The projection used is a bottom up electricity consumption approach, namely by considering the growth and technology mix at the sub-sector level (for example, electric stoves for households) used in main activities in Indonesia.
- The acceleration was mainly driven by 3 sectors namely: household, industrial and commercial.
- The decline in demand due to rooftop solar adoption has been accounted for the residential, commercial and industrial sectors.

Growing electricity: demand 2023 vs. 2037 across the archipelago, in GW



Java-Bali demand is growing at 1.3 GW per year, however will still experience oversupply up until 2029; Therefore, VRE development will become more prominent post 2030

Supply-demand balance of Java-Bali system, GW



Key insights:

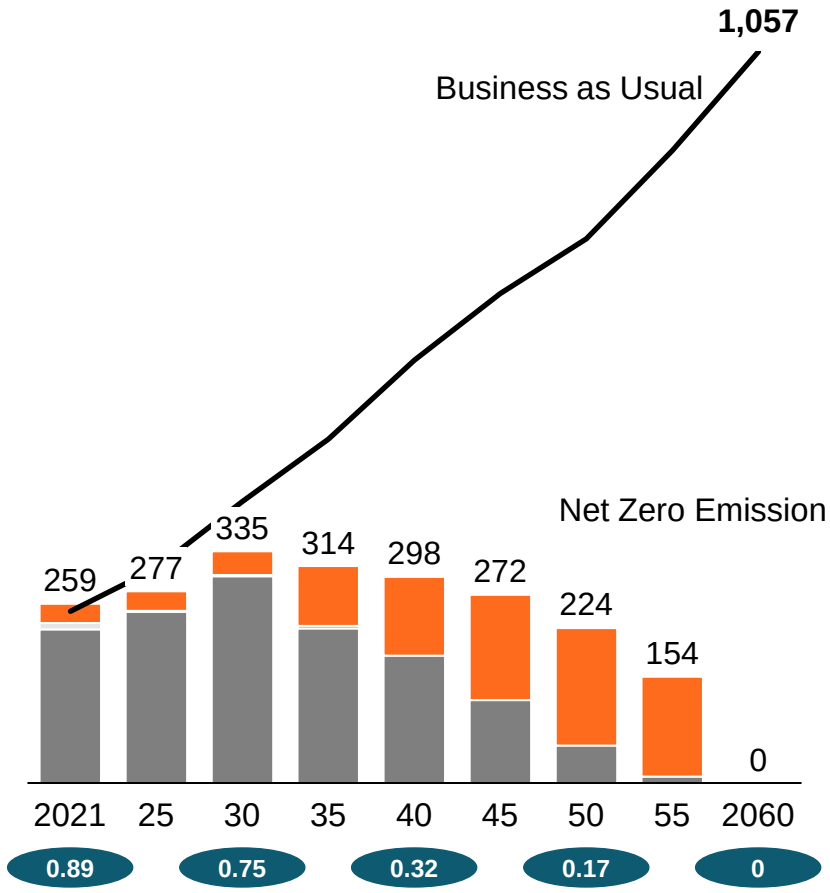
- Java and Bali requires 1.3GW additional capacity on per year basis
- Before 2030, VRE has been a part of additional capacity development (~3GW) – however, will become more prominent post 2030
- Increasing VRE penetration need control center enhancement

PLN is committed to achieving Net Zero Emissions in 2060

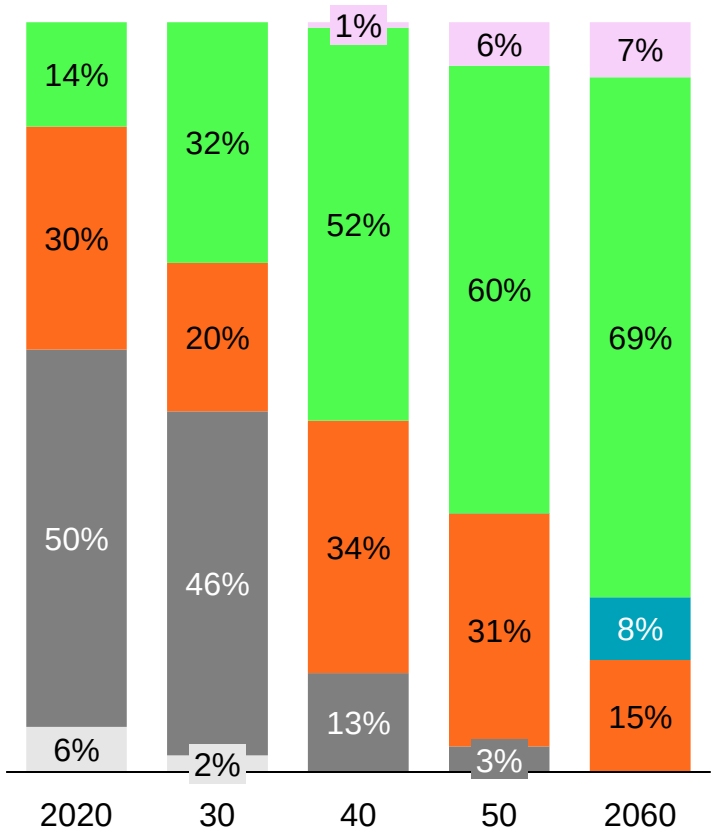
xx **emission intensity,** tCO2/MWh

New energy | RES | Coal CCS[3] + Gas CCS | Gas[2] | Coal | Oil & Others

Energy sector CO2 projections, billion tCO2e/year



Capacity share based on technology for net zero emission scenario[1], %



1. Disruptive scenario, after September the power model is run assuming a projected load of 1499 TWh
2. Gas with hydrogen co-firing up to 65% in 2060
3. CCS coal with co-firing biomass up to 19% in 2060

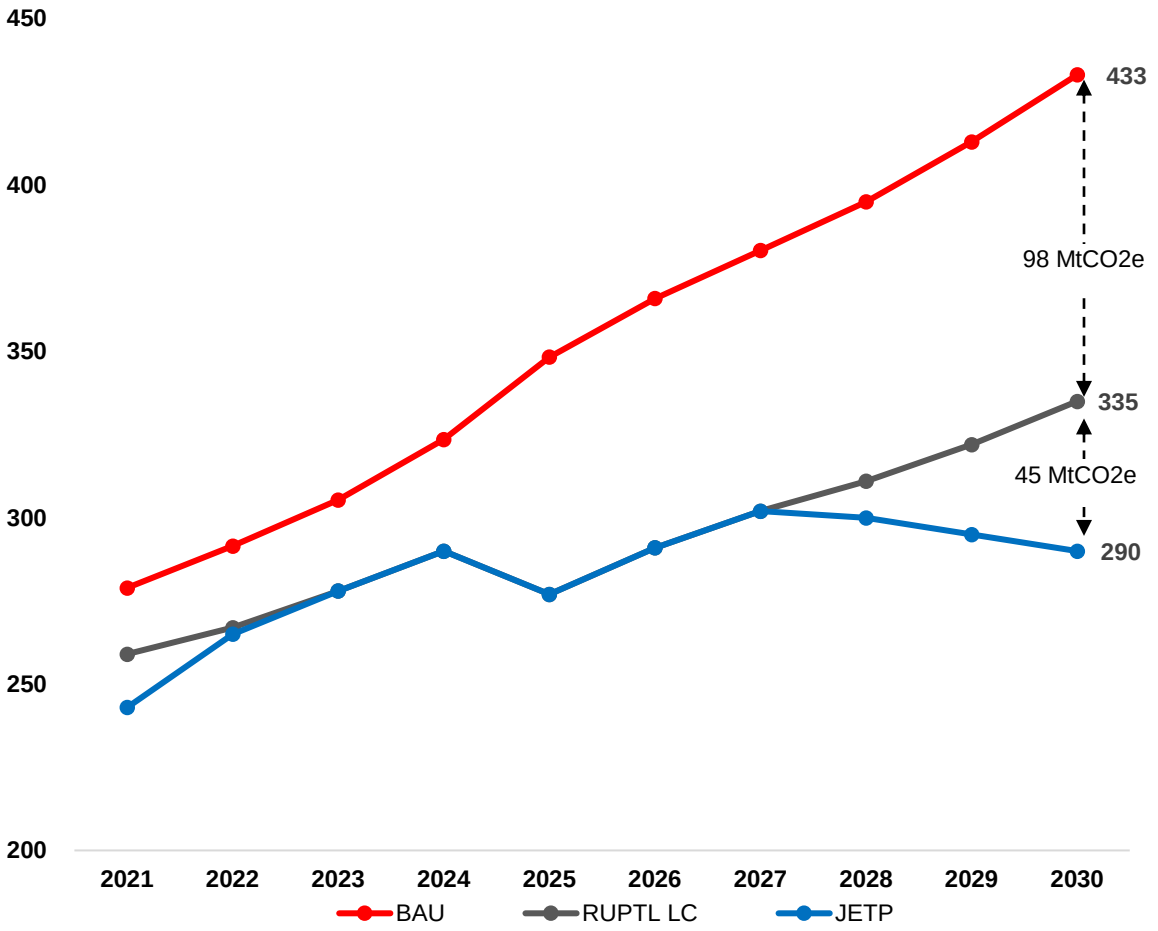
PLN is on its way to becoming a clean energy company

PLN increases generating capacity to support economic growth & electricity demand

PLN focuses on expanding renewable energy generators

PLN is carrying out extraordinary initiatives that will reduce CO2 emissions by more than 98 million tones by 2030, in line with Indonesia's NDC

Emission rate in different scenarios (Mn ton CO2)



CO2 mitigation actions under NDC

- Cancellation of new 13.3 GW coal-fired power plant planned in RUPTL 2019-2028
- Addition of NRE generators with a total capacity of 20.9 GW
- Cofiring of biomass in 52 coal-fired power plants by 2025
- Additional natural gas-based power plants with a total capacity of 5.8 GW and gasification of natural gas-based power plants

NDC : Nationally Determine Contribution

PLN is committed to the environment, utilizing clean energy and implementing energy transition in the RUPTL 2021-2030, by reducing coal power plants. In November 2022, Indonesia JETP plans to mobilize USD $20 Bn to accelerate the energy transition.

November 15, 2022

Indonesia Just Energy Transition Partnership **(JETP) joint statement**

- Aspiration to limit power sector emissions to **290 $MtCO_2$ in 2030** and **net zero in 2050**
- **20 Bn USD funding** for the fossil decarbonization and renewable expansion
- Increasing r**enewable energy mix by 34% by 2030**

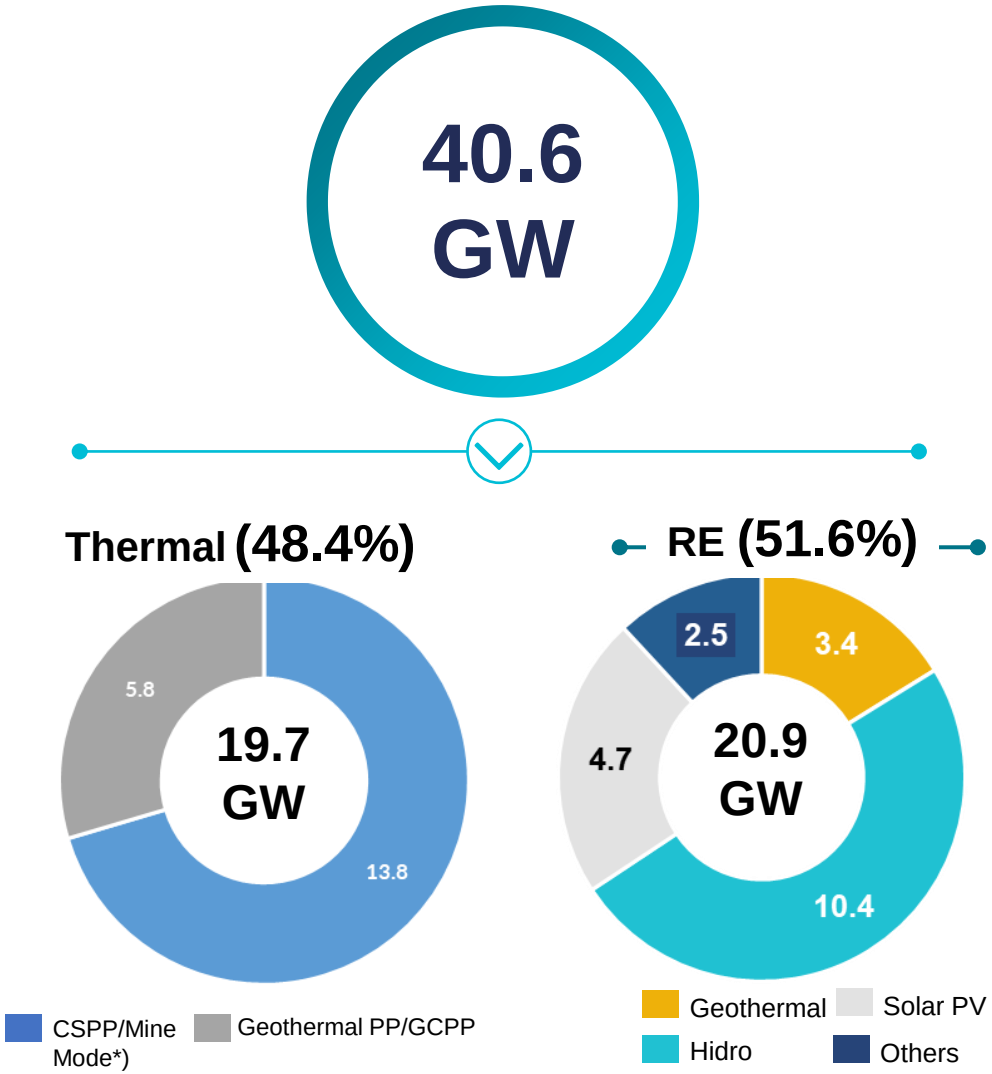
February 16, 2023

Launching of JETP secretariat

February 17, 2023

PLN presentation to IPG

Based on RUPTL 2021-2030, 51.6% of Power Development Plan is Renewable Energy



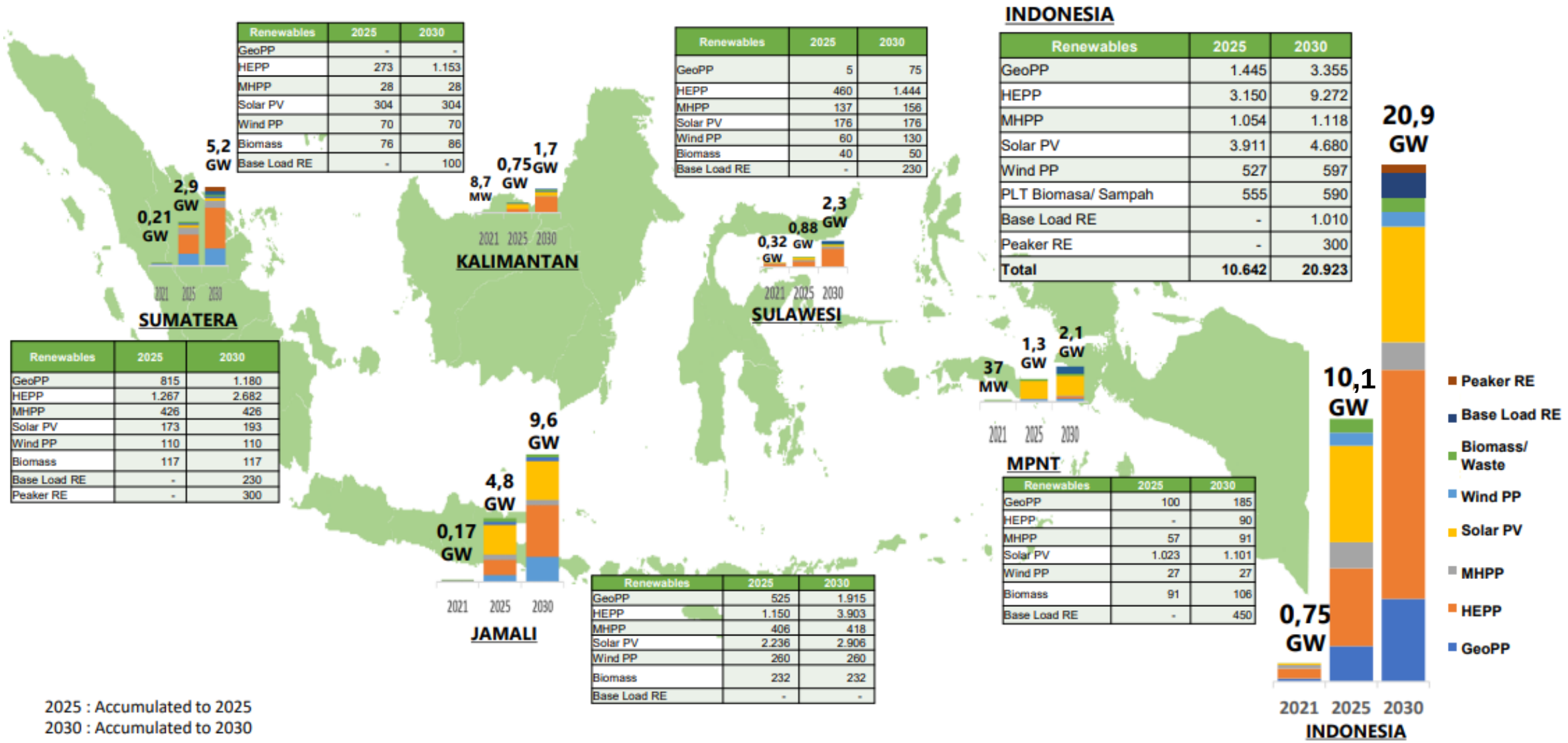
Notes :
*) Existing Contract, Construction Stage

Total Capacity and Energy Mix

	2022	2025	2030
Total Capacity (GW)	69	90	99
RE Capacity (GW)	8.5	18.6	28.9
Energy Mix (%)	13.14	23	24.8

1. In order to achieve energy mix target NRE 23%, additional RE capacity of 10.1 GW is needed.
2. Under over supply condition that is expected to be totally utilized in 2029, development strategy of renewable in short term based on initiative cofiring biomass CSPP is used to increase the energy mix and in midterm focused on baseload renewable such as hydro and geothermal while optimizing development of VRE.
3. Smart grid and upgrading control centers and methodology are build for mitigating high penetration due to unfirm energy sources, intermittency and lack of inertia.

Renewable Energy Development Plan 2021-2030 across Indonesia



Renewables	2025	2030
GeoPP	-	-
HEPP	273	1.153
MHPP	28	28
Solar PV	304	304
Wind PP	70	70
Biomass	76	86
Base Load RE	-	100

Renewables	2025	2030
GeoPP	815	1.180
HEPP	1.267	2.682
MHPP	426	426
Solar PV	173	193
Wind PP	110	110
Biomass	117	117
Base Load RE	-	230
Peaker RE	-	300

Renewables	2025	2030
GeoPP	5	75
HEPP	460	1.444
MHPP	137	156
Solar PV	176	176
Wind PP	60	130
Biomass	40	50
Base Load RE	-	230

Renewables	2025	2030
GeoPP	525	1.915
HEPP	1.150	3.903
MHPP	406	418
Solar PV	2.236	2.906
Wind PP	260	260
Biomass	232	232
Base Load RE	-	-

Renewables	2025	2030
GeoPP	100	185
HEPP	-	90
MHPP	57	91
Solar PV	1.023	1.101
Wind PP	27	27
Biomass	91	106
Base Load RE	-	450

INDONESIA

Renewables	2025	2030
GeoPP	1.445	3.355
HEPP	3.150	9.272
MHPP	1.054	1.118
Solar PV	3.911	4.680
Wind PP	527	597
PLT Biomasa/ Sampah	555	590
Base Load RE	-	1.010
Peaker RE	-	300
Total	**10.642**	**20.923**

2025 : Accumulated to 2025
2030 : Accumulated to 2030

PLN has started the journey to achieve net zero emission by 2060

Net Zero Emissions Aspirations for 2060

Switching from high carbon power generation

A

Short term goals (2021-30): Deliver on NDC

- NRE
- De-dieselization
- Coal plant retirement
- Biomass co-firing
- Energy efficiency & grid loss improvement
- Gas expansion
- Clean coal

B

Long term goal (2031-60): Achieve Net Zero Emissions

- Renewables + Battery Storage + Interconnections
- Hydrogen co-firing
- Carbon Capture Utilization & Storage (CCUS)
- Additional coal plant retirement

Growth is supported by new technology / business

C

Develop technology and supporting ecosystem

- Electric Vehicles
- Rooftop solar
- Energy as a Service
- REC1 / Carbon credits
- Emissions trading scheme

D Build new internal capabilities and technologies supported by innovation, financing and policies

The total investment cost is over USD 724 billion to reach NZE by 2060

PLN, voluntary using its own initiative, **has made heroic efforts before JETP through the Greenest RUPTL,** which emphasizes **on** decarbonizing fossil fuel-based power plants and developing renewables because PLN do really care

xx **Cumulative emissions avoidance / reduction** (in TCO2)

PLN heroic efforts so far:

Decarbonize fossil fuel-based power plants

Cancellation of 13.3 GW new coal power plant planned in RUPTL 2019-2028

Cancellation of 1.3 GW PPA of coal power plant under the Greenest RUPTL pipeline

Replace 1.1 GW of coal with RE and 800MW of coal with natural gas

Biomass cofiring at 36 coal-fired power plants and up to 52 plants by 2025

1 GW De-dieselization program

Piloted Indonesia's first carbon trading trial in 26 PLN powe plants

Expand renewable capacity and its supporting systems

Plan and develop 21 GW renewables plants under the Greenest RUPTL

Roll-out smart grid & control system in several islands

Develop green ecosystem

Enable renewable consumption through Green energy as a service

Expand electric vehicles ecosystem (~600 units charging stations to date)

Total cumulative emissions reduction and avoidance

3.7 Bn Ton of CO2

PLN has identified various projects with a total CAPEX requirement of USD ~150 billion, where JETP can be a part of funding sources.

1. **De-dieselization.** 1 GWp solar PV to replace diesel, CAPEX USD 1.2 Bn
2. **Early retirement CSPP (before 2030).** 5.5 GW, USD 4.2 Bn
3. **Renewable baseload.** 32.5 GW, CAPEX USD 65 Bn
4. **Variable renewable energy.** 26 GW, CAPEX USD 77 Bn
5. **Green energy enabling transmission system.** CAPEX USD 7.7 Bn
6. **New Energy.** 3 GW, CAPEX USD 17 Bn
7. **Advanced control center.** CAPEX USD 143.5 Mn
8. **Smart grid.** USD 40 Mn
9. **Capability and capacity building.** USD 20 Mn
10. **Technical assistance for innovative technology solutions.** USD 20 Mn

PLN will carry out an Energy Transition including in the Upstream Electricity Sector - Generation

ENERGY	POTENCY (GW)	UTILIZED (GW)
SOLAR	3.295	0,09
HYDRO	95	5,6
BIOENERGY	57	0,14
WINDFARM	155	0,13
GEOTHERMAL	24	2,53
WAVE ENERGY	60	0
TOTAL	3.686	8,5

The utilization of NRE is currently only 0.2% of the total potential. Indonesia has large, varied and scattered NRE resources:

- **Hydro potential is spread throughout Indonesia, especially in Kaltara, NAD, Sumbar, Sumut, dan Papua**.
- **Solar potential is spread throughout Indonesia, especially in NTT, Kalbar, dan Riau** have higher radiation.
- **Wind potential (>6 m/s) is mainly in NTT, Kalsel, Jabar, Sulsel, NAD dan Papua**.
- **Geothermal potential is spread in the ring of fire area, covers Sumatera, Java, Bali, Nusa Tenggara, Sulawesi, dan Maluku**.
- **Marine Energy potential is spread throughout Indonesia, which can be in the form of energy from ocean currents, ocean waves, tides, or from differences in sea temperature.**

Existing Power Plant

Thermal PP
60,5 GW

NRE PP
8,5 GW

TOTAL
69 GW

Energy Transition

Power Plant Projection (2060)

Renewable Energy
416 GW

CCS
48 GW

New Energy[1]
132 GW

TOTAL
596 GW

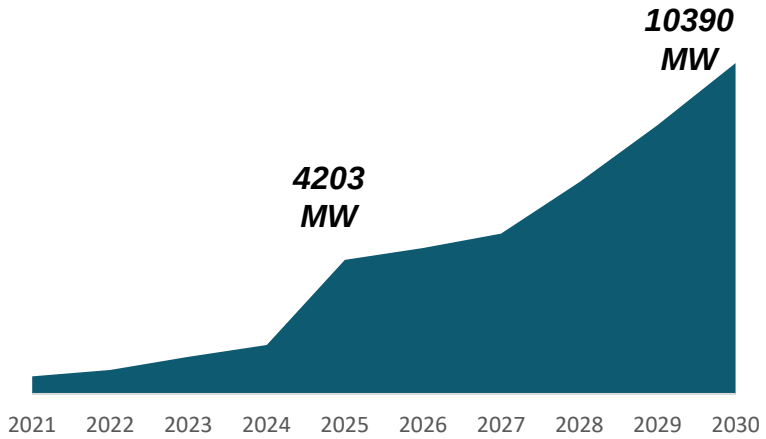
Data NREKE

1. H2 Cofiring & Nuclear

Progress of NRE Power Plant Development until March 2023

Based on RUPTL 2021-2030

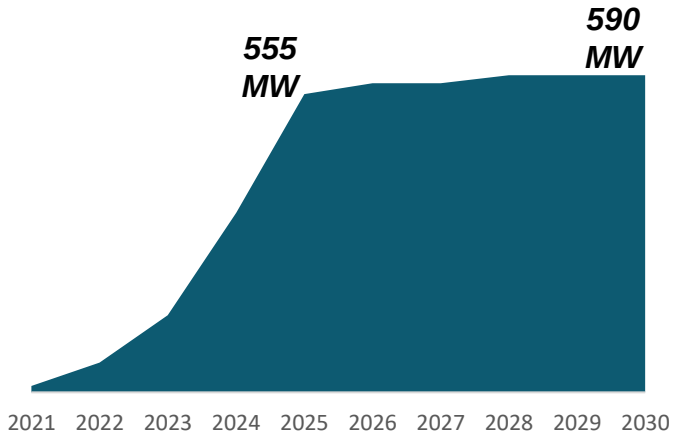
Hydro PP additional capacity target

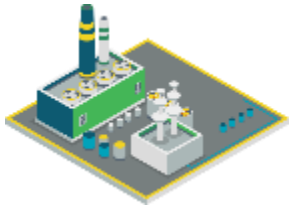


Total COD: 538 MW

PPA & Construction: 2724 MW

Bioenergy PP additional capacity target

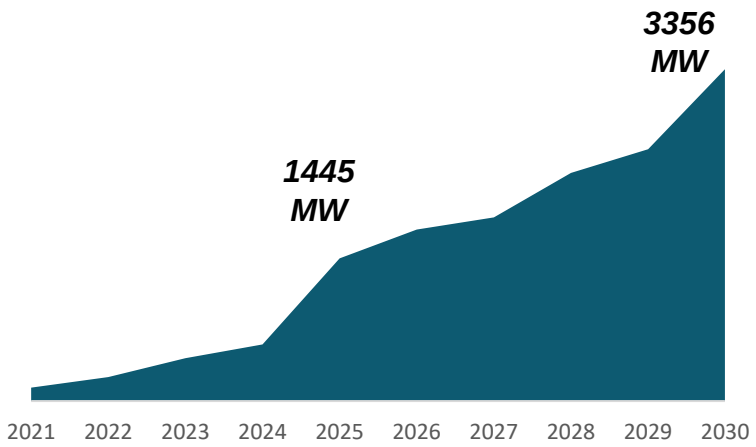




Total COD: 16 MW

PPA & Construction: 85 MW

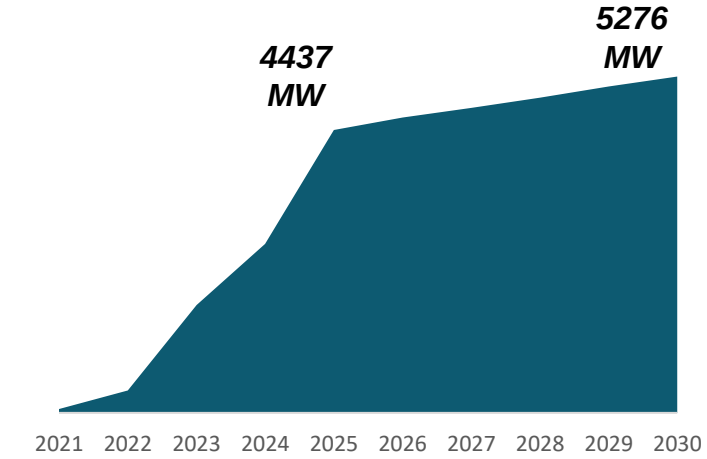
Geothermal PP additional capacity target



Total COD: 225 MW

PPA & Construction: 799 MW

Solar & Wind PP additional capacity target



Total COD: 8.8 MW

PPA & Construction: 196 MW

Development of 20,9 GW RE Projects as Main Pillar for Energy Transition

- PLN has developed **RUPTL 2021-2030 up to 20.9 GW** from RE , e.g :

10,4 GW Hydro Power Plant

3,4 GW of Renewable Energy Division Power Plant

- **5,3 GW** VRE Power Plant
- **0,6 GW** of Bioenergy

Financing-Construction ± 3,9 GW

HYDRO	2.8 GW
GEOTHERMAL	0.8 GW
SOLAR & WIND	0.2 GW

FS & DED 1.9 GW

HYDRO	1.4 GW
GEOTHERMAL	0.02 GW
SOLAR & WIND	0.4 GW

Procurement of ± 2,5 GW RE Projects 2023

- **Up to May 2023 → 1.2 GW of RE Project is on procurement stage**

HYDRO	0.68 GW
GEOTHERMAL	0.11 GW
SOLAR & WIND	0.45 GW

- PLN invites all listed developers to join the bidding. International and domestic companies took part in the tender

- **Additional ± 1.3 GW of RE Project will be tendered on Semester 2'23**

Early retirement program as a strategy to decrease carbon emission

The option of early retirement may become feasible with the aid of international funding assistance, and it has been estimated that grants amounting to approximately ~4.2 billion USD is required to execute the early retirement of coal.

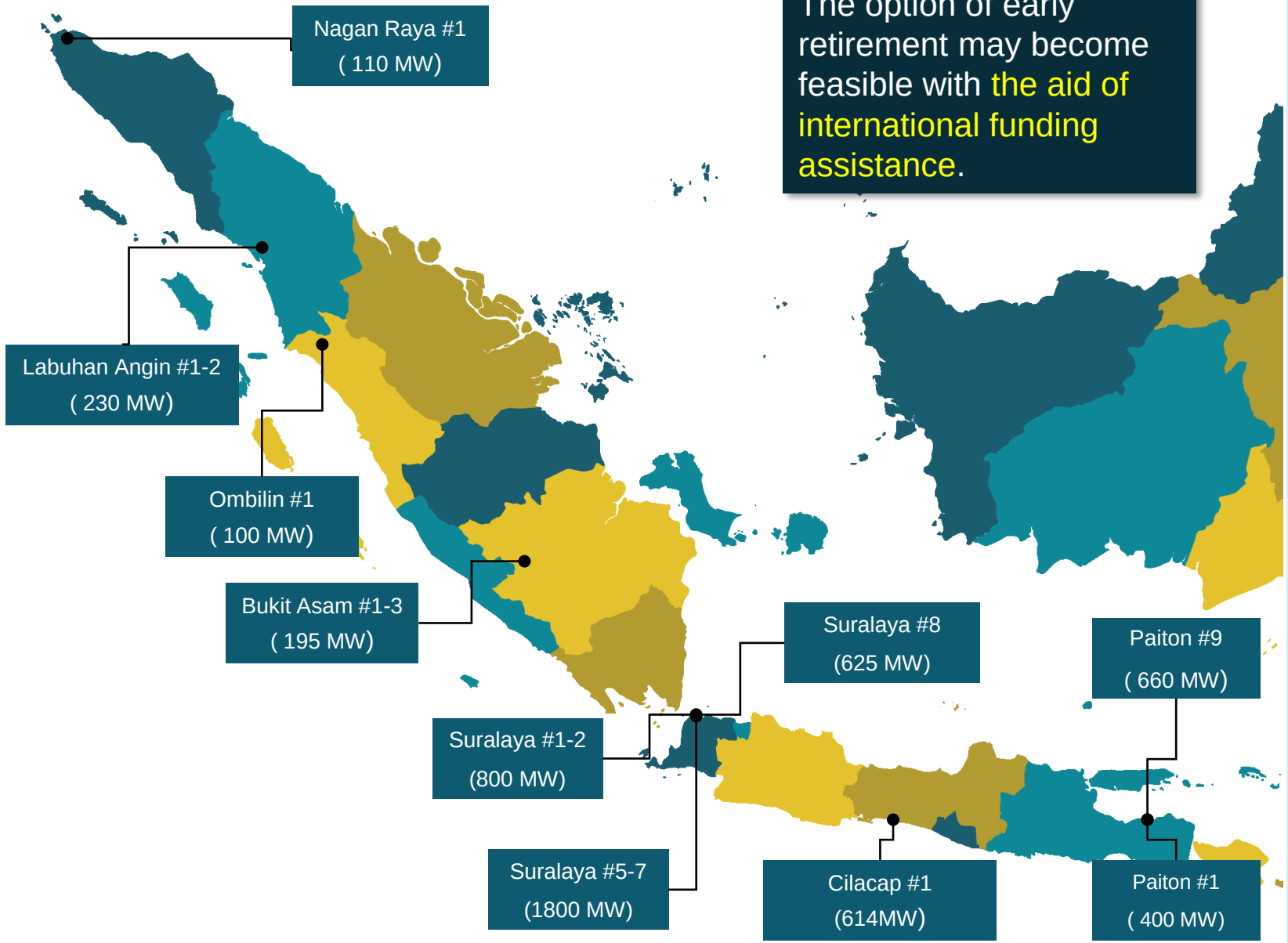
1. JETP commitment has a peak **emission target** of 290 MtCO2 and a 34% NRE mix in the generation sector in 2030.
2. **The requirements** for early retirement of CFPP:
    - There is replacement capacity already in operation.
    - Fulfillment of fair transitional aspects.
    - Increase in the Levelized Cost of Electricity/subsidies that do not burden the state's finances.
    - Committed funding support from the international community.
3. Early retirement can be **carried out at 5.5 GW** of Coal Plant spread across the islands of Java and Sumatra until 2030, with a funding requirement of around ~4.2 Bn USD.
4. In December 2021 PLN determines **2 Coal Plants** which will be accelerated with a spin-off and refinancing scheme, as follows:

No.	Generator Name	Province	DMN (MW)	Retirement Year Natural1	Early Retirement Year
1	PLTU Pelabuhan Ratu (3x30 MW)	West Java	3x323	2045	2037
2	PLTU Pacitan (2x315 MW)	East Java	2x280	2045	2037

Early Retirement Conditional Before 2030

Based on multi criteria agreed by MEMR, MMIA, & PLN there are 5.5 GW of potential CFPP in Jawa and Sumatera to be early retired conditionally before 2030

The option of early retirement may become feasible with the aid of international funding assistance.



List of potential CFPP to be retired

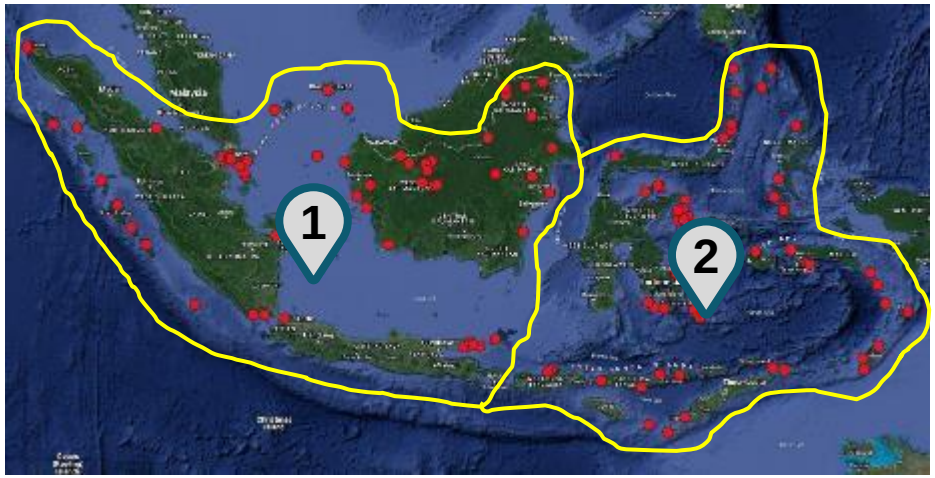
CFPP	Capacity	COD	Owner
Suralaya #1	400,0	1985	PLN
Suralaya #2	400,0	1986	PLN
Suralaya #5	600,0	1997	PLN
Suralaya #6	600,0	1997	PLN
Suralaya #7	600,0	1998	PLN
Suralaya #8	625,0	2011	PLN
Paiton #1	400,0	1993	PLN
Paiton#9	660,0	2012	PLN
Bukit Asam #1	65,0	1987	PLN
Bukit Asam #2	65,0	1987	PLN
Bukit Asam #3	66,0	1987	PLN
Ombilin #1	100,0	1996	PLN
Nagan Raya #1	110	2013	PLN
Labuhan Angin #1	115,0	2008	PLN
Labuhan Angin #1	115,0	2008	PLN
Cilacap #3*	614,0	2016	IPP

* Need consultation to IPP Owner

De-dieselization Program as a Strategy to Increase Renewables Energy In The Near Future

	Capacity, in GW	**Remarks**
De-dieselization total capacity	1.0	Total **1 GW of Solar PV + BESS** will be implemented in stages
Phase 1	**0,2**	• **Phase 1** will be **Solar PV 0,2 GWp + BESS 0,35 MWh** for 94 locations scattered in Indonesia. • BOO scheme for 20 years of electricity supply contract, hybrid operation of PV, BESS and diesel engine. Land will be provided by PLN Sub Holding. • Contribution to RE mix 0,05% and reduce CO_2 around 0,13 million ton / year
Phase 2-3	**0,8**	• Potential up to 0,8 GW of Solar PV for Phase 2-3, or other local potential resources.

2 Clusters of De-deselization Phase I



- De-dieselization is one of PLN's steps to reduce of fuel oil at PLN's Diesel Plant by operating hybrid with PV and BESS while simultaneously increasing the RE mix.
- **Cluster 1** → 48 locations : Sumatra, Java, Kalimantan
- **Cluster 2** → 46 locations : Sulawesi, Nusa Tenggara, Maluku

How To Work Together In Developing NRE Power Plant

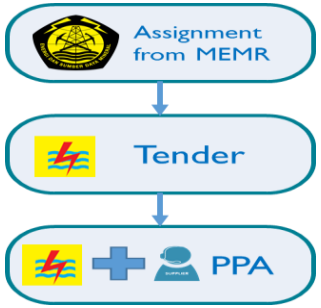
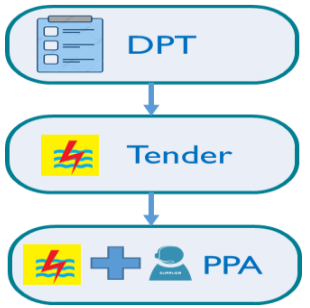
Policies & Procurement Mechanism

- The development can be carried out with EPC scheme for the PLN Project or IPP scheme.
- Policies, development provisions The procurement mechanism follows the applicable regulations, currently for the sale of NRE electricity according to Ministerial Regulation No. 4/2020 , Presidential Regulation 112/2022 & PLN procurement provisions.
- Other policies / related Government Regulations e.g:
  Regulations on the use of local content; Environmental regulations related to Environmental and Social Impact Assessmen (AMDAL / UKL UPL); Relevant regulations according to the type of generator.

➢ **EPC Scheme** (owned by PLN) -- open tender

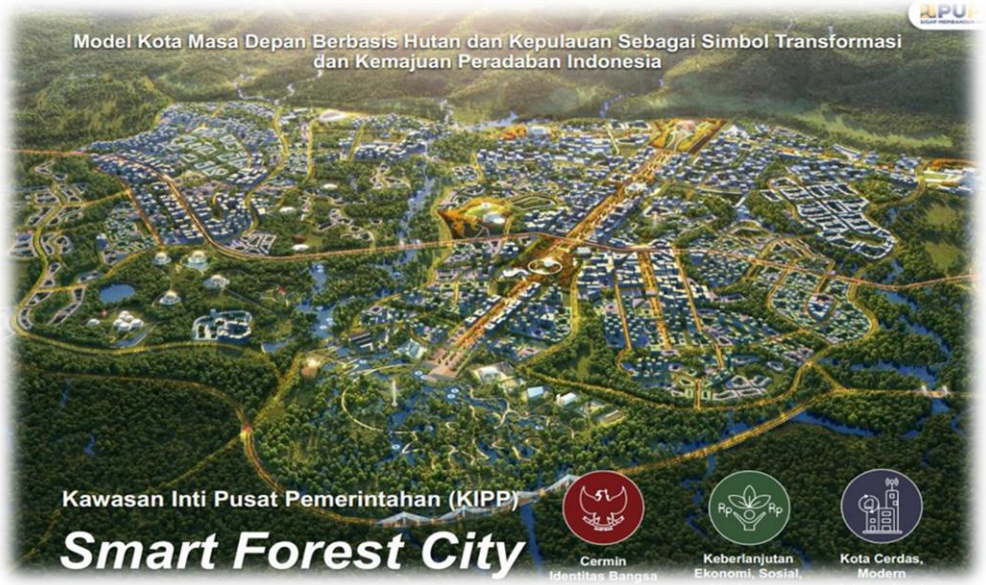
Financing options (e.g, equity, bonds, loan, ECA etc.)

➢ **IPP Scheme** (e.g refer to regulations MEMR 04/2020, Presidential Regulations 112/2022)

	Direct Appointment	Tender (Direct Selection)
Energy	Geothermal MSW Plant PUPR Hydro Grant, Excess Power and Expansion	Hydropower Bio Energy Solar PV Wind Ocean
Mechanism		
Contract Scheme	BOOT / BOO	

- Interested investors in participating PLN's procurement for IPP scheme can register as DPT / Pre-approved List
- PLN will invite companies that have been registered in the DPT to participate in IPP's procurement.

PREPARATION OF PLN BUSINESS SCHEME OPTIONS IN THE CAPITAL CITY (IKN)



PLN BUSINESS SCHEME AT IKN

OBJECTIVE 2023:

Provides business model/scheme options

- ❑ Business as usual
- ❑ Partnership with BUMO (Authority Owned Enterprise)
- ❑ Another option that meets the provisions of the IKN Law

MENTERI BADAN USAHA MILIK NEGARA
REPUBLIK INDONESIA

Nomor : S-76/MBU/02/2023 Jakarta, 9 Februari 2023
Sifat : Biasa
Lampiran : 1 (Satu) Berkas
Hal : Persetujuan Penugasan kepada PT Perusahaan Listrik Negara (Persero) dan PT Pertamina (Persero)

Letter of Approval for the Assignment of the Minister of BUMN Published February 9, 2023

MENTERI ENERGI DAN SUMBER DAYA MINERAL
REPUBLIK INDONESIA

KEPUTUSAN MENTERI ENERGI DAN SUMBER DAYA MINERAL
REPUBLIK INDONESIA
NOMOR : 36.K/HK.02/MEM.S/2023
TENTANG
PENUGASAN PELAKSANAAN PEMBANGUNAN
INFRASTRUKTUR KETENAGALISTRIKAN DAN GAS BUMI
UNTUK KAWASAN INTI PUSAT PEMERINTAHAN IBU KOTA NUSANTARA

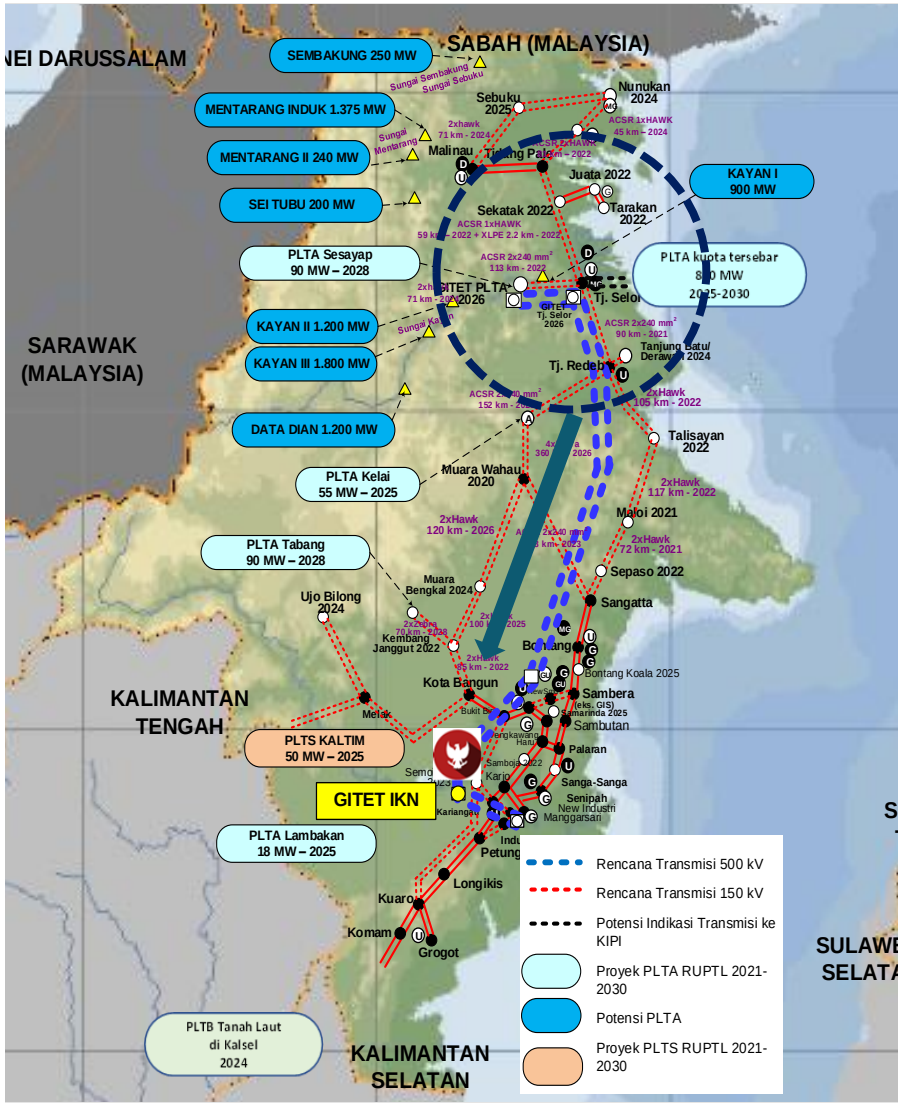
DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI ENERGI DAN SUMBER DAYA MINERAL REPUBLIK INDONESIA

Minister of Energy and Mineral Resources Assignment Decree Published 23 February 2023

PLN has received an assignment from the government to develop electricity at IKN

NRE Generator Planning for PLN Assignment at Kalimantan



In the 2021-2030 RUPTL, PLN has planned to develop an NRE-based power plant which among its designations is to supply it to Kalimantan Island.

HEPP Kaltimra 1.053 MW

Identified can be developed up to 7,4 GW

Solar PP 50 MW at Kaltim

Wind PP Land, Sea 70 MW at Kalsel

Construction of 500 kV SUTET (450 km) & 500 kV GITET (4 units) for the distribution of hydropower from Kaltara

PLN PROJECT ON-GOING

PLN is exploring New Business Opportunities along its FOUR Strategic Goals

Lean

Core business
- Power Plant
- Transmission
- Distribution
- O&M Services

Green

Renewables

Storage

Electricity champion of South-East Asia and #1 customer choice for energy solutions

- Organization and people
- Technology advancement
- Financial sustainability
- National development

Innovative

eMobillity

Customer focused

Digital engagement

Smart home

Development of Green Cluster Industry (Industrial Park)

Green Industrial Park KEK Arun Lhokseumawe and Iskandar Muda

Land area 2.600 ha

Land Area 120 ha

Development of Hydro Electric PP Jatigede

ITEM	DESCRIPTION
Project Name	HEPP Jatigede 2X55 MW
Project Location	Kab. Sumedang, Kecamatan Jatigede (Desa Kadujaya, Desa Cijeungjing, dan Desa Karedok) and Kecamatan Tomo (Desa Cipeles)
Sources of funding	15% APLN and 85% Export Credit Agency (ECA)
Target COD	January 2024
Power Evacuation	Substation HEPP Jatigede SUTT 150 kV Jatigede Incomer

Floating Solar Power Plant CIRATA 145 MWAC

Project	:	**IPP PLTS Terapung Cirata**
Capacity	:	145 MWac / 170 MWp DC
Developer	:	PT PMSE (PT Pembangkitan Jawa Bali Masdar Solar Energi)
IPP Scheme	:	PPA 25 Years Take or Pay, BOOT
Location	:	Kab. Bandung Barat & Kab. Purwakarta Jawa Barat
Financing Date	:	17 May 2021
Target COD PPA	:	17 November 2022 (18 months since Financing Date)
T/L for Power Evacuation	:	150kV Transmission Line and Substation

Incubation activities support the EV Charging Station Program and the EV Motor Ecosystem

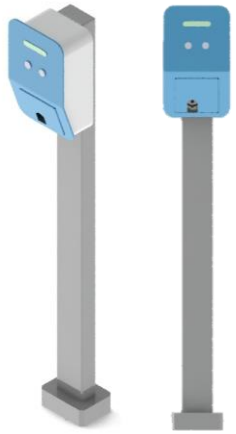
"Parking Plus" Business Development Incubation Activities

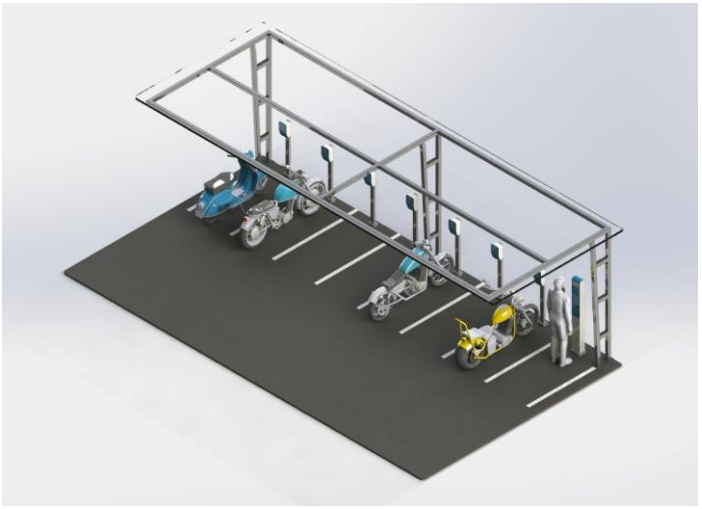
Purpose :

- Expanding the EV Motor battery charging infrastructure in the parking area.
- Eliminates the concerns of non-swap EV2W users regarding the accessibility of electricity to charge on the go.

Target :

- All PLN Unit parking lots and in each districts in DKI Jakarta have parking lots that have a "Parking Plus" business.





Current progress: Finalization of the prototype design

Incubation of EV Motor Development for PLN Operational Needs (startups Catalyst and Circa)

Purpose :

Startup coaching in developing EV Motor prototypes that can be implemented in PLN operations.

Target :

All PLN operational units can use EV Motor specifications according to operational needs in the field

Progress :

- PLN with Startup (Katalis and Circa) have designed and built a prototype EV Motor according to the survey results of PLN's operational needs
- The first trial of the EV Motor Startup Catalyst prototype has been carried out at the Sentul Circuit.


PLN