Indonesia Wants to Go Greener, but PLN Is Stuck With Excess Capacity From Coal-Fired Power Plants

It's Time for Japanese and Chinese Investors to Step Up and Be Part of the Solution

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Supply demand imbalance going out of control

PLN forecasted reserve margins in key grids are going through the roof, further compounded by COVID19





The excess capacity is NOT the product of COVID19, this has been highlighted as early as 2017. COVID19 merely compounded the problem



Coal power expansion built upon the shoulders of two financial giants

IEEFA evaluation on non-exhaustive dataset indicates China and Japan's substantial role



Coal-Fired Power Plant Lenders

Source: : Compiled sources – World Bank, PLN, Refinitiv, Project Finance Institute, IJ Global, China Aid, MoF, various media releases. Attribution of capacity in the bottom chart is based on dominant financiers' country of origin



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How did Indonesia (and PLN) end up here?

A story that started out well-intentioned, but foregoing developments in supply and demand balance



Years of persistent coal build out, overly optimistic demand growth forecast, standing on the back of government financial guarantees, strict take or pay agreements and PLN accounting rule exemptions.

Indonesia's power sector position is at odds with the world leaders commitments toward Net Zero

President Jokowi bans new coal power plant project

Monday, May 31 2021 - 02:49PM WIB

China pledges to stop building new coal energy plants abroad

() 22 September

Japan set to take lead in achieving Asian net-zero goals

04.11.2021

END OF COAL IN SIGHT AT COP26

A new turning point? But PLN is already locked-in to unneeded baseload power, with most coal plants already built or under strict power purchase agreement terms.

Japanese and Chinese Private Investments Dominated the Indonesian coal IPPs sector

Indonesian Coal IPP Ownership by Project Sponsor's Country

Japanese and Chinese investors combined have 41% ownership interest in Indonesia's coal IPP projects.

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Top 10 Companies With Disclosed Ownership

Taking aside PLN subsidiaries, Japanese and Chinese players hold significant portion of disclosed ownership in CFPP projects

Project Sponsors	Disclosed Ownership Interest (MW)	% of Total	Country	Disclosed Project Participation
Sumitomo Corp	3,640	13.4%	Japan	Tj Jati B Unit 1-2 (100%) Tj Jati B Unit 3-4 (100%) Tj Jati B Unit 5-6 (50%)
China Energy Investment (Shenhua - Guodian Group)	2,060	7.6%	China	Jawa 7 (70%) Sumsel 1 MT Unit 1-2 (25%) Simpang Belimbing MT Unit 1-2 (70%)
PJB and subsidiaries	1,807	6.7%	Indonesia	Jawa 7 Unit 1-2 (30%) Cilacap Unit 1-2 (49%) Cilacap exp Phase 1 (49%) Cilacap Exp Phase 2 aka Jawa-8 (49%) Banjarsari Unit 1-2 (29%) Sumbagsel Unit 1-2 (10%) PLTU Mamuju Unit 1-2 (10%)
Indonesia Power	1,746	6.4%	Indonesia	Jawa 9-10 (51%) Kalbar 1 Unit 1-2 (35%) Kaltim (MT) unit 1-2 aka Muara Jawa (90%) Jambi 1 MT Unit 1-2 (100%) Lati Unit 1-2 (47%)
China Huadian	1,424	5.3%	China	Sumsel 8 MT Unit 1-2 (55%) Celukan Bawang 1-3 (51%) Jambi -2 MT (95%)
YTL Group	1,300	4.8%	Malaysia	Tanjung Jati A 1-2 (80%) Paiton Unit 5-6 (20%)
PT Sumber Segara Primadaya (SSP)	1,153	4.3%	Indonesia	Cilacap Unit 1-2 (51%) Cilacap exp Phase 1 (51%) Cilacap Exp Phase 2 aka Jawa-8 (51%)
RATCH	931	3.4%	Thailand	Paiton Unit 3, 7, 8 (45.51%)
Adaro	810	3.0%	Indonesia	Batang Unit 1-2 (34%) Kalsel Unit 1-2 (65%)
Marubeni	748	2.8%	Japan	Cirebon Unit 1 (32.5%) Cirebon Unit 2 (35%) Paiton Unit 5-6 (15%) - indirect through YTL Power

Chinese and Japanese Public Financiers Role has been monumental in coal power

Often going beyond the traditional 'enabling' role, some projects have been predominantly financed by public banks

Many projects would not have made it to the finish line without the strong role of public financiers and export credit agencies

Source: : Compiled sources – World Bank, PLN, Refinitiv, Project Finance Institute, IJ Global, China Aid, MoF, various media releases. Jawa-9/10 was financed through syndicated loans with dominant South Korean banks' involvement, including minority portion from Bank of China.

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All parties need to be ready to take meaningful roles at the negotiating table

This is no business-as-usual, and a display of seriousness from PLN and the Government will be key to avoid transactional half-measures

- Establish a new standard of transparent governance for any reform process, including system planning, debt renegotiations, coal retirement, and new power purchase agreements granted via tender processes.
- Thorough performance system audit for at least five of PLN's main grids, to clearly understand what is needed for a complete energy transition.
- Cancel under-performing CFPPs and proposed CFPPs in the pipeline that has not reached financial close.
- Accelerate the new "green" RUPTL process to identify cost-effective new renewables opportunities for existing and future investors.
- Prioritize grid planning backed by fresh investment to ensure that flexibility and resilience, as well as required system services, are appropriately funded to support renewables integration.

The Indonesian government needs to acknowledge, first and foremost, that PLN is in crisis. Credit Rating Agencies may -for now- rely on sovereign backing, but the crisis will not go away quietly. Sharing the burden might be unavoidable

Green RUPTL and the opportunities ahead

Even with a modest demand growth scenario, power demand is forecast to rise from 253TWh in 2021 to 390TWh by 2030, creating a meaningful market opportunity for renewable capacity

In MW		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Hydro / Pump Hydro	RUPTL 2019	1,234	200	350	1,716	3,074	149	486	1,477			8,686
	RUPTL 2021	544	207	409	376	2,667	370	456	1,613	1,791	1,956	10,389
Geothermal	RUPTL 2019	147	455	245	415	2,759	45	145	55			4,266
	RUPTL 2021	136	108	190	141	870	290	123	450	240	808	3,356
Solar	RUPTL 2019	219	129	160	4	250		2	2			766
	RUPTL 2021	60	287	1,308	624	1,631	127	148	165	172	157	4,679
Bioenergy	RUPTL 2019	60	357	50	103	19	5	15	35			644
	RUPTL 2021	12	43	88	191	221	20		15			590
Wind	RUPTL 2019	30	360	260	50	150			5			855
	RUPTL 2021		2	33	337	155	70					597
Baseload	RUPTL 2019											
Renewables	RUPTL 2021						100	265	215	280	150	1,010
	RUPTL 2019											
Peaker Renewables	RUPTL 2021										300	300

The two giants can play a major role. Japan and China have the ability to provide technology, combined with their typical concessionary financing. They could mobilize precisely the type of long-term capital needed to funding critical grid infrastructure upgrade, renewable generation and storage solutions.

Read the full report at IEEFA.org Author contact

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