A TRADE UNION POSITION PAPER

The Article 33 Scenario: Towards a Public Pathway Approach to a Just Energy Transition for Indonesia's Power Sector

PUBLIC SERVICES INTERNATIONAL

LIST OF CONTENTS

INTRODUCTION

This document is a trade union position paper on energy transition as it applies to Indonesia's electricity system.

Unions in Indonesia acknowledge the serious threat posed by climate change and the need for greenhouse gas emissions (GHGs) to be dramatically reduced. However, we firmly believe that the policies proposed for Indonesia will not deliver a just energy transition or reduce power sector emissions. On the contrary, proposals like the Just Energy Transition Partnership (JETP) will, if implemented, encourage more coal use in Indonesia, not less. Furthermore, the policy is socially regressive, economically unviable, and politically reckless.

The principal goal of this position paper is to present the outlines of an alternative policy framework. We call this framework the public pathway or, in Indonesia's case, the Article 33 Scenario. We believe Article 33 of the Republic's Constitution—which proclaims that "The branches of production which are important to the state and which control the livelihood of the people shall be controlled by the state"—is essential to the country's energy future; it is not, as is sometimes suggested, a relic from the past. As we explain below, the Article 33 Scenario consists of a series of potential steps that, if taken, could begin to deliver a just energy transition in Indonesia, one that is anchored in public investment and the expansion of public assets, within a framework of energy sovereignty, policy independence, and progressive internationalism.

The End of "Green Growth"

We present this position paper at a time when, at the global level, neoliberal climate and energy policy—which relies on private sector investment—appears to be unravelling, and at a rapid speed. Key countries (most notably the US) are abandoning or diluting their climate commitments. In January 2025, the incoming Trump Administration's announced that the US was going to withdraw from the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC).[1] In early March the same Administration terminated its membership of the International Partners Group (IPG) for JETPs with South Africa, Indonesia and Vietnam.[2] But the US is not alone in terms of backtracking on climate. The European Union (EU) has not yet formally abandoned its desire to be the "first net zero continent," but the signs are ominous. The European Commission has expressed concerns about the EU's loss of industrial competitiveness due, in part, the high cost of electricity.[3] Decarbonization, says the Commission, cannot be allowed to disadvantage Europe's industrial and commercial base.

The reasons behind the unravelling of neoliberal policy need to be fully understood. The policy was in trouble long before both Trump's re-election in November 2024. Consider these facts: thirty-five years after the first global climate agreement (the Kyoto Protocol), annual greenhouse gas (GHG) emissions are at record levels. Renewable sources of energy are growing, but fossil fuel use continues to dominate the global energy system. In 2023, roughly 81.5% of global energy demand was met by fossil fuels.[4] Global coal use, currently at 8.7 billion tonnes, has doubled since 1990.[5] Gas use has grown by 60% during the same period.[6] Oil use has grown 51% since 1990, and production currently exceeds 100 million barrels per day.[7] In late 2024 and early 2025, several large oil companies have publicly announced they are pulling back from renewable energy investments and increasing their commitment to fossil fuels. According to a representative of British Petroleum, "hydrocarbon demand continues to be very, very strong, stronger than we would have envisaged five years ago, and the transition has not proceeded at the pace we would have thought."[8] Clearly, what the world is witnessing today

1 https://www.whitehouse.gov/presidential-actions/2025/01/putting-america-first-in-international-environmental-agreements/

2 https://www.france24.com/en/live-news/20250306-south-africa-says-us-withdrawing-from-climate-finance-deal

3 According to a September 2024 report, The Future of European Competitiveness, "There is a risk that decarbonisation could run contrary to competitiveness … Without a plan to transfer the benefits of decarbonisation to end-users, energy prices will continue to weigh on growth." The Future of European Competitiveness, September 2024. https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en

4 Energy Institute, Statistical Energy Review, 2024, energyinst.org/statistical-review

5 https://iea.blob.core.windows.net/assets/42dee289-ffa2-44a5-b050-7232b2809ce1/CoalMid-yearUpdate_July2024.pdf

6 https://www.statista.com/statistics/282717/global-natural-gas-consumption/

7 https://www.iea.org/reports/oil-market-report-july-2024

8 For BP see: https://www.reuters.com/markets/commoditie

is not a global energy transition away from fossil fuels; rather we are witnessing an energy expansion of energy use which is mostly being met by coal, oil and gas.

As we explain below, assumptions regarding "green growth" and "the leading role of the private sector" have been shown to be wildly off target, and policymakers' confidence in private investors has turned out to be entirely unjustified. The core problem facing investor-facing policies like the JETP boils down to the fact that decarbonization is for the most part not profitable on a market basis, and governments have attempted to address the lack of profitabilityis with a range of "de-risking" measures.
De-risking requires using public money to make profitable what would not otherwise be profitable. As we will see, rich countries have this option (although de-risking is becoming increasingly difficult to sustain), but de-risking is simply not an option either for Indonesia of for the Global South more broadly.

Policy Stands at the Crossroads. Where Next for Indonesia?

The unravelling of neoliberal climate policy marks a major political turning point, but the direction of future policy is currently unclear. The global failure to reach interim climate targets, coupled by the (unnecessarily high) costs of the transition, means there is a real danger that climate policy will be thrown overboard entirely.

This new reality raises several questions regarding Indonesia's own climate commitments. In keeping with the recommendations from the scientific community, Indonesia and the Asia-Pacific region's major economies made clear decarbonization commitments (known as Nationally Determined Contributions, or NDCs) under the 2015 Paris Agreement. Many have adopted "net zero" emissions targets.[9] In Indonesia's case, the target year for net zero was initially 2060. The GOI made this commitment in 2021 when it presented its *Long-Term Strategy for Low Carbon and Climate Resilience 2050.*[10] At the 29th Conference of the Parties (COP29) to the UN's Framework Convention on Climate Change (UNFCCC) in November 2024 in Baku, President Prabow announced that his government is planning to retire all coal and other fossil fuel power plants within the next 15 years, and to achieve net zero emissions a decade sooner—by 2050.[11] Indonesia's near-term target for renewable energy (40.4 GW by

s/bp-ramps-up-oil-gas-spending-10-billion-ceo-rebuilds-confidence-2025-02-26/. For similar decisions by oil companies . see: https://www.reuters.com/business/energy/big-oil-backtracks-renewables-push-climate-agenda-falters-2024-12-27/

9 Under the Paris Agreement, the GOI committed to reduce the country's greenhouse gas emissions by 29% below a projected "business-as-usual" (BAU) scenario by 2030. See: Republic of Indonesia, First Nationally Determined Contribution, November 2016

10 Government of Indonesia, Long-Term Strategy for Low Carbon and Climate Resiliance 2050, https://unfccc.int/sites/default/files/resource/Indonesia_LTS-LCCR_2021.pdf

11 https://setkab.go.id/en/g20-summit-president-prabowo-subianto-highlights-indonesias-green-energy-vision-global-climate-role/

2030) reflects a similarly high level of ambition.

But things have since changed. Ambition has turned to trepidation.

Indonesian President Prabowo Subianto initially announced plans to shut down all of Indonesia's coal-fired power plants (CFPPs) by 2040. However, in April 2025, the President's climate envoy Hashim Djojohadikusumo warned that a full-scale program of CFPP closures would be "economic suicide."[12] As of this writing (May 2025) Indonesia is apparently also considering withdrawal from the Paris Agreement, citing the financial costs of the energy transition and the Global North's backtracking on its own commitments.[13] We urge the GOI *not* to take this step, but to instead become a leading representative of a different pro-public approach to energy transition that is technically plausible, economically affordable, and socially equitable.

The current situation has created an opportunity for Indonesia to reject *both* a reckless "business as usual" approach that reneges on the country's climate commitments and an equally reckless approach that surrenders control over Indonesia's energy future to foreign capital and the neoliberal "privatise to decarbonise" agenda. The option we propose starts with a declaration of policy independence (Indonesia should be able to chart an energy transition of its own design); accompanied by a decision to reconstitute energy planning for the public good, and to take measures to reclaim the country's power sector to full public ownership, with a leading role accorded to the national utility, *PT Perusahaan Listrik Negara— Persero* (hereafter PLN), and its subsidiaries.[14]

The December 2024 decision of the Constitutional Court (*Mahkamah Konstitusi*, or MK, Decision No. 39/PUU-XXI/2023 reaffirmed the importance and legal validity of state control. We regard the Decision as an invitation to develop a framework for just energy transition that is consistent with Article 33. [15]

We attempt to show how the capacity of the state (not private interests) to determine the country's energy future that will be crucial in terms of ensuring that the energy transition is both socially just, economically affordable, as well as environmentally effective.

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[12] https://www.thejakartapost.com/business/2025/02/04/coal-phaseout-by-2040-would-be-economic-suicide-hashim-says.html?unlock_code=i3Plfv1qc0H1IqXR

[13] https://news.mongabay.com/2025/02/indonesia-mulls-paris-agreement-exit-citing-fairness-and-energy-transition-costs/

[14] For the purposes of this paper, PLN refers to PT Perusahaan Listrik Negara (Persero) which is a holding company, covering 4 (four) subholding companies and 11 subsidiary companies.

[15] Court Decision No. 39/PUU-XXI/2023, https://s.mkri.id/simpp/ds/674d23c680da5.pdf [Bahasa]

The JETP: Not Just. Not a Partnership.

What does the current crisis of neoliberal energy and climate policy mean for the JETP between the GOI and the (now depleted) International Partners Group (IPG)? When it was launched in November 2022, the JETP was hailed as a policy game changer, and "the largest climate financing commitment ever carried out with only one country."[16]

But there the JETP that is not qualitatively different from a series of neoliberal reform initiatives that can be traced back to the IMF and World Bank's structural adjustment program (SAP) of the late 1990s. The JETP proposes a $21.5 billion package of concessional and commercial loans (so called "blended finance") to "mobilize" private investment, both foreign and domestic. But the loan package is contingent on power sector reforms designed to further weaken state control and to expand the role of private investors and Independent Power Producers (IPPs).

There are those who continue to assert that the JETP is necessary to "unlock" the investment needed to propel the transition to a low-carbon energy system, and that private independent power producers (IPPs) partnering with overseas investors will be the main stars of the show, with the national utility

PLN slowly transformed from the country's principal producer of electricity into an entity whose primary role will be, in the words of the JETP Secretariat, the "procurement of electrons" while being wholly responsible for transmission and distribution.[17] Indeed, in March 2025 the Ministry of Energy and Mineral Resources (MEMR) issued a regulation on *Guidelines for Power Purchase Agreements from Power Plants Utilizing Renewable Energy Sources* that further opens the door to IPP owning generation assets, which is a privatization measure that, in our view, violates Article 33 of the country's constitution.[18]

But the evidence presented in this paper strongly suggests that, in the event that the so-called "JETP scenario" [19] is implemented in Indonesia—which is now unlikely—it will merely extend the failures of the past into the future. Indonesia will face more external debt, and it will cede control over its electricity system to private interests and representatives of foreign capital.

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[16] https://web.pln.co.id/pln-jetp/jetp-home. The IPG is "led by the United States and Japan and including Canada, Denmark, the European Union, France, Germany, Italy, Norway, and the United Kingdom, issued a Joint Statement to formalize the landmark partnership."

[17] CIPP, Chapter 8, Enabling Policies for JETP Portfolio, page 199

[18] **MEMR 5/2025**. For an assessment see: https://www.ashurst.com/en/insights/indonesias-new-regulation-on-renewable-ppas-supporting-renewable-power/?utm_source=chatgpt.com

[19] The "JETP Scenario" is a term used by the JETP Secretariat as shorthand for its policy agenda. See *Comprehensive Investment and Policy Plan (CIPP),* November 2023. https:// https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf

Article 33

Article 33 paragraph (1), paragraph (2), paragraph (3), and paragraph (4) of the 1945 Constitution in relation to the economy states:

(1) The economy shall be structured as a joint enterprise based on the principle of kinship;
(2) The branches of production which are important to the state and which control the livelihood of the people shall be controlled by the state;
(3) The land and water and the natural resources contained therein shall be controlled by the state and used for the greatest prosperity of the people;
(4) The national economy is organized based on economic democracy with the principles of togetherness, equitable efficiency, sustainability, environmental perspective, independence, and by maintaining a balance of progress and national economic unity.

Workers and the Struggle for Public Electricity

Public energy has played a central role in Indonesia's development. Prior to independence, the Dutch colonial government electrified some areas of the archipelago, largely to illuminate ports and other infrastructure needed to export raw materials. In 1940 the total generating electrical capacity in 1940 was just 209 MW. By the end of the Japanese occupation in 1945, even this minimal capacity has been badly damaged and needed extensive repairs.

The long struggle for independence that began in May 1908 is commemorated as the Day of National Awakening (*Hari Kebangkitan Nasional*). With the surrender of Japan, and the declaration of independence in 1945, Indonesian nationalists waged a revolutionary war from 1945-1949 that defeated Dutch efforts to re-occupy Indonesia.

On October 27th, 1945, Indonesian workers in the electricity and gas sectors took control of key energy installations from Japanese authorities. During this period the Maritime Union of Australia (MUA) refused to load Dutch ships with weapons destined for Indonesia. Other Australian unions, such as seafarers and railway workers, joined in refusing to transport or handle goods bound for Dutch military operations. Dutch ships were delayed or left Australian ports without critical cargo, including ammunition and other military supplies.[20]

Led by Sukarno, the new government decided that the state had to control the electric supply industry and pursue electrification. In 1950, it put in motion a nationalization effort that would be completed in 1958. Nationalisation was considered consistent with "social justice for all Indonesians" (the fifth *Pancasila* principle).[21] In 1960 the Sukarno government established the Gas and Electricity Agency (*Djawatan Gas dan Listrik*), and in 1965 PLN was formed. Electrification began first in the urban areas and later, under Soeharto—who was inspired by a different form of nationalism—rural electrification became a long-term national development goal.

[20] https://www.thejakartapost.com/life/2020/09/09/75-years-of-black-armada-australian-dockworkers-defend-indonesias-independence-in-1945.html

[21] Articulated by Sukarno, The Five Pancasila Principles are: nationalism, internationalism, democracy, social prosperity, and belief in God.

Global Public Goods is the Alternative to Green Growth

A viable public pathway for Indonesia (and the Global South) will likely also require sweeping policy changes at the international level, particularly around climate and sustainable development financing. But if Indonesia were to embrace the Article 33 scenario and the public pathway approach at home, it could quickly become a global leader in developing a global public goods (GPG) framework for climate action, one that is anchored in reciprocity, solidarity and internationalism. [22] Indonesia is in a strong position help fill the void left by the Global North's current retreat from its climate commitments and obligations.

Calls for a global public goods framework have resonated across the multilateral system in recent years, but the lending policies of the World Bank and the IMF continue to operate under the sway of neoliberal orthodoxy.[23] The basic idea informing public goods is simple: no person can be excluded from using the "good" in question. At the mundane or everyday level, streets and parks normally fall into the public goods category. At the global level, a stable climate would qualify, as would the means to achieve and sustain climate stability – such as technology transfer, shared financing, and the removal of intellectual property restrictions.

A guiding principle for a GPG approach to climate protection can perhaps be expressed in one sentence: *Increasing emissions anywhere endangers people everywhere; reducing emissions anywhere benefits people everywhere*. If this principle holds true, then the means of implementation will also either be themselves public goods or they will, almost by definition, be designed to serve the public good.

The feature that perhaps distinguishes global public goods from "green growth" is this: advocates of green growth believe that the private investors and companies must be enticed into investing in climate protection. Advocates of a global public goods approach accept that much of the action needed to address climate change will not, and should not, make money for private interests. Climate action *will* incur costs, but those costs are simply a down payment on the creation of a safer, more just and more equal world. Today, the world's richest 1% own 45% of the wealth, and almost 3.6 billion people live on less than $7 US dollars per day.[24] The costs of both climate action and ending poverty are but a fraction of the wealth that is stashed in the bank accounts of the rich. A more equal distribution of wealth both within and between countries is possible, and the financial and technical resources needed for effective climate action fall well within the boundaries of what is "affordable." (See below, Part 4.3 *Reassess, Renegotiate, Reposition: A New Approach to Energy Transition Plans and Targets.*

[22] See Sean Sweeney, Beyond Recovery: The Global Green New Deal and Public Ownership of Energy, 2023. TUED Working Paper 16, https://www.tuedglobal.org/bulletins/beyond-recovery-the-global-green-new-deal-and-public-ownership-of-energy

[23] https://unctad.org/system/files/official-document/tdr2023_en.pdf

[24] Oxfam International, January 2025, https://oi-files-d8-prod.s3.eu-west-2.amazonaws.com/s3fs-public/2025-01/English%20-%20Davos%20Executive%20Summary%202025.pdf

The Structure of this Position Paper

This position paper consists of four parts:

Part One, *Expansion, Not Transition: Global and Regional Energy Realities* provides a summary of current global, regional and national energy trends. Neoliberals claim that the policies they propose for Indonesia are working successfully elsewhere and should be emulated in Indonesia. This distorts what is really happening at the global level. The data presented in Part One clearly indicate that what the world is witnessing today is not a global energy *transition* away from fossil fuels; rather we are witnessing an energy *expansion* of energy use which is mostly being met by coal, oil and gas. This *expansion-not-transition* is particularly evident in the Asia-Pacific region, which is responsible for more than 50% of the world's annual GHGs emissions. Indonesia's energy reality clearly reflects this expansion. These trends compel us to confront the failures of the current "green growth" approach to climate protection. It also repudiates the idea (which is popular among some NGOs and neoliberal think tanks) that failure to fully embrace the power sector reforms proposed by the wealthy countries is somehow impeding action on climate change. This is not the case. Resisting neoliberal reforms is not vandalism; rather, resistance provides a starting point for a more effective and socially just approach.

Part Two, *Indonesia: The Long Reach of Neoliberal Energy Reform and the "Privatise to Decarbonise" Agenda,* places proposed policy packages in historical context. While the JETP, the Asia Development Bank's Energy Transition Mechanism (ADB-EMT) and the Indonesia-European Union Comprehensive Economic Partnership Agreement (IEU-CEPA) all have distinct features, they share a common approach, one that can be traced back to the World Bank and the IMF's structural adjustment programs (SAPs) of the 1980s and 1990s. The purported goals of the SAPs were to advance efficiency, competition, and the need to attract foreign direct investment (FDI). Today the goals are more likely to be formulated to reflect the need for action on climate change, to reduce the use of fossil fuels, and to reach "net zero" global emissions reduction targets.

Part Two explains how the JETP is the latest attempt to further advance neoliberal "privatize to decarbonize" objectives. There is a clear connection between the policies designed to shape the Indonesia's future with policies that have already shaped the recent past. We call these policies "green structural adjustment" because they operate on the same assumptions as the IMF and World Bank structural adjustment policies of the 1980s and 1990s. We therefore see a clear continuity between the regressive and destructive SAP policies of the past and the "privatise to decarbonise" policies that are being promoted today in the form of the JETP, ADB EMT, IEU CEPA, etc.

Part Three*, Behind the JETP: The Crisis of Green Growth and the Failure of "Blended Finance"* looks at Indonesia's investment needs and views these needs alongside recent investment trends. It describes the extent of the country's investment deficit and the lack of a convincing investment scenario beyond the presumption that reforms will "unlock" the investment that has thus far failed to materialise. Here we draw attention to the failures "blended finance" and the limits of the "de-risking" model that lies at the heart of the JETP proposal. We show that the JETP cannot

meet Indonesia's investment needs, but it will increase government debt. In our assessment, the interests of private investors are not aligned with the interests of the Indonesian people, nor are they compatible with the need to address climate concerns.

JETP financing will therefore come with strings attached, and without the reforms the financing may not come at all. The JETP with South Africa, the first of its kind, set the tone. Launched at COP 26 in Glasgow in November 2021, age agreement states that JETP financing would contingent upon "unbundling" of the public utility, Eskom.[25] Similarly, the JETP statement between the IPG and the GOI called for a "clear strategy for private sector engagement," detailing policy reforms necessary to address "regulatory barriers."[26]

The experience of other countries indicates that JETP-type policies will almost certainly raise electricity prices (this is openly acknowledged), add to the financial fragility of PLN, and will be of little or no benefit to the world's climate system. The JETP scenario amounts to a clear case of "all pain, no gain" for the Indonesian people and particularly the working class and small businesses that rely on affordable electricity.

Part Four: ***The Article 33 Scenario: Towards a Public Pathway Alternative*** offers the broad outlines of the "public pathway" approach to the energy transition as it applies to Indonesia. The main features of this approach are anchored in 3 composite proposals. These are:

1. **Public Financing, Expand State Assets.** To preserve energy sovereignty, financing should be used to strengthen the capacity of the state to control and direct the energy transition. Financing should not "de-risk" projects or transfer assets to private corporations and investors.

[25] Political Declaration on the Just Energy Transition in South Africa: Declaration from the Governments of the Republic of South Africa, the United Kingdom of Great Britain and Northern Ireland, the United States of America, the Republic of France and the Federal Republic of Germany, and the European Union. See also:

https://www.g7germany.de/resource/blob/974430/2057418/9a1d62b3c5710b4c1989f95b38dc172c/2022-06-

27- chairs-summary-climate-neutrality-data.pdf. Just a week after COP26, the IMF also called for the unbundling of Eskom and the need for reduction in the size of Eskom's workforce. The restructuring and unbundling of Eskom, said the memo, "must be accompanied by a substantial downsizing and structural transformation of its operations, notably through a meaningful reduction of procurement and personnel costs." https://www.imf.org/en/News/Articles/2021/12/07/south-africa-staff-concluding-statement-of-the-2021-article-iv-mission

[26] Joint Statement by the Government of the Republic of Indonesia (GOI) and the Governments of Japan, the United States of America, Canada, Denmark, the European Union, the Federal Republic of Germany, the French Republic, Norway, the Republic of Italy, and the United Kingdom of Great Britain and Northern Ireland (together the "International Partners Group" or IPG). See: https://www.whitehouse.gov/wp-content/uploads/2022/11/Joint-Statement-1. pdf. The ADB partnership with the Government of Indonesia pushes the same agenda. It notes that "ADB support will centre on policy reforms" and "private sector participation." Periodic loan disbursements will be contingent upon the PLN's "satisfactory performance" in terms of carrying out the reforms. See: https://www.adb.org/sites/default/files/institutional-document/640096/cps-ino-2020-2024.pdf

2. **Beyond IPPs, Reclaim and Restore PLN**. PLN must play a leading role in bringing about a just energy transition. GOI policy must pivot away from relying on IPPs for investment and instead take measures to expand PLN's presence as both an investor and as a builder of new capacity and infrastructure. The GOI and the MEMR must resist pressures (from the JETP Secretariat, ADB, etc.) to comply with IPP demands for direct ownership of new generation capacity; it must phase out all forms of local de-risking of IPP projects and focus instead on enhancing PLN's revenue retention. GOI and PLN (not IPPs) should oversee all final investment decisions and restructure energy planning within a public goods framework.

3. **Reassess, Renegotiate, Reposition: A New Approach to Energy Transition Plans and Targets.** Indonesia's energy transition targets, and the proposed means of achieving them, require a facts-based reassessment. Realistic publicly controlled targets are better than unrealistic ones based on the decisions of private interests. This will require that Indonesia reposition itself as a global player in the multilateral system in ways that make it a champion of progressive reform and economic development that is truly sustainable.

The Limits of the Paper:

Traditional Trade Union Concerns are Not Addressed

This position paper does not address traditional trade union concerns or workers' rights. As important as these issues are, the paper concerns itself with energy transition policy, which is highly complex, politically contested, and profoundly significant.

The paper challenges neoliberal approaches the energy transition that emerged in the 1980s and 1990s and continue to frame both the narrative and the policy architecture in Indonesia, and it attempts to make visible the outlines of an alternative policy framework.

China's Belt and Road Initiative is Insufficiently Examined

Here and there, the paper examines the role of China in Indonesia's power sector. However, the level of attention is highly insufficient given China's current role in Indonesia as an energy investor, as a builder of infrastructure, and in terms of the global significance of its own energy policy choices. China's Belt and Road Initiative also receives scant attention. This deficiency is fully acknowledged, one that could potentially be addressed in future.

Some Specific Policies are Set Aside: Feed-in Tariff, Carbon Pricing and Net Metering

Not all the policies in the neoliberal toolbox are discussed in this paper. Neoliberals have proposed a Feed-in Tariff, Carbon Pricing and Net Metering, and steps have been taken by the GOI to make these policies operational, but they remain mostly peripheral in Indonesia or still under consideration. However, roughly 60% of Indonesian residencies have pre-paid metering which is a policy designed by the World Bank to enforce payment for electricity and to stop user non-payments.[27]

Potentially Important Laws to Promote Renewable Energy are Still Being Debated

The **New and Renewable Energy Bill** *(Rancangan Undang-Undang Energi Baru dan Terbarukan* ***– RUU EBET***) provided a legislative framework aimed at regulating and promoting both new and renewable energy sources in Indonesia. However, as of early 2025, this bill has been under discussion but has not yet been enacted into law.[28] This law has yet to be passed, but it could be passed later this year (2025)

Ongoing Geopolitical Volatility

As of this writing the world of energy and climate change policy is unstable and therefore subject to change. The climate policy discussed in this paper appears to be facing many challenges, particularly from the populist right in the Global North. At some point, significant modifications may become necessary.

That said, the analysis and historical evidence presented in this document will hopefully be useful in terms of dealing with pressing ecological, social, and geopolitical challenges that currently confront the people of Indonesia and the human species more broadly.

[27] https://annabatayo.com/publication/imelda-et-al-wp-2024/?utm_source=chatgpt.com

[28] https://climate-laws.org/documents/presidential-regulation-no-112-of-2022-concerning-the-acceleration-of-development-of-renewable-energy-for-electric-power-supply-f970?utm_source=chatgpt.com

PART ONE:
ENERGY EXPANSION, NOT AN ENERGY TRANSITION: GLOBAL AND REGIONAL REALITIES

Science vs. Reality

To be very severe. Released in 2021, the *Sixth Assessment Report* of the Intergovernmental Panel on Climate Change (IPCC)—the preeminent scientific body that has been monitoring climate change since the late 1980s—reminds us that climate change is "widespread, rapid, and intensifying." It is "already affecting every region on Earth, in multiple ways."[29] The climate crisis is a huge threat to jobs, livelihoods, and security for working class people everywhere, and especially so in the Global South.

More than 30 years have passed since the first global climate agreement (the Kyoto Protocols) was negotiated, and the global use of fossil fuels is currently higher than at any point in human history.[30] As noted above, annual global coal use, currently at

[29] IPCC, Press Release, August 9th, 2021. https://www.ipcc.ch/site/assets/uploads/2021/08/IPCC_WGI-AR6-Press-Release_en.pdf

[30] https://www.unep.org/resources/emissions-gap-report-2023

8.7 billion tonnes, has doubled since 1990 and is a record levels.[31]
Renewable sources of energy are growing quickly in some parts of the world (principally China, the EU and the US). But the growth of renewables has not been sufficient to offset the growth of fossil fuels. In 2025, global energy-related emissions are at historically high levels and this will surely continue. Indeed, CO2 emissions from energy and industry have risen 60% since the United Nations Framework Convention on Climate Change was signed in 1992.[32]

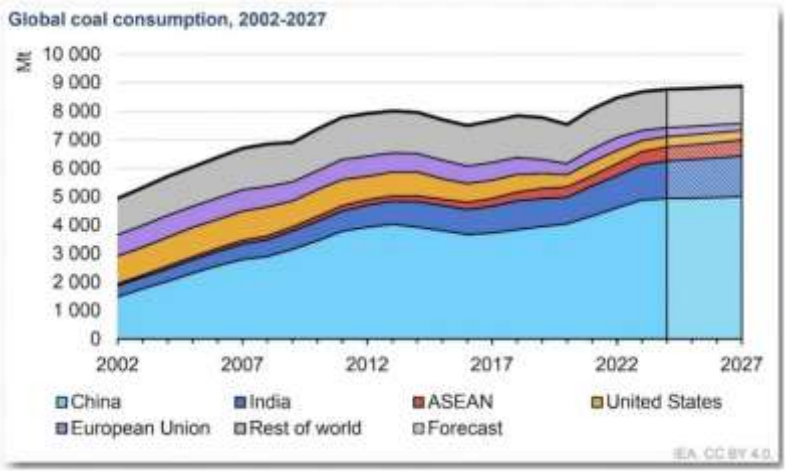


Figure 1: Analisis dan Perkiraan Kosnsumsi Batu Bara (Sumber: International Energy Agency

Electricity and Electrification

Today, the generation of electricity is the world's leading single source of CO2 emissions (roughly 42%) and accounts for roughly a quarter of annual GHGs. The way the world generates electricity will therefore need to be both radically and rapidly transformed if the net zero targets are to be reached. The electrification of other key sectors (transport, industry, buildings, food and agriculture, etc.) is also considered essential.

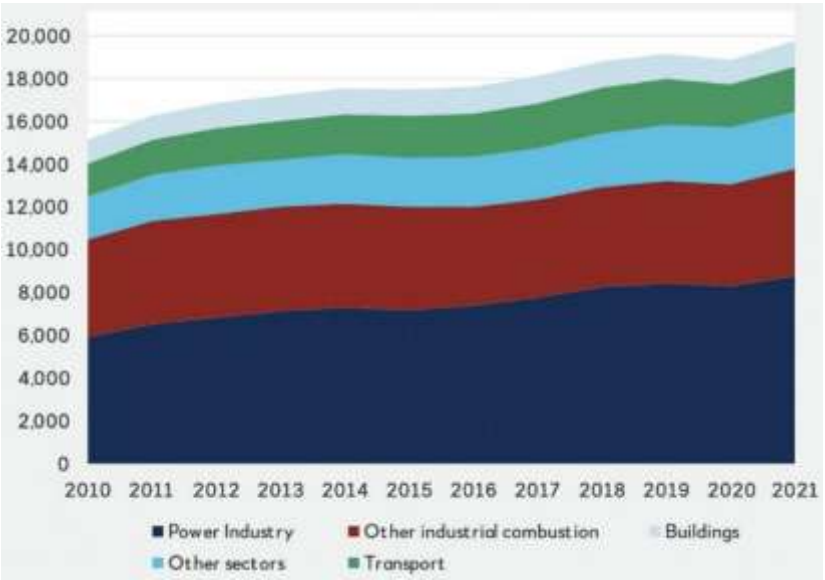


Figure 2: Emisi Carbon Total Asia berdasar sektor, $MtCO_2e$ (Sumber: xxx)

[31] The Guardian, December 18th, 2024. Coal use to reach new peak – and remain at near-record levels for years. https://tinyurl.com/3p83f6ke; https://iea.blob.core.windows.net/assets/42dee289-ffa2-44a5-b050-7232b2809ce1/CoalMid-yearUpdate_July2024.pdf

[32] https://sustainability.stanford.edu/ news/global-carbon-emissions-fossil-fuels- reached-record-high-2023

According to the International Energy Agency, electricity will need to become the "new oil" in terms of its dominant role in final energy consumption.

Nevertheless, the decarbonization of electricity generation is facing monumental challenges. Globally, coal-fired power grew from 950 GW of installed capacity in 1990 to more than 2,100 GW in 2024. The Asia-Pacific region accounted for roughly two thirds of the additional capacity during this period. The Asia-Pacific region continues to build coal plants, with more than 180 GW under construction.

Wind and solar currently generate roughly 12% of the world's electricity, more than double the 2010 percentage. The growth of wind and solar energy has been very significant in the several EU countries (for example, Germany, Denmark, Netherlands, Portugal and Spain), the UK (with high levels of offshore wind deployed), the United States (especially California, Texas, Colorado, and Nevada). In the Asia-Pacific region China, India and Vietnam have seen significant levels of wind and solar deployment (respectively, 11.5%, 7.8%, 11.6%). However, the ASEAN nations are generally Malaysia, Philippines, Singapore, Brunei Darussalam, Lao, Myanmar, Cambodia have each installed less than 2 GW modern renewables (although Thailand has reached almost 4 GW).

These and similar data totally and unequivocally contradict claims that the energy transition is well under way. Rather, what we are currently witnessing is not an energy transition; globally we are witnessing an energy expansion. Economic growth continues to stimulate demand for energy, and most of the new energy is being supplied by fossil fuels. The expansion is particularly obvious in the Asia-Pacific region, but the same can be said of the rest of the world.

Furthermore, in the developed world, the deployment of low-carbon forms of energy (wind, solar, etc.) has been dependent on public subsidies in the form of "de-risking" private investment that only the rich countries can afford. This policy approach, which is in practical terms unavailable to Indonesia and most other low- and middle-income countries, is discussed in more detail in Part Three of this position paper. In the case of China, state support for the renewables sector has seen a rapid increase in the deployment of wind and solar power. The significance of China's policy will be discussed in Part Four.

We believe that the energy expansion must be addressed if the commitments made under the 2015 Paris Agreement, and subsequent "net zero" pledges, are to be met. Absent a major change in policy at the global level, the chances of reaching climate targets are miniscule at best.

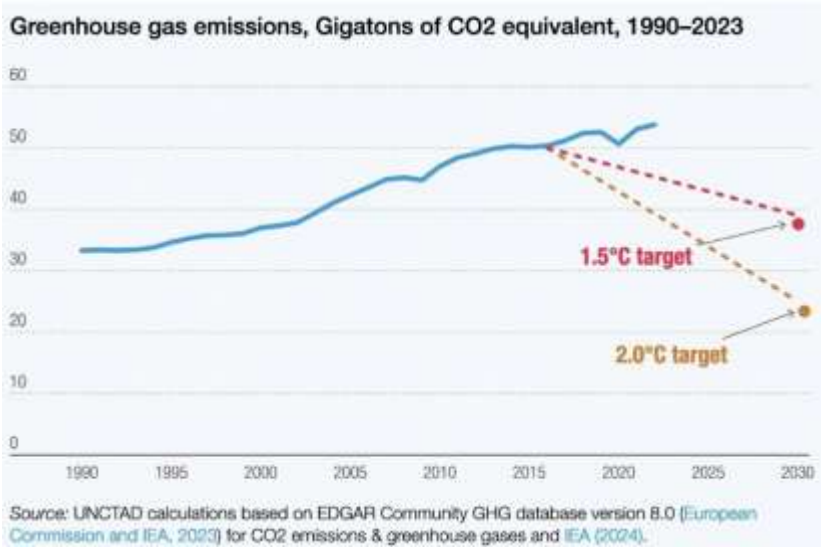


Figure 3: Emisi mengalami peningkaran ketika ia seharusnya turun

Indonesia's Energy and Emissions Trends

Indonesia's energy use reflects a regional trend: fossil fuel use is growing alongside renewable energy. However, in Indonesia's case the balance is heavily tilted towards the expansion of fossil fuel use, accompanied by an extremely slow growth in renewables. Indonesia's energy expansion has special and perhaps unique features.

Indonesia's coal production continues to rise. It reached 775 million tonnes (Mt) in 2023, significantly exceeding the year's production target of close to 700 Mt for 2023. The surge in Indonesian coal production is due to a rise in domestic demand, as well as demand from China and other importers in the region.[33] Indonesia's Ministry of Energy and Mineral Resources (MEMR) has raised the coal production quota (*Rencana Kerja dan Anggaran Belanja*, or RKAB) for 2024 by nearly 30% to 922 Mt, although the IEA anticipates that coal production will be around 800 Mt in Indonesia for the full year 2024, growing by 2.9%.[34]

In 2024, the IEA reports electricity demand in Indonesia rose by an estimated 11% year-on-year, with coal-fired output up by about 10%, providing about 50% of the additional generation. A notable trend supporting coal demand is that captive coal-fired power plants are increasingly supplying electricity to expanding nickel processing facilities. Gas-fired power grew by 8% and accounted for 14% of the total mix.[35]

Meanwhile, Indonesia added just 3.3 GW of renewables from 2018 and 2023, bringing the current total to 13 GW.[36] In contrast, the Indonesia installed an additional 26 GW of fossil fuel capacity during the same 5-year period. Fossil fuels currently account for roughly 80 GW of generation capacity, or 86% of the 93 GW currently installed (2023 data, including captive power stations).[37]

[33] https://iea.blob.core.windows.net/assets/a72a7ffa-c5f2-4ed8-a2bf-eb035931d95c/Coal_2023.pdf

[34] https://iea.blob.core.windows.net/assets/a72a7ffa-c5f2-4ed8-a2bf-eb035931d95c/Coal_2023.pdf

[35] https://iea.blob.core.windows.net/assets/77522eb7-49c8-4611-851e-59bd5b93454c/Electricity2025.pdf

[36] In terms of renewable energy, the largest capacity additions were in bioenergy (+1.3 GW), followed by hydropower (+1 GW), solar (+0.5 GW), geothermal (+0.5 GW) and wind (+0.01 GW).

[37] Ember, Indonesia's expansion of clean power can spur growth and equality, August 14th, 2024, Dinita Setyawati, Dody Setiawan

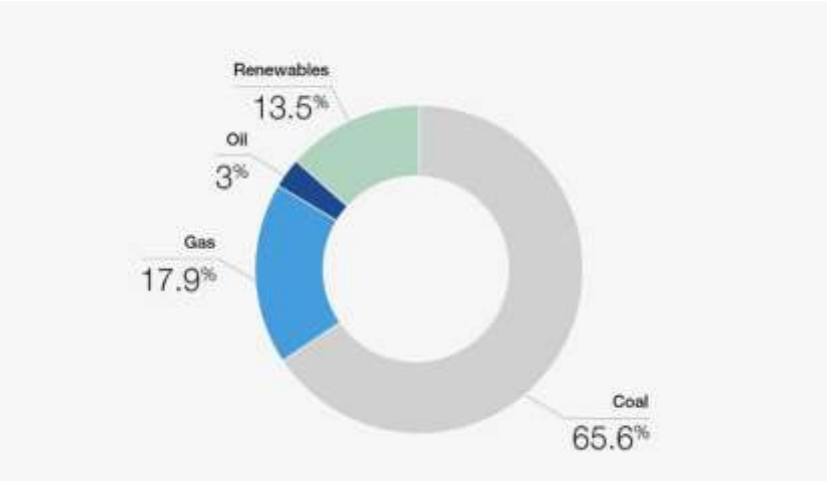


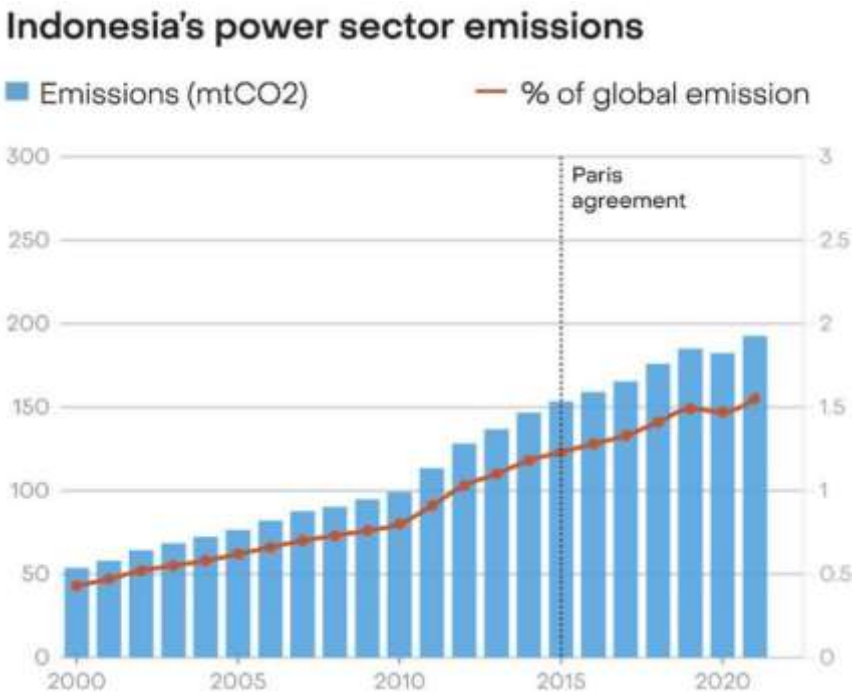
Figure 4: Batu bara mendominasi pembangkitan listrik di Indonesia (Sumber: xxxx)

The construction of new coal-fired generation is part of the pipeline established under General Plan of Electricity Supply (*Rencana Umum Penyediaan Tenaga Listrik*, or RUPTL) 2021-2030.[38] The RUPTL—which can be thought of as "PLN's plan"—is revised annually or bi-annually, takes a 10-year forward glance at the sector's needs based on demand forecasts, policy changes, or new projects. The 2021-2030 RUPTL estimated an additional 40.9 GW of capacity by 2030 of which 49% (20.9 GW) would be renewable energy.[39] Coal projects under construction is expected to increase Indonesia's total coal generation capacity by **14 GW** by 2030, at which point will surpass 66 GW of installed coal capacity. Hydropower is expected to contribute 9.3 GW, solar 4.7 GW, and geothermal 3.4 GW Emissions in Indonesia are therefore expected to rise during this period, both in the power sector and economy wide.[40]

[38] https://web.pln.co.id/statics/uploads/2021/10/ruptl-2021-2030.pdf

[39] RUPTL 2021-2030, https://web.pln.co.id/ Reuters, Indonesia needs $200 bln annual investment in 2021-2030 to decarbonise-govt, 13 October, 2021, https://www.reuters.com/business/environment/indonesia-needs-200-bln-annual-investment-2021-2030-decarbonise-govt-2021-10-13/; EMA, EMA to Seek Proposals for Electricity Imports, 25 October, 2021, https://www.ema.gov.sg/media_release.aspx?news_sid=20211024ouxMNg5jwnht; RE100, RE100 Global Policy Message, https://www.there100.org/sites/re100/files/2020-10/RE100%20Global%20%20Policy%20Message.pdf

[40] https://ember-climate.org/insights/research/global-electricity-review-2023/#supporting-material



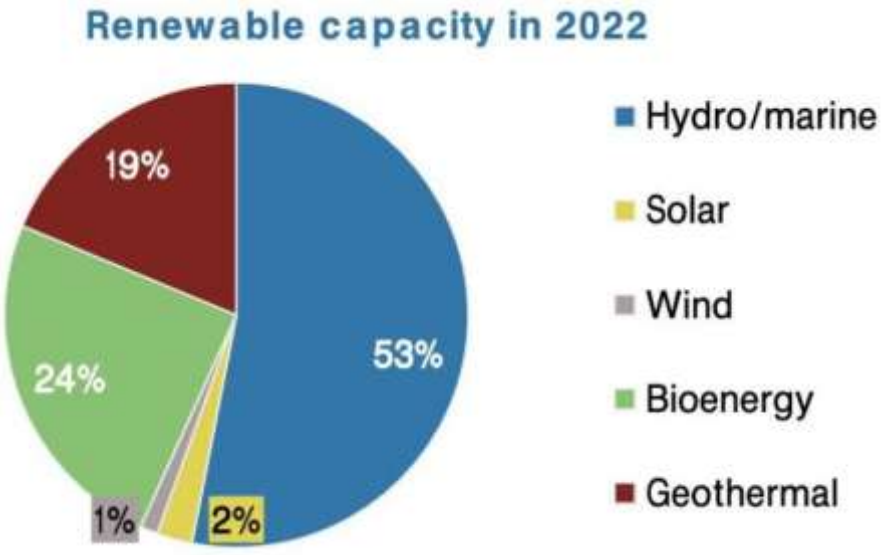


Figure 5: Indonesia's renewable energy deployment [2022

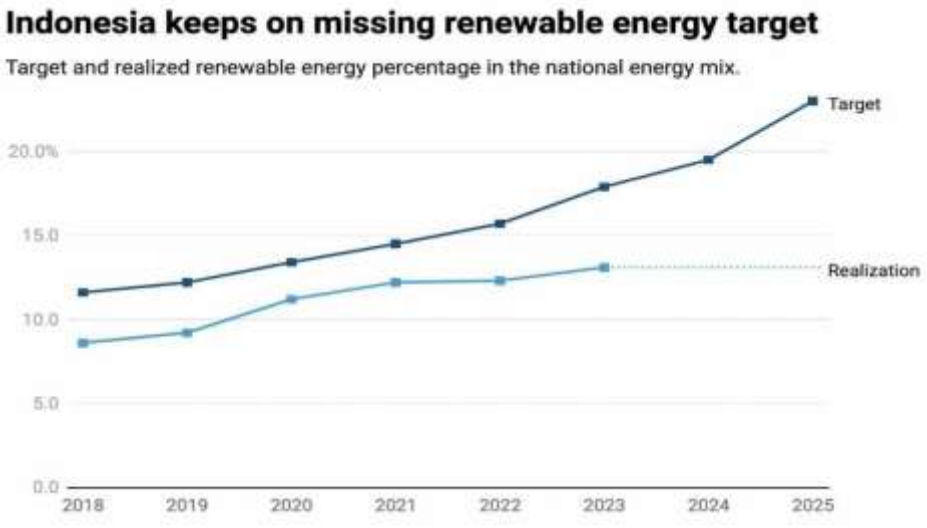
Slow Growth of Renewables in Indonesia

That RUPTL projections might be influenced by the dominant political narratives seems indisputable. It is therefore advisable to view Indonesia's renewable energy targets through the lens of both recent experience and current realities. In October 2014 the GOI issued Government Regulation No. 79, regarding National Energy Policy (Kebijakan Energi Nasional, KEN), with the aim of achieving an energy mix of a minimum 23% renewable energy and a maximum 30% for coal by 2025.

But renewables in Indonesia made up just 13.5 percent of Indonesia's electricity production in 2022, and the proportion fell to under 12.3% in 2023 as domestic coal use expanded. The GOI has already retreated from its target of 23% renewable energy (or 24 GW of installed capacity) by 2025. According to the MEMR's General Plan of Electricity Supply (Rencana Umum Penyediaan Tenaga Listrik, or RUPTL) 2021-2030, reaching the 23% target would have required an additional 10.6 GW of renewable power capacity. The new renewable energy target for 2025 was 17%-19%, a lower target that will also very likely be missed.

It is important to note that most of Indonesia's renewable energy capacity was built before the neoliberal reforms of the 1990s At the end of 2022, installed hydroelectric power was around 6 GW (2,080MW, in large projects, plus another 4GW of small hydro.) Indonesia's total installed geothermal capacity is approximately 2,356 MW. Industrial biomass contributes roughly 1,900 MWs, although wind and solar power installed barely registers (less than 3% of electricity supply). In other words, thus far neoliberal reforms have not led to a renewables' boom in Indonesia, and there is little sign that things will change dramatically in the next several years. Furthermore, most of the renewable energy that is currently installed and operational is the result of robust government interventions.

Indonesia missed its renewable energy target for 2025, and it seems very likely that, if the current policies are allowed to continue, the targets for 2030, 2033, and 2035 will also be missed by a wide margin. From a climate, working-class, and national development perspective, the consequences of missing targets will be serious..



Indonesia's Coal Exports Are at Record Levels

Meanwhile, Indonesia's coal production (775.2 million tons) is on the rise. In 2023, it constituted about 8-9% of global coal production.[41] Indonesia exported around 518 million tons in 2023, and is currently the world's largest thermal coal exporter, accounting for 51% of the world's coal exports by volume, with Australia a distant second.[42]

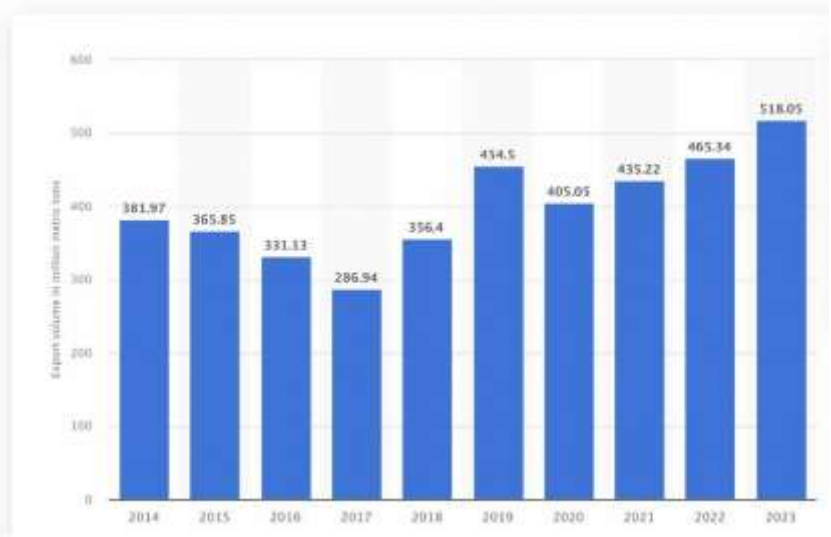


Figure 6: Volume Ekspor Batu Bara Indonesia dari tahun 2014 sampai 2023 (dalam juta Mt). *Sumber: Statistica 2024*[1]

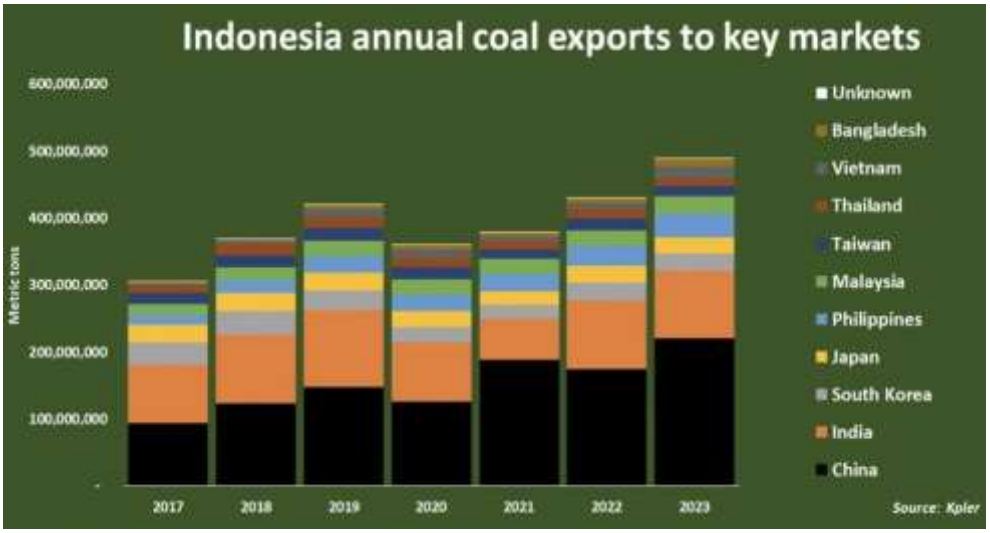


Figure 7: Ekspor tahunan bata bara Indonesia berdasar pasar penting

[41] https://www.reuters.com/markets/commodities/indonesian-thermal-coal-exports-scale-new-highs-early-2024-2024-02-20/

[42] In 2023, Indonesia exported approximately 518 million metric tons of thermal coal

China and India are major consumers of Indonesian coal, but Japan, Malaysia and the Philippines import significant volumes of thermal coal from Indonesia.[43]

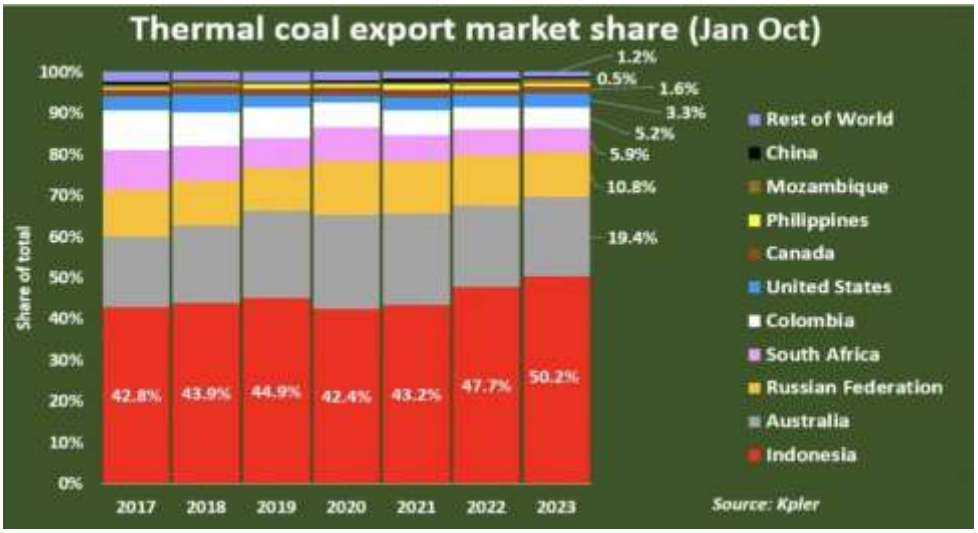


Figure 8: Indonesia mengekspor lebih banyak batu bara dibandingkan gabungan seluruh negara lain di dunia.

Domestic Use is Roughly 25% of Coal Production

Indonesia is by far the world's largest exporter of coal and is therefore contributing to the energy expansion in the Asia-Pacific region. When measured by volume, domestic coal use continues to increase, which is true of many non-OECD Asian economies

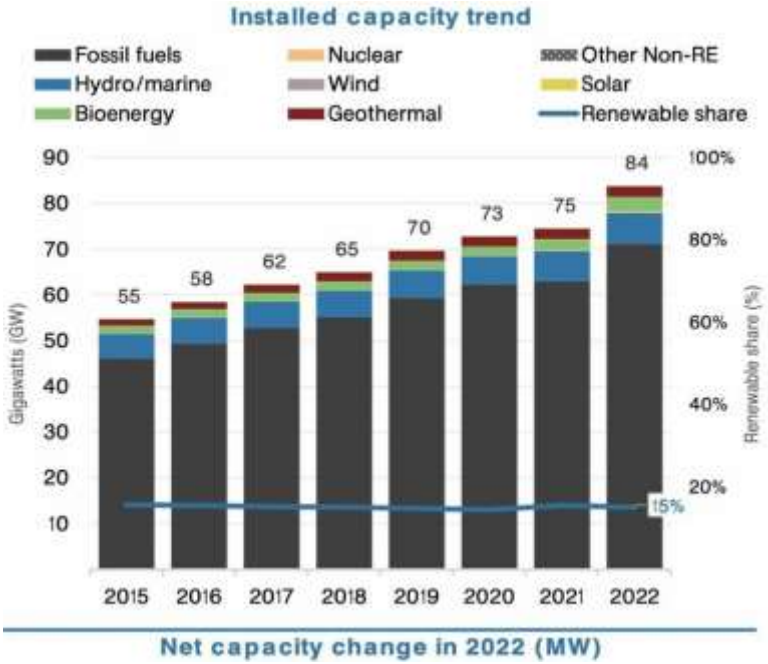


Figure 9: Indonesia's coal use for electricity continues to increase

[43] https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/coal/012224-indonesias-2023-coal-output-exports-hit-record-high-amid-robust-demand

However, just 25% of Indonesia's coal production is allocated to domestic use while the remaining coal production is exported. And Indonesia's domestic coal use amounts to just 3% of global coal consumption. This is less than the per capita world average.[44] Indonesia's contribution to global power sector per capita emissions is below 4%, which is roughly the same as the OECD average for power sector emissions, per capita.[45] PLN's contribution to global emissions is estimated to be in the region of 1.5% to 2%.[46] This is significant, but not particularly exceptional given the size of the country's population.

These statistics show that the contribution of Indonesia's coal burning to global GHGs is currently moderate or unexceptional. Indeed, Indonesia's per capita GHG emissions are currently around 2.5 metric tons (MTs) CO2e (the "e" represents "equivalent") per year, while the global average is 4.8 tons (2023 data).[47] For example, the US' per capita emissions is above 14.9 metric tons, and Australia's is 15 metric tons.[48] Indonesia's per capita emissions reflect the country's relatively low level of economic development.[49] Per capita electricity consumption is just 34% of the ASEAN average.[50]

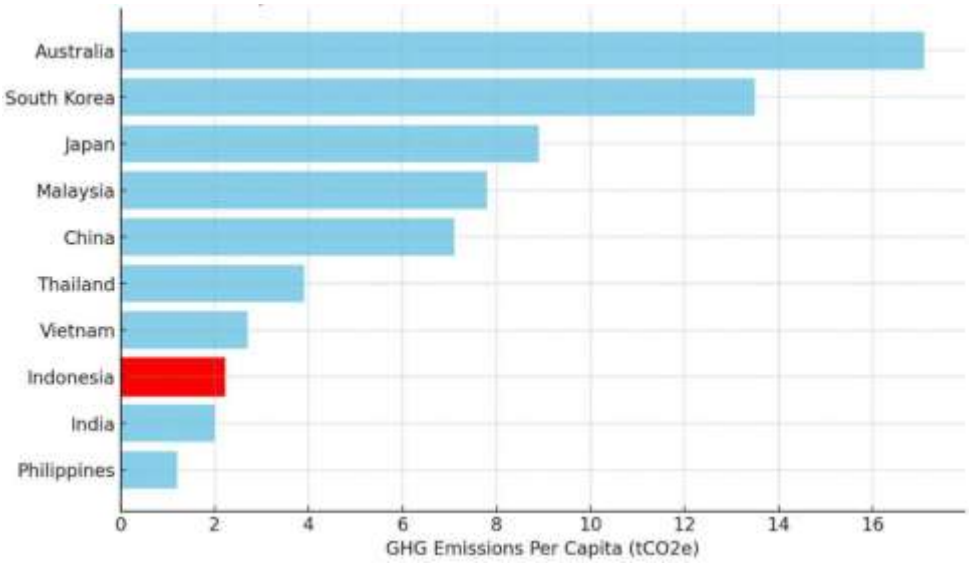


Figure 10: Data compiled from World Bank's World Development Indicators (WDI) and UNFCCC

[44] Divide world population (8.2 billion) into Indonesia's 275 million population = 3.5%.

[45] https://www.iea.org/data-and-statistics

[46] https://www.researchonenergy.org/

[47] https://data.worldbank.org/country

[48] https://ourworldindata.org/grapher/co-emissions-per-capita

[49] https://data.worldbank.org/country

[50] According to INDEF, Indonesia's electricity consumption per capita in 2023 amounted to 1,337 kWh = 1.3 MWh/capita. Meanwhile, the average electricity consumption in ASEAN is already 3,896 kWh/capita.

Conclusions and Implications

The data presented above projects a clear picture, the main features of which are:

1. Led by the Asia-Pacific region, the world is experiencing an energy *expansion*, not an energy *transition*, with fossil fuels accounting for most of the new energy demand.

2. Indonesia's coal exports are rising due to the energy expansion taking place in the region. Domestic coal use is also increasing, both in the power sector and industrial sectors. This is another expression of both Indonesia's energy expansion and the energy expansion across the region.

3. The global energy expansion, which is indicated by the rise of both fossil fuel use and emissions levels, speaks to the ineffectiveness of the current "privatise the decarbonise" policy approach. These policies should not be replicated in Indonesia.

4. After more than 30 years of UN-led climate negotiations and scientific data gathering that points to the existential threat posed by climate change, global emissions continue to rise and are currently at dangerously high levels. This points to a policy framework that is, at best, ineffective.

5. Given the experience of the past decade, Indonesia's climate commitments and energy transition goals are unlikely to be achieved and must be viewed with scepticism. But the same is true of the net zero commitments made by many other countries.

6. A new approach is needed, one that addresses both the rising demand for fossil-based energy and, beyond the OECD and China, the slow deployment of non-fossil energy alternatives.

PART TWO
INDONESIA: THE LONG REACH OF NEOLIBERAL ENERGY REFORM AND THE "PRIVATISE TO DECARBONISE" AGENDA

Part One of this position paper established beyond doubt that the world is experiencing an energy *expansion*, not an energy *transition* of the kind needed to address rising GHG emissions and climate change. This reality requires us to question both the efficacy and the legitimacy of the neoliberal policies being proposed for Indonesia by foreign interests and their domestic allies. If an effective alternative to the current approach is not developed, then "business as usual" will surely prevail, with potentially disastrous social and ecological consequences for Indonesia and the world.

Part Two explains the evolution of neoliberal approach as it applies to Indonesia, beginning with the World Bank and the IMF's interventions in the 1980s and, in the late 1990s, the push to impose a "standard model" privatisation agenda for the country's power sector as part of a broader Structural Adjustment Program (SAP)

This history is important, for two reasons. First, it vividly illustrates how, throughout the *New Order* period (1966-1998), the World Bank and the IMF were intent on opening Indonesia's power sector and the larger economy to foreign capital. This effort intensified following the 1997 Asian financial crisis that impacted Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand.
Second, this history also makes visible how, following the global financial crisis of 2007

and the wave of popular rebellions against austerity, the neoliberal narrative was able to shift from one built around fiscal discipline and "market fundamentals," towards a greener, climate-saving, message. In other words, the packaging was "green and inclusive" but the structural adjustment agenda has remained at the heart of a series of policy interventions designed to further advance privatization, liberalization and the weakening of state control.

These policies are aimed at creating what is frequently described as "an enabling environment for the private sector," the goal of which has been, and continues to be, expanding the role of the IPPs and other private investors, while steadily undermining the historic role of PLN.

For the Climate? Or for Profit?

As we will see, the history of World Bank and IMF involvement in Indonesia (see box *The World Bank and IMF in "New Order" Indonesia*) means it is appropriate to question the motives of those who are promoting policies like the JETP, the ADB's EMT and the IEU CEPA. If, as is claimed, the goal is to help Indonesia accelerate its energy transition to develop its green industries to address climate change, then why do the policymakers refuse to acknowledge that their policies are not working? Such an approach has failed on multiple levels. From a climate perspective, investor-focused "privatise to decarbonise" policies have shown themselves to be completely incapable of addressing the global rise in fossil fuel use.

In Indonesia's case, the current policy focus on reducing domestic coal use is clearly disproportionate given regional coal demand trajectories. Indeed, the three main JETP-countries—South Africa, Indonesia and Vietnam—together account for just 4.3% of global annual coal consumption, whereas just two of the countries driving the JETP, Germany and (until very recently) the US, together account for 11.5%.[51] In terms of emissions, of the three main JETP countries, only South Africa, at 8.5 metric tons CO2e (carbon dioxide equivalent) per year, exceeds the OECD 7.6 metric tons CO2e annual per capital emissions average. Vietnam's per capita CO2e emissions is roughly 2.8 tons, and—as noted above—Indonesia's per capita GHG emissions are about 2.5 metric tons CO2e per year. [52]

[51] China's coal consumption has almost *quadrupled* since 1990 and it currently burns more coal than the rest of the world combined. See: http://www.stats.gov.cn/tjsj/ndsj/2021/indexeh.htm. In contrast, Senegal (a JETP country) has no coal in its generation mix and has very low rates of electricity consumption and CO2 emissions. https://www.worldometers.info/coal/coal-consumption-by-country/ The stated objective of the JETP with Senegal was not to avoid future emissions, but to increase the share of renewables in installed capacity to 40% of Senegal's electricity mix by 2030. See: https://www.rockefellerfoundation.org/grant/climate-smart-ventures-2022/

[52] https://data.worldbank.org/country

It is also worth noting that some rich countries have per capita coal consumption levels that are significantly higher than Indonesia's. Some are also significant exporters of coal and gas. Australia exports roughly 80% of its coal, mostly to India, Japan and Korea. The US, too, is a significant exporter (mostly to India and China) of coal and the US is ranked fourth largest exporter behind Indonesia (the largest) Australia and Russia.[53] US coal exports hit 32.6 million short tons from January through November, 2024—a six year high—and generated roughly $4 billion in revenues for the U.S. coal sector, according to price data published by the U.S. Energy Information Administration (EIA).[54] The US is also the world's leading exporter of gas by a considerable distance.[55] The rich countries have a lot to say about the climate impacts of coal production in Indonesia, but they have yet to take the lead on limiting their own coal exports. Overall, from both a climate and an equity standpoint, the rich countries and the investor class should be required to explain more attention is not being devoted to finding ways to control the energy expansion, a phenomenon that has clear ties to the neoliberal emphasis on trade-led growth and financial liberalization that began in the early 1990s.

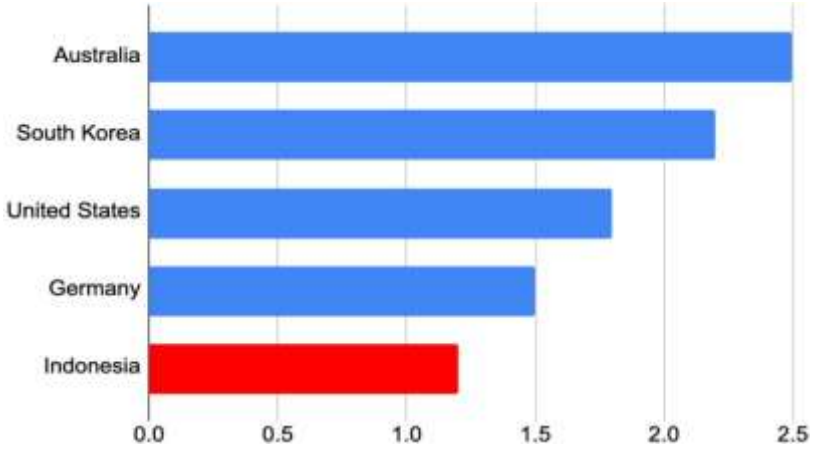


Figure 11: Coal consumption, tons per capita. Indonesia, 1.2 tons; Australia 2.5 tons. Source: https://www.worldometers.info/coal/coal-consumption-by-country/

The World Bank and IMF in "New Order" Indonesia

Documents declassified in 2012 offer some insight into the World Bank's approach to Indonesia, and why its current role warrants careful scrutiny.[56] In August 1964 a Bank document noted that "For some years now the Bank has had practically no contact with Indonesia." It noted "the default on debt owed to the Dutch Government as well as refusal to consider claims of compensation for expropriated private Dutch property" which meant there was no scope for the Bank to operate in

[53] https://www.energybot.com/energy-faq/how-much-coal-does-the-united-states-export-and-to-where.html

[54] According to Reuters (December 12, 2024) "hefty exports have served to undermine U.S. credibility as a climate leader." https://www.reuters.com/markets/commodities/hefty-us-thermal-coal-exports-look-set-keep-climbing-2025-maguire-2024-12-12/

[55] https://www.statista.com/statistics/217856/leading-gas-exporters-worldwide/

[56] https://timeline.worldbank.org/en/timeline/home#event-president-mcnamara-arrives-in-indonesia

Indonesia.[57] The Sukarno government withdrew from the Bank in August 1965.[58] Several weeks later, on September 30th, the coup led by General Suharto preceded months of slaughter and violent repression against anyone alleged to have been involved with the PKI.

With the New Order period underway, Indonesia re-joined the World Bank in April 1966 and the IMF in February 1967. Despite the Suharto regime's murderous record, the IMF quickly announced a moratorium on $534 million in Indonesia's debt servicing obligations, a sum which represented 69% of the estimated earnings from Indonesia's exports. The moratorium constituted a massive political and financial concession to the Suharto dictatorship that had declared its willingness to open the country's economy to foreign capital.

The relationship between the Bank and the New Order regime was cordial to the point that the World Bank continued to lend money to Indonesia even though it was fully aware that the country's leaders were deeply corrupt and had waged a campaign of unspeakable violence that claimed the lives of hundreds of thousands of civilians.[59] Robert McNamara became president of the World Bank in April 1968 and met with Suharto in Jakarta in June of the same year, and he subsequently expressed admiration for Suharto's commitment to make Indonesia attractive to overseas investors.[60]

This history draws attention to the lengths the World Bank and the IMF were prepared to go to serve their own political objectives. Almost 60 years have passed, but the mentality of the World Bank and the IMF persists. Hard and fast rules around lending are relaxed for some, while imposed in an inflexible and coercive manner for others.

Policy Continuity: From Structural Adjustment to "Green Growth"

The specific policy proposals contained in the JETP, ADB-EMT and IEU CEPA mark the continuation of the neoliberal approach to power sector reform that began in the 1980s and 1990s. In a 1993 report titled *The World Bank's Role in the Electric Power Sector: Policies for Effective Institutional, Regulatory and Financial Reform* laid down several principles or guidelines for the Bank's future power sector lending.[61] In the

[57] https://timeline.worldbank.org/content/dam/sites/timeline/docs/migrated/event06-1076800-woods-AM-briefing0001.pdf

[58] https://timeline.worldbank.org/content/dam/sites/timeline/docs/migrated/event06-1786878-press-release0001.pdf

[59] The World Bank, "Summary of RSI Staff Views Regarding the Problem of 'Leakage' from the World Bank Project Budget", August 1997.

[60] https://timeline.worldbank.org/content/dam/sites/timeline/docs/migrated/event09-1771083-soeharto-mtg0001.pdf

[61] The World Bank's role in the electric power sector : policies for effective institutional, regulatory, and financial reform (English). A World Bank policy paper Washington, DC : The World Bank. http://documents.worldbank.org/curated/en/477961468782140142/The-World-Banks-role-in-the-electric-power-sector-policies-for-effective-institutional-regulatory-and-financial-reform

words of the report, "The Bank will aggressively pursue the commercialization and corporatization of, and private sector participation in, developing-country power sectors." Moreover, "For [public] power enterprises to operate on commercial principles, they must be treated like commercial enterprises. They should pay interest and taxes; earn commercially competitive rates of return on equity capital; and have the autonomy to manage their own budgets, borrowing, procurement, salaries, and conditions pertaining to staff." The Bank asserted that, while endogenous factors (such as the oil price increases of the 1970s) had inflicted macroeconomic distress on developing countries, governments had been guilty of "inappropriate national policies on energy pricing, investments, institutional development, and methods of governance." [62]

Chronology of Early Efforts to Restructure Indonesia's Power Sector[63]

1985	New Electricity Law passed
1989	World Bank sector review recommends introduction of competition and possible eventual privatization
1990	President Suharto approves first Independent Power Producer (IPP) project
1992	Implementing regulations for 1985 law promulgated as Presidential Decree No. 37, which encouraged private participation in the sector and corporatized the national power company (PLN)
1994 – 1997	25 additional IPP projects signed
1997	Asian financial crisis sweeps Indonesia, bankrupting PLN
January 1998	World Bank announces end to lending in the sector due to disapproval of IPP developments
May 1998	Civil unrest – in part driven by tariff increases – forces President Suharto to step down
August 1998	Habibie government announces power sector restructuring policy, issuing the "White Paper" following a workshop with donors
March 1999	Asian Development Bank announces $400 million in loans to support Indonesia's power sector restructuring program
October 1999	Indonesia's first democratic elections replace Habibie with Abdurrahman Wahid
February 2000	Controversy erupts in the Parliament and in the press over proposed tariff increases
August 2001	Adburrahman Wahid is replaced by Megawati Sukarnoputri
October 2001	Parliament passes new oil and gas law

[62] The World Bank's role in the electric power sector : policies for effective institutional, regulatory, and financial reform (English). A World Bank policy paper Washington, DC : The World Bank. http://documents.worldbank.org/curated/en/477961468782140142/The-World-Banks-role-in-the-electric-power-sector-policies-for-effective-institutional-regulatory-and-financial-reform

[63] This table was presented in World Resources Institute (undated) http://pdf.wri.org/power_politics/indonesia.pdf

No Reforms? No Finance. The World Bank and the "Standard Model" of Privatization

The 1993 policy change meant that future World Bank funding for energy projects would be contingent on developing country governments introducing a series of sweeping reforms that included the breaking up of public companies into generation, transmission and distribution entities (so-called "unbundling"), establishing an independent regulator (to drive through the neoliberal reforms and pare back the decision-making capacities of SOEs), create space for privately-owned independent power producers (IPPs),[64] and introduce competition in both generation and distribution. This became known as "the standard model" of power sector privatization.

The Bank's 1993 policy paper left little room for negotiation: "The Bank will give [financial] assistance only when satisfied with the government's institutional and structural reform policies for the power sector…direct loans to [public] energy enterprises should be linked to progress toward corporatization and commercialization." [65] The Bank's main message was clear: No reforms? No finance. Development aid therefore became a coercive instrument used to punish governments that failed to comply with the reform agenda..

"Underpricing": The Ideology of Full Cost Recovery

For public companies, the World Bank considered Full Cost Recovery (FCR) as the main metric of viability.[66] The Bank consistently applies the concept in energy, water, transport, etc. In simple language, FCR is achieved when tariffs or fees cover all costs associated with providing a service. These costs typically include the cost of borrowing money (capital costs), including debt servicing and depreciation, and costs associated with operating and maintenance (O&M), administration, etc.[67] Importantly, these costs also include what the Bank describes as "adequate" or "attractive" returns on investment for private interests. During the period 2000-2015 the Bank included cost recovery conditionalities in at least 41 project loans in 25 different countries, as well as 49 development policy loans covering 25

[64] According to Eberhard, "IPPs are defined as power projects that are, primarily, privately developed, constructed, operated, and owned; have a significant proportion of private finance; and have long-term power purchase agreements with a utility or another off-taker."

[65] https://edisciplinas.usp.br/pluginfile.php/5794151/mod_resource/content/1/The%20World%20Banks%20role%20in%20the%20Electric%20Power%20Sector.pdf

[66] https://openknowledge.worldbank.org/entities/publication/d866a5f0-ed0c-5cdf-ad57-ae2513f82c7e

[67] However, strictly speaking, the Bank considers a utility to be financially viable if it can cover the cost of providing the service though a combination of electricity sales and other revenue sources. A utility can therefore be financially viable even if cost recovery is below 100 percent—as long as that same utility can make money in some other way to make up the shortfall in electricity sales revenue.

different countries.[68] The main message from the Bank was clear: to recover costs, utilities and/or governments should raise prices, and this will, the Bank claimed, attract private sector investment.

For the World Bank, the main impediment to FCR was (and continues to be) the "universal underpricing" of electricity or, in different language, the absence of "cost reflective tariffs." Consistent with neoliberal dogma, subsidies to consumers were viewed as a sign of governmental weakness in the face of popular demands for electricity tariffs to remain low. Governments should therefore stop trying to control prices and set electricity tariffs at the levels required to ensure the viability of the utility.

The Bank's insistence on FCR reflects an assumption that utilities and governments just need to, as it were, "get their act together" which will, in turn, make the power sector attractive to investors.

Significantly, a 2020 World Bank study showed that "countries that had reached important milestones of cost recovery and financial viability fell back into dependence on government support within a few years as tariffs did not track *conditions outside the control of the utilities*, such as droughts and the need to rely on expensive emergency power (in particular in SSA), inflation (e.g., India), exchange rate devaluations (e.g., Indonesia Argentina) or sudden changes in the availability of energy imports from neighboring countries (e.g., Botswana, Jordan)." [69] (Emphasis added) In other words, the cost of delivering electricity is determined by variables that are beyond the control of the utilities themselves.

The Bank's 40-year obsession with FCR is purely ideological, and it has been shown to be unworkable. FCR rejects the basic principle of electricity provision as a fundamental building block to economic and human development. By insisting on FCR, the Bank appears to be oblivious to the fact that the full social and economic value of adequate and affordable electricity provision will never be captured or expressed in the relationship between actual and recovered costs. For example, if a public utility only provided power to the wealthy 5% of a country's population, or by simply serving large industrial consumers or wealthy communities, then FCR would be entirely possible, at least in principle. But it would require that same utility turning away from providing electricity to the broader population, smaller businesses, etc. which is not in the interests of the Indonesian people and is antithetical to the principles of the Constitution of the Republic.

Nevertheless, these reforms, the Bank believed, would improve power sector performance, and increase the level of investment, including foreign investment.[70]

[68] World Bank, January 2020, *Cost Recovery and Financial Viability of the Power Sector in Developing Countries : Insights from 15 Case Studies (English).* Policy Research working paper|no. WPS 9136 Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/970281580414567801

[69] World Bank, January 2020, *Cost Recovery and Financial Viability of the Power Sector in Developing Countries : Insights from 15 Case Studies (English).* Policy Research working paper|no. WPS 9136 Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/970281580414567801

[70] The World Bank's role in the electric power sector : policies for effective institutional, regulatory, and financial reform (English). A World Bank policy paper Washington, DC : The

Development finance would be made available to increase the presence of IPPs, but support for public companies became contingent upon their—or their governments—willingness to comply with the marketization and liberalization agenda.

Today, neoliberal goals in the power sector are normally expressed in kinder, gentler, "greener" and less reprimanding terms than the ones used in the 1990s. Nevertheless, there is a clear continuity between the regressive and destructive structural adjustment policies of the past and the policies that are being promoted today. As in the 1990s, JETP financing will come with conditions (sometimes referred to as "conditionalities") and these conditions must be met *before* the finance is delivered. Support is extended to the IPPs, regardless (it seems) of their performance. Meanwhile public companies like PLN are pressured to reach FCR targets while paying for IPP-generated power.

Standard Model Privatization and the 2002 Electricity Law

The 1997 financial crisis reinvigorated the World Bank's structural adjustment objectives in Indonesia (and elsewhere). It led to "standard model" legislation in the Electricity Law No. 20 that was passed in 2002. Supported by the Bank, the legislation sought to open the door to private companies to enter generation, distribution, and retail and to unbundle PLN. The 2002 law included provisions for FCR and called for an independent regulatory agency to oversee the sector to ensure "fair competition" between PLN and IPPs. During this period the World Bank provided financial, technical and legal assistance for IPP projects with the goal of increasing private sector participation—therefore aligning itself with the IPPs while exposing PLN to further revenue uncertainties.

However, when stories of corruption between Suharto's close associates as well as US and Japan-based IPPs came to light, the Bank attempted to distance itself from the Suharto-era support for IPPs, even though the Bank was fully complicit in the promotion of Suharto-era contracts. These take-or-pay contracts were disastrous for PLN. As the name implies, any electricity generated by an IPP must be either "taken" by PLN or, if electricity was not needed for any given period of time (a "not needed" period could span hours, days, weeks or perhaps years, PLN would still need to pay for the electricity as stipulated under the PPA between the utility and IPP. Consistent with neoliberal policy, this situates PLN as a single-buyer "off-taker" or primary purchaser of electricity generated by IPPs. It was initially assumed that the IPPs would attract foreign investment, thus relieving the GOI from the budgetary burden of financing new projects either through governmental borrowing, using taxation revenue, or both.

World Bank. http://documents.worldbank.org/curated/en/47961468782140142/The-World-Banks-role-in-

the-electric-power-sector-policies-for-effective- institutional-regulatory-and-financial-reform

Supporting Your Friends: World Bank Protections of IPPs

The World Bank's Multilateral Investment Guarantee Agency (MIGA) protects IPPs from policy changes. Many IPPs secure funding for their projects through international loans or investments, which are often denominated in US dollars. The World Bank's Multilateral Investment Guarantee Agency (MIGA) guarantees IPPs against a range of risks, including:

Currency Inconvertibility and Transfer Restrictions: Protecting investors against the risk that they will not be able to convert local currency into foreign exchange and transfer it out of the host country.

Expropriation: Safeguarding against government actions that might reduce or eliminate ownership of the asset.

Breach of Contract: Protecting investors from losses arising from the government's failure to honor obligations under contracts, such as power purchase agreements (PPAs).

War and Civil Disturbance: Protecting against losses caused by political violence, including war, civil unrest, and terrorism. In Indonesia, the MIGA has provided guarantees for various energy projects, among them the Sarulla Geothermal Power Project, which is owned by a consortium of Japanese and US companies, as well as the private Indonesian company Medco Energi which specializes is oil and gas projects.[71]

In the case of Paiton 1 power station, companies like Edison Mission Energy (U.S.) and Mitsubishi (Japan) collaborated with Suharto allies, and the World Bank provided political risk insurance through its Multilateral Investment Guarantee Agency (MIGA). Still active, MIGA protects foreign investors against the potential impacts of expropriation and currency inconvertibility. Given Indonesia's political and economic volatility at the time, MIGA protection was crucial in securing foreign investment for the Paiton 1 project. The project's high tariffs and evident corruption cost PLN an estimated $150 million.[72]

To address the problems of corruption, collusion, and nepotism (*korupsi, kolusi, nepotisme, or* "KKN"), the World Bank proposed "competitive procurement" as an alternative to behind-closed-doors agreements with IPPs. The Bank assumed that if IPPs were required to bid against each other for contracts, this would solve the problem of IPPs signing opaque deals with PLN, thus aligning risks more equally between PLN and IPPs.[73]

The Bank has continued to promote a competitive procurement, although it has yet to explain how this more equal "risk alignment" would occur. Whether

[71] https://www.miga.org/

[72] https://www.hukumonline.com/berita/a/mantan-dirut-pln-diperiksa-atas-dugaan-kkn-proyek-paiton -1-hol1537?page=2

[73] World Bank, "Indonesia Country Assistance Strategy," 2001-2003; World Bank, Project Appraisal Document (2003) for Indonesia's Power Sector Restructuring Program.

competitively procured or not, legally binding PPAs in the form of take-or-pay agreements provide a guarantee that, should electricity revenues fall due to an economic slowdown or contraction, the IPP would still be paid, likely in US dollars or another hard currency. In the developed countries, competitive procurement through capacity auctions has not introduced genuine competition among IPPs, and prices of IPP-generated renewable power remain far higher than what could be achieved in a fully public system.[74]

Indonesia: An "Attractive Market" for North-Produced Green Technologies

Even a cursory survey of the neoliberal thinking will make clear that the search for new markets and new opportunities for investment take precedent over the delivery of climate and energy-related public goods on non-commercial terms.

It is undeniable that Indonesia (and other JETP countries) are viewed by North-based governments, corporations, and investors as potentially large markets for green products. The US and the EU have both made it clear that they wish to be the market leaders in what the EU Commission calls "net zero technologies."[75] But to penetrate new markets, the rich countries need policies to create "an enabling environment" for (their own) private investors. In Indonesia's case, creating such an environment will require the steady displacement of PLN as a vertically integrated public energy utility under the control of the Indonesian state.[76]

Along similar lines, the Indonesia-European Union Comprehensive Economic Partnership Agreement (I-EU CEPA) seeks to promote the EU's Green Deal as a green trading platform, but the EU is not shy about demanding that, in Indonesia, "Policy reforms must be implemented immediately. These reforms should include improving business climate and investment licensing regime, creating a more flexible labour market, formulating more certain and non-discriminatory economic policies, and implementing more open trade and investment

[74] For a detailed account of the "subsidies for all" de-risking in Europe, see Sean Sweeney (TUED) Mapping a Public Pathway for Europe's Energy Transition, October 2024 https://rosalux.eu/en/ 2024/ mapping-a-public-pathway-for-europes-energy-transition-2/

[75] https://ec.europa.eu/commission/ presscorner/detail/av/ip_24_2309

[76] Indeed, the GOI has raised similar concerns about the JETP in particular. In late September 2023, Deputy for Investment and Mining, Septian Hario Seto, told media sources that JETP donor countries are interested in financing commercial renewable energy projects rather than financing the closure of coal-fired power capacity. He also mentioned that Indonesia's expectations from the JETP were clear: the partnership was supposed to provide financial support for the early termination of coal plants and for the development of a smart electricity grid.https://dinsights.katadata.co.id/read/2023/ 09/26/jetp-a-roadblock-for-indonesias-coal-transition

policies."[77] The European Commission has made it clear that if the GOI's procurement policies continue to discriminate in favour of Indonesian suppliers, thus restricting EU companies' access to the Indonesian market, then there will be no I-EU CEPA. [78] (See Part Four, *Reassess, Renegotiate, Reposition*, below)

Resistance is "Suicide": Opening the Door to IPPs

For reasons that will be explained below, Indonesia's compliance with standard model directives has been selective and cautious.

In the 1970s, Indonesia economic growth was sustained by an oil export boom. The revenue derived from high oil prices allowed the New Order regime to continue to fund infrastructure projects, provide energy subsidies and generally maintain steady economic growth. During this period GOI debt initially declined by almost 20 percentage points of GDP.[79]

Things began to change when the U.S. Federal Reserve began tightening monetary policy in the late 1970s. Indonesia faced rising interest rates and currency pressures, and the GOI responded with fiscal and monetary policy tightening, trade liberalization, and privatization. Starting in 1980, central government debt climbed rapidly from 14 percent of GDP in 1980 to 46 percent of GDP in 1987. The global recession of the early 1980s widened Indonesia's current account deficit to 6 percent of GDP in 1983. The rupiah was allowed to depreciate, interest rates further increased, the banking system was deregulated, and privatization of public companies was accelerated.[80]

During this period of rising neoliberal hegemony, the World Bank advised the GOI to corporatize PLN and open the door to IPPs, and the GOI took steps to comply. In 1992, Presidential Decree No. 37 known as the Private Power Decree, and the 1994 Decree No. 23, changed PLN's status from an Indonesian power utility (*Pemegang Kuasa Usaha Ketenagalistrikan*, PKUK) to a Limited Liability State-owned Enterprise under the name of PT PLN (Persero). [81] The

[77] Centre for Strategic and International Studies (CSIS), Seizing Gains from a Transformative Agreement: A Study on the Indonesia-EU Comprehensive Economic Partnership Agreement, 2021

[78] Syukri, M., and R. D. Sari. The Problem of Access to Government Procurement Markets in the Indonesia-European Union Comprehensive Economic Partnership Agreement (I-EU CEPA)." *Journal of Law, Policy and Globalization* 118 (2022): 85–93. https://doi.org/10.7176/JLPG/118-11

[79] Guild, J. (2019). The state, infrastructure and economic growth in Jokowi's first term. Doctoral thesis, Nanyang Technological University, Singapore.

[80] For an account of this period, see: Kose, M. Ayhan, Peter Nagle, Franziska Ohnsorge, and Naotaka Sugawara. 2021. Global Waves of Debt: Causes and Consequences. Washington, DC: World Bank. https://www.worldbank.org/en/research/publication/waves-of-debt

[81] See regulation 169/1994. Government Regulation (Peraturan Pemerintah, PP) No. 10 of 1989 on Electricity Supply and Utilization was introduced to define the provision and use of electricity. This regulation became essential for outlining the requirements for electricity providers, such as private producers needing to sell electricity either directly to PLN (the state utility) or consumers. See: https://wipolex-resources-eu-central-1-358922420655.s3.amazonaws.com/edocs/lexdocs/laws/en/id/id020en.pdf

goal was to convert PLN into for-profit corporation, albeit still state-owned.[82]

Along with other corporatized public electricity companies in the Global South, PLN was expected to raise its own capital and operate like a private corporation. In theory, PLN would have a higher degree of autonomy in terms of managing its internal operations and set tariffs. PLN was also expected to make progress towards FCR and to become less dependent on GOI subsidies. Earlier, in 1985, Law Number 15 on Foreign Direct Investment (*Penanaman Modal Asing,* PMA) created space for IPPs, and other IPP-supporting laws and regulations were to follow. The arrival of IPPs in Indonesia in the early 1990s was therefore a key feature of Indonesia's embrace of neoliberal policies.

The early experience with IPPs in Indonesia has been well documented. Beginning in the early 1990s, the Suharto government negotiated -pay contracts with 27 IPPs. PLN warned the government that this approach would lead to both overcapacity and higher electricity prices, both of which turned out to be true. Indonesia currently has an excess capacity level of around 25%, although the estimates vary.[83]

The reason for this overcapacity is the proliferation of take-or-pay contracts that imposed a substantial debt burden on PLN, requiring the utility to purchase excess fossil fuel-generated electricity from IPPs. The excess capacity problem was made worse by the GOI overestimating the country's rate of economic growth.[84] This led to the GOI overestimating the level of capacity additions needed to meet future electricity demand, and the result was an electricity surplus, most of which is generated by fossil fuels. Take-or-pay provisions guarantee a steady revenue stream for IPPs, but in an oversupplied grid (as is currently the case) capacity payments are paid to operators regardless of whether the power produced by the plant is dispatched to service demand.

PLN also noted that contracts with IPPs disproportionately benefited foreign investors, and would leave PLN (and thus, ultimately, the government of Indonesia) legally obligated to make crippling payments to IPPs denominated in US

[82] Norplan A/S. 1993. Institutional Framework and Regulation of the Power Sector in Indonesia. Washington, DC: The World Bank. Cited by World Resources Institute (undated) http://pdf.wri.org/power_politics/indonesia.pdf

[83] According to a March 2023 report co-released by the Centre for Research on Energy and Clean Air and Trend Asia, "33% of the 58 GW of total installed fossil fuel capacity in Indonesia was in excess of what was needed to meet peak demand and maintain a 15% reserve margin." Ambiguities versus Ambition: A Review of Indonesia's Energy Transition Policy. March 2023, https://energyandcleanair.org/wp/wp-content/uploads/2023/03/CREA_Trend-Asia_EN_Ambiguities-versus-Ambition.pdf

[84] The 2019-2028 RUPTL targeted an average demand growth of 6.4% per year, but the realization during 2015-2023 averaged only 4.3% per year. https://policy.asiapacificenergy.org/node/4172?utm_source=chatgpt.com

dollars.[85] But PLN's concerns were brushed aside. According to Djiteng Marsudi, the former director of PLN, "The power companies [IPPs] dictated terms to us because they had Indonesia's first family behind them. Resisting them was like suicide."[86]

The 1997 East Asia Financial Crisis

With the onset of the 1997 financial crisis, the Indonesian Rupiah depreciated 600% against the US dollar and other major currencies. The countries affected by the crisis countries had borrowed in foreign currency, and now struggled to meet debt service obligations and faced steep jumps in debt ratios following currency depreciations." [87] In 2000, the IMF acknowledged that, because of the economic growth in East Asia, it "did not foresee the deep recessions that occurred. In the event, Korea's GDP dropped by 7 percent in 1998, Thailand's by 6 percent, and Indonesia's by 14 percent."[88] In fact, in 1993, the IMF was buoyant, referring to the period of growth as "The East Asian Miracle." [89] Many commentators have subsequently argued that these aggressive and coercive reforms worsened the crisis by prompting the flight of capital and undermining social protection for the poor.[90]

The deep economic recession in Indonesia led to a sharp decline in PLN revenues from electricity sales.[91] Nevertheless, PLN was

[85] See: Guild, J. (2019). The state, infrastructure and economic growth in Jokowi's first term.

Doctoral thesis, Nanyang Technological University, Singapore. See also: Louis T. Wells and Rafiq Ahmed. Making Foreign Investment Safe: Property Rights and National Sovereignty.

New York: Oxford University Press, 200, cited by Guild, op. cit. 2019

[86] According Wu and Sulistiyanto, "PLN was forced to sign contracts with more IPPs with instructions directly from then President Suharto even after PLN had clearly communicated to the government that the electricity from these proposed IPPs would not be needed. As bluntly put by Djiteng Marsudi, the former director of PLN, "the power companies dictated terms to us because they had Indonesian's first family behind them. Resisting them was like suicide." See: Wu, X. and Sulistiyanto, P. (2013) 'Independent Power Producer (IPP) Debacle in Indonesia and the Philippines: Path Dependence and Spillover Effects', National University Singapore.

http://lkyspp.nus.edu.sg/wp-content/uploads/2013/03/IPP_debacle1.pdf

[87] Kose, M. Ayhan, Peter Nagle, Franziska Ohnsorge, and Naotaka Sugawara. 2021. Global Waves of Debt: Causes and Consequences. Washington, DC: World Bank. https://www.worldbank.org/en/research/publication/waves-of-debt

[88] International Monetary Fund. Recovery from the Asian Crisis and the Role of the IMF.

https://www.imf.org/external/np/exr/ib/2000/062300.htm#box3

[89] World Bank, The East Asian Miracle: Economic Growth and Public Policy, (Washington, D.C.: World Bank, 1993).

[90] S. Radelet and J. Sachs, 'The Onset of the East Asian Financial Crisis', Harvard Institute for International Development, (30 March 1998), 25-26.

[91] Henning Zülch, Dominic Detzen, Martin Wünsch, Torsten Wulf & Philip Mei ner. "The benefits of a pre-deal

purchase price allocation for acquisition decisions: an exploratory analysis." Problems and Perspectives in Management, Vol 11(1), 2013.

contractually obligated to continue to honour the dollar-denominated PPAs with IPPs.[92] By mid-1998 PLN's net loss reached $1.4 billion. Electricity prices were raised 30% to help compensate the loss of revenue and to help deliver payments to the IPPs. This led to widespread protests. By March 2003, PLN had renegotiated 14 PPAs, significantly lowering PLN's payments to IPPs.[93]

Meanwhile, the 1997 crisis provided an opportunity for the World Bank to resume its effort to have the GOI unbundle PLN. At the World Bank's urging, the IMF included power sector privatization as one of many structural conditionalities tied to a series of financial bail-out packages starting in 1998.[94] Within weeks of Suharto's resignation May 1998, meetings took place between the administration of president B. J. Habibie, the IMF, the World Bank and other donor institutions to discuss structural reforms.[95] An August 1998 "White Paper" (or Power Sector Restructuring Policy) set the stage a full-blown restructuring of the power sector, although this paper is not publicly available.[96]

[92] Wu, X. and Sulistiyanto, P. (2013) 'Independent Power Producer (IPP) Debacle in Indonesia and the Philippines: Path Dependence and Spillover Effects', National University Singapore. Available from I http://lkyspp.nus.edu.sg/wp-content/uploads/2013/03/IPP_debacle1.pdf

[93] According Wu and Sulistiyanto, "PLN was forced to sign contracts with more IPPs with instructions directly from then President Suharto even after PLN had clearly communicated to the government that the electricity from these proposed IPPs would not be needed. As bluntly put by Djiteng Marsudi, the former director of PLN, "the power companies dictated terms to us because they had Indonesian's first family behind them. Resisting them was like suicide." See: Wu, X. and Sulistiyanto, P. (2013) 'Independent Power Producer (IPP) Debacle in Indonesia and the Philippines: Path Dependence and Spillover Effects', National University Singapore. http://lkyspp.nus.edu.sg/wp-content/uploads/2013/03/IPP_debacle1.pdf

[94] http://pdf.wri.org/indonesia_1.pdf

[95] These meetings are documented in https://www.forbes.com/sites/stevehanke/2017/07/06/20th-anniversary-asian-financial-crisis-clinton-the-imf-and-wall-street-journal-toppled-suharto/

[96] This document is referenced in Agus P. Sari, Power Sector Restructuring and Public Benefits, http://pdf.wri.org/power_politics/indonesia.pdf, but is apparently unavailable.

Structural Adjustment Led to Coal Privatisation and Growing Foreign Control

It is important to remember that the IMF's $23 billion bailout program for Indonesia (1997-1998) was tied to the liberalization of the mining sector. What was a state owned and mostly small-scale industry under Sukarno, and partially privatized under Suharto, was transformed into a zone of operations for domestic and multinational mining companies keen to profit from selling coal to China, India and elsewhere. The World Bank supported the Coal Contract of Work (CCOW) introduced under Suharto, but at first the main beneficiaries of privatization were domestic coal companies. However, Law No. 4/2009 that opened the coal sector to multinationals.[97]

The Domestic Market Obligation (DMO, discussed below) remains in place, but neoliberals have long set their sights on weakening the regulation on grounds that it constitutes a coal subsidy that, if lowered or removed, would create space in the market for other energy sources other than coal. According to IEEFA, "Discussions to reduce these subsidies and compensations are underway at the Ministry of Finance."[98]

Figure 12: Indonesia has complied with some of the neoliberal proposals, but often cautiously[99]

[97] https://www.sei.org/wp-content/uploads/2023/10/sei2023-051-coal-indonesia.pdf

[98] https://ieefa.org/resources/plns-financial-sustainability-rests-accelerated-coal-retirement-and-renewables-deployment

[99] Chart presented in SSEK Law Firm, Renewable Energy 2023, https://iclg.com/

China, Coal, and the Fast Track Programs

During the two-term presidency of Susilo Bambang Yudhoyono ("SBY") 2004-2014, the GOI launched Fast Track Program 1 (FTP-I). Economic recovery had meant that electricity supply was struggling to keep up with demand. Announced in 2006 the FT-I program (sometimes known as FTP1) aimed to **add 10 GW** of power generation capacity, primarily through PLN-owned and operated **coal-fired power plants**.

PLN was tasked with the new construction.[100] Its extensive experience allowed for the new capacity to be added relatively quickly. The decision to position PLN at the heart of the country's capacity expansion was based on, first, a desire to avoid a repeat of the disastrous impact of contracts with IPPs signed in the 1990s and, second, a reluctance on the part of foreign companies to invest in Indonesia in the wake of the 1997 Financial Crisis. As Guild notes, "By having PLN execute the programme, the state could maintain more direct control and oversight over it and eliminate the need to court foreign capital at a time when Indonesia's credit rating was still recovering." [101] Fast Track 1 showcased "PLN's ability to roll-out and build power plants over a 5-6 year period." [102]

However, new coal-fired plants were mainly financed through Chinese loans and constructed by Chinese engineering companies. This marked the beginning of a period of engagement with Chinese companies that would increase over the course of the next decade and beyond. During the period 2000 to 2016, China was the leading funder of coal power plants in Indonesia ($13.4 billion), followed by Japan.[103] Chinese state-owned power companies, China Huadian, China Energy, and China Datang are account for 82% of the total Chinese IPP capacity. Compared across companies, China Energy owns the largest operating plant –the 2 GW Java-7 power station, while Huadian has the largest capacity under development (including 1.2 GW under construction and 0.9 GW with PPAs).[104]

China's presence increased under the **Fast Track Program II** (FTP-II) Launched in 2010, FTP-II sought to add approximately 10,000 megawatts (MW) to Indonesia's electricity supply, with a significant focus on developing Indonesia's significant geothermal and hydropower resources. FTP-II included plans for **76 power plants** with a combined capacity of **17,918 MW**. Of these, IPPs were expected to develop **59 plants** totaling **12.2 GW**, compared to

[100] Raras Cahyafitri. "FTP-1 growing RI's power supply." Jakarta Post. August 22, 2014

[101] As Guild notes, "By having PLN execute the programme, the state could maintain more direct control and oversight over it and eliminate the need to court foreign capital at a time when Indonesia'scredit rating was still recovering." Guild, p 187

[102] As Guild notes, "By having PLN execute the programme, the state could maintain more direct control and oversight over it and eliminate the need to court foreign capital at a time when Indonesia'scredit rating was still recovering." Guild, p 187

[103] Angela Tritto, China's Belt and Road Initiative: from perceptions to realities in Indonesia's coal power sector, Energy Strategy Reviews 34 (2021) 100624, http://creativecommons.org/licenses/by-nc-nd/4.0/

[104] Cui, R., M. Zhu, D. Cui, F. Tumiwa, D. Arinaldo, D. Li, S. Li (March 2023). "How an accelerated coal transition in Indonesia may affect Chinese developers." Center for Global Sustainability, University of Maryland and Institute for Essential Services Reform. *1*

PLN's 17 plants with a combined capacity of **5.75 GW.**[105]

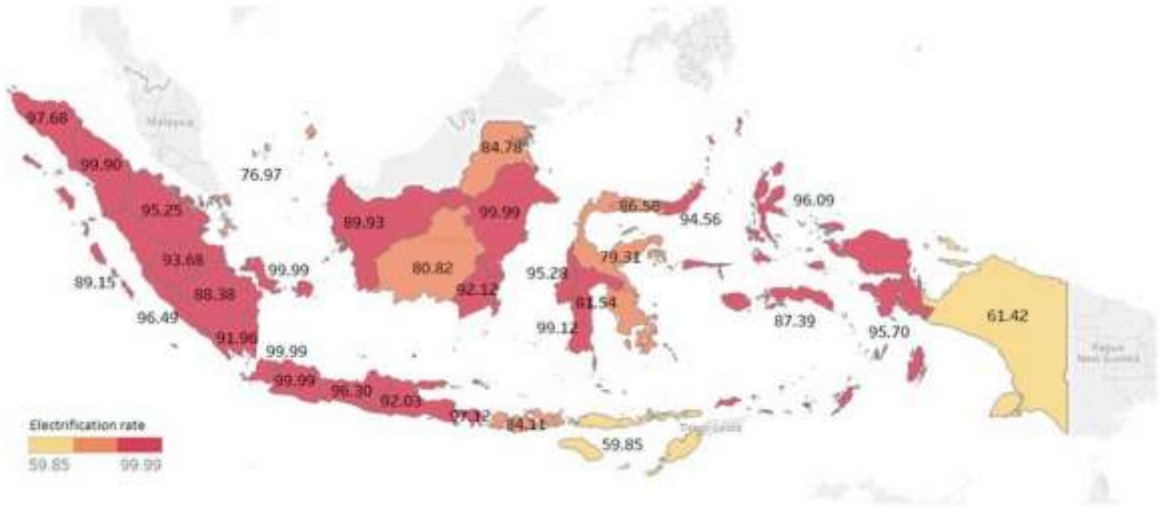


Figure 13: Electrification rates in Indonesian provinces. Sourcs: MEMR, 2017[106]

"Captive" Coal Fired Power

Led by PLN, Indonesia's electrification reached 97% during this period. But the country's industrial development accounted for much of the country's electricity demand. In 2023, the industrial sector accounted for approximately 46% of Indonesia's electricity consumption, surpassing residential consumption for the first time.[107]

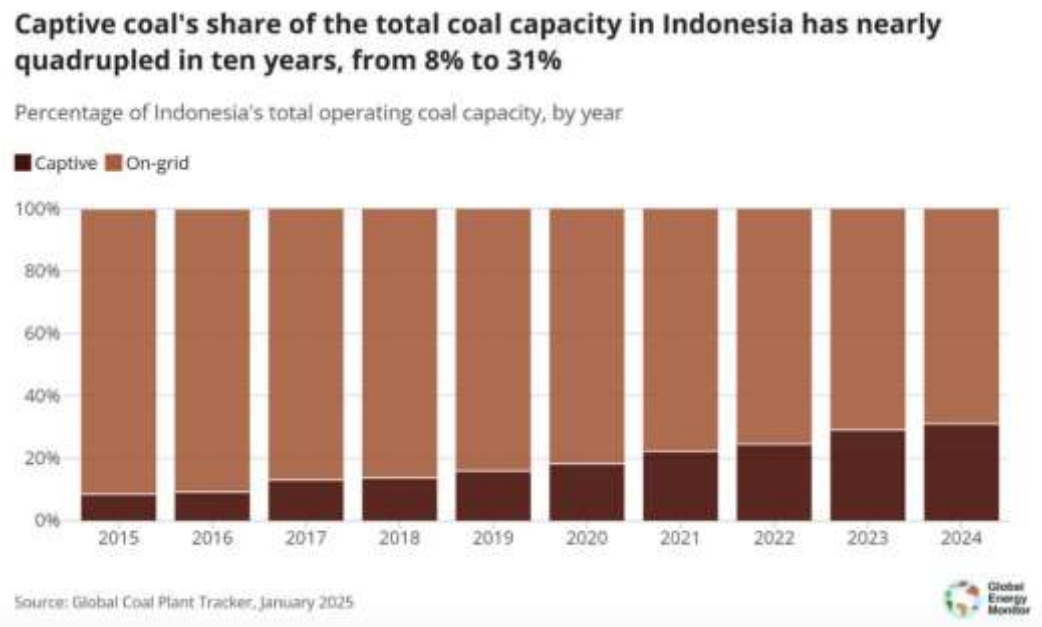
A notable trend supporting coal demand is that captive coal-fired power plants are increasingly supplying electricity to industrial parks and facilities. Captive coal power has exploded across Indonesia with nearly eight times more captive capacity operating in 2023 than in 2013.[108] "The IPPs own the majority of the capacity built within the past decade (77%), while the oldest plants (30~40 years) are all owned by PLN…the majority of the new projects (including under-construction, PPA-signed, or under-planning) are developed by IPPs, specifically 10.5 GW out of 18.7 GW."

[105] https://www.enerdata.net/publications/daily-energy-news/slow-progress-indonesias-10-gw-fast-track-program.html?utm_source=chatgpt.com

[106] https://www.esdm.go.id/assets/media/content/content-rasio-elektrifikasi.pdf.

[107] https://ember-energy.org/countries-and-regions/indonesia/

[108] https://energyandcleanair.org/publication/emerging-captive-coal-power-in-indonesia/



China's investment accelerated following the World Bank and other MDB's 2013 declaration that that they would no longer finance new CFPPs, and the Chinese government's launch of the Belt and Road Initiative. China's electric vehicle market also boosted demand for nickel. Chinese SOEs invested in coal power to enhance Indonesia's nickel export capacity, making China the largest importer of Indonesian nickel.[109]

Number of projects by Chinese investors.

Investing companies	Before BRI	After BRI
Shanghai Electric[a]	1	1
Shenhua Group[a]	1	3
China Huadian Corporation[a]	2	3
China Electric Power Construction[b]	1	–
China Energy Engineering Corporation (CEEC, Gezouba)[a]	1	2
Power Construction Group (Sinohydro, PowerChina)[a]	1	4
China Hongqiao Group/Shandong Weiqiao[b]	–	1
Dingxin Group[b]	–	1
Huadi Steel Group[b]	–	1
China's Golden Concord Holdings (GCL-Poly)[b]	–	1

[a] SOE.
[b] Private.

110

[109] https://www.reuters.com/markets/commodities/chinese-firms-control-around-75-indonesian-nickel-capacity-report-finds-2025-02-05/?utm_source=chatgpt.com

[110] Chart presented in Angela Tritto, China's Belt and Road Initiative: from perceptions to realities in Indonesia's coal power sector, Energy Strategy Reviews 34 (2021) 100624, http://creativecommons.org/licenses/by-nc-nd/4.0/).

The "second wave" of IPPs was marked by passage of the Electricity Law of 2009 indicated that policy was turning back towards neoliberal reform in ways that would lead to a "second wave" of IPPs.

Jokowi's 35,000 Megawatts Program and Fast Track II

Elected in 2014, President promised to make infrastructure investment a priority. Anticipating high levels of economic growth and the need for more generation capacity, the GOI launched the 35,000 MW Program in early 2015.[111] IPPs were expected to provide most of the new capacity, both in coal but also renewables (especially geothermal and hydropower) which should take priority over new coal capacity, and this would require emulating the kind of arrangements that had led to an increase in renewables in the Global North.

The promotion of IPPs continued to be endorsed by the World Bank and other MDBs. In 2015, IPPs were promoted as part of the $500 million World Bank Loan for Energy Development. The Bank's 2019 assessment of the loan's effectiveness pointed to the fact that the Bank "provided substantive analytical and TA [technical assistance] support in recent years to improve the RUPTL planning processes" indicating that the Bank continued to be directly involved in the effort to "improve" Indonesia's energy policies.[112] Through its Indonesia Clean Energy Development (ICED) program (2011-2020), the US Agency for International Development (USAID) also worked directly with IPPs to promote "bankable" PPAs."[113] These bodies suggested that, while PLN had showed itself capable of adding coal-fired capacity, it was less experienced in the renewables sector, especially "modern renewables" like wind and solar.

During this period, PLN signed PPAs for 10.25 GW of power, mostly with Chinese and Japanese developers who were required to form a local consortium that includes a domestic Indonesian company as a partner. The share of electricity supplied by IPPs rose from 21% of total installed capacity in 2015 to 26% in 2019.[114] Among the companies that signed PPAs with were PT Shenhua Guohua Pembangkitan, Jawa Bali, PT Bhumi Jati Power, PT Indo Raya Tenaga, PT Bimasena Power Indonesia, PT Jawa Satu Power and PT Tanjung Jati Power Company.

Of the signed PPAs that eventually reached financial close, the 8 largest projects (1,000 MW or greater) included 7 coal-fired power

[111] *Jakarta Post. "Jokowi launches 35,000-MW electricity program." May 5, 2015.*

[112] The World Bank. International Bank for Reconstruction and Development Program Document on a Proposed Loan in the Amount of US $ 500 Million to the Republic of Indonesia 2015 2015. https://documents1.worldbank.org/curated/en/338141566240828547/text/Indonesia-First-Sustainable-and-Inclusive-Energy-Development-Policy-Loan.txt

[113] https://www.usaid.gov/indonesia/environment

[114] OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/0007dd9d-en.

stations and one was gas-fired.[115] In other words, the hope that during Fast Track II, IPPs would help Indonesia transition away from coal towards renewables appeared to be misplaced; the "second wave" of IPP expansion under Fast Track II saw coal as the principal winner, and the growth of renewable energy did not proceed as planned. As we will see, this continues to be the case.

The re-situating of IPPs in the 35,000 MW program initially led to a slowdown in the levels of new capacity installations. However, in the second half of his first term, Jokowi's government began to successfully accelerate many of these projects. In early 2019, 11,000 MW had reached financial close and were already under construction.

Foreign Policy Interference: Neoliberal Entities Are Driving Indonesia's Energy Policy

There can be little doubt that the Jokowi administration had become influenced by the "green growth" framing of the MDBs and neoliberal think tanks, which accorded a leading role to IPPs and a reduced role for PLN, although Fast Track II delivered more coal and very little in terms of renewable energy.

Indonesia continues to be a prime target for advocates of the neoliberal "privatize to decarbonize" agenda. Clearly designed to influence GOI policy, there has been a steady stream of reports and studies that propose "enabling environment" policies to attract private investment. Indeed, keeping track of the output of institutions actively engaged in promoting neoliberal policies in Indonesia is itself a formidable challenge.

These sources of policy interference include established institutions that operate at the global level, regional bodies (principal among them being the Asia Development Bank) and several think tanks that focus almost exclusively on Indonesia. These entities reinforce each other's messages and recommendations, leaving little space in the public discourse for, first, any objective assessment of the impact of neoliberal policies or, second, any serious consideration of a different approach to the energy transition.

[115] According to Guild, "PLN, through an internal process, determines how much added capacity it needs and where and tenders the project for bids from private developers. Developers are almost always foreign companies, usually from China or Japan, and they must form a local

consortium that includes a domestic Indonesian company as a partner. There are no 100% foreign owned power plants above 10 MW in Indonesia.”

External Actors Pushing Reform

Asia Development Bank (ADB)

The role of the World Bank was discussed above. However, the Asia Development Bank (ADB)—which is effectively the regional arm of the World Bank—has also played a significant role. The ADB's Energy Transition Mechanism (ETM) hopes to accelerate the transition to clean energy. Its emphasis is to finance efforts to retire or repurpose coal-fired power plants earlier than planned and to replace them with renewable energy, energy storage and to finance grid upgrades. The ETM "operates through a market-based approach leveraging investments from public and private sectors."[116] Through its Clean Energy Financing Partnership Facility (CEFPF), the ADB seeks to "leverage" IPP-led private investment and offer IPPs both concessional loans and technical support.[117]

The Organisation for Economic Co-operation and Development (OECD)

The Organisation for Economic Co-operation and Development (OECD) is an international policy organization. Established in 1961, the OECD currently has 38 member countries, primarily from developed nations, though some emerging economies are also included. The OECD collects vast amounts of data. The OECD generates policy recommendations that, in common with similar institutions, align with neoliberal goals.[118] In a 2021 study titled *Clean Energy Finance and Investment Policy Review of Indonesia* refers to "large untapped market potential" for "corporate sourcing of renewables" in Indonesia. The report proposed that "current regulations and pricing practices need to be reviewed, ensuring transparent and fair application of settlement for self-generation and facilitating contractual agreements between businesses, PLN and IPPs." [119] Indonesia "has become a coveted destination" for investors in the clean energy sector, but GOI policy has made it "uneconomical to invest in self-generation or challenging to procure off-site generation, thus hindering development of a vibrant market

[116] The ETM is a regional project (not confined to Indonesia) involving the Philippines, and Vietnam, Pakistan and Kazakhstan. https://www.adb.org/what-we-do/energy-transition-mechanism-etm; see also: https://seads.adb.org/news/adb-indonesia-philippines-launch-partnership-set-energy-transition-mechanism. The ADB acknowledges the need for a just transition for workers and communities: https://www.adb.org/news/features/why-adbs-etm-prioritizing-safeguards-just-transition

[117] Https://seads.adb.org/news/adb-indonesia-philippines-launch-partnership-set-energy-transition-mechanism

[118] An OECD report of 2003 reflects a clear pro-privatisation bias, claiming that: "Experience shows that strong political commitment to privatisation at the highest level is required to overcome bureaucratic inertia, to resolve inter-institutional rivalries and to move the process forward…Foreign ownership restrictions should be limited and post-privatisation control devices used judiciously." See: OECD (2003), *Privatising State-Owned Enterprises: An Overview of Policies and Practices in OECD countries*, OECD Publishing, Paris, https://doi.org/10.1787/9789264104099-en.

[119] OECD (2021), Clean Energy Finance and Investment Policy Review of Indonesia, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/0007dd9d-en.

for renewable electricity." [120] PLN is depicted as a large, opaque entity, with arbitrary powers—thus PLN's large presence, alongside GOI policy, serves as a deterrent to foreign investors.[121]

New Climate Economy (NCE)

Led by former World Bank chief economist Lord Nicholas Stern, the London-based New Climate Economy (NCE) was successful in convincing the GOI to formally integrate its Low Carbon Development Initiative (LCDI) into the National Medium-Term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional,* RPJMN) 2020-2024. Although publicly presented as a collaboration between collaboration between LCE and Indonesia's National Development Planning Agency (*Bappenas*), the thrust of the LCDI is consistent with the "privatize to decarbonize" approach. Alongside the World Resources Institute, LCE continues to promote the idea that "climate action is the greatest growth opportunity of the 21st century" and the LCDI "lays out a roadmap for low-carbon growth that spans across sectors."[122]

Institute for Essential Services Reform (IESR).[123]

Formed in 2007, the IESR is supported by Bloomberg Philanthropies, ClimateWorks Foundation as well as US AID and the ADB. Significantly, IESR's predecessor, the Working Group on Power Sector Restructuring (WGPSR) was financed by US Agency for International Development (US AID) and actively advocated for neoliberal reform of the electricity sector following the financial crisis in 1998. IESR openly acknowledges this history, noting that the "WGPSR advocated for electricity sector reform in Indonesia after the financial crisis in 1998 and during the program of structural changes carried out by the Indonesian government with the support of the IMF and multilateral development banks…This working group was the first civil society organization to encourage public participation in the formulation of policies and decisions in the Indonesian electricity sector, which was not sufficiently transparent at that time." [124]

In an undated report (probably released in 2005) the WGPSR associated neoliberal reforms with the need to involve civil society organizations (CSOs) in the electricity sector decision making. Titled *Electricity Governance in Indonesia*, the report concluded that "the need for IPPs was certainly based on detailed analysis of supply and demand, as well as detailed analysis of the impact of the IPP projects on tariffs," but the process was "not subject to any scrutiny." The lack of transparency and public consultation prevented the development of what the report calls "a rational IPP policy." [125]

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[120] OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/0007dd9d-en.

[121] OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/0007dd9d-en.

[122] https://newclimateeconomy.net/content/about-us

[123] https://iesr.or.id/en/about-us/

[124] https://iesr.or.id/en/about-us/

[125] https://wri-indonesia.org/sites/default/files/electricity_governance_in_indonesia.pdf

In 2021 IESR misleadingly claimed that the GOI's coal expansion plans were in "stark contrast to global trends" and would "give a wrong signal to the market that is increasingly transitioning."[126] Given the energy expansion data presented in Part One, this is very misleading. It fails to distinguish between commitments (such as net zero by 2060) and actual energy and emissions trends. As we have seen, these trends are clearly not compatible with a net zero trajectory.

The IESR provides a good example of a think tank that adopted the climate protection narrative to advance a set of neoliberal policies aimed at further liberalization of Indonesia's energy sector. It has since set its sights on having the GOI remove fuel and electricity price controls, noting that "Indonesia's commitment to energy subsidy reform can increase the government's credibility and improve opportunities to access international climate finance."[127] It has criticized the GOI for its "weak commitment" to renewables.[128]

IESR recently (August 2024) teamed up with RE100, which describes itself as a "global corporate renewable energy initiative bringing together hundreds of ambitious businesses committed to using 100% renewable electricity by 2050 at the very latest, including in their operations in Indonesia."[129] Consistent with the "privatise to decarbonize" agenda, a September 2024 "energy expansion" to President Joko Widodo stated, "Alongside IESR, RE100 is encouraged by the steps taken in the Net Zero Plan and urges key near-term plans such as the KEN, RPJPN, and RPJMN to mirror this. For these plans, RE100 seeks to assure your government that global businesses are eager for greater ambition, regulatory improvements, and increased investment in renewables. This will enable businesses to drive further investment in renewables, supporting both their RE100 targets and Indonesia's renewable energy targets." [130]

Climate Policy Initiative

The Climate Policy Initiative (CPI) is a think-tank with an international focus. It has produced several commentaries and reports on Indonesia.[131] Its mission is to "help government stakeholders, businesses, and financial institutions in the country accelerate the transition towards net zero and climate-resilient economies." CPI "develops innovative financing instruments and policy frameworks to accelerate private investment" and it provides technical assistance for the ADB's ETM.[132]

CPI is funded by Bloomberg Philanthropies, as well as government (including the EU) and UN agencies. It also works closely with the World Bank and United Nations Development Programme (UNDP), both of whom are very involved in the JETP with Indonesia.

[126] https://iesr.or.id/pustaka/indonesia-energy-transition-outlook-2021/

[127] https://iesr.or.id/en/pustaka/iesr-recommendations-for-indonesias-second-ndc/

[128] https://iesr.or.id/en/lack-of-renewable-energy-ambition-in-the-ken-rpp/

[129] https://tinyurl.com/569atz6a

[130] https://tinyurl.com/569atz6a

[131] https://www.climatepolicyinitiative.org/the-regions/indonesia/

[132] https://www.climatepolicyinitiative.org/press-release/cpi-announces-key-role-in-supporting-indonesias-ambitious-energy-transition/. See also: https://www.climatepolicyinitiative.org/id/the-topics/just-transition/

Institute for Energy Economics and Financial Analysis (IEEFA)

IEEFA has produced a steady stream of reports and papers on Indonesia's energy and climate policy. Although not neoliberal in the sense that its writers express total confidence in "the market", IEEFA endorses the removal or price protections on the expectation that this will "level the playing field" and facilitate the growth of renewable energy in Indonesia. IEEFA has called on IPP's in coal-fired power generation to do their part in reducing the costs of the transition, but how this might happen is not clearly explained. IEEFA notes, "PLN is now aggressively exposed to inflexible payment obligations because most PPAs include rigid capacity payment obligations that must be met regardless of whether or not PLN needs the power." However, it proposes that PLN "reach out to the IPPs to explore burden-sharing strategies that would permit the company to manage immediate payments."[133] Exactly what the proposed "burden sharing" strategies might look like, has yet to be explained.

More of the Same: Omnibus Law 2020 and Renewable Energy Law 2022 [Law No. 112/2022]

The examples of neoliberal influence (or interference) have also made a clear impression on the more recent laws and regulations. The 2020 Omnibus Law on Job Creation sought to diversify participation in the electricity system, using language that is either identical or very similar to the Energy Laws of 2002 and 2009. The law was ratified in March 2023. In September 2022, the GOI enacted Law No. 112/2022, the *Concerning the Acceleration of Renewable Energy Development for Power Generation* (Renewable Energy Law or PerPres 112/2022) [134] that outlined policies to expedite renewable energy adoption, including measures like banning new coal-fired power plants setting new electricity pricing structures, and providing government incentives for renewable energy projects. The law mandated PLN to prioritise the purchase of electricity from power plants that utilise renewable energy sources and to streamline procurement processes for purchasing power from IPPs in the renewables sector.

The law banned new coal-fired steam power plants beyond those stipulated in the RUPTL prior to the enactment of PR 112/2022. Separately, the **New and Renewable Energy Bill** *(Rancangan Undang-Undang Energi Baru dan Terbarukan* – ***RUU EBET***) provided a legislative framework aimed at regulating and promoting both new and renewable energy sources in Indonesia. As of early 2025, this bill has been under discussion but has not yet been enacted into law.[135]

[133] See IEEFA, 2020 https://ieefa.org/wp-content/uploads/2020/04/PLN_Time-for-IPPs-to-Share-the-Pain_April-2020.pdf

[134] Relevant MEMR regulations include: Regulation No. 10/2017 on the Main Provisions of Power Purchase Agreements (as amended by MEMR Regulations, No. 49/2017 and No. 10/2018); Regulation No. 50/2017 on Renewable Energy Use and Tariffs; Regulation No. 53/2018: the first amendment of MEMR Regulation No. 50/2017; Regulation No. 4/2020: the second amendment of MEMR Regulation No. 50/2017; and Perpres No. 112/2022 on Accelerating Renewable Energy.

[135] https://climate-laws.org/documents/presidential-regulation-no-112-of-2022-concerning-the-acceleration-of-development-of-renewable-energy-for-electric-power-supply-f970?utm_source=chatgpt.com

These laws provide further indication that the GOI wished to pursue policies that serve the neoliberal agenda. Each contain proposals that, if implemented, will further compromise Indonesia's energy sovereignty. However, neoliberal voices seek a more sweeping set of reforms. They are calling for key regulations to be relaxed or removed, namely the maximum benchmark price for renewables, local content requirements, the Domestic Market Obligation and Domestic Price Obligation for coal producers. They are also advocating for PLN to "share" its network infrastructure with IPPs.

Each of these reform proposals are summarized below.

- **Ceiling Price linked to Generation Production Cost (BPP) Creates "Uncertainty for Investors."**

Law 112, in keeping with a 2017 MEMR regulation,[136] applies a maximum benchmark price (or Ceiling Price) for renewables. Neoliberals disapprove of the fact that PLN views the price of renewables' against the background of the generation production cost (*Biaya Pokok Penyediaan*: BPP). But the introduction of the Ceiling Price, which is higher than the BPP price, was designed to provide space for IPPs to negotiate higher PPA prices.
Neoliberal opinion also disapproves of the fact that the MEMR has the authority to determine the Ceiling Price and evaluate the pricing annually based on the average purchase price of PLN's PPAs. The annual update, they say, adds more uncertainty for investors because it leaves too much discretion to PLN.[137] Reflecting this discontent, the ADB has criticized the GOI because it "has not adequately taken into account the dependency of RE [renewable energy] costs on the broader regulatory and commercial environment." [138]

Prior to the enactment of Law 112, the ADB urged the GOI to introduce "a renewable energy subsidy mechanism for Indonesia to close the gap between the costs of renewable and conventional power generation" and "for Indonesia to adopt international best practice for planning, procurement, contracting, and risk mitigation to reduce the financial costs of renewable energy development."[139] In simpler terms, the ADB is pushing Indonesia to follow the lead of Europe, the US and other developed economies by de-risking private investment. The reckless nature of this recommendation will be examined in Part Three of this position paper.

- **Power Wheeling: PLN Must "Share" Its Grids**

The idea that public utilities should "share" their transmission and distribution infrastructure with IPPs has a long history. The World Bank's standard model had imagined that grids would be privatized. This objective was later abandoned because many countries were not prepared to surrender ownership of their grids, coupled with the fact that there was little private sector interest in taking ownership of them—which would have

[136] MEMR Reg 50/2017

[137] "the incentives for renewable energy projects still trail the incentives provided for conventional energy projects."

[138] Asia Development Bank https://www.adb.org/sites/default/files/publication/635886/renewable-energy-tariffs-incentives-indonesia.pdf

[139] Asia Development Bank. https://www.adb.org/sites/default/files/publication/ /renewable-energy-tariffs-incentives-indonesia.pdf

required that they be maintained and upgraded, and returns on investment would largely depend on governmental decisions to set the price of electricity high enough to meet private sector revenue and profit expectations.[140]

However, the fact that public utilities like PLN controlled access to the grid and, alongside governments, determine electricity prices, prevented IPPs from selling electricity to a set of customers (largely industrial users) on terms that were favourable to both the IPP and the customer. A 2014 report produced by the U.S. Trade and Development Agency (USTDA) titled *Smart Grid Regulatory Framework for Mexico* sought to accelerate the neoliberal reforms then being pursued during the Presidency of Peña Nieto Corazon. The report recommended that expanding the role of IPPs would require "policies to improve system planning for infrastructure development and create level playing field for all renewable energy power developers." The polices proposed by USTDA included "exemptions from interconnection or operational requirements…such exemptions relieve developers from the need to spend significant capital and timeline to meet such requirements. This will postpone some expenses and further encourages developers to engage in investments associated with renewable resources."[141]

In 2012, the GOI embraced the idea of network sharing (power wheeling), and several regulations were adopted to encourage it.[142] A 2021 MEMR decree also declared that power wheeling was an option for Indonesia—if it stayed within the parameters of existing laws and regulations.[143] Power wheeling would permit private power producers to transmit electricity through PLN's transmission and distribution networks to "their" customers. In practical terms, it is impossible to distinguish an IPP's electrons from any other producer once the power has been fed into the grid; therefore power wheeling is an accounting arrangement, one that favors both the IPP and the purchaser—but leaves the responsibility of providing electricity to small businesses and residential consumers to PLN, while depriving PLN of and important (and normally wealthier) segment of its consumer base.

In the discussions on the Renewable Energy Law, IEEFA, IESR and others have pushed hard for power wheeling. For IEEFA, power wheeling "would allow private companies to sell renewable electricity directly to customers through transmission systems owned by PLN." IEEFA claims that enabling power wheeling could enhance Indonesia's attractiveness as an investment destination and simultaneously accelerate renewable energy development."[144] This view is

[140] https://openknowledge.worldbank.org/entities/publication/1ed3a6de-0d51-5a4f-92c3-ea3bc034947b

[141] Smart Grid Regulatory Framework for Mexico for Comisión Reguladora de Energía September 2014 Prepared by ESTA International, LLC, for USTDA

[142] These include: Regulation No. 14 of 2012 regarding Electricity Business Supply, as amended (GR 14/2012); and MEMR Regulation No. 11 of 2021 regarding the Implementation of Electricity Business (MEMR Reg 11/2021). MEMR Regulation No. 50 of 2017 regarding Utilization of Renewable Energy Sources for the Production of Electricity, as amended (MEMR Reg 50/2017).

[143] 188, K/HK/.02/MEM.L/2021, https://jdih.esdm.go.id/index.php/web/result/2192/detail

[144] https://ieefa.org/resources/power-wheeling-can-drive-corporate-investments-and-advance-indonesias-renewable-energy

echoed by the International Institute for Sustainable Development (IISD), which complained that MEMR Regulation No.26/2021 "has not been enacted to open PLN's grid for power wheeling. This is a major barrier to the deployment of a corporate sourcing mechanism it is not entirely clear whether IPPs can have their energy certified. This would be a prerequisite for the new system to attract investment in renewable energy development."[145]

Progressive think tanks (for example IRESS) have voiced strong objections to the power wheeling scheme, arguing that it effectively transforms electricity into a market commodity, potentially undermining state protections for the economically vulnerable. Although PLN would charge IPPs for using its infrastructure, the income from wheeling fees may, suggests IRESS, not fully offset the potential loss in electricity sales, especially if IPPs attract large customers away from PLN. The scheme could substantially reduce PLN's revenue, leading to an increased financial burden on the state budget due to higher energy subsidies. This, in turn, could translate into elevated electricity tariffs for consumers.[146]

IRESS also points out that power wheeling is already legal, and the GOI "has actually rolled out the red carpet for the private sector in the 2021-2030 RUPTL." The impact of the power wheeling scheme will also increase the risk of electricity oversupply due to the erosion of PLN's electricity demand.[147]

- **Local Content Requirements: "A Key Roadblock for Renewable IPPs."**

In the electricity and other sectors, the Indonesian government has supported local content requirements (LCRs).[148] For renewables, LCRs were first introduced in 2012, and investors were instructed to source products and services from domestic companies, so that the Indonesian businesses and workers might gain some of the benefits of an energy transition driven by foreign multinationals.[149] LCRs applied to various types of power plants, including geothermal, hydroelectric, and solar power projects. The initial percentages of local content varied depending on the type and scale of the project.[150] In the case of solar PV, LCRs stood at 40% in 2012 and, in 2019, it was increased to 60%.[151]

[145] IISD, February 2022, Using Public Funding to Attract Private Investment in Renewable Energy in Indonesia https://www.iisd.org/publications/brief/using-public-funding-attract-private-investment-renewable-energy-indonesia

[146] For example, see Abra Talattov, Beware of Traps: Power Wheeling Scheme in Electricity Sector, Institute for Development of Economics and Finance. August 1, 2024

[147] Abra Talattov, Beware of Traps: Power Wheeling Scheme in Electricity Sector, Institute for Development of Economics and Finance. August 1, 2024

[148] Ministry of Industry, Ministerial Regulation No. 54/2012

[149] https://cdn.odi.org/media/documents/Nexus_assessment_of_Indonesias_energy_transition.pdf

[150] Ministerial regulation No. 05/M-IND/PER/2/2017, Tingkat Komponen Dalam Negeri, Ministry of Industry, 2017

[151] Regulation of Ministry of Industry No 54 Year 2012, Use of Domestic Products for Electricity Infrastructure Development; Regulation of Ministry of Industry No 05 Year 2017, Amendments to the Regulation of the Minister of Industry Number 54 / M-IND / PER / 3/2012 concerning Guidelines for the Use of Domestic Products for the Development of Electricity Infrastructure

As a policy, Indonesia's LCR's have attracted criticism from neoliberals.[152] Countries in the Global South that have attempted to introduce and/or sustain LCRs have been similarly criticized, so Indonesia is not alone in this respect.

The IESR maintains that the removal of LCRs will strengthen the domestic supply chain for renewable energy by lowering costs and attracting foreign investment. abandoning LCRs would make solar electricity cheaper accessing module price at the international market price would lower the Levelised Cost of Electricity (LCOE) by up to 50%.[153] An OECD study has claimed, LCRs are a "key roadblock for renewable IPPs" and should be removed.[154] This is because, "Higher prices of locally produced and assembled components means that LCRs can significantly weigh on project investment costs. While Indonesia's goals to promote industrial expansion and job creation are laudable, global evidence shows that LCRs for wind and solar have overall had mixed (if not negative) effects on industrial development, job and value creation." [155]

However, the purported "global evidence" is less conclusive than is claimed by the OECD. Some studies show that LCRs have helped transfer skills and technologies, therefore any negative short-term impacts on private investment might be offset by the longer-term benefits that flow from developing domestic capacity.[156] But one thing is certain: the removal of LCRs, while it might appease foreign investors, seriously impedes the prospects of skills and technology transfer, thus leaving Indonesia heavily dependent on technologies produced beyond its borders. The inability of Indonesia to produce the technologies necessary to generate electricity from modern renewable energy technologies is an obvious threat to the country's energy security and will undermine public support for the energy transition. But the domination of "net zero technologies" by a handful of countries poses a massive problem for the energy transition in that it fuels concerns that global shift to renewable energy will produce few winners, but many losers. (See Part 4, *Reassess, Renegotiate, Reposition*)

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[152] OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/0007dd9d-en.

[153] IESR (2019), Levelized Cost of Electricity in Indonesia - Understanding The Levelized Cost of Electricity Generation, http://www.iesr.or.id

[154] The JETP Secretariat's 2023 *Comprehensive Investment and Policy Plan (CIPP)* for Indonesia claims that "Other country experiences provide lessons for driving down the cost of solar PV and wind. Brazil, India, and the United Arab Emirates have all successfully reduced project risks and transaction costs through measures such as relaxed local content requirements (LCR), fiscal incentives, and financing levers." See: https:// https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf

[155] OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/0007dd9d-en.

[156] Kuntze, Jan-Christoph and Moerenhout, Tom, Local Content Requirements and the Renewable Energy Industry - A Good Match? (September 12, 2012). Available at SSRN: https://ssrn.com/abstract=2188607 or http://dx.doi.org/10.2139/ssrn.2188607

Local Content: OK For the EU and US, Not OK For Indonesia

Given the effort on the part of the rich countries to have the GOI removed Local Content Requirements (LCRs), the fact that both the EU and the US have recently taken measures to protect their domestic "clean tech" producers from what the US White House describes as China's "unfair trading practices" reflects a double standard.[157] The Biden Administration has offered incentives to green companies to source from domestic producers, which can be called a local content subsidy, rather than a requirement—but the goal of the policy is nevertheless the same.

The EU's October 2024 report on competitiveness recommends "the EU should aim to increase the long-term "bankability" of new [clean energy] investments in Europe, for instance by applying local-content requirements." [158] It adds, "Increasing reliance on China may offer the cheapest and most efficient route to meeting our decarbonisation targets. But China's state-sponsored competition also represents a threat to our productive clean tech and automotive industries. Decarbonisation must happen for the sake of our planet. But for it also to become a source of growth for Europe, we will need a joint plan spanning industries that produce energy and those that enable decarbonisation such as clean tech and automotives." [159]

In another concession to neoliberal pressure, in August 2024, the MEMR reduced the LCR for solar projects to just 20%.[160] The reduction was designed to give developers more flexibility in sourcing components from abroad (principally China).[161] According to one source, the reduction of solar-related LCRs should not be interpreted as the GOI going along with the idea that this would attract investment; rather, "the reduction [in LCRs] is aimed at unlocking concessional financing from international development institutions, including multilateral and bilateral lenders, which has been limited by the stricter LCRs in the past."[162] In other words, the LCR reductions are not expected to be a stepping stone for the development of a FDI-driven domestic solar industry, they are designed to please bodies like the JETP Secretariat.

The assertion that local content in the form of domestic economic activity will be advanced by removing or relaxing local content requirements may be consistent

[157] https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/16/fact-sheet-biden-harris-administration-takes-action-to-strengthen-american-solar-manufacturing-and-protect-manufacturers-and-workers-from-chinas-unfair-trade-practices/

[158] European Commission, The Future of European Competitiveness (Part A), September 2024. https://tinyurl.com/4t5ww2rt

[159] Ibid.

[160] Ministerial Regulation No. 11 of 2024, issued by the Ministry of Energy and Mineral Resources (MEMR).

[161] https://www.pv-magazine.com/2024/08/16/indonesia-relaxes-local-content-requirement-for-solar-projects/

[162] https://thediplomat.com/2024/08/indonesia-relaxes-local-content-rules-to-spur-green-energy-investments/

with the kind of "trickle down" neoliberal thinking that has become so entrenched among the policy elite for decades, but this assertion is not supported by the empirical evidence.[163] Rather, the push to deregulate and liberalize has contributed to a damaging "race to the bottom" in the global renewables sector.[164]

- **Price Controls and "Coal Subsidies."**

Another key target of neoliberal reform is Indonesia's Domestic Market Obligation (DMO).

Neoliberals argue that the DMO subsidizes coal, and PLN's access to "cheap coal" is a major obstacle to the growth of renewable energy in Indonesia. Several environmental NGOs and think tanks have echoed this assessment, and have pressured the GOI to "stop subsidizing coal" so that wind, solar and other sources of renewable energy can compete "on a level playing field" in the electricity market.[165]

According to a recent essay, "The price competition will never be fair between renewables and fossil fuels if the fossil fuel subsidies are not removed, carbon emission is not taxed, feed-in tariffs for new renewables are capped, and energy prices are not set based on real-time demand."[166]

It is necessary to draw attention the problems (both empirical and conceptual) with this "subsidized coal is hurting renewables" argument.

[163] https://indonesiabusinesspost.com/insider/challenges-for-renewable-energy-projects-tkdn-regulations/

[164] https://newlaborforum.cuny.edu/2021/08/27/sustaining-the-unsustainable-why-renewable-energy-companies-are-not-climate-warriors/

[165] See Climate Policy Initiative (CPI), Indonesia Power Sector Finance Dashboard, https://www.climatepolicyinitiative.org/dataviz/indonesia-power-sector-finance-dashboard/ CPI asserts, "Lack of more diverse RE investments can be attributed to uncompetitive tariffs, high local content requirements, and preferential policies for coal." See also Oil Change International, https://www.oilchange.org/wp-content/uploads/2019/06/g20-coal-subsidies-2019-indonesia.pdf. The DPO "acts as a subsidy for the state-owned utility company, Perusahaan Listrik Negara (PLN), by controlling the market price." See also: https://www.sei.org/wp-content/uploads/2018/06/contemporary-coal-dynamics-in-indonesia.pdf "2019 saw increased subsidies for electricity consumption to compensate for the rise in the price of fuel used in power plants. Since 60% of PLN's power plants are coal powered, this subsidises coal use

[166] Wong, Ryan, and Aninda Dewayanti. "Indonesia's Energy Transition: Dependency, Subsidies and Renewables." *Asia & the Pacific Policy Studies* 11, no. 2 (2024): e391. https://doi.org/10.1002/app5.391

The Domestic Market Obligation and Domestic Price Obligation

Introduced by the Mining Law 2009 and implemented through MEMR the DMO requires that 25% of total production be sold on the domestic market, with PLN being the main buyer.[167] [168]

This regulation is accompanied by the Domestic Price Obligation (DPO) which governs the price of coal sold under the DMO to PLN and other domestic buyers.[169] As noted above, this regulation currently caps the price of coal for domestic power plants at $70 per ton.

Both the DMO and DPO were designed to protect PLN from fluctuating coal prices in the international market and to ensure that electricity remains affordable.[170] The DMO can be adjusted by the GOI. As noted in Part One, Indonesia's coal consumption has been rising in recent years, as has its coal exports.[171]

Why the IMF and World Bank Definition of Subsidies is Inappropriate and Misleading

Firstly, it is important to note that calls for the removal of the DMO/DPO are informed by the IMF and World Bank's definition of a subsidy. This definition considers the difference between the regulated domestic price and the "international benchmark price" of, in this case, coal.[172] According to the IMF, pre-tax consumer subsidies measure the degree of *underpricing*.[173]

This method of calculating subsidies is very controversial. Energy-producing Global South countries have challenged this definition, arguing that anything below the

[167] MEMR Regulation No. 34/2009. For a discussion on the DMO, see: https://www.sei.org/wp-content/uploads/2018/06/contemporary-coal-dynamics-in-indonesia.pdf

[168] The provisions in the Law were implemented by imposing the DMO via a Government Regulation (PP No. 23/2010) and a Ministerial Regulation issued by the Ministry of Energy and Mineral Resources (MEMR) (Permen No. 34/2009 as amended by Permen No. 17/2020). The Permen requires mineral and coal companies to prioritize domestic needs by supplying a minimum percentage of their annual total production to the domestic market based on their annual work plan and budget (Rencana Kerja dan Anggaran Biaya). It does not state the percentage but does outline the procedures by which the MEMR is to determine it each year, based on forecasts submitted by domestic coal users. Furthermore, once the MEMR determines the DMO percentage, it must be communicated via a Ministerial Decree by June of the previous year. The current DMO is 25 percent of total production.

[169] Ministerial Regulation No. 1410 K/30/MEM/2018:

[170] MEMR Regulation 1395/2018

[171] https://www.argusmedia.com/en/news-and-insights/latest-market-news/2525281-viewpoint-higher-dmo-to limit-indonesian-coal-exports

[172] IMF Working Paper, Fiscal Affairs Department, Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates, May 2019 Authors: David Coady, Ian Parry, Nghia-Piotr Le, and Baoping Shang, page 20

actual cost of production can be legitimately described as a subsidy. But the IMF insists that the benchmark price should determine how subsidies are calculated. This may sound like a minor detail, but it carries huge political and ideological significance. If energy is produced for human development, then *actual* costs are paramount; if energy is produced to maximize profit, then the *global selling price* is what really matters.[174]

Generally, production costs for Indonesian coal are reported to be around $30 to $40 per ton for lower-grade coal, with higher grades costing more due to additional processing and transportation expenses.[175] Either way, the price PLN currently pays for coal is considerably above the production cost. If this cost were used as a reference, then PLN does not benefit from subsidized "cheap coal."

- **PLN is *NOT* paying below the world market price for coal**

However, even if based on the IMF and World Bank definition of a subsidy, the numbers used by neoliberals are questionable. For example, IEEFA states, "Coal purchased by PLN is capped at US$70/ton, well below the market price of US$110/ton as of March 2024." [176] In its CIPP, the JETP Secretariat states that, if the world market reference price [*Harga Batubara Acuan*, or HBA] "is above US$70 per ton, the price ceiling [DPO] comes into effect and prices are scaled down to a maximum level of US$70 per ton… Since it was introduced, the HBA has been consistently above US$70 per tonne. If the HBA is below US$70 per ton, the domestic price continues to be based on the HBA."[177]

These numbers are misleading, for two reasons:

1) The JETP Secretariat's CIPP calculates that the DMO price cap of $70 per ton "corresponds to a coal calorific content (6,322 kcal/kg, GCV) from the government's monthly coal price index, the *Harga Batubara Acuan* (HBA), to the average calorific value of coal used in the model (4,550 kcal/kg, NCV)…Doing so shows that the DMO price cap is equivalent to a price level of around US$43/tonne for the lower quality coal used in Indonesia's power plants." [178] But the world market price (or HBA) for the type of coal PLN uses to generate electricity is often significantly below the $70 per ton price cap. Indonesia mostly burns coal that is 4,200 to 5,000 kcal/kg, or respectively Grade 3 and 4 based on the Indonesia Coal Index (ICI)**.** The current market price for Grade 3 coal, at around $72, is comparable to the $70 price cap. However, Grade 4 is roughly $51 per ton (September 2024), therefore much lower than the $70

[174] For a discussion on the misleading features of IMF calculations, see: Sean Sweeney, Weaponizing the Numbers: The Hidden Agenda Behind Fossil Fuel Subsidy Reform, New Labor Forum, Spring 2020 https://newlaborforum.cuny.edu/2020/02/01/weaponing-the-numbers-the-hidden-agenda-behind-the-fossil-fuel-subsidy-reform/

[175] https://www.jwcindonesia.com/price-index

[176] IEEFA Pathways to Financial Sustainability for PLN through Renewable Energy Development, May 2024. Author: Mutya Yustika https://ieefa.org/resources/pathways-financial-sustainability-pln-through-renewable-energy-development

[177] https:// https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf

[178] CIPP, page 40

price cap.[179] And PLN also uses Grade 5 coal, which currently sells at around $32 per ton, which is less than 50% of the $70 price cap.

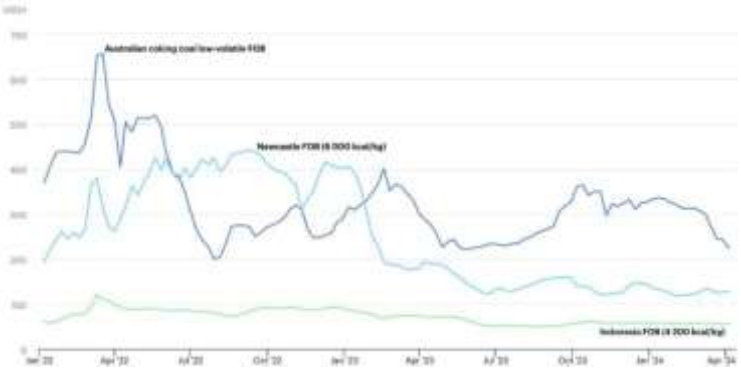

Figure 14: International Energy Agency, IEA, midyear update on coal prices, July 2024.[180].

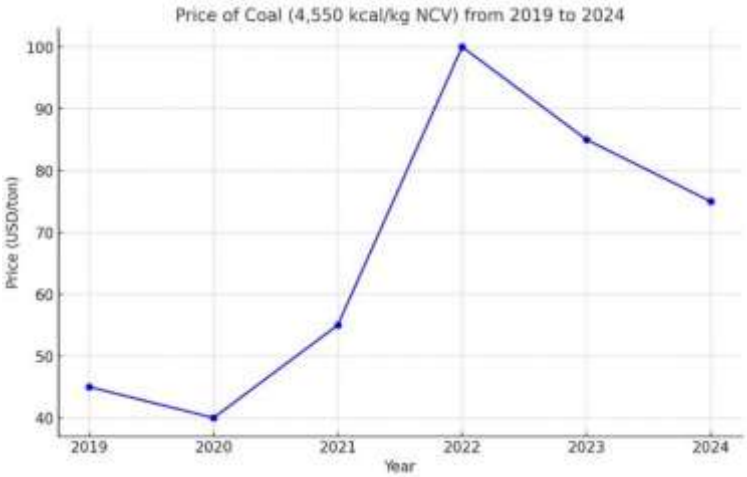

Figure 13: Approximate price changes for coal with a calorific value of 4,550 kcal/kg NCV from 2019 to 2024. The data reflects significant fluctuations, particularly with a sharp increase in 2022 due to the global energy crisis, followed by a stabilization in 2023 and 2024.

2) The HBA price used as a reference by the CIPP, IEEFA, IESR, and others is no longer applicable. The spike in the price of coal in 2021-2022 has passed, and HBA prices are currently (October 2024) considerably lower than they were during the 2021-2022 period.[181]

The global or HBA price for the kinds of coal used by PLN to generate electricity may at some point in the future rise above the current $70 per ton price cap. But if PLN's coal costs were linked to the global market price, which is volatile and largely shaped by supply and demand, electricity prices will be subjected to the same volatility may be reflected in electricity charges.

- **Higher prices for electricity from coal will NOT help grow the share of renewable energy**

Given the above, it is useful to consider what removal of the coal price cap might mean for Indonesia. According to the Climate Policy Initiative, the DMO "lowers the price for domestic buyers…If we adjust the price of coal using the export market price, its operational cost doubled (from IDR 0,5k/kWh to IDR 1.0/kWh)."[182] In the event of PLN coal being required to purchase coal at, say, $100 per tonne, PLN's fuel costs would increase considerably. In 2023, PLN paid roughly $4.6 billion for coal. If the DMO were removed and PLN were charged $100 per tonne, PLN's annual expenditures on coal would increase by roughly 43%, from $4.6 billion (69 trillion

[179] https://www.reuters.com/markets/commodities/mutual-discontent-is-good-place-asias-coal-sector-russell-2024-09-11/?utm_source=chatgpt.com

[180] IEA, midyear update on coal prices, July 2024. https://www.iea.org/reports/coal-mid-year-update-july-2024/prices

[181] https://www.jwcindonesia.com/price-index https://voi.id/en/economy/320519

[182] https://www.climatepolicyinitiative.org/dataviz/indonesia-power-sector-finance-dashboard/

rupiah) to roughly $6.6 billion.[183] This would appreciably increase the cost of coal-generated electricity which could be either recovered through a price increase for end users, or it could necessitate the GOI having to do more to shore up PLN's finances.

This leads us to ask three questions:

1 ***If PLN paid a higher price for coal, how would this advance the transition to renewables?*** If coal cost increases were reflected in commensurate increases in electricity tariffs, there is no mechanism for end users to "switch to renewables." Not only is there no mechanism, but there is also not enough installed renewable energy capacity to take advantage of a purely hypothetical increase in consumer demand for "cheaper" electricity.

2 ***Why is achieving a higher price for electricity such a high priority?*** There is perhaps only one plausible explanation: should the higher cost of producing coal-generated electricity be passed on to end users, IPPs in renewable energy would be able to negotiate better PPA terms. If better terms are agreed, PPA's might eventually become more "bankable". This would be good for the IPPs, but higher PPA prices would then (unless the GOI intervenes with additional financial support for PLN) show up on electricity bills, thus adding a further increase to electricity tariffs.

3 ***At what price will PPAs in renewables become "bankable"?*** This is unclear.[184] Until this question is answered, the claim that raising the price of coal-generated electricity will expedite the deployment of renewables is both unconvincing and misleading.

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[183] Calculation: Sean Sweeney, TUED. But it is similar to the calculations made by others: See: Kurniawan, Robi, Gregory P. Trencher, Achmed S. Edianto, Imam E. Setiawan, and Kazuyo Matsubae. 2020. "Understanding the Multi-Faceted Drivers of Increasing Coal Consumption in Indonesia" *Energies* 13, no. 14: 3660. https://doi.org/10.3390/en13143660 https://www.mdpi.com/1996-1073/13/14/3660

[184] According to the Climate Policy Initiative, PPA in renewables must be "designed to reflect the costs of the technologies, and independent of local generation costs…Having a competitive tender process for awarding renewable energy projects and accessing finance at competitive terms from international sources are opportunities to reduce costs in the short-to-medium term." But the international experience indicates that competitive tenders, auctions, etc. may reduce costs, but the cost reductions lead to PPAs that are less attractive to IPPs.

https://www.climatepolicyinitiative.org/wp-content/uploads/2018/11/Energizing-Renewables-in-Indonesia-Optimizing-Public-Finance-Levers.pdf

Conclusions and Implications

The data presented above reveals the following:

1. **Neoliberal arguments are incoherent and contradictory**. Their target is not coal; their target is PLN and the public ownership and regulation of the sector. If concerns about reducing coal and advancing low carbon forms of energy were paramount, those exerting pressure on Indonesia to reform its power sector along the lines of "green structural adjustment" would come to realize that the policies they propose are impeding the transition and will continue to do so.

2. **Those who today call for a competitive electricity market should be worried that their wish might come true**. It is nonsensical to suggest that the "real cost" of coal is the world market price, just as it is equally nonsensical to suggest that zero fuel costs (IPPs do not pay for wind, sun, or the infinite supply of heat below the earth's crust) will make renewables competitive with coal when the high profit expectations of IPPs and (increasingly) high borrowing costs for renewable energy projects means that "market forces" will *perpetuate rather than reduce* the use of coal.

3. **GOI Policy Reflects a Soft Embrace of the Reform Agenda.** GOI policy reflects a reluctance to fully embrace a reform package that surrenders governmental control over prices, removes local content targets, and reduces the role of PLN to a point where the utility is a "purchaser of electrons" from IPP owned power generation facilities.

4. **Well-resourced neoliberal institutions are trying to break resistance to reform.** Using climate arguments, pro-reform entities seek to create new profit opportunities in Indonesia. The claim that the goal is to "create a level playing field" so that renewables can "compete" and then (presumably) flourish is empty propaganda. The IPPs do not want a competitive market—they want to secure long-term, legally binding PPAs and de-risking measures and various other "out of market protections." [185]

5. **The reform proposals associated will increase the role of IPPs in Indonesia's power sector.** This will increase payments PLN's to IPPs, thus further compromising PLN's finances.[186]

[185] See Sweeney, Mapping a Public Pathway for Europe's Energy Transition (2024) https://rosalux.eu/en/2024/mapping-a-public-pathway-for-europes-energy-transition/

[186] https://odi.org/en/publications/blended-finance-in-the-poorest-countries-the-need-for-a-better-approach/

PART THREE
BEHIND THE JETP: THE CRISIS OF GREEN GROWTH AND THE FAILURE OF "BLENDED FINANCE."

Part Two described how neoliberal proposals for power sector reform have, to varying degrees, already shaped the policy direction adopted by the GOI. The GOI has made concessions to neoliberal demands, but it has retained considerable policy sovereignty, and most of its power sector infrastructure remains in public hands.

In Part Three of this position paper, we scrutinize the financial and political dimensions of the Just Energy Transition Partnership (JETP) with Indonesia. The various JETP have attracted criticism for not being transparent, or for not engaging unions and other "stakeholders" in a meaningful or robust way. We echo these criticisms, but for us the lack of consultation is less of a concern than what the JETP is trying to both sustain and augment.[187] The JETP and similar policies will lead to a loss of energy sovereignty and, potentially, energy security. They will eviscerate the capacity of the Indonesian state to determine its own energy future, as expressed in Article 33 of the country's constitution. Unions not having "a seat at the table" is a problem, but having a seat at the table without having any influence on the core policy being proposed (which is a privatisation agenda) is a much bigger

[187] For process-related concerns, see Yvonne Blos and Thomas Hirsch, Just Energy Transition Partnerships and Beyond: Recommendations for Equitable, Mutually Beneficial and Inclusive Partnerships, August 2024, https://www.fes.de/en/shaping-a-just-world/climate-change-energy-and-environment

problem both for the country and its working class citizens.

We begin by summarizing Indonesia's energy transition investment needs (here we rely on the estimates of others) and then view these needs alongside recent investment trends and where JETP calculations fit in with this broader picture. Not only do we see a massive investment gap in Indonesia, but we also see how the JETP, in that it reflects the current approach to "climate finance" and sustainable development finance more broadly, will not produce the investment Indonesia requires—not even close. Put simply, the prospects of JETP financing "catalyzing" tens of billions of dollars to address Indonesia's short-term investment needs are dismally poor.

The JETP will, however, create more debt for Indonesia and other JETP countries. As originally conceived, "climate finance" was intended to help settle the North's ecological debt to the South, not add more debt to the balance sheets of South countries.[188] In Indonesia's case roughly 70% of JETP financing is expected to take the form of concessional loans. But concessional loans will need to be channeled via the multilateral development banks (MDBs), and MDBs will require sovereign guarantees. Indonesia may have to set aside $8.4 billion in sovereign guarantees to access JETP financing.[189]

Increasing Indonesia's external debt burden is a worrying prospect, but a far more serious concern is how the JETP is designed further weaken the country's energy sovereignty by way of foreign ownership (expansion of the role of IPPs), the proliferation of PPAs, removal of price controls, so-called "network sharing," and through the weakening of PLN. Many Global South countries have followed the directives of the World Bank and created an "enabling environment" for the private sector, but the hoped for investment rarely, if ever, followed the reforms.

When viewed alongside the GOI's own energy transition plans, the JETP Scenario is "more ambitious" in terms of its renewable energy targets, and this ambition has become weaponised in the sense that, if the GOI does not agree with transition proposals in the JETP, the country will be accused of dragging its feet on climate change. The JETP therefore presents an "all pain, no gain" scenario for Indonesia.

In our view, the GOI should not surrender of the country's energy sovereignty on the promise that sovereignty can be traded for investment and this will somehow turn out to be a good deal for Indonesia. The GOI needs to protect the country's energy sovereignty and chart its own energy transition, one that it can both control and finance.

However, this is not just about Indonesia. In the pages that follow, we provide a

[188] According to Oxfam, "The world's poorest countries and communities should not be forced to take out loans to protect themselves from the excess carbon emissions of rich countries. Finance that should be helping countries respond to climate change should not be harming them by contributing to rising – and in many countries, unsustainable – debt levels." Oxfam, Climate Finance Shadow Report, 2020, at https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621066/bp-climate-finance-shadow-report 2020-201020-en.pdf?sequence=1, p. 3.

[189] See Climate Policy Initiative, https://www.youtube.com/watch?v=Ctp2oJAzirA&t=355s

detailed explanation why the neoliberal "green growth" approach to energy transition is in a deep and unresolvable crisis, and even some mainstream voices appear to be willing to acknowledge that a radical policy shift is needed, and perhaps imminent. The GOI can therefore use its influence on the global stage to bring about reforms at the multilateral level that can break the cycle of debt and the planned transfer of public assets into private hands through various "de-risking" mechanisms.

The JETP with Indonesia

Announced in November 2022, the JETP between the GOI and the International Partners Group (IPG, which is a body that represents rich country interests)[190] has been presented as a game-changing initiative to "mobilize" finance in the form of both concessional and commercial loans to accelerate Indonesia's transition away from coal.

The JETP with Indonesia initially involved a $20 billion pledge, comprised of $10 billion concessional loans from multinational development banks and the IPG. The remaining $10 billion are investments from private financial institutions under the Glasgow Financial Alliance for Net Zero (GFANZ). The IPG's pledges were later increased to $11.6 billion, with the United States, Japan, and members of the European Union engaged in the negotiations.

In Indonesia's case, roughly 20% of the $21.6 billion financing will consist of commercial loans, with nearly 80% being concessional. Concessional loans offer below-market interest rates and sometimes grace periods where the borrower is not required to make debt payments for several years—a form of "JETP discount." It is hoped that blending these two forms of financing together (concessional and market-based) will "catalyze" or "mobilize" private sector investment in Indonesia and elsewhere. Meanwhile, the grant portion of the funding for Indonesia is only $295 million, or around 1.37 percent of the total amount.[191]

Meanwhile, the JETP Secretariat and others loyal to entrenched neoliberal ideas continue to attribute the slow pace of the energy transition in Indonesia not to risk-averse private investors; the main impediment to the transition is Indonesian laws, regulations, and the still central role of PLN.[192] The Secretariat repeats the now standard dogmas: "cheap coal" is impeding

[190] https://web.pln.co.id/pln-jetp/jetp-home. The IPG is "led by the United States and Japan and including Canada, Denmark, the European Union, France, Germany, Italy, Norway, and the United Kingdom, issued a Joint Statement to formalize the landmark partnership."

[191] https://www.cnbcindonesia.com/news/20231017161825-4-481321/pln-gaet-perusahaan-china-garap-proyek-energi-bersih-rp-848-t

[192] According to the CIPP, the DMO/DPO regulations have helped make coal the lowest cost fuel source for electricity generation. "In 2022, the average price of coal purchased by the state-owned electricity company (PLN) was US$50 per ton, resulting in a cost of electricity generation of around 22-33 US$/MWh." See: CIPP page 177. On power wheeling, the CIPP is more circumspect: "A comprehensive power wheeling study will help PLN determine the associated costs to provide power wheeling

the transition to renewable energy in Indonesia; price controls and domestic production requirements (respectively, the and DMO) should be revoked, and IPP projects should be built around long-term PPA contracts that, along with providing access to concessional loans, will further de-risk private investment.[193] Furthermore, local content requirements should be removed and PLN should provide IPPs power wheeling privileges, while taking on the responsibility of upgrading the country's transmission and distribution infrastructure.

The JETP Secretariat insists that reform will lead to investment, but the evidence presented below suggests that JETP-type financing requires poor countries to borrow money and thus incur more external debt than they would have if they had done nothing at all.

Mysterious Capital: The Comprehensive Investment and Implementation Plan (CIPP)

Under the terms of the JETPs laid out by the IPG, recipient countries must first develop an investment and implementation plan *before* the finance, which is based on donor pledges, will be honoured. Indonesia, South Africa, and Vietnam have already complied with this IPG requirement.[194]

The various investment plans submitted to the IPG by JETP countries have made visible the size of the investment deficits in Indonesia, South Africa and Vietnam. This likely explains why the multilateral development banks (MDBs) have been reluctant to turn JETP pledges into cash.[195] In Indonesia's case, the $10 billion pledge made by the GFANZ involves securing financing from major international banks, including Bank of America, Citi, Deutsche Bank, HSBC, Macquarie, MUFG, and Standard Chartered. This financing will not materialise without the implementation of power sector reforms.[196]

Proposals for JETP implementation in Indonesia are laid out in a highly detailed Comprehensive Investment and Policy Plan (CIPP) produced by a body called the JETP Secretariat in late 2023. Reflecting the ongoing influence of neoliberal ideas and institutions discussed in Part Two, the "JETP scenario" acknowledges the input of "knowledge partners" such as the Boston Consulting Group, the Climate Policy Initiative (CPI), Global Green Growth

services. This would be especially appropriate to help ensure that market demand for renewable energy can be met even in areas where PLN is unable to supply them." CIPP page 308.

[193] CIPP page 40

[194] For South Africa, see: https://www.climatecommission.org.za/south-africas-jet-ip. For Vietnam, see: https://climate.ec.europa.eu/system/files/2023-12/RMP_Viet%20Nam Eng_%28Final%20to%20publication%29.pdf

[195] https://thediplomat.com/2023/12/breaking-down-the-20-billion-in-indonesias-just-energy-transition-partnership/

[196] https://thediplomat.com/2023/12/breaking-down-the-20-billion-in-indonesias-just-energy-transition-partnership/

Institute (GGGI), and the Tony Blair Institute for Global Change.[197]

The Secretariat's notes that the $21.6 billion JETP financing package "provides an important catalyst" – but it estimates that approximately $97.1 billion of cumulative power sector investments are required by 2030 to realise what is calls "the JETP scenario." To achieve power sector transition targets, the country will require an estimated $66.9 billion to fund over 400 priority projects by 2030.[198] In other words, JETP funds "represent only a fraction of the total investment needs, realizing the [JETP] outlook depends on mobilizing much greater funding from diverse sources of capital."[199]

The JETP Secretariat's reference to "diverse sources of capital" suggests that the Secretariat has no idea where the investment will come from, except to say that private investment will be critical and is contingent on "policy reforms necessary to address any regulatory barriers in the energy and financial markets that hinder private investment for a just energy transition."[200] In other words, all will be revealed once the "enabling environment" has been established, at which point and investors will start to see clear opportunities for revenue streams and profits.

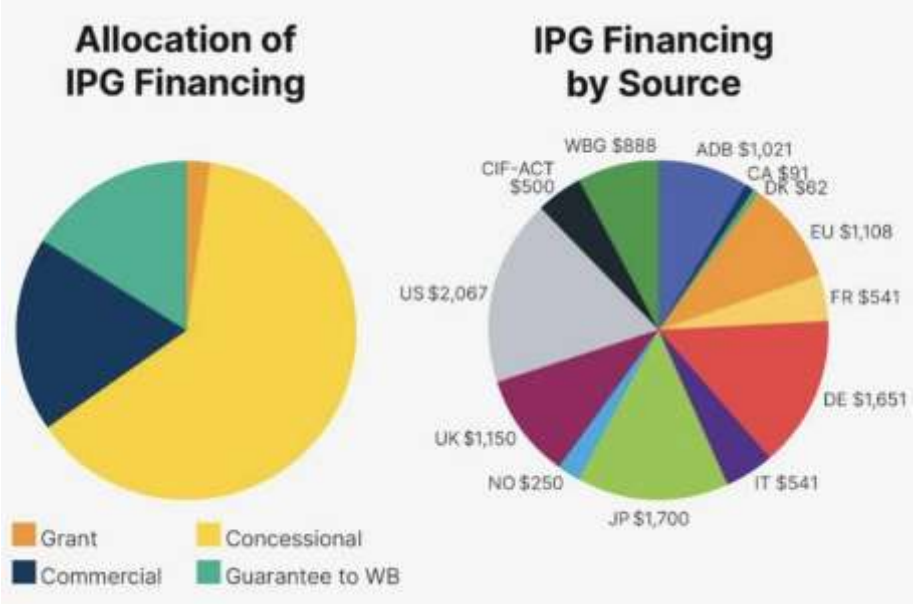


Figure 14: Source: Indonesia Comprehensive Investment and Policy Plan, November 2023

[197] https://www.bcg.com/industries/energy/overview

https://www.climatepolicyinitiative.org/empowering-indonesias-path-to-net-zero-highlights-from-2023/

https://institute.global/insights/climate-and-energy/closing-climate-divide-how-energy-transition-plans-can-turn-pledges-projects

[198] https://www.iseas.edu.sg/wp-content/uploads/2024/05/ISEAS_Perspective_2024_40.pdf

[199] JETP Secretariat, Comprehensive Investment and Policy Plan (CIPP) https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf, page 56.

[200] JETP Secretariat, Comprehensive Investment and Policy Plan (CIPP) https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf, page 8

Ambition as a Weapon: Comparing RUPTL 2021-2030 to the JETP Scenario

We now turn to the investment challenges facing Indonesia's energy transition. These challenges are both short term as well as long term (see Box, *Net Zero Investment Estimates for Indonesia.*)

Net Zero Investment Estimates for Indonesia

The levels of investment needed to meet Indonesia's net zero target by 2050 or 2060 are enormous, especially when viewed alongside current investment trends. However, the estimates vary:

Ministry of Energy and Mineral Resources (Kementerian ESDM)

According the MEMR estimates, reaching net-zero emissions by 2060 will require an investment close to one trillion dollars, annual investment levels of roughly $28.5 billion (or $997 billion in total).[201]

***International Energy Agency (IEA)**:*

The IEA has estimated that Indonesia would need to significantly increase its investments in renewable energy, grid infrastructure, and energy storage to achieve net-zero emissions in the power sector by 2060.[202]

***Climate Policy Initiative (CPI)**:*

CPI has provided similar estimates, suggesting that the power sector might require total investments ranging from $500 billion to $700 billion over the period leading up to 2060. This would include not just the deployment of renewable energy technologies but also the phase-out of coal, improvements in energy efficiency, and the development of energy storage solutions.

International Renewable Energy Agency (IRENA)

[201] ADB. 2020. Renewable Energy Tariffs and Incentives. See also: National Electricity Plan (RUKN 2019-2038). The assessment will also review its derivative, such as the RUPTL 2021-2030 with PT PLN (Persero) in Indonesia: Reviews and Recommendations. https://www.adb.org/sites/default/files/publication/635886/renewable-energy-tariffs-incentives-indonesia.pdf. See also: https://setkab.go.id/en/remarks-of-president-of-the-republic-of-indonesia-during-the-opening-ceremony-of-hannover-messe-2023-april-16-2023/

[202] Enhancing Indonesia's Power System: Pathways to meet the renewables targets in 2025 and beyond

A 2022 IRENA study (which includes estimates for the electrification of transport) concluded "as much as $2.4 trillion in investment is needed across the energy system in Indonesia in the 1.5 degrees C scenario by 2050."[203]

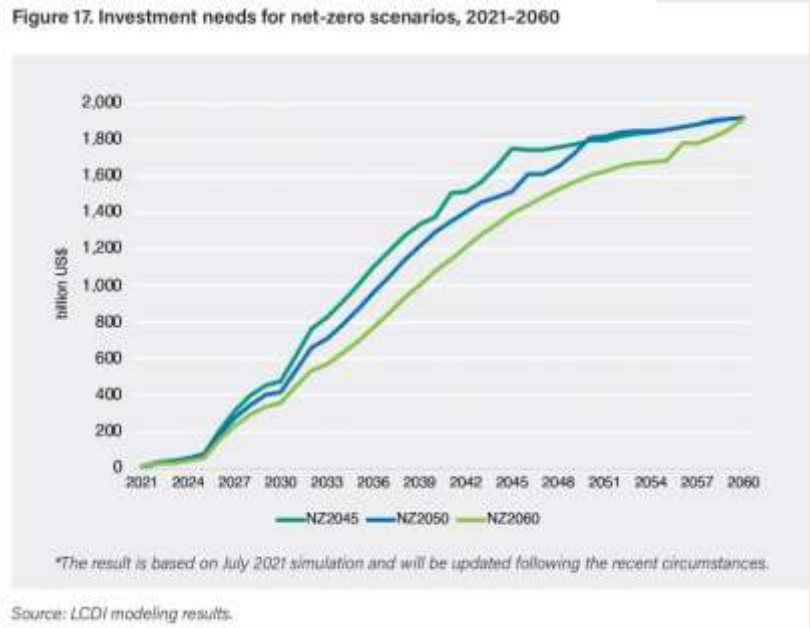


Figure 15: New Climate Economy, A Green Economy for a Net-Zero Future: How Indonesia can build back better after COVID-19 with the Low Carbon Development Initiative (LCDI) 2021

Regarding the short-term investment needs, the RUPTL (2021-2030) is significantly less ambitious than the estimates put forward by the JETP Secretariat. This discrepancy is politically significant, because it creates the impression that the JETP Secretariat as more concerned about climate than is the GOI, MEMR, and PLN. It also reinforces the idea that Indonesia's investment deficit, being large, can only be narrowed through the actions of international lenders. (See Box 11, *Target Practice: RUPTL 2021-2030 Compared to JETP Scenario*)

For example, the 2021-2030 RUPTL's has set a 23% renewable energy target for 2030, whereas the JETP Scenario sets the 2030 target at 34%. Depending on the level of increase in electricity demand, the JETP Scenario target could require more than 50 GW of new renewable energy generation capacity by 2030, with geothermal, hydropower and wind making the largest contribution. The 2021-2030 RUPTL anticipates an additional 40.6 GW of planned new capacity by 2030, 26.3 GW (or 65 percent) is expected to come from IPPs under PPAs for gas or renewable energy.[204] The 2021-2030 RUPTL recognizes that emissions need to peak by 2030 and then decrease dramatically to Net Zero by 2060.

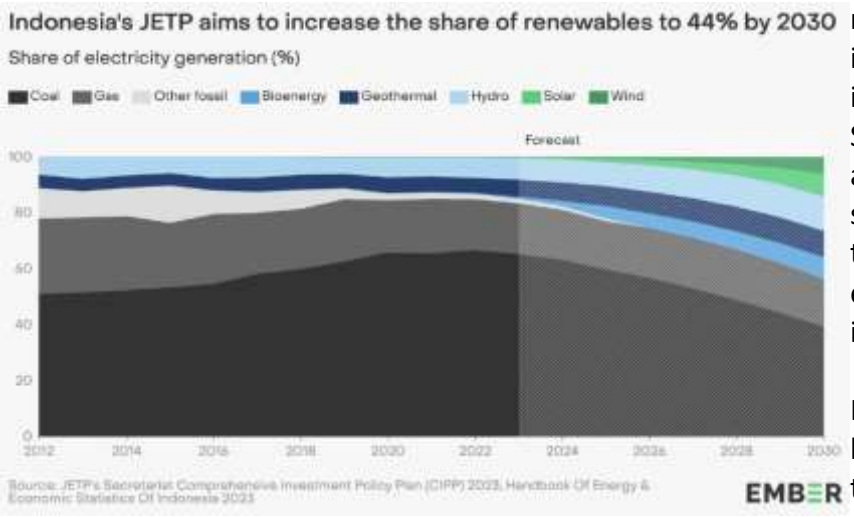
The RUPTL for 2024-2033 anticipates 31.6 GW of renewable energy capacity additions between now (early 2025) and 2033, 60% - 70% of which will come from IPPs, with PLN adding the remainder.

[203] IRENA (2022), Indonesia energy transition outlook, International Renewable Energy Agency, Abu Dhabi

[204] https://web.pln.co.id/statics/uploads/2021/10/ruptl-2021-2030.pdf

Emissions from the electricity sector are expected to increase from 264 MtCO2e in 2020 to 349 MtCO2e in 2030.

Either way, the 2021-2030 RUPTL shines light on the direction of policy, noting that the planned growth of renewables presents opportunities for "transferring ownership [of PLN's Steam Electricity Power Plants, *Pembangkit Listrik Tenaga Uap,* PLTU] to the private sector." This further indicates that the big winner in terms of developing renewable energy will be the IPPs. In other words, both the GOI and the JETP Secretariat agree that the energy transition will require a much larger role for IPPs.[205]



Source: CIPP, via Ember

A significant difference between the JETP scenario and 2021-2030 RUPTL is that the former proposes an emissions cap by 2030; the 2021-2030 RUPTL does not. The JETP Scenario proposes no new coal fired power stations other than those either currently under construction or have reached financial close, and it also proposes the early closure of existing power stations. In contrast, the 2021-2030 RUPTL speaks of a "gradual retirement" starting in 2030, "in accordance with the techno-economic age and the expiration of the PPA contract in achieving net zero emissions." [206]

Because the JETP Scenario shows a higher level of climate ambition than the GOI's RUPTL 2021-2030, it has been applauded business groups, environmental NGOs, etc., thus perpetuating the idea that the JETP Secretariat is concerned about addressing climate change while the GOI, because of its more cautious approach, is dragging its feet and denying Indonesians an affordable clean energy future. "Climate ambition" has therefore become a weapon in the armory of privatization, but the ambition will never be realized without a dramatic increase in the levels of investment, and the JETP Secretariat has yet to offer a plausible investment scenario that goes beyond the need for "an enabling environment" for private interests.

In our assessment, the higher renewable energy targets and coal phase down scenarios reflect a desire on the part of the JETP Secretariat to accelerate the incursion of IPPs in Indonesia, thus fast-tracking the privatization process. And behind the Secretariat are private corporations, particularly renewable energy business groups. They have echoed the JETP Secretariat's call for "more ambition" from the GOI, pointing to the need to "incentivize progress on renewables by aligning national renewable energy targets with the Just Energy Transition Partnership.

[205] MEMR, Decree 188, K/HK.02/MEM.L/2021

[206] https://web.pln.co.id/statics/uploads/2021/10/ruptl-2021-2030.pdf

modelled target of minimum 34% by 2030." The higher level of ambition reflected in the JETP Scenario is, these interests claim, "needed to incite confidence in private investors and help Indonesia seize the renewables opportunity."[207]

Target Practice: RUPTL 2021-2030 Compared to JETP Scenario

- **Renewable Energy Share by 2030:**
  - **RUPTL**: 23%
  - **JETP**: 34%
- **Power Sector Emissions Cap by 2030:**
  - **RUPTL**: No specific cap mentioned.
  - **JETP**: 290 million tons CO2 (total) and 250 million tons CO2 (on-grid).
- **Coal Phase-Out:**
  - **RUPTL**: Continued development with significant coal reliance until 2060.
  - **JETP**: No new coal plants post-current pipeline; early retirement of existing plants; net-zero power sector by 2050.

Either set of targets will require tens of billions of dollars in investments. As noted above, the JETP Scenario estimates that the country will require approximately $97.3 billion in investments by 2030. Although less ambitious, the 2021-2030 RUPTL outlines a need for about $70 billion to support the development of renewable energy infrastructure and electricity transmission systems to 2030.[208] But energy-related investment seen in Indonesia in recent years (roughly $10 billion annually) simply not compatible with the 2030 targets.[209] Therefore something unprecedented would need to occur for these investment levels to be realized.

The disparity between current levels of investment and the levels needed is reflected in the numbers provided by Indonesia's National Development Planning Ministry (*Bappenas*). According to the Ministry, investment must reach $135 billion between 2022 and 2030. In comparison, "the total energy investment (including fossil fuels) has surpassed $35 billion for the last five years [2018-2023]

[207] https://www.there100.org/sites/re100/files/2024-09/RE100%20Letter%20to%20His%20Excellency%20President%20Joko%20Widodo%20-%20Online.pdf

[208] PLN. (2021). Rencana Usaha Penyediaan Tenaga Listrik 2021-2030. PT PLN (Persero). https://web.pln.co.id/statics/uploads/2021/10/RUPTL-PLN-2021-2030.pdf

[209] International Energy Agency . (2023). World Energy Investment, Cited by CIPP, page 56

where RE [renewable energy] investment is about $1.5-$2 billion annually."[210]

Investment in renewables is therefore barely one-fifth of the average annual investment total, with the remaining $8 billion directed to coal and gas power plants and grid projects.[211] The GOI had anticipated that annual investment in renewable energy would reach around $4 billion in 2022.[212] This turned out to be wildly optimistic. But even if the annual renewable energy investment were to reach $4 billion, this would not be sufficient to reach either the 2021 – 2030 RUPTL or the renewable energy targets for 2030 proposed under the JETP Scenario (respectively, 30-40 GW and 50 GW). And the present level of installed renewable energy capacity – roughly 10.5 GW – would need to grow by 300%-500% in just 5 years

The "Enabling Environment" as an Investment Magnet: What Could Possibly Go Wrong?

If these numbers capture the main metrics of the investment challenge, where will the investment come from? The JETP Secretariat and the other advocates of the neoliberal approach have thus far failed to offer a convincing investment scenario. They have pinned their hopes on the creation of an "enabling environment" for the private sector, with a clear emphasis on catering to the desires of IPPs in renewables. The Secretariat points to a need for a "larger and higher-quality renewable power project pipeline" and, it suggests, this "will attract a wider pool of investors which should, over time, lead to better levels of competition and quality of [PPA] bids. This could also help to put downward pressure on investor expected returns which are currently elevated due to the perceived risks involved in the Indonesia power sector."[213]

Similarly, the designers of the Low Carbon Development Initiative (which entails a partnership between the GOI and the neoliberal New Climate Economy think tank) insist that "With appropriate regulatory reforms, as well as de-risking measures such as guarantees, joint operations and public-private partnerships, Indonesia could unlock significant new private finance flows, especially in the late 2020s and early 2030s, when investment needs peak…renewable energy and other green technologies already attract substantial private investment worldwide." [214] This reinforces the idea that an enabling

[210] https://www.reuters.com/business/environment/indonesia-needs-200-bln-annual-investment-2021-2030-decarbonise-govt-2021-10-13/

[211] JETP Secretariat, Comprehensive Investment and Policy Plan (CIPP) https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf, page 56

[212] https://www.thejakartapost.com/business/2024/01/16/indonesia-to-abandon-23-renewable-energy-target-by-2025.html.

[213] CIPP, Chapter 8 | Enabling Policies for JETP Portfolio, page 194,

[214] A Green Economy for a Net-Zero Future: How Indonesia can build back better after COVID-19 with the Low Carbon Development Initiative (LCDI) October 2021,

environment for private investors, one based on de-risking, constitutes a viable investment strategy. As we will see, the investment in renewables is entirely contingent upon levels of de-risking that are implausible in the Indonesian context.

However, if JETP financing is contingent on pushing forward a series of neoliberal reforms, then it is surely reasonable to ask: how "enabling" must the investment environment be so as turn what is currently less than $2 billion in annual renewable investment to a level that could be ten times larger? Indeed, there is little or no indication that power sector reforms will attract the levels of investment the transition requires either in the short term (the RUPTL or JETP Scenario for 2030), or the longer term net zero by 2050 target adopted by the GOI. Even if genuinely felt, the JETP Secretariat's confidence that power sector reforms will unleash a flood of private investment from both domestic and foreign sources is, the evidence suggests, deeply misguided.

Mission Implausible: The Low Carbon Development Initiative (LCDI) Transition Financing Proposals for Indonesia

Led by Nicholas Stern (see below), the London-based New Climate Economy neoliberal think tank and the GOI launched the Low Carbon Development Initiative (LCDI) in 2020. It estimated that Indonesia will need an "average US$150–200 billion per year in 2021–2030 (that is 3.4–4.5% of GDP for the period)" to implement the LCDI. In 2031–2040, investment needs would rise to US$700 billion–$1 trillion per year (or 7.1–9.8% of GDP) to stay on track for net zero by 2060.

In its 2021 report on Indonesia, *A Green Economy for a Net-Zero Future,* the LCDI offers several proposals regarding how to find the finance to cover the costs of transition. The proposals are:

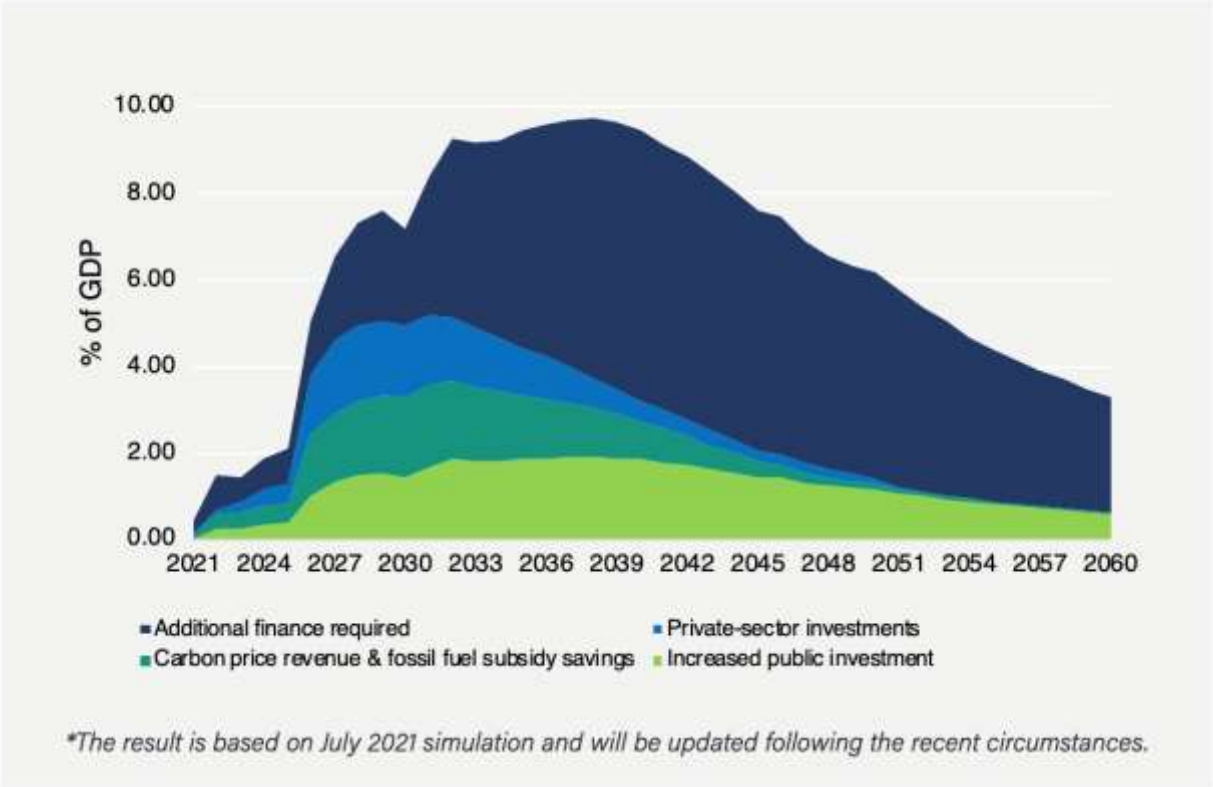
1. "Increase public investment" to a level where the current account deficit reaches 4.5% of GDP. This would provide about a quarter of the annual investment needed.

2. Introduce a carbon tax, "starting low and then ramping up to US$60 per tonne CO2 by 2040." LCDI estimates a carbon tax might generate 25% of Indonesia's annual investment needs.

3. The private sector—presumably through de-risking—could produce another 25%, once the "enabling environment" for investors is consolidated. As noted above, this is pure guesswork.

https://newclimateeconomy.net/sites/default/files/2023-08/GE-Report-English-8-Oct-lowres.pdf

4. “Additional financing” from “multiple sources.” This might include “the reallocation of resources by both the public and private sectors from high carbon to green investments. International finance is also expected to play a crucial role.” According to LDIC’s modeling (see Figure 3 below) the part “additional financing” is expected to grow exponentially until around 2040.



Source: LCDI modeling results.
Note: The level of increased public investments is capped to ensure the current accounts deficit never exceeds 4.5% of GDP. The additional finance required could come from multiple sources, including the reallocation of resources by both the public and private sectors from high-carbon to green investments. International finance is also expected to play a crucial role.

Figure 16: Graphic, Low Carbon Development Initiative, New Climate Economy[215]

Therefore future finance is heavily dependent on public spending, a carbon tax that would be impossible to implement, a private sector that has thus far refused to invest without rock-solid guarantees, and—the largest category of all—“additional finance” with international finance playing “a key role.” Clearly, these proposals are unconvincing, unworkable, or both.

[215] A Green Economy for a Net-Zero Future: How Indonesia can build back better after COVID-19 with the Low Carbon Development Initiative (LCDI) October 2021, https://newclimateeconomy.net/sites/default/files/2023-08/GE-Report-English-8-Oct-lowres.pdf

The lack of a convincing investment scenario for Indonesia invites us to examine the record of neoliberal climate and energy policy in terms of mobilizing investment. Have the policies proposed for Indonesia worked elsewhere? In our assessment, the answer is a clear "no". Contrary to the messages emerging from the policy mainstream, the policy is in deep trouble almost everywhere. It would therefore be a huge mistake for the GOI to hope that implementing the neoliberal reform agenda will lead to foreign investors flocking to Indonesia and the country will be on track to enjoy the benefits of abundant clean energy.

To understand the extent of the current crisis, it is worthwhile to examine some of the core assumptions of neoliberal green growth thinking and how these have changed over time. Such an examination warrants a much longer discussion than can be provided here, so what follows is a summary of what is, in fact, a monumental decades-long policy failure with huge implications for the world's people and its climate.[216]

- **The 2006 *Stern Review* and its Significance**

During the late 1980s and early 1990s, as concerns about rising emissions and climate change intensified, rich countries concluded that economic growth must be "decoupled" from emissions as soon as possible, without compromising economic growth. The theory that emerged was known as ecological modernisation or "green growth." This thinking informed the climate policy framework that emerged in the early 1990s under the auspices of the UN's Framework Convention on Climate Change (UNFCCC) which also asserted "the leading role of the private sector." According to Article 3 the Framework Convention, "Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade."[217] In other words, trade-led growth should continue along neoliberal lines, but emissions should (somehow) be brought under control.

In 2006 the *Stern Review on the Economics of Climate Change*—the green growth bible—was released by the UK Treasury. Authored by a team led by former World Bank chief economist Nicholas Stern, the 662-page *Review* emphasized that the costs of inaction on climate change would be far greater than the costs of transitioning to a low-carbon economy.[218] Climate policy must strive to "decouple growth from greenhouse gas emissions."[219]

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[216] For an extremely useful examination of "green growth" (sometimes referred to as "ecological modernization" from a trade union and working-class perspective, see Paul Hampton, 2015, *Workers and Trade Unions for Climate Solidarity: Tackling Climate Change in a Neoliberal World*. 1st ed. Abingdon, Oxon ; Routledge. doi:10.4324/9781315732220.

[217] UNFCCC, Article 3, https://unfccc.int/resource/ccsites/tanzania/conven/text/art03.htm

[218] https://webarchive.nationalarchives.gov.uk/ukgwa/20100407172811/https:/www.hm-treasury.gov.uk/stern_review_report.htm. For its significance, see: https://www.youtube.com/watch?v=L6cb-PNHiYs

[219] Nicholas Stern, The Economics of Climate Change: The Stern Review (Cambridge: Cambridge University Press, 2006), p. xvii

The *Review* presented a detailed set of policy proposals designed to steer the global economy towards emissions/growth decoupling, with a particular emphasis establishing a global price on carbon administered through emissions trading schemes and/or carbon taxes.

Direct subsidies to green producers were seen as a temporary measure designed to "bring to market" infant technologies, helping green companies to compete with mature carbon-intensive technologies. New "green" markets would be created and investment would flow, setting the stage for what Stern and his co-thinkers called (and still call) "the growth story of the 21st Century."[220] Throughout this period, it was assumed that those investors who committed capital to the green economy would be richly rewarded, and corporations that embraced decarbonization would become more competitive.

The experience of the ensuing 20 years has shown that theory was completely wrong. The *Stern Review* was correct to point out the need for investments to both mitigate and adapt to climate change, but he was wrong to present the transition to a low-carbon future as a money-making bonanza for private interests, and all governments needed to do was to "send signals" to private companies.

Today it is clear that *there is no mechanism that can align the short-term interests of investors with the prevention of future climate damage* caused by extreme weather events, floods, droughts, the disruption of agriculture, health impacts, etc., and attempts to align climate protection policies with the prerogatives of private wealth accumulation has been an unmitigated policy disaster. For investors, despite the subsidies, energy transition and decarbonization projects have been marked by high risks (thus high borrowing costs) and low returns.

De-Risking in the North, Debt in the South

Because climate action is rarely a profitable venture, the energy transition the world needs is being impeded by a lack of investment. As we have seen, Indonesia's investment gap is formidable—but the global investment shortfall is equally so.

Rich country governments have attempted to close the investment gap with direct subsidies or through a policy known as de-risking. Once considered a temporary measure, the subsidies dedicated to grow green sectors have in many instances become permanent. In 2016 the IEA noted that, "Market-based, unsubsidized low-carbon investments have been negligible."[221] More often than not "bankability" of projects (bankability refers to a project's attractiveness to lenders and investors) were contingent upon "a

[220] Nicholas Stern, The Economics of Climate Change: The Stern Review (Cambridge: Cambridge University Press, 2006), p. xvii

[221] IEA 2016 Repowering markets http://www.iea.org/publications/freepublications/publication/re-powering-markets-market-design-and-regulation-during-the-transition-to-low-carbon-power-systems.html

government-set contract."[222] If were not for subsidies and other "out of market protections" green industries would either remain on the margins of the global economy or they would not exist at all.

For the rich countries, using subsidies to fill the investment gap has become a serious political problem as well as an unnecessary financial burden.[223] the renewables sector was built because public money was used to make profitable what would not otherwise be profitable.[224] The same can be said of battery storage, electric vehicles, hydrogen, carbon capture and sequestration, and other so-called green technologies, all of which are heavily dependent on subsidies that are designed to deliver returns to private interests either immediately or over the longer term.[225]

But for the indebted countries of the South, subsidizing the energy transition to the levels seen in the North is simply not an option. Emerging and developing economies (EMDEs) account for "two-thirds of the world's population but only one-fifth of investment in clean energy", according to the IEA.[226] In 2024, over 90% of the growth in clean energy investment since 2021 has occurred in advanced economies and China.[227]

Noting the lack of investment in achieving the UN's Sustainable Development Goals (SDGs) for 2030, in 2015 the World Bank pivoted towards a policy that uses public-sector development funds to 'de-risk' private investment. Naming its policy 'billions to trillions,' the Bank was confident that if development aid was used in ways that guaranteed profit to private investment (thus "de-risking") targeted public finance would 'leverage' many more multiples of private finance for green and sustainable development. [228] In January 2023 at the WEF in Davos, the IMF's Managing Director Kristalina Georgieva called for de-risking in the South, "You are not going to move money to go into climate

[222] Frankfurt School-UNEP Centre/BNEF. 2019. Global Trends in Renewable Energy Investment 2019, http://www.fs-unep-centre.org (Frankfurt am Main) Also https://wedocs.unep.org/bitstream/handle/20.500.11822/29752/GTR2019.pdf?sequence=1&isAllowed=y

[223] Germany, for example, spent https://www.cleanenergywire.org/news/germany-needs-double-public-money-planned-renewables-support-2024-report

[224] https://rosalux.nyc/wp-content/uploads/2020/09/tuedworkingpaper13.pdf

[225] In the case of hydrogen and capture technologies, the global North have pursued "public-private partnerships." The majority of project costs are covered by public funds; the private companies engage in the hope that a viable market will be developed over the longer term.

[226] IEA, "Financing Clean Energy Transitions in Emerging and Developing Economies (EMDEs)" (Special Report, June, 2021), 13, available at https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies

[227] https://www.weforum.org/press/2024/01/wef24-global-leaders-unite-to-triple-clean-energy-investment-in-emerging-economies/

[228] According to the Blended Finance Taskforce "blending, done well, is one of the best solutions to turn billions of ODA aid money into trillions of investment capital for the SDGs." See: Blended Finance Taskforce *Better finance, better world* (2018) Consultation paper of the Blended Finance Taskforce in consultation with the Business & Sustainable Development Commission and SYSTEMIQ. London: Blended Finance Taskforce, www.blendedfinance.earth/better-finance-better-world. See also: See https://www.imf.org/en/Publications/staff-climate-notes/Issues/2022/07/26/Mobilizing-Private-Climate-Financing-in-Emerging-Market-and-Developing-Economies-520585.

investment…if you don't accept that public money should sweeten the deal for these guys."[229] As Gabor notes, the idea of "investible development" emerged from this thinking, where "development is no longer a public good to be directly financed by states, but a market opportunity to be unlocked through the alchemy of public-private partnerships (PPP) into "investible," privately-owned projects.[230]

Disabling the Public to Enable the Private

At any point in the past decade or so, neoliberals could have abandoned their fixation with mobilizing private investment and publicly acknowledged that climate protection and a just energy transition will only happen if governments take charge; that international financial and technical support must be based on a global public goods model, and an "enabling environment" for the private sector means a *disabling environment* for public energy systems and other vital services that are themselves key to the transition.[231]

Marking the 15th anniversary of the *Stern Review*, in 2021, the London School of Economics invited Nicholas Stern to deliver a presentation on what had, or had not, been accomplished since the report made headlines in 2006. On investment, Stern said things were looking up—and 80% of future energy transition investment would come from the private sector. Clearly, the empirical evidence pointing to persistently low levels of investment in either the SDGs or climate protection had not dampened Stern's confidence in the private sector and its capacity to realise "the growth story of the 21st Century."

Significantly, Stern pointed to the GFANZ as indication that investors were getting serious about climate change. GFANZ, said Stern, is "a global coalition of leading financial institutions committed to accelerating the decarbonization of the economy, [it] currently has more than 250 members responsible for assets in excess of $90 trillion."[232] But how does being responsible for $90 trillion help address the investment deficit? It merely tells us that there is a lot of capital in the world that is *not* being directed towards decarbonization. However genuine, a commitment to "accelerating the decarbonization of the economy" will not increase investment unless the investment can produce "satisfactory returns."

This, in a nutshell, explains the current crisis of green growth. There are no satisfactory returns without "de-risking" and other subsidies, and most of the world's governments—including the GOI—do not currently have the resources to de-risk private investment at the levels required to reach climate goals. And if the GOI and other Global South countries take

[229] World Economic Forum, January 2023. https://www.youtube.com/watch?v=Cca4W2JMfcA

[230] https://www.phenomenalworld.org/analysis/how-to-doge-usaid/

[231] OECD Environment Working Paper, 2016 www.oecd.org/environment/workingpapers.htm

[232] https://www.youtube.com/watch?v=L6cb-PNHiYs&t=3636s, minutes 22-24

on JETP-like concessional loans, their levels of debt will increase, and their capacity to finance the transition will be reduced still further. [233]

Overall, there is little evidence to support the idea that power sector reforms will attract the levels of investment the transition requires either in the short term (as defined by the 2021- 2030 RUPTL or the JETP Scenario for 2030), or the longer term net zero target adopted by the GOI. The leverage ratios provided by the ODI provide further evidence to support this conclusion, and ODI's calls for a "reality check" in terms of the usefulness of blended finance as a policy tool to "unlock" private investment is more than appropriate.

We can speculate on how much more concessional lending must become before it can generate higher levels of interest from the private sector. And we can ponder the possibility that there exists a "sweet spot" where lower costs of borrowing (through exclusively concessional finance, or through blended finance that mixes concessional with non-concessional finance), alongside policy changes in the direction of an "enabling environment," combines in ways that make investing in the energy transition a lucrative business opportunity. However, the evidence suggests that the sweet spot is unlikely to be sweet enough for investors and IPPs, and Indonesia will be left to finance its own energy transition. From a climate perspective, the danger is that the GOI will persist with coal (of which Indonesia has an abundant supply); it is inexpensive compared to other sources of energy, and the electricity it generates is reliable (and not variable, which is the case with wind and solar power).

De-Risking in Indonesia: SDG Indonesia One

De-risking already has a track record in Indonesia, and the record is far from impressive. Launched in 2018 by the GOI, specifically through its development bank PT SMI (*PT Sarana Multi Infrastruktur*) the financial platform known as SDG Indonesia One (SOI) was designed to mobilize and facilitate funding for projects aligned with the UN's SDGs. A collaboration with the GOI, the World Bank and the ADB, the SOI has attempted to deploy blended finance with the goal of de-risking private investment in renewable energy (but also water infrastructure, waste management, agriculture and land use improvements, and other SDG-compatible projects). It established several de-risking mechanisms to increase project bankability of "high-risk" projects; a facility to attract commercial capital; and an equity fund to "crowd in" private investment in infrastructure investment.

As of March 2022, SIO—which has been described as a precursor to the JETP—had secured $3.27 billion in pledges from 34 financing partners. But, according to a June 2022 study from ODI, "this had led to only

[233] https://odi.org/en/publications/blended-finance-in-the-poorest-countries-the-need-for-

a-better-approac

$789 million in agreements and $223 million in disbursements, most of which are for renewable energy projects." According to the ODI, the discrepancy between pledged capital ($3.27 billion) and disbursed capital ($223 million) is due to "the lack of bankable projects [that] meet private investors' risk-return profiles."[234]

Such low levels of disbursement have become typical, and they suggest that the "billions to trillions" logic, reinforced by a sense that "blended finance" could somehow "unlock" or "unleash" large volumes of private investment is out of touch with Indonesian realities. Indeed, a series of studies point to problems that are, in our view, endemic to a policy that uses IPPs and PPAs to disrupt a vertically integrated public utility (PLN) and burdens the same utility with expensive take-or-pay arrangements. Indeed, the experience of scores of low-, middle- and upper-middle income countries follows a similar pattern, so much so that an energy transition built around IPPs will, first, not be socially just and, second, may not even happen at all due to lack of private investor interest.

Take-or-pay schemes will therefore continue to exert an upward pressure on electricity prices. Meanwhile, IPP concerns around profitability will continue to be aggravated by a sense that PLN is financially vulnerable, which increases the kind of risk that financial investors go to great lengths to avoid, and which have become associated with power purchase agreements (PPAs) signed with renewable energy projects. PLN's financial situation then casts doubt on its ability to honor PPAs over what is typically a 20-30 year contract, creating revenue risks that make investments less secure.[235]

Concerns about PLN honoring PPAs either scares away potential investors, or these concerns are expressed in high interest rates for IPP projects. This, in turn, both raises the cost of electricity generated by renewables, as well as narrowing the project pipeline considerably.[236] The IEA points out that uncertainty of payment "adds the largest premium to financing costs, arising from PLN's financial situation and its history of renegotiating contracts in the past." Not surprisingly, the IEA's solution is *more* de-risking: "Indonesia is a large and growing untapped renewables market with the scale to attract international players. If the conditions are right, capital will come."[237] However, aside from contribution to the "enabling environment," individual projects must be

[234] According to ODI, The complexity of blended finance also appears to impeding disbursement: "Blended finance requires close coordination among government agencies, development finance institutions, private sector players, and international investors. The complexities in aligning their priorities, timelines, and due diligence processes can delay fund release." Hadley, S., Mustapha, S., Colenbrander, S., Miller, M. and Quevedo, A. (2022) Country platforms for climate action: something borrowed, something new? ODI Emerging analysis. London: ODI www.odi.org/en/publications/country-platforms-for-climate-action-something-borrowed-something-new/

[235] https://www.iisd.org/system/files/2022-02/indonesia-private-investment-renewable-energy.pdf

[236] A July 2020 report from the IEA concluded that "Renewable power costs are relatively high in Indonesia, in part due to persistent risks." See: https://www.iea.org/reports/attracting-private-investment-to-fund-sustainable-recoveries-the-case-of-indonesias-power-sector

[237] IEA (2020), *Attracting private investment to fund sustainable recoveries: The case of Indonesia's power sector*, IEA, Paris https://www.iea.org/reports/attracting-private-investment-to-fund-sustainable-recoveries-the-case-of-indonesias-power-sector.

adequately de-risked so that IPPs are better placed to negotiate a better borrowing deal with lenders. The problem with this approach should by now be obvious: what amounts to better terms for the IPPs merely worsens the fortunes of PLN, thus beginning a new cycle of nonpayment risk.

Asia's "Bankability" Crisis and the Limits of Concessional Loans

Concessional loans may reduce risks and thus lead to more favorable borrowing terms from commercial banks, but this blending of capital does not mean that the ratio of unprofitable to profitable projects will shift decisively towards the latter. According to data compiled by consulting firm Marsh & McLennan, barely 35% of green infrastructure projects in Asia are bankable, and then only marginally so. A further 55% of projects are classed as "unbankable."[238]

Equally concerning, even if a project has the potential to deliver solid but not spectacular returns, those returns must be considered "competitive" by investors when compared to other investment opportunities. From an investor perspective, a 6% rate of return may be attractive, but a 12% rate of return is irresistible. This means that, whatever the social or ecological necessity of green projects, the current policy means prevents many of them forward because private investors have decided they can get better financial returns by investing in something else entirely.[239]

This reality captures the serious consequences associated with relying on the profit motive to deliver the energy transition. In April 2023, one prominent devotee of the current policy noted that the lack of investor interest "is not just an Asia problem, but a global one…Between 2015 and 2020, average annual flows of blended finance globally stood at less than US$10 billion…this represents a US$2 trillion annual shortfall in the climate finance required for Asia to reach net zero by 2050." [240]

Climate finance was intended to help settle the North's ecological debt to the South, not add more financial debt to the balance

[238] Marsh & McLennan, Closing the Financing Gap: Infrastructure Project Bankability in Asia, 2017

[239] https://www.marshmclennan.com/assets/insights/publications/2019/apr/NYC-ARK00101-059_Infrastructure-Failure-and-Shortfall%20online_final.pdf. On February 26th, 2025, British Petroleum announced it was planning to invest more in oil and gas, while dramatically reducing its investments in green sectors. See, The Guardian, February 26th, 2025, BP blames 'misplaced' faith in green transition for its renewed focus on fossil fuels. https://tinyurl.com/344tcv3c

[240] https://www.mas.gov.sg/news/speeches/2024/tiny-but-mighty-scaling-blended-finance-in-asia

sheets of South countries.[241] As noted above, in Indonesia's case roughly 70% of JETP financing is expected to take the form of concessional loans. But concessional loans will need to be channeled via MDBs, and MDBs will require sovereign guarantees. According to the Climate Policy Initiative, "Indonesia may have to set aside $8.4 billion in Sovereign guarantees in order to access those concessional loans [in the JETP]."[242]

Meanwhile, JETP financing will add to the burden of external debt that many low- and middle-income countries currently carry. The idea of "de-risking" the transition with public money to attract private investment is therefore a non-starter, especially for the most indebted countries.[243] According to UNCTAD's 2023 Trade and Development Report, "external debt servicing is draining resources away from delivering on the 2030 Agenda and on the goals of the Paris Agreement."[244] The report adds, "Between 2010 and 2021 "total public debt in these developing countries nearly doubled, reaching 64 per cent of GDP by 2022." [245]

> The number of countries where interest spending accounted for 10 per cent or more of public revenues increased from 29 in 2010 to 50 in 2022. Consequently, interest payment in many developing countries outpaced expenditures in critical sectors such as education, health, and public investment over the past decade. Currently, at least 3.3 billion people live in countries that spend more on interest than on either health or education.[246]

In terms of climate finance specifically, loans accounted for the largest share of public climate finance between 2016 and 2020, amounting to 72% of the total public finance provided.[247] As Lawrence Summers, former Chief Economist of the World Bank (1991-93), noted in early 2024, "nearly $200 billion flowed out of developing countries to private creditors in 2023, completely dwarfing the increased financing from the international financial institutions. 'Billions to trillions,' the catchphrase for the World Bank's plan to mobilize private-sector money for

[241] According to Oxfam, "The world's poorest countries and communities should not be forced to take out loans to protect themselves from the excess carbon emissions of rich countries. Finance that should be helping countries respond to climate change should not be harming them by contributing to rising – and in many countries, unsustainable – debt levels." Oxfam, Climate Finance Shadow Report, 2020, at https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621066/bp-climate-finance-shadow-report 2020-201020-en.pdf?sequence=1, p. 3.

[242] https://www.youtube.com/watch?v= Ctp2oJAzirA&t=355s

[243] See: Michael Liebreich interview with Avinash Persaud is special envoy to the Prime Minister of Barbados https://www.youtube.com/watch?v=CLDuV6EDcBM

[244] https://unctad.org/publication/trade-and-development-report-2023page xxii]

[245] https://unctad.org/publication/trade-and-development-report-2023page xxii]

[246] https://unctad.org/publication/trade-and-development-report-2023page xxii]

[247] Songwe V, Stern N, Bhattacharya A (2022) Finance for climate action: Scaling up investment for climate and development. London: Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science

https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/ 11/IHLEG-Finance-for-Climate-Action-1.pdf.

development, has become "millions in, billions out."[248]

UN Agencies Ask: When Will the Private Investors Show Up?

UN agencies that were once convinced by Stern's logic have become increasingly frustrated by the lack of investor interest in the transition to a low-carbon economy. In 2019, administrator of the United Nations Development Program (UNDP) Achim Steiner stated that "big financial sector players are becoming a liability for all of us…With about $300 trillion in wealth in the world today…there is enough finance to address [climate and sustainable development goals]."[249] In late 2022, Inger Andersen, the head of the UN Environment Program (UNEP)—a staunch advocate of "public private partnerships" and "market based solutions"—noted "Only a root-and-branch transformation of our economies and societies can save us from accelerating climate disaster." Commenting on the lack of private investment in the transition, Andersen added, "I urge everyone in the private sector to start reworking their practices. I urge every investor to put their capital towards a net-zero world."[250]

[248] https://www.project-syndicate.org/commentary/imf-world-bank-spring-meetings-need-to-get-four-things-right-by-lawrence-h-summers-and-n-k-singh-2024-04?utm_source=substack&utm_medium=email

[249] See: Adva Saldinger, Blended finance's role in SDGs depends on these changes, 12 April, 2019 https://www.devex.com/news/blended-finance-s-role-in-sdgs-depends-on-these-changes-9469

[250] Foreword by *Inger Andersen,* Executive Director United Nations Environment Programme https://www.unep.org/resources/emissions-gap-report-2022. Along similar lines, Achim Steiner, administrator of the United Nations Development Program (UNDP), recently stated that "big financial sector players are becoming a liability for all of us…With about $300 trillion in wealth in the world today," said Steiner, "there is enough finance to address [climate and sustainable development goals] but financial markets must change in order to do so." See: Adva Saldinger, Blended finance's role in SDGs depends on these changes, 12 April, 2019 https://www.devex.com/news/blended-finance-s-role-in-sdgs-depends-on-these-changes-9469

Conclusions and Implications

Part Three of this position paper has attempted to draw attention to the crisis facing the neoliberal approach to climate protection and achieving a just energy transition. Several points are worth highlighting:

1. The "green structural adjustment" framework, with its "de-risking," "blended finance" and fixation on creating "an enabling environment" for private investors offers no convincing path forward for Indonesia, for the Global South, or for the world.

2. As a financial package, the JETP is inadequate. For Indonesia to fulfil its 2030 targets, transition, every US dollar of JETP financing needs to "mobilize" 5 US dollars in private sector or other forms of finance ($21.6 billion must become $97.1 billion). If the GOI is to meet its own RUPTL 2021-2030 targets, a minimum of $70 billion will be required. The levels of needed investment far exceeds recent investment trends.

3. The JETP will increase Indonesia's debt, through the taking on of concessional and commercial loans, but the financing will be unable to mobilise or "catalyse" significant levels of private investment.

4. JETP financing is contingent upon power sector reforms. There is no, as it were, "money on the table." If Indonesia complies with the reform agenda proposed under the JETP scenario it will get nothing in return except more debt and progressive depletion of state control over energy.

In Part Four we offer a basic framework that can begin to shine light on what we call the public pathway alternative in Indonesia, which we call the Article 33 Scenario. We believe it is possible to pursue an energy transition in ways that will preserve and extend the public energy system, protect energy sovereignty; that can reach climate targets, while protecting the rights and wellbeing of workers and communities.

PART FOUR:
THE ARTICLE 33 SCENARIO:
TOWARDS A PUBLIC PATHWAY ALTERNATIVE

Part Four of this position paper presents an outline of a public pathway approach to a just energy transition in Indonesia's power sector. We call this the Article 33 Scenario.

As noted above, the main features of this approach are anchored in 3 composite proposals. These are:

1. **Public Financing, Expand State Assets.** To preserve energy sovereignty, financing should be used to strengthen the capacity of the state to control and direct the energy transition. Financing should not "de-risk" projects or transfer assets to private corporations and investors.

2. **Beyond IPPs, Reclaim and Restore PLN**. PLN must play a leading role in bringing about a just energy transition. GOI policy must pivot away from relying on IPPs for investment and instead take measures to expand PLN's presence as both an investor and as a builder of new capacity and infrastructure. The GOI and the MEMR must resist pressures (from the JETP Secretariat, ADB, etc.) to comply with IPP demands for direct ownership of new generation capacity; it must phase out all forms of local de-risking of IPP projects and focus instead on enhancing PLN's revenue retention. GOI and PLN (not IPPs) should oversee all final investment decisions and restructure energy planning within a public goods framework.

3. **Reassess, Renegotiate, Reposition: A New Approach to Energy Transition Plans and Targets.** Indonesia's energy transition targets, and the proposed means of achieving them, require a facts-based reassessment. Realistic publicly controlled targets are better than unrealistic ones based on the decisions of private interests. This will require that Indonesia reposition itself as a global player in the multilateral system in ways that make it a champion of progressive reform and economic development that is truly sustainable.

Implementing these three composite proposals will require the GOI pursue a domestic legislative and regulatory agenda that moves policy in ways that strengthens PLN and expands state direction and control over the energy transition.

Legal Battles to Defend Article 33

As noted above, the December 2024 decision of the Constitutional (Decision No. 39/PUU-XXI/2023) reaffirmed the importance and legal validity of state control.[251] The decision marked a victory for unions and their allies organized under the umbrella of the pro-worker, pro-democracy group GEKANAS (***Gerakan Kesejahteraan Nasional*** or National Welfare Movement).

However, Article 33 has been the target of neoliberal reform for almost three decades, and efforts to undermine it continue.

1997: The IMF and World Bank sought to remove or amend Article 33 as part of its structural adjustment program imposed in the wake of the 1997 Asia financial crisis.

2002: An amendment to the Constitution added sections to Article 33. While the original Article 33 language was retained verbatim, a new Section 4 read, "The national economy is run on the basis of the economic democracy, and the principle of togetherness, *just efficienc*y, sustainability, environmentalism, independence, with a balance between advancement and national economic unity." [Emphasis added]. A new Section 5 added, "Further provisions to implement this provision will be legislated."[252] The notion of "just efficiency" opened the door to one of the foundational ideas of classical economics—that free markets lead to the efficient allocation of resources.[253]

2003: In Decision Number 022/PUUI/ 2003) the Constitutional Court held that Section 4

[251] Advocates of the IPP system have interpreted MK Decision 39 differently. According to one source, "Indeed, private participation in electricity generation businesses through IPP Business Model is intended to support the Integrated Electricity Business Entity, as the party that will coordinate and integrate all of the electricity generation business activities for public purposes and ultimately for the Integrated Electricity Business Entity to sell electricity to end consumers…."

[252] https://www.mkri.id/public/content/infoumum/regulation/pdf/uud45%20eng.pdf

[253] David Harvey, A Brief History of Neoliberalism, Oxford: Oxford University Press, 2007.

allowed for private interests to exploit Indonesian natural resources for profit.[254]

2004: The 2002 Energy Law was rescinded by the Constitutional Court. The Court ruled that privatization risked prioritizing profit over public welfare, and was thus contrary to the constitutional mandate for the state to protect and promote the public interest by developing vital services.[255] The Court determined that privatization would attract private enterprises in areas where the electricity market had been established, such as in Java, Madura and Bali. In other areas that did not have a strong commercial interest, private enterprises would, the Court concluded, not participate. The Court explained that the government could not force IPPs to provide a universal national service, but it could mandate PLN to do so. PLN's revenues from electricity sales to the more developed commercial centers in Java, Madura and Bali could then be used to cross-subsidize electricity provision in the more remote and less developed areas.[256] The Court's decision greatly slowed down the implementation of the neoliberal agenda. It also prevented PLN from being "unbundled" in the way stipulated by the World Bank's "standard model" of privatization.

2009: The Electricity Law (No. 30) of 2009 indicated that policy was turning back towards neoliberal reform in ways that would lead to a "second wave" of IPPs. PLN became a "State-Owned Enterprise (SOE)" holding an Electricity Supply Business License (IUPTL) and was tasked to provide electricity for the public interest.[257] Article 10 paragraph (2) of Law stated, "The business of supplying electricity for public interest as referred to in paragraph (1) *may* be conducted in an integrated manner." (emphasis added). The inclusion of the word "may" in front of the word "integrated" in Article 10 implied that supplying electricity could occur in a manner that was *not* integrated—thus reviving the idea of unbundling PLN. Article 4 determined that "private corporate bodies" could, "participate in the supply of electrical power." The new law appeared to be encouraging a diverse ownership model.[258]

2010: The Constitutional Court ruled that Law No. 30 of 2009 did indeed make unbundling possible, but Article 3 and Article 4 of the Law meant that the state would continue to determine electricity tariffs through the GOI, Parliament or local government processes, therefore preserving state control.

2013: Ministry of Energy and Mineral Resources (MEMR) regulation 35 of on Procedures for Licensing Electricity Business delivered a more explicit endorsement of both unbundling and IPP participation Regulation 35 ruled that electricity supply "can be implemented by…a) state-

[254] The *Oil and Gas Law 2001* also opened the door to private investment, provided that exploitation was appropriately licensed, regulated and overseen by a governmental supervisory agency. For a discussion on Article 33 and the significance of the amendments, see Giri Ahmad Taufik, The Application of New Article 33, Section 4 of Indonesia's Constitution to Indonesia's Upstream Oil and Gas Legal Framework, Ph.D Thesis, Griffith University, Brisbane, Queensland, Australia, August 2020, https://research-repository.griffith.edu.au/server/api/core/bitstreams/1040029a-f47d-4667-a888-6dd93fc25654/content

[255] Constitutional Court of Indonesia Decision No. 001-021-022/PUU-I/2003.

[256] Electricity Law Case I, 347.

[257] Constitutional Court No. 149/PUU- VII/2009, dated December 30, 2010.

[258] See Consideration of the Constitutional Court in Decision Number 149/PUU-VII/2009, dated December 30, 2010, paragraph [3.12] p. 96

owned enterprises; b) regionally-owned enterprises; c) a private business entity incorporated in Indonesia; d) cooperatives; and e) self-help."[259] This re-opened the door to both unbundling and a larger role for IPPs.

2016: The Constitutional Court determined that unbundling was *not* in accordance with Article 33 of the Constitution of the Republic and therefore the 2009 Energy Law was unconstitutional.[260] Defenders of Article 33 had filed a petition to the Court to review the provisions of Article 10 of the 2009 Energy Law. The Court agreed that the unbundling of electricity into separate business entities invited privatization and would compromise state sovereignty in this critical sector. The Court added that, contrary to the spirit and the principles outlined in the 1945 Constitution, unbundling could lead to higher electricity prices, thus negatively affecting the wellbeing of the Indonesian people. The Court stated that the private sector participation must be under state supervision and control, and the government must maintain regulatory authority over tariffs, supply, and distribution to ensure the electricity sector serves the public's best interest.

The 2016 Constitutional Court ruling against the privatization and liberalization measures of the 2009 Electricity Law came at a time when the presence of IPPs was growing quite rapidly, particularly in the "captive" industrial sectors.[261]

2022: The GOI enacted Law No. 112/2022, the *Acceleration of Renewable Energy Development for Power Generation* (Renewable Energy Law or PerPres 112/2022). The law mandated PLN to prioritise the purchase of electricity from power plants that utilise renewable energy sources and to streamline procurement processes for purchasing power from IPPs in the renewables sector.

2023: Ratified in March, the Omnibus Law seeks to diversity participation in the electricity system, using language that is either identical or very similar to the Energy Laws of 2002 and 2009.

2024: December 2024 decision of the Constitutional (Decision No. 39/PUU-XXI/2023) reaffirmed the importance and legal validity of state control.[262]
Clearly, the long history of legal struggle to defend Article 33 is likely to continue if the GOI continues to comply with the neoliberal reform agenda embedded in the JETP Scenario. Alternatively, the GOI could reconstitute Article 33 as a core principle around which it can organize the energy transition.

[259] MEMR regulation 35 (2013) on Procedures for Licensing Electricity Business

[260] MEMR regulation 35 (2013) on Procedures for Licensing Electricity Business

[261] Constitutional Court Decision Number 111/PUU-XIII/2015, dated December 14, 2016,

[262] Advocates of the IPP system have interpreted MK Decision 39 differently. According to one source, "Indeed, private participation in electricity generation businesses through IPP Business Model is intended to support the Integrated Electricity Business Entity, as the party that will coordinate and integrate all of the electricity generation business activities for public purposes and ultimately for the Integrated Electricity Business Entity to sell electricity to end consumers…."

Proposal 1: Public Financing, Expand State Assets.

To preserve Indonesia's energy sovereignty, public financing should be used to strengthen the capacity of the state to control and direct the energy transition. Financing should not "de-risk" projects or transfer assets to private corporations and investors.

Part Three described how neoliberal opinion expects the GOI to create an "enabling environment" for energy investors—and then hope that the investors feel sufficiently enabled to then respond. It showed how the current levels of investment in Indonesia's energy transition are but a small fraction of what is needed, and the extremely poor record of blended finance mechanisms strongly suggest that this approach is not going to "mobilize" adequate levels of investment, and—unlike the rich countries—the GOI is not able to "de-risk" projects and subsidize whole new industries into existence.

How, then, should Indonesia attempt to finance the energy transition? Here we consider three options. These are:

1. The GOI could seek to generate more capital domestically and thus potentially reduce the proportion of capital acquired through borrowing from the MDBs and other external sources. The GOI could also raise taxation levels on the wealthy, which are currently considerably below regional levels.

2. The GOI can also use traditional debt financing, which has well-established advantages. However, the GOI is currently constrained by a fiscal rule that limits its annual budget deficit to a maximum of **3% of GDP**. This rule is part of Indonesia's **State Finance Law No. 17 of 2003,** which also caps **public debt** at **60% of GDP.** This law is part of the structural adjustment architecture imposed on Indonesia by the IMF and the World Bank following the 2007 financial crisis.[263]

3. At the global level, instead of attempting to comply with neoliberal reforms, the GOI could propose an alternative to JETP-type financing and "green structural adjustment." The GOI can use its political weight as a major resource-rich middle-income country to negotiate more favourable arrangements based on a global public goods approach. This option becomes more plausible if it is part of a united South-led political effort to radically alter the current lending architecture.

[263] The IMF's SAP program of 1997 imposed **temporary fiscal deficit ceilings** as part of the austerity measures. The IMF's focus on fiscal discipline influenced Indonesia's later decision to formalize fiscal rules, including the 3% limit. The EU had introduced a 3% GDP deficit limit in 1992 under the Maastricht Treaty, which ruled that Member States must not exceed 3% of GDP and public debt must not exceed 60% of GDP. See: Protocol on the Excessive deficit procedure, https://eur-lex.europa.eu/EN/legal-content/glossary/excessive-deficit-procedure-edp.html. See also: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Government_debt. In Indonesia, the **3% GDP deficit limit** was introduced in **2003** through **Law No. 17/2003 on State Finances**. This law was part of Indonesia's efforts to institutionalize fiscal discipline and reduce reliance on external borrowing. In **2020,** due to the **COVID-19 pandemic,** the GOI temporarily suspended the **3% deficit cap** through **Government Regulation in Lieu of Law (Perppu) No. 1 of 2020,** which was later enacted into **Law No. 2 of 2020.** This allowed Indonesia to run deficits exceeding **3% of GDP** to address the **economic fallout** of the pandemic. As of **2024,** Indonesia has resumed adherence to the **3% deficit rule**.

For reasons explained below, we call this *Bandung 2.0.*

Before we consider how these options might be configured, it is worthwhile noting the following:

1. Electrification projects were publicly financed during the Sukarno's period (1950-1965), albeit on a much smaller scale due to Indonesia's low level of economic development under Dutch rule. Many countries in the Global South emerging from colonial occupation and found themselves in a similar situation, but their national development aspirations hinged to a considerable degree on their capacity to generate electricity and advance economy-wide electrification. Post-colonial governments therefore supported public energy utilities as best they could despite their limited resources.

2. The pursuit of national development converged with the western capitalist powers' effort to counter the influence of the Soviet Union and, to a lesser extent, China—the World Bank and the MDBs were willing to support post-colonial governments by providing capital at low interest rates and with long repayment periods (as long as the borrowing country aligned itself with what was then known as "the western powers.") But once the threat to the capitalist order disappeared with the collapse of the Soviet Union (1990-1991) and China's turn towards the market (via the Deng reforms in the late 1980s) the Bank and the MDBs discontinued providing finance for public projects without a commitment on the part of the borrowing government to introduce reforms.

3. MDBs are public entities, and MDB finance *is* public finance, in that MDBs are capitalized by donor countries in the form of "paid-in capital" (actual cash paid by donor countries) or "callable capital" (which capital pledged by member countries as a guarantee but is not actually paid in unless required).[264] The strong credit ratings that MDBs enjoy is largely due to their being extensions of wealthy currency-issuing governments. The stability of the MDBs can therefore provide a platform for a new model of lending, one that might resemble the approach taken during the post-WW2 European reconstruction.

4. Public finance has always been preponderant in terms in terms of the development of energy and other essential infrastructures. UNCTAD's 2023 *Trade and Development Report* reminds us that, "Empirical evidence suggests that domestic public finance has long played a central role. This is because infrastructure has a long maturity profile and is not a commercially attractive investment for private investors; it offers high risks and relatively low economic returns, especially in relation to opportunities in other areas."[265] Indeed, the private

[264] MDBs also rely on bond issuance for the bulk of their operational funding. They leverage their high credit ratings to raise funds in global financial markets. Bond issuance enables MDBs to finance loans and projects. Most MDBs use bond proceeds for 70-80% of their annual lending requirements.

[265] UNCTAD (2023a). World Investment Report - Investing in Sustainable Energy for All. (United Nations publication. Sales No. E.23.II.D.17. New York).

sector has always played a secondary and sometimes peripheral role, and its involvement was normally built around a direct procurement model, with private entities engaging as contractors and not would-be owners.

Public Pathway and Economic Theory

As advocates of a public pathway alternative in Indonesia (and elsewhere), unions are mindful of the debates within and between economists of different traditions (neoclassical, Keynesians, etc.) that have for many decades shaped the fiscal and monetary decisions by governments. Keynesian ideas (for example, deficit financing) dominated the policy discourse from the early postwar period due to the apparent success of the 1930s New Deal in addressing the social and economic distress of the Great Depression in the US. Keynesian ideas were hegemonic globally from the New Deal period until the early 1970s in the same way as neoliberal ideas have been hegemonic in the decades since.

More recently, we have seen the emergence of Modern Monetary Theory (MMT). Adherents of MMT would urge the GOI to consider generating finance through deficit *spending*, without issuing treasury bonds or borrowing from commercial or development banks.[266] MMT advocates point out that the current system allows private banks to create most of the digital money in circulation through loans, which create deposits and liquidity that can be spent.[267] On this argument, if private banks can "create liquidity," governments can—and should—do the same.[268]

MMT advocates point to the fact that New Deal and World War Two spending by the US government did not first require to raise money through taxation or through the sale of war or victory bonds. The US government simply went ahead, using its control over the money supply to address these challenges. Significantly, this approach extended onto the international stage, through the post-war European Recovery Program 1948-1952, which was known as the Marshall Plan. Roughly 85% of Marshall Plan finance was disbursed as grants, and only 15% in concessional loans). Grant-based finance played a key role in shaping the financing policies of the World Bank that was established in 1944.[269]

The climate crisis, as well the impact of the Covid19 pandemic, have contributed to renewed interest in grant-based financing. In 2019, UNCTAD acknowledged that MMT advocates have shown that governments have "more financial space for proactive fiscal stances than is

[266] https://www.bloomberg.com/news/features/2019-01-17/alexandria-ocasio-cortez-s-big-ideas-for-taxes-and-medicare

[267] See William Mitchell, Reclaiming the State: A Progressive Vision of Sovereignty for a Post-Neoliberal World Pluto Press.

[268] See William Mitchell, Reclaiming the State: A Progressive Vision of Sovereignty for a Post-Neoliberal World Pluto Press.

[269] The majority of the aid under the Marshall Plan was disbursed as grants. These funds were essentially gifts to the recipient countries to help them rebuild their economies after World War II without the immediate burden of repayment.

generally perceived."[270] In September 2023, Colombian President Gustavo Petro called for a global Marshall Plan to address climate change and to reach the UN's SDGs.[271]

However, a central concern among neoliberal economists is the impact of government spending on price inflation, which occurs when the productive resources are not sufficiently to developed to support the increases (too much money chasing too few goods and services). It is therefore essential that government spending be directed towards building productive capacity.

Although more research is required, it seems reasonable to conclude that energy-related technologies and infrastructure would contribute to building Indonesia's productive capacity, but this spending is likely to be less inflationary than spending designed to stimulate consumption quickly and directly to "reflate" the economy during downturns. MMT thinkers also acknowledge that dependence on technologies produced abroad, which must be paid for in "hard" currencies, means that countries like Indonesia will not be able to buy those technologies with Rupiah, but will need to purchase US dollars, Euro's, Yen, etc.[272]

The GOI Budget Must Meet Multiple Needs

When considering the capacity of the GOI to publicly finance the energy transition, an obvious starting point is the current state budget. The state budget in 2023 was $202.5 billion (IDR 3,121 trillion in 2023) from which allocated approximately 32% to debt servicing, totaling around $64.9 billion—the largest single budget item. Of the $64.9 billion allocated to debt servicing, 28% ($18.17 billion) was allocated for foreign currency debt servicing.[273]

Indonesia's total external debt stood at $407.3 billion at the end of 2024 which is roughly $1,500 per capita. This is quite manageable when compared to other middle-income countries. And the country's GDP growth was 55% for the ten years to 2023, behind only China, India and the US.[274] This suggests that if GDP growth can be sustained at this level, then the GOI will be in a progressively stronger position to self-finance its transition through sovereign debt, thus reducing its dependence on external finance. **And s**overeign debt allows for greater policy autonomy, whereas foreign denominated debt – and debt servicing payments – compromises policy autonomy and increases dependency on technologies produced overseas.

Debt servicing aside, roughly 26% of the 2023 state budget was allocated for infrastructure (such as public housing,

[270] UNCTAD, Trade and Development Report 2019, Financing a Global Green New Deal

[271] https://gadebate.un.org/en/78/colombia

[272] Fadhel Kaboub, https://www.youtube.com/watch?v=XosrN5DTT90

[273] https://www.fitchratings.com/research/sovereigns/fitch-affirms-indonesia-at-bbb-outlook-stable-01-09-2023?utm_source=chatgpt.com

[274] https://www.worldeconomics.com/Global-Growth-Comparisons/, see also" https://www.worldeconomics.com/country-reviews/indonesia/?Section=Economics#DEBT

irrigation networks, roads, bridges, drainage, and clean water systems.)[275] In other words, absent a qualitatively higher level of borrowing, substantial tax increases, or both, the capital available will fall far short of the country's energy investment needs.

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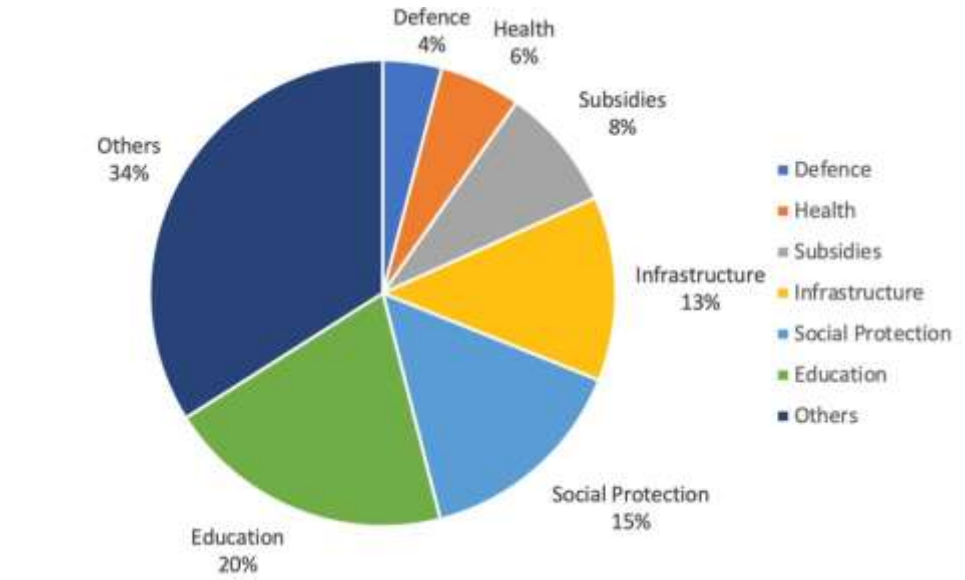


Figure 17: Figures from Ministry of Finance, Indonesia

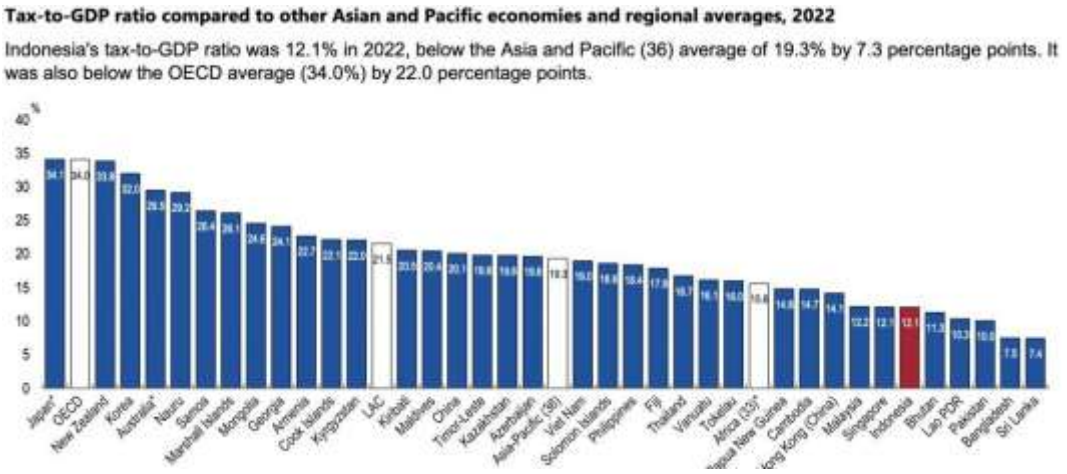
- **Tax Revenue Can be Increased**

The GOI could increase its spending capacity by raising taxes. In 2022, Indonesia's tax-to-GDP ratio stood at 12.1%, which is one of the lowest in the Asia-Pacific region. In 2023, the tax-to-GDP ratio fell to 10.2%. The GOI raised roughly Rp 1,869 trillion ($120.5 billion) in tax revenue in 2023. If taxes were raised to the regional average of 19.3%, then the additional annual revenue (roughly Rp 3,536 trillion, or roughly $107.2 billion) could, in principle, increase the level of public investment in the energy transition and thus reduce the need for external borrowing. The GOI has announced plans to raise the tax-to GDP ratio to 23%, which would generate an estimated $10 billion in additional tax revenue annually.[276]

[275] https://en.antaranews.com/news/302331/rp4558-trillion-spent-for-infrastructure-projects-in-2023-minister?utm_source=chatgpt.com

276

https://eastasiaforum.org/2024/04/03/how-indonesias-new-president-aims-to-boost-nationwide- -revenue/



Raising taxation could also produce a more equal distribution of wealth. In Indonesia, just 20% of the population own 40% of the wealth, and the four richest men in Indonesia have more wealth than a 100 million Indonesians that live either in or close to poverty.[277] Progressive tax increases can help prevent the cost of the energy transition being shouldered by the working class in the form of higher electricity charges. Today Indonesia has 30-40 US dollar billionaires, and 120,000-180,000 US dollar millionaires. Meanwhile the country's top taxation bracket is between 30% and 35%, which is lower than most middle-income countries.[278]The GOI could also increase its revenues by taking measures to minimise tax evasion and avoidance.[279]

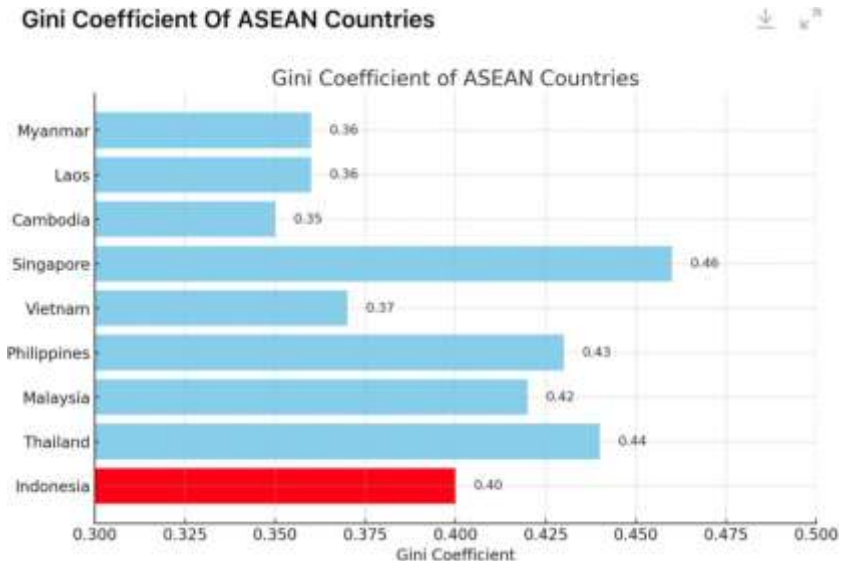


Figure 18: Indonesia's inequality levels are average for the region, but so is the country's per capita GDP--meaning inequality is a more serious in terms of its social impacts.

[277] https://www.indonesia-investments.com/news/todays-headlines/inequality-in-indonesia-4-richest-equal-100-million-poorest/item7637

[278] https://www.forbes.com/sites/janeho/2024/12/11/indonesias-50-richest-2024-combined-wealth-climbs-to-263-billion-amid-steady-economic-growth/?utm_source=chatgpt.com

[279] https://www.stampoutpoverty.org/live2019/wp-content/uploads/2019/05/Billions_to_trillions_web.pdf

Furthermore, rich Indonesians are not only undertaxed at home, but they are also likely to invest a significant portion of their financial assets abroad. This is a problem facing the Global South as a whole. Viewing the current situation through a climate lens, a 2024 study by Volz, Lo, and Mishra warned, "Not only do we have too little international climate finance flowing into EMDEs [emerging and developing economies] a lot more capital is also flowing into the 'wrong' direction. Not only do we see high debt service payments from EMDEs we also see significant amounts of EMDEs savings being invested abroad. At least part of these capital exports could be channeled into domestic investment, including climate investment." [280] Even in countries that are net capital importers, significant amounts of domestic savings are invested abroad in "safe, hard-currency assets, instead of the local economy."[281]

Tax increases may generate more revenue for the GOI, but when viewed through the lens of the country's development-related needs, the additional revenue will not alone be sufficient Indonesia's estimated energy investment shortfalls. But tax increases on the wealthy and efforts to control (sometimes illicit) outward financial flows can nevertheless make a significant difference

- **Debt Financing Means Lower Borrowing Costs for Public Entities Like PLN**

This brings us to consider the potential contribution of traditional debt financing mechanisms, which could accompany a strategy to raise taxation revenue.

For Indonesia, sovereign debt is a less burdensome proposition than increasing external and/or foreign denominated debt which is what will happen under the "blended finance" JETP scenario. For most developing countries borrowing in a foreign currency such as the US dollar is less expensive than if governments raise finance in their own local currency. However, this will require taking on the associated foreign exchange risk, and it is precisely this dependence on foreign currency finance that is perpetuating the structural problems that result in a high cost of capital. [282]

From a public pathway perspective, debt financing lowers interest rates for energy transition projects. This is enormously important in terms of reducing the costs of electricity provision and the broader transition itself. As energy economist Michael Liebreich notes, "Clean energy is only cheap if you have access to cheap capital. That's fine if you are in Europe, Japan, South Korea or the U.S. and your cost of capital is 6%, but not if you are in the Global South and your cost of capital is 15%. The IEA has pointed out that investment in the transition in developing countries (excluding China) needs to increase from $770 billion to $2.8 trillion per year by the early 2030s to keep the

[280] Volz, Lo, and Mishra (2024), Scaling Up Green Investment in the Global South, https://tinyurl.com/5829m7be; see also: Zucker-Marques, M., Gallagher, K.P., Volz, U. with Akhtar, S., Espinosa, M.F, Haas, J., Njoroge, P., Kenewendo, B. (2024), Defaulting on Development and Climate: Debt Sustainability and the Race for the 2030 Agenda and Paris Agreement, Boston, London, Berlin: Boston University Global Development Policy Center; Centre for Sustainable Finance, SOAS, University of London; Heinrich Böll Foundation

[281] Volz, Lo, and Mishra (2024), Scaling Up Green Investment in the Global South, https://tinyurl.com/5829m7be

[282] Volz, Lo, and Mishra (2024), Scaling Up Green Investment in the Global South, https://tinyurl.com/5829m7be

world on track for 1.5C. Where is that money to come from?" [283]

Access to lower borrowing rates can be enhanced by reinforcing PLN's finances. (See below: *PLN's Ties to the GOI is Helping its Creditworthiness*). This provides a less expensive option than "de-risking" private investment in Indonesia's energy sector, which then leads to higher PPA commitments and thus more pressure on PLN's balance sheets.

But the "Where is that [cheap] money to come from?"question posed by Liebreich is one that will need to be answered by the leaders of the multilateral system if the enormous investment deficit that plagues the Global South is to be effectively resolved.

- **Spending Limits Appear to be Making an Exit—But Not in Indonesia (Yet)**

Nevertheless, Indonesia is relatively well placed to pursue the debt financing option. Indonesia maintains substantial monetary sovereignty through its independent currency issuance and Indonesia's budget deficit, at currently 2.7% of GDP (late 2024) is relatively modest compared to other middle-income countries.[284] The deficit is expected to fall to below 2.5% of GDP in 2025.[285]

However, a major obstacle is the **3% GDP deficit limit** was introduced in **2003** through **Law No. 17/2003 on State Finances**. Significantly, the European Union had introduced a 3% GDP deficit limit in 1992 under the Maastricht Treaty, which ruled that Member States must not exceed 3% of GDP and public debt must not exceed 60% of GDP. [286] And the IMF's 1997 structural adjustment program (SAP) with Indonesia imposed **temporary spending ceilings** on the GOI, acting on the idea that an austerity policy (then known as "shock therapy") would control inflation and prevent rising governmental debt.[287] Both the EU's spending limits and the IMF's focus on fiscal discipline would have a clear influence over Indonesia's 2003 state finances law.

Although a detailed discussion of spending limits is beyond the scope of this paper, there are several reasons why the 3% spending ceiling should be reconsidered and 2003 law amended or repealed. These are:

1. The 3% limit means that the GOI and/or PLN will be restricted to off-balance sheet financing, which adds up to more public-private partnerships (PPPs or P3s). In the power sector, this means more IPPs. But, as we have seen, more IPPs will raise the price of electricity and leaves Indonesia's energy future in the hands of private

[283] Michael Liebreich, Net Zero will be harder than you think, and easier. Part 1. https://about.bnef.com/blog/liebreich-net-zero-will-be-harder-than-you-think-and-easier-part-i-harder/

[284] https://www.imf.org/en/Publications/FM/Issues/2021/01/20/fiscal-monitor-update-january-2021?utm_source=chatgpt.com

[285] https://www.reuters.com/markets/asia/indonesia-proposes-2025-budget-targeting-narrower-deficit-2024-08-16/

[286] See: Protocol on the Excessive deficit procedure, https://eur-lex.europa.eu/EN/legal-content/glossary/excessive-deficit-procedure-edp.html. See also: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Government_debt.

[287] See: World Bank's *Policy Reform Support Loan Project 1 and 2* (respectively, 1998 and 1999) and the *Corporate Restructuring Technical Assistance Project (1999)*.

interests. (See below, *Addressing the Investment Strike*).

2. While revenues from taxation could be increased, this will likely not be enough given the range of competing spending priorities. More tax revenue might reduce the energy investment shortfall significantly, but by no means entirely.

3. Indonesia's anticipated economic growth—which is to some extent dependent on increasing the country's energy-related infrastructure—could support a higher level of government spending.

4. The **3% deficit cap was suspended** during the **COVID-19 pandemic** through **Government Regulation in Lieu of Law (*Perppu*) No. 1 of 2020,** which was later enacted into **Law No. 2 of 2020.** Running deficits exceeding **3% of GDP** allowed the GOI to better manage the **economic fallout** of the pandemic, even though **but** Indonesia has since reverted to the **3% deficit rule**. The same logic could be applied to energy investment spending. COVID 19 was declared an emergency, but energy scarcity and also climate change can also be regarded as such. Therefore extraordinary policy interventions are surely appropriate.

The progressive policy community has always been critical of spending caps, arguing that the policy locks in austerity in times of economic slowdowns, deepens recessions, and disproportionately hurts the poor (who are more dependent on public services). There are signs, however, that mainstream policy is also beginning to question the efficacy of fiscal spending caps. Of this writing, the new center-right coalition government in Germany is calling for a more flexible approach to fiscal policy, driven by the need to accelerate the energy transition (known as *Energiewende* in Germany) and to address the country's investment deficit in infrastructure. Germany has joined calls for reforming the EU's 3% deficit rule to allow for state-led long-term investments.

In 2023, green growth theorists Nicholas Stern and Mattia Romani—having for many years insisting that the private sector will lead the transition because climate protection is "the growth story of the 21st Century"—conceded that the "growth story" will need to be *created*, and the creator, it seems, will be *public* investment. "A step up in public investment by 1-2% of GDP," they note, "should be at the heart of this investment push, as it provides direction and lays the ground for private investment; this would represent a natural shift from the public consumption spending during [the COVID19] crisis. By increasing economic productivity and reducing climate risk, this public investment would lay the foundations for a stronger medium- and long-term fiscal position."[288] In other words, Stern and Romani are suggesting that government debt today will lead to growth tomorrow—but they do not explain when, or how, this might happen.

[288] Stern N and Romani M (January 2023) The global growth story of the 21st century: driven by investment and innovation in green technologies and artificial intelligence. London: Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science and Systemiq, https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2023/01/The-global-growth-story-of-the-21st-century-driven-by-investment-in-green-technologies-and-AI.pdf, Nov 29, 2023

Either way, in Indonesia's case, "a step up in public investment by 1-2% of GDP" would, first, be in violation of the **2003 on State Finances and would require the law be repealed and, second—if the GOI followed this advice—the increase in public spending proposed by** Stern and Romani **would be directed towards a further de-risking the investments of private corporations, thus expanding private assets. Under the Article 33 Scenario any increase in public investment should be used to expand *public* assets.**[289]

Public financing provides a better option for Indonesia than the de-risking approach. But the energy investment challenge nevertheless remains formidable, and the country's spending priorities are such that the GOI's budget will, for the foreseeable future, not be sufficient to increase energy sector investment to the levels required to meet energy transition targets.

A Larger Role for Public Banks?

A domestic financing approach raises questions regarding the potential role of Indonesia's public banks in the implementation of the Article 33 Scenario.

There is a growing literature on the role public banks might play in a publicly financed energy transition at the global level, and how that might differ from their current role.[290] There are 910 public banks worldwide with total combined assets of $48.71 trillion. [291] In other words, public banks already play an important role in the international financial system.

The starting point for public pathway approach to public banks will be find ways to avoid them being used as simple enablers to de-risk private investment. For example, the European Investment Bank has become a central actor in the EU's climate policy landscape and in November 2019 the EIB declared itself a "climate bank." It announced that it would phase out lending for fossil fuel projects would become the main implementing partner in the European Green Deal's investment pillar, the Sustainable Europe Investment Plan (SEIP).[292] But the EIB's task has been defined by the (until now) staunchly neoliberal European Commission, which

[289] As Guild notes, the spending cap "constrains the [Jokowi] government's ability to directly fund the kind of transformative, big-ticket infrastructure projects it envisions." [S]ee also, Steven Keithley. Indonesia flawed tax amnesty. The Diplomat. March 14, 2018.

[290] Counterbalance, European Green Deal: Reclaiming Public Investments for a real Socio-ecological Transformation. Challenging Public Banks, October 2021, https://corporateeurope.org/en/2021/10/eu-green-deal-reclaiming-public-investments-socio-ecological-transformation; Thomas Marois, How Public Banks Can Help Finance a Green and Just Energy Transformation, November 2017, https://www.tni.org/en/publication/how-public-banks-can-help-finance-a-green-and-just-energy-transformation

[291] Marois T. Public Banks. In: *Public Banks: Decarbonisation, Definancialisation and Democratisation*. Cambridge University Press; 2021:i-ii.

[292] https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_24

has directed the EIB to create an "enabling framework for private investors."[293]

As Thomas Marois, Director of the Public Banking Project at McMaster University in Canada, notes: "Public development banks and commercial banks function differently. Private commercial banks are not well equipped to respond at the pace, scale, or terms appropriate for green and just transitions. Profitability concerns often precede effective climate actions. There is remarkably little scope to advance just energy transitions." [294] In contrast, "public development banks can be policy-oriented rather that profit-oriented. Being policy-oriented enables public development banks to adjust the pace, scale, and terms appropriate for confronting grand challenges like global green and just transitions." [295]

As Marois suggests, public banks are not intrinsically "pro-public," but unlike commercial banks they have the potential to lend money in ways that can advance social and ecological goals if there is a political commitment for them to do so. Public banks can be a means to expand public assets as part of the delivery of public goods, or they can lend in ways that are indistinguishable from commercial banks. A third option involves public banks as vehicles for de-risking private investment.

De-Risking is Not Working

Indonesia's public banks are relatively well capitalized, and they have a mandate to fulfill certain public policy objectives—including helping Indonesia reach its energy transition goals.[296] This suggests that public banks can play an important role in the implementation of the Article 33 scenario. In his 2019 doctoral dissertation James Guild asks whether Indonesia's financial system has the depth to underwrite the GOI's infrastructural and energy-related ambitions. Noting the steady increase in the deposit base and loan activity, he concludes that the financial system is well equipped to play such a role.[297]

[293] https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_24

[294] Marois T. Public Banks. In: *Public Banks: Decarbonisation, Definancialisation and Democratisation*. Cambridge University Press; 2021:i-ii.

[295] Marois, T. and Volz, U. (2024). A Climate Bank for Viet Nam to Catalyze Green and Just Transitions. 2024 UNDP Policy Brief Series. United Nations Development Programme Viet Nam (in collaboration with the United Nations Conference on Trade and Development, Geneva) https://www.undp.org/vietnam/publications/climate-bank-viet-nam-catalyze-green-and-just-transitions-2024-policy-brief-series

[296] Using Public Funding to Attract Private Investment in Renewable Energy in Indonesia https://www.iisd.org/publications/brief/using-public-funding-attract-private-investment-renewable-energy-indonesia

[297] Guild writes, "A quick look at the balance sheets of the four largest banks (three of which are state-owned), along with the financial guarantees and special financing vehicles specifically developed by the state to underwrite these [energy infrastructure] efforts suggests that they do, at least in the short-term." James Guild, J. The state, infrastructure and economic growth in Jokowi's first

Indonesia's four largest banks by assets are Bank Mandiri, Bank Negara Indonesia (BNI), Bank Raykat Indonesia (BRI) and Bank Central Asia (BCA). Of these, only BCA is a privately-owned bank. Although the three state-owned banks are nominally independent, they each have a particular mandate and sector of the economy which they are tasked with supporting. Bank Mandiri is particularly active in financing energy infrastructure projects, both for PLN and for IPPs.[298]

Unfortunately, Indonesia's public banks are currently operating under a de-risking mandate determined by the GOI and reinforced by the ADB and other MDBs. As noted in Part Three, the SDG Indonesia One program reflects this approach, and the results have been modest. Similarly, the Indonesia Investment Authority (INA) is currently operating as a co-investment fund designed to attract foreign capital. The INA was set up in 2021 with $5 billion in public capital to seed its activities. This included about $1.7 billion in cash, most of which went into interest-earning bank deposits and government bonds. In 2023, the fund's total assets had grown to around $7.3 billion and it booked a net profit of $269 million.[299] According to one source, one of the INA's main functions is to partner with foreign investors in "priority sectors," including "green energy, and the digital economy."[300]

According to the Climate Policy Initiative (CPI) the local Development Finance Institution (DFI), *PT Sarana Multi Infastruktur* (SMI), can perform an important de-risking function, by helping to "bridge financing gaps, where full, market-based solutions are lacking." As a voice for neoliberal policy, CPI equates SMI's economic development objectives with a de-risking agenda, one where the GOI commits more capital to "catalyze" a response from private investors. In other words, the GOI must allocate more money to SMI so its de-risking capacity can be enhanced. This "de-risking on steroids" approach propsed by CPI "allows SMI to bridge financing gaps in certain sectors until they reach a stage where full market-based solutions exist…SMI can source funding with competitive terms and raise debt financing in the financial market at a lower rate than their private sector peers."[301] This is yet another proposal to use public money to expand private assets, when it should be used to expand public assets.

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term.Doctoral thesis, Nanyang Technological University, Singapore. 2019. https://hdl.handle.net/10356/141322, https://doi.org/10.32657/10356/141322, https://dr.ntu.edu.sg/bitstream/10356/141322/2/DissertationRevisions.pdf

[298] James Guild, J. The state, infrastructure and economic growth in Jokowi's first term.Doctoral thesis, Nanyang Technological University, Singapore. 2019. https://hdl.handle.net/10356/141322, https://doi.org/10.32657/10356/141322, https://dr.ntu.edu.sg/bitstream/10356/141322/2/DissertationRevisions.pdf

[299] Nevertheless, as Aminullah notes, the capital available is relatively small compared to the needs of the energy transition, "And if this capacity is used to help finance the energy transition, it will restrict the provision of investment funding for domestic businesses and industries."

[300] https://thediplomat.com/2024/04/how-the-indonesia-investment-authority-built-its-portfolio-in-2023/

[301] https://www.climatepolicyinitiative.org/publication/energizing-renewables-in-indonesia-optimizing-public-finance-levers-to-drive-private-investment/?utm_source=chatgpt.com

There is No Alternative: The Transition Will Depend on Public Financing

With the adoption of a public pathway approach to energy transition, Indonesia's public banks could play a different role. Instead of being part of an effort to attracting foreign investment through de-risking, public banks could be required to expand state assets based on a *public-public* partnership between the GOI, PLN (and its subsidiaries) and the public banks themselves.

Political control over revenues will allow the banks space to sustain capitalization at levels needed to grow energy transition assets, and the lower borrowing costs delivered as the result of GOI backing would also help PLN improve its own balance sheets. The ending of the IPP system through the renegotiation and/or cessation of PPAs would gradually reduce PLN's PPA payments and direct revenues from electricity sales to PLN while ensuring that those revenues stay within the public sphere and not find their way into the hands of private interests.

Proposal 2: Beyond IPPs, Reclaim and Restore PLN

The Article 33 Scenario will reconstitute PLN as a fully integrated utility. It should be reclaimed to serve the public good. It must be issued a mandate that can allow the utility to break free from the financial and operational shackles of neoliberal policy, allowing it to be central to the implementation of the Article 33 Scenario and take Indonesia closer to a just energy transition based on energy sovereignty and policy independence.

The effort to restore PLN should strive to achieve three distinct objectives. These are:

1. Restore PLN's finances.
2. Control costs and keep electricity prices affordable.
3. Reconstitute energy planning as an energy transition principle.

The first two objectives are discussed in more detail below, and the third objective—the reconstitution of planning—will be discussed in the following subsection of this paper, *Reassess, Renegotiate, Reposition* where we attempt to look into Indonesia's energy future based on the Article 33 Scenario.
We believe that the restoration of PLN is both extremely necessary and highly plausible. But just as the process of neoliberal reform has spanned a period of years, reclaiming and restoring PLN will entail legal, legislative, and institutional changes that will not happen overnight.

Public Energy 2.0? The Direction of Policy is Changing

Advocates of the neoliberal agenda often try to convince local decision makers that vertically integrated public utilities have outlived their usefulness. But there is growing evidence that, internationally, the policy tide is beginning to move back towards public energy. The defence of PLN is therefore not "clinging to the past;" rather, it could be part of a global resurgence of public energy as policymakers become more aware of the current crisis facing the energy transition. PLN's still dominant position in generation, transmission and distribution is an asset to Indonesia. This must be sustained and expanded further in the coming years.

The potential for "Public Energy 2.0" is embedded in several realities. These are:

1. Despite more than three decades of trying to undermine public energy utilities, the balance between private IPPs and publicly owned generation has in most developing countries has not shifted decisively towards IPPs. According to the World Bank, in 2020, close to 60% of developing countries still operate with a vertically integrated national monopoly utility. Since the 1990s, only 8 developing countries have fully privatised their power sectors, and only 1 in 4 have followed the Bank's proposal to fully unbundle their utilities. In 2020, just 11% of countries had partially unbundled their utilities.[302]

2. A growing number of countries are taking steps to reestablish their public utilities as the principal player in their respective power systems and others have renegotiated or cancelled PPAs with IPPs (for examples, Ghana, Kenya, Uganda and Pakistan). These actions reflect concerns about rising payments to IPPs and the impact of these payments on electricity prices, the financial health of the public utility (as the "off taker" required to purchase IPP-generated power), or both. Some countries have scaled back Feed-in Tariff subsidies for renewables (for example, Vietnam). Mexico has gone furthest in terms of both disrupting the system of IPPs and PPAs and reconstituting its national public utility. (See below, *The Mexico Option: Step-by-Step Reclaiming*).

3. A significant section of elite opinion has lost confidence in both the efficacy of market reforms to reduce prices and drive efficiency, and others have concluded that further liberalisation is not compatible with the kind of long-term planning needed to meet either energy capacity or climate targets. Reports from the policy mainstream have concluded that public utilities are better placed to finance and deploy renewables and other low-carbon options than are private interests that are currently struggling to finance projects due to high borrowing costs.[303]

[302] Foster, Vivien, and Anshul Rana. 2020. Rethinking Power Sector Reform in the Developing World. Washington, DC: World Bank. doi:10.1596/978-1-4648-1442-6. License: Creative Commons Attribution CC BY 3.0 IGO

[303] Andrew Prag (IEA), Dirk Ruttgers and Ivo Scherrer (OECD), State Owned Enterprises and the Low Carbon Transition – Environment Working Paper No. 129. 2016 www.oecd.org/environment/workingpapers.htm

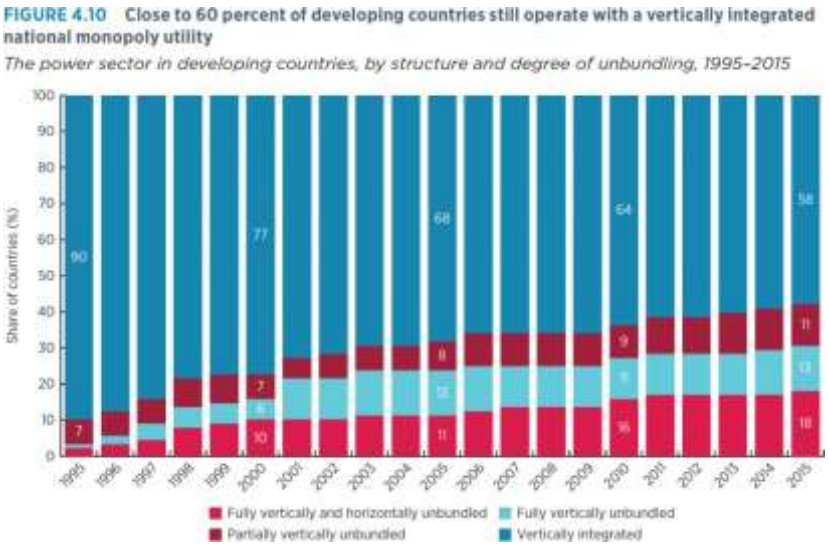


Figure 19: Source, World Bank, 2020 - Rethinking Power Sector R

Confronting Immediate Challenges

Public Energy 2.0 appears to be gaining momentum, but the reclaiming of PLN will require that the GOI respond to several immediate policy challenges. We have already explained that the Domestic Market Obligation (DMO) and the Domestic Price Obligation (DPO) are legitimate as policies to control costs and prices and should, therefore, be sustained.

These policies do not, as is often claimed, encourage coal use and thus impede the development of renewable energy. Rather, it is the "investment strike" of IPPs that is impeding renewables. The fact that IPPs are always waiting for a "better deal" – one that is likely to be a bad deal for PLN and GOI –means that the subsidies and de-risking mechanisms put in place to facilitate IPP-led deployment of renewable energy are not working and should be discontinued. These subsidies seek to "enable" private profit while trying to "disable" policy sovereignty. They are a financial burden on Indonesia's economy and have produced meagre results. Furthermore, legal and regulatory measures designed to expand IPP ownership of on-grid generation infrastructure should also be rejected.

These immediate challenges are discussed in more detail below, as are some of the misleading, inaccurate and ideologically motivated claims that have accompanied them. From there we proceed to explain how the reclaiming of PLN can be financially prudent both for the utility and the country; it can be socially progressive (by reducing costs, controlling prices, and allowing for a more equitable distribution of wealth), and sensible in terms of being more capable of handling some of the technical challenges that are likely to express themselves as the transition proceeds.

Beyond the Forced Marriage with IPPs

In recent years, both the GOI and PLN have made it clear that they imagine IPPs playing a larger role in the country's energy transition. But neither wish to hand over control of the electricity system to IPPs.
As noted at the outset, the GOI's embrace of the neoliberal agenda has been erratic and half-hearted, seemingly torn between whether to go "all in" with liberalization or to retain state control. In 2020, 91% of all electricity generation in Indonesia was state owned, 5% was owned by Independent Power Producers (IPP), and 4% was owned by a Power Processing Unit (or PPU).[304]

At the end of 2023, PLN's generation capacity amounted to almost 73 GW (roughly 77% of the total generation.) PLN ownership is either direct or through subsidiaries such as PT Indonesia Power, PT Pambangkit Jawa Bali, and PT PLN Batam, and PT Nusantara Power. A "subsidiary" is any entity, at least 51% of whose shares are owned by PLN. Meanwhile, the share of IPP-generated power in Indonesia (roughly 23%), while very significant, is still lower (in percentage terms) than it is in many middle-income countries. On-grid IPPs are selling power to PLN but, in most instances, IPPs do not own the generation assets. PLN also owns and controls the transmission networks that spans more than 70,000 kilometers.

For the deployment of renewables, the GOI, MEMR and PLN require developers to partner with PLN subsidiaries. Currently, partnership projects can take one of two forms, first, a mandatory partnership where the PLN subsidiary would typically own a minority ownership (generally in a range of 15% to 35%); or, second, a cooperation mechanism under PR 4 of 2016 on Acceleration of Electricity Infrastructure Development (PR 4/2016). In the case of the latter, PLN or its subsidiary acts as "cooperation partner" with the IPP, where PLN owns 51% ownership of the project.[305] This "partnership" approach prevents private developers from gaining 100% ownership of renewable energy power plants (REPPs).

At first glance, these arrangements resemble a public private partnership (P3) or "joint venture" approach. However, the IPPs and the JETP Secretariat see the partnership requirement as a "forced marriage", one that prevents IPP's from owning project assets. This, they claim, makes IPP projects less attractive to investors and thus reduces their "bankability."[306] According to the Secretariat, "A PPA should not be treated by its contracting parties as a procurement of a 'project' or an 'asset' that PLN would eventually own but rather as a procurement of electrons."[307] Therefore the "end game" of the IPP is to *own physical assets and to reduce PLN to a legally captive purchaser ("off-taker") of IPP generated power.*

[304] Using Public Funding to Attract Private Investment in Renewable Energy in Indonesia https://www.iisd.org/publications/brief/using-public-funding-attract-private-investment-renewable-energy-indonesia

[305] https://iclg.com/practice-areas/renewable-energy-laws-and-regulations/indonesia

[306] https://iclg.com/practice-areas/renewable-energy-laws-and-regulations/indonesia

[307] CIPP, Chapter 8, Enabling Policies for JETP Portfolio, page 199

The JETP Secretariat also objects to the fact that PLN retains "a unilateral right to alter, or propose alteration to, material and commercial contractual terms" which "are not in line with precedent PPAs."[308] In simpler language, the fact that PLN has the power to re-open the terms of a PPA contract makes investors anxious about project revenues. Investors and IPPs want PPAs that are beyond the reach of political decisions.

External Arbitration is a Threat to Sovereignty

Furthermore, the JETP Secretariat is not comfortable with dispute arbitration take place under the procedural rules of Indonesian National Arbitration Board (*Badan Arbitrase Nasional Indonesia,* BANI).[309] It claims that "international parties" (in other words, foreign investors and companies) want disputes between the GOI and private investors be handled by "offshore arbitration using procedural rules of established international arbitral bodies, such as the Singapore International Arbitration Centre (SIAC) or International Chamber of Commerce (ICC)."

If the GOI were to comply with this request it would be in a sense outsourcing the arbitration procedures to courts that have earned a reputation as enforcers of the neoliberal agenda in the name of market competition and "free trade." External arbitration is one of the conditionalities at the heart of the IMF and World Bank structural adjustment programs. It provides the basis of the Investor State Dispute Mechanism (ISDM) provision in broader trade agreements, such as Chapter 11 of the North American Free Trade Agreement (NAFTA) that allows investors to bring legal claims against governments for passing laws to protect worker and human rights, environmental regulations, etc.

Significantly, only foreign investors (not domestic companies or citizens) can access ISDM arbitration, and many arbitrations are conducted behind closed doors. Under the ISDM, states have often been forced to pay billions of dollars in compensation. And while investors can file claims against states, states cannot file claims against investors.[310]

- **IPPs and Asset Ownership: Resisting the "Build Own Operate" (BOO) Push**

PLN's ownership rights in the renewables sector are also being challenged. Investors

[308] According to the JETP Secretariat: "Sponsors and lenders of a lender expect to make equity and debt investments and therefore require certainty that a PPA will constitute a reliable long-term agreement." See CIPP, Chapter 8

[309] CIPP, Chapter 8, Enabling Policies for JETP Portfolio, page 200

[310] Efforts to reform the ISDM in ways that allow governments some recourse to challenge and potentially overturn ISDM decisions have been pursued within the multilateral system, and remain ongoing. See: https://circabc.europa.eu/ui/group/7fc51410-46a1-4871-8979-20cce8df0896/library/c84a5398-ef62-4a65-a2fc-66378c2320fb/details?download=true

and IPPs prefer a Build–Own–Operate (BOO) model where IPPs retain both ownership and operational control over the generation project asset indefinitely, allowing them to secure long-term revenue streams.

Renewable energy projects in Indonesia have mostly been developed under the build–operate–own–transfer (BOOT) scheme. As its name suggests, the BOOT scheme permits the private developer to own the build, own, and operate the power station**.** PLN is the sole off taker of the electricity produced. Under the BOOT scheme, IPPs own and operate the production facilities for the duration of the PPA with PLN, but then ownership is transferred to PLN. Some IPP projects are subject to a slightly different arrangement, known as build–operate–transfer (BOT). Under the BOT scheme, the IPP yields revenues under the PPA regardless of the electricity tariffs charged to end users, but PLN retains ownership over the project's assets.

For the IPPs, both the BOOT and BOT schemes add up to a finite revenue stream (stipulated under the PPA). IPPs maintain that these arrangements can lead to lenders requiring higher interest rates or stricter loan terms because the asset will, all things being equal, be transferred over to the state when the PPA expires. These schemes prevent projects from becoming an income-generating asset for potentially decades beyond the expiration of the PPA.

IPPs also argue that BOT and BOOT arrangements diminish the long-term value of their investment, because they cannot use the asset as collateral after the PPA ends which, IPPs claim, affects the project's creditworthiness in the eyes of investors. IPPs are also concerned that the power plant's transfer value may not reflect either its remaining operational life or the maintenance investments made by the IPP, causing financial losses for the IPP. Importantly, IPPs claim that the prospect of an imminent handover to the state means that there is little incentive to undertake repairs, upgrades, and efficiency measures—the benefits of which will accrue to the public domain with the transfer of the asset to PLN.

Persuaded by these arguments, MEMR issued Regulation 4/2020 on the *Utilization of Renewable Energy Sources for Power Supply* which removed the BOOT requirement with the aim of making IPP projects more "bankable" and thus be more appealing to investors.[311] Regulation No. 4 amended an earlier regulation (No. 50 of 2017), and ruled that, under certain conditions, BOOT projects may be adjusted to a Build, Own and Operate (BOO) in accordance with the wishes of the IPP.[312] In practice, however, the BOOT and BOT schemes remain the norm because the decision to adjust to a BOO scheme will require negotiations between the IPP and PLN and, IPP lawyers complain, the final decision will ultimately be at the discretion of PLN, as the single off taker, to decide whether or not to make the adjustment and thus allow for ownership of the asset.[313]

[311] https://policy.asiapacificenergy.org/node/4176

[312] Using Public Funding to Attract Private Investment in Renewable Energy in Indonesia https://www.iisd.org/publications/brief/using-public-funding-attract-private-investment-renewable-energy-indonesia

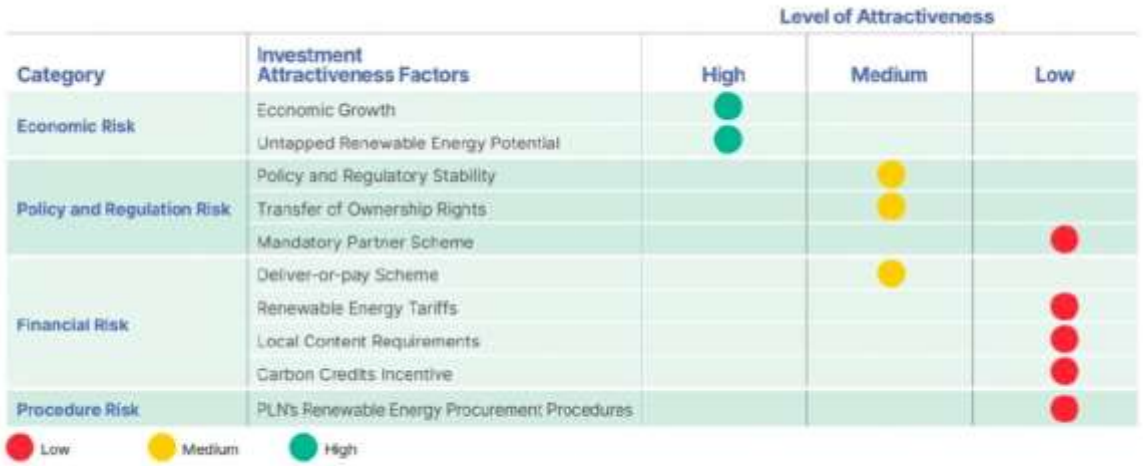
[313] https://dentons.hprplawyers.com/en/insights/articles/2020/may/12/-

The JETP Secretariat applauded PLN's "good steps to improve bankability to attract private finance (e.g., Cirata floating solar IPP)" but insists that the BOOT scheme should be replaced by the BOT model. This would hand full and permanent ownership of the asset over to the IPP, thus compromising state control and energy sovereignty.[314]

Follow the Dots: What Private Investors in Indonesia Want

The red dots presented in this image (generated by IEEFA)[315] illustrate what private investors and IPPs want changed in Indonesia. They seek higher tariffs for renewable energy (PLN should pay more for IPP-generated renewable power); they want to end such things as the mandatory partner scheme (discussed above), reduce or remove local content requirements, and loosen other regulations that, it is claimed, are not consistent with the need to create an "enabling environment" for the private sector.

Figure 7: Investment Attractiveness Factors



Source: IEEFA.

- **From Take-or-Pay to Deliver-or-Pay**

Another area of contestation between the GOI and the IPPs' agenda concerns risk allocation. In early 2023, when MEMR instructed PLN to cease negotiating take-or-pay (TOP) PPA arrangements with IPPs and to move to a "deliver-or-pay" (DOP) approach, although a 2017 MEMR regulation No. 10/2017 had already taken steps in this direction.

The traditional (or "precedent") take-or-pay (TOP) arrangements provide financial certainty for IPPs but they pose financial risks to PLN, especially during periods of excess capacity. In 2022, PLN faced an oversupply of approximately 6 gigawatts, resulting in financial obligations of around

/media/b3920f0e8e4c4c39b70ee37551ad5b36.ashx?utm_source=chatgpt.com

[314] https://jetp-id.org/storage/official-jetp-cipp-2023-vshare_f_en-1700532655.pdf

[315]

IDR 3 trillion for each excess gigawatt due to the TOP commitments.[316] In contrast, "deliver-or-pay" arrangements impose penalties on IPPs that fail to meet availability or capacity requirements, thus matching the obligation to purchase electricity (in the case of PLN) with an obligation to deliver (in the case of IPPs).

Under the DOP scheme, IPPs are contractually obligated to supply a specified amount of electricity to PLN. Failure to meet the agreed-upon availability or capacity requirements results in penalties for the IPP. This shift reallocates certain risks from PLN to the IPPs who now face financial penalties for underperformance. Neoliberal opinion reacted negatively to this shift in policy. In 2017,
Price Waterhouse Cooper warned that "A stricter penalty regime will likely sharpen incentives for IPPs to perform, although they may price this risk into their bid prices for PLN" thus increasing the level of PLN's PPA payments to IPPs. [317] IEEFA complained that, "Ensuring consistent energy delivery to meet contractual obligations may necessitate additional investments in infrastructure and maintenance, potentially impacting project profitability" thus making renewable energy projects less attractive to investors, and "potentially hindering the growth of Indonesia's renewable energy sector."[318]

Before deliver-or-pay was introduced, IPPs had zero obligation in terms of securing supply. IPPs got paid regardless of whether end users pay PLN or default on payments; IPPs therefore have no customer debt problem. Under the traditional "take-or-pay" arrangements, PLN was obligated to purchase a predetermined minimum amount of electricity from IPPs, regardless of actual demand. If PLN failed to do this, it was obligated to compensate the IPP. This mechanism ensured financial certainty for IPPs, but exposed PLN to financial risks.

DOP regulations and BOOT and BOT schemes reflect the GOI's desire to partner with IPPs without conceding to their core demands which is to expand IPP ownership of the country's power generation assets and to reduce PLN to a buyer of IPP-generated power. This would be a "win-win" for the IPPs, and a "lose-lose" for the Indonesian people, the country's energy security, and PLN's financial health.

Addressing the IPP Investment Strike

As noted above, the IPPs in renewables are currently engaged in an "investment strike" in the sense that they are waiting for better terms before they commit capital. This

[316] https://katadata.co.id/berita/energi/6332c474eaa19/sejarah-take-or-pay-yang-bebani-pln-rp-18-t-imbas-kelebihan-listrik?utm_source=chatgpt.com. MEMR Secretary General Rida Mulyana has stated that "the burden of purchasing electricity from IPPs is relatively large and may still increase along with contracts from the 35,000 megawatts (MW) electricity program." https://dinsights.katadata.co.id/read/2023/02/01/govt-urges-pln-to-drop-take-or-pay-scheme

[317] https://www.pwc.com/id/en/publications/assets/eumpublications/newsflash/2017/eum-newsflash-2017-61.pdf

[318] https://ieefa.org/sites/default/files/2024-07/IEEFA%20Report%20-%20Unlocking%20Indonesia%27s%20renewable%20energy%20investment%20potential%20July2024.pdf?utm_source=chatgpt.com

strike has expressed itself in extremely low levels of investment and sluggish deployment of renewables, which the IPPs attribute to the GOI not complying with their demands.

According to Asian Power, "A mandatory partner system, ownership transfer limits, an unfavorable deliver-or-pay scheme and unattractive tariff ceilings all add up to keep it [Indonesia] in the RE [renewable energy] rut."[319] For IESR, the move away from take-or-pay arrangements has meant that "All small-medium scale renewable developers that have signed PPAs with PLN in the period 2017-2021, failed to realize their projects. The reason is that the PPAs signed are PPAs designed by PLN and PLN does not want a take-or-pay clause in the PPA, thus causing great uncertainty for financiers who will finance the plant and the developer."[320]

IPPs argue that the BOT and BOOT schemes encourage IPPs to cut back on investment in efficiency, technological upgrades, etc. – and only BOO arrangements can prevent these damaging outcomes. The IPPs are therefore expressing a willingness to sabotage the country's energy transition plans by withholding investment in infrastructure. This is clearly unacceptable from both a social and ecological standpoint.

Government Should Make Final Investment Decisions, Not IPPs

The current policy leaves final investment decisions in the hands of the IPPs. The signing a PPA does not guarantee that a project will go forward. The IPP has the contract but not the financing. As Guild writes, "Although PLN is generally eager to announce the signing of PPAs, the viability of the project is not really assured until financial closing has been reached."[321] To obtain project financing, the IPPs need to convince lenders that the project concerned has been de-risked in ways that are sufficient to produce satisfactory returns for both the lender and the IPP. As we have seen, to be attractive to investors, anticipated financial returns must be comparable to anticipated returns from other investment activities—which may or may not be energy related. Either way, Indonesia's energy security and transition plans will largely depend on "yes or no?" decisions made by private interests.

Meanwhile, most IPPs have zero obligation in terms of securing supply, (although the "Deliver-or-Pay Scheme" seeks to address that problem). IPPs get paid regardless of whether customers pay PLN or default on payments; IPPs therefore have no customer debt problem. Under the

[319] https://asian-power.com/power-utility/exclusive/indonesia-must-overcome-regulatory-barriers-build-re-appeal?utm_source=chatgpt.com

[320] **Institute for Essential Services Reform (IESR).** (2022). *Financing Indonesia's Coal Phase-Out: A Just and Accelerated Retirement Pathway to Net-Zero.* https://cgs.umd.edu/research-impact/publications/financing-indonesias-coal-phase-out-just-and-accelerated-retirement

[321] Guild, J. (2019). The state, infrastructure and economic growth in Jokowi's first term. Doctoral thesis, Nanyang Technological University, Singapore.

traditional "take-or-pay" arrangements, PLN is obligated to purchase a predetermined minimum amount of electricity from IPPs, regardless of actual demand. If PLN fails to do this, it is obligated to compensate the IPP, ensuring a stable revenue stream for private producers. This mechanism ensures financial certainty for IPPs, but exposes PLN to financial risks.

End Domestic De-Risking and Subsidies to IPPs

Much has been said regarding the financial viability of PLN, and how the utility's inability to achieve full cost recovery (FCR) acts like a millstone around the neck of the Indonesian economy. Far less is said regarding the extent to which subsidies used to promote and sustain the privately owned (and mostly foreign owned) IPPs. Financial subsidies to IPPs comes from both external sources (normally via the MDBs) and internally through various GOI-created deals and de-risking mechanisms. These are summarized below.

Table 1. Summary of tax incentives to support renewable energy in Indonesia

Tax instruments	Description
Tax holiday	100% discount on Corporate Income Tax (CIT) for up to 20 years depending on investment value (for 17 pioneer industries, including renewable energy sector)
Tax allowance	Applied to renewable energy power plants, geothermal businesses, and bioenergy industries. This allowance includes CIT reduction and suspension and elimination of VAT for various renewable energy projects.
Tax exemptions	VAT, CIT, and import tax exemption on imported goods for geothermal and other renewable energy projects
Accelerated depreciation and amortization	Accelerated depreciation and amortization on assets and goodwill for initial capital investment of renewable energy projects
Credit facilities	Various credit facilities for small to large renewable energy projects
Land tax	Land tax reduction up to 100% for geothermal exploration stage

Figure 20: Ministry of Finance Data, Chart created by IISD, Using Public Funding to Attract Private Investment in Renewable Energy in Indonesia, Feb 2022.[322]

[322] https://www.iisd.org/publications/brief/using-public-funding-attract-private-investment-

renewable-energy-indonesia

- **Ineffective: Indonesian Infrastructure Guarantee Fund (IIGF), Viability Gap Funding (VGF)**

The Indonesian Infrastructure Guarantee Fund (IIGF), also known as *PT Penjaminan Infrastruktur Indonesia* (PT PII) provides guarantees for infrastructure projects, including those involving IPPs. The first IIGF guarantee was offered in 2011 for the 2,000 MW Central Java coal-fired power station, a 66% Japanese owned project that enjoys a 25-year PPA to sell power to PLN.[323]

In addition to IIGF guarantees, the Ministry of Finance (MoF) has issued sovereign guarantees covering PLN's payment obligations to IPPs. The Viability Gap Fund (VGF) is designed to support public-private partnership (P3) infrastructure projects valued at 100 billion IDR, or roughly $6 billion in 2025 dollars.[324] To qualify for VGF support, these projects must be are "economically viable but not yet financially feasible." The funding is intended to finance construction costs, and therefore "improve the risk-return profile of large-scale renewable energy projects" so that they become "bankable."[325] In 2012, Viability Gap Funding (VGF) provided sovereign guarantees for two geothermal projects at Rajabasa and Muara Laboh.[326]

The total amount of VGF support disbursed by the MoF to IPPs is difficult to calculate. The VGF can cover up to 49% of an IPP's construction, equipment, and installation costs, so the financial support for IPP projects is very significant.[327] According to the Carbon Policy Initiative, "Tracked government funding between 2012 and 2016 amounted to at least IDR 2.5 trillion per year on average," which, it concluded, was not enough to help Indonesia achieve its energy targets.[328]

A revealing insight into the scope of this de-risking mechanism was provided by a GOI official in October 2017, who said: "If the IRR [internal rate of return] for an electricity infrastructure project is only 6 percent, while the ideal figure is 12 percent, the government can inject another 6 percent to make the project more attractive." [329] In simpler language: the GOI, via the VGF, guarantees the "ideal figure" for the IRR—perhaps 12% a year—because a 6% IRR, it seems, is not an "ideal" rate of profit for the IPP.

The VGF provides yet another example where public money is being gifted to

[323] https://repit.wordpress.com/wp-content/uploads/2012/01/central-java-2000-mw-coal-fired-power-plant.pdf

[324] https://www.climatepolicyinitiative.org/publication/energizing-renewables-in-indonesia-optimizing-public-finance-levers-to-drive-private-investment/?utm_source=chatgpt.com

[325] https://iab-net.com/viability-gap-funding-increasing-attractiveness-of-ppp-infrastructure-projects-in-indonesia/

[326] https://asian-power.com/project/commentary/indonesia-issues-sovereign-guarantees-power-projects?utm_source=chatgpt.com

[327] Asia Development Bank, https://pppmonitor.adb.org/sites/default/files/2021-04/public-private-partnership-monitor-indonesia.pdf

[328] https://www.climatepolicyinitiative.org/publication/energizing-renewables-in-indonesia-optimizing-public-finance-levers-to-drive-private-investment/?utm_source=chatgpt.com

[329] The government official was Armand Hermawan, "the finance director for state-owned infrastructure project financing guarantee agency PT Penjaminan Infrastruktur Indonesia." https://www.thejakartapost.com/news/2017/10/03/pln-relies-debt-35-gw-program.html

private entities at levels that are likely to far exceed what might be incurred if the project was publicly financed. If PLN developed the same (hypothetical) project, a 6% return would be more than sufficient to finance future projects. And the 49% set aside from the GOI's budget could be used elsewhere, perhaps in transmission upgrades, digitalization efforts, or by supporting another transition-related program.

Resist or Comply?

The economic case for reclaiming and restoring PLN becomes even more compelling when the subsidies to the IPPs are taken into consideration. Future policy should aim to intercept the channels by which public money flows into the hands of private interests through subsidies to IPPs. Those subsidies can then be redirected towards public investments in efficiency, digitalization, and infrastructure upgrades.

The GOI therefore faces a clear choice. It can fully comply with the "enabling environment" demands made by the IPPs and hope that the investment will follow, or it can continue to try to retain some degree of control over the IPPs in the ways described above (ownership restrictions, price controls, deliver-or-pay schemes, etc). Currently, GOI policy is stuck in the middle, unable to satisfy the IPPs and the investors who finance projects, while incurring rising costs to the public because of the expansion of the PPA arrangements. This risks a power sector investment and deployment crisis if private capital continues to look elsewhere for profit-making opportunities.[330]

In our assessment, the IPPs will probably continue to withhold investment until the GOI introduces "enabling environment" policies that meet their requirements. But IPPs will still control final investment decisions, risking an energy supply crisis over the medium to long-term. The investment strike makes it necessary for GOI and PLN to develop a different energy transition strategy, one that is not dependent on IPP decisions based on profit and risk calculations and maintains state ownership over power generation assets.[331]

If these are the immediate challenges that need to be addressed, we can now consider how a restored PLN can become both financially secure and proactive in terms of driving investment within a framework of energy transition planning.

[330] IISD, February 2022, Using Public Funding to Attract Private Investment in Renewable Energy in Indonesia https://www.iisd.org/publications/brief/using-public-funding-attract-private-investment-renewable-energy-indonesia

[331] Anya Azaria & Rikordias Siahaa, Pervading Factors Behind Floating Solar Power Gridlock in Indonesia October 18th, 2023, https://www.petromindo.com/news/article/pervading-factors-behind-floating-solar-power-gridlock-in-indonesia?utm_source=chatgpt.com

1. Restore PLN's Finances

As proposed, the Article 33 Scenario positions PLN at the centre of the energy transition. Neoliberal opinion has created an image of a PLN (and public utilities more broadly) that is financially fragile and in need of annual infusions of finance from the GOI. It is repeatedly claimed that GOI support for PLN is a major obstacle Indonesia's transition to "cheap" renewable energy and lower retail prices.[332]

It is profoundly irresponsible to blame PLN for what is an investment strike on the part of IPPs and private capital, when the main reason for the slow levels of renewable energy deployment is the desire for profit in the form of "bankable projects" that yield high rates of return.[333] Climate concerns and decarbonization targets are completely subservient to this overriding objective. Claims that the financial class "are ready to commit to Net Zero" are therefore fundamentally dishonest in that such commitments to invest will require returns that the financial class considers to be acceptable.

But what is the solution? The IPPs and their policy allies want legally binding PPAs that, as we have seen, will make the energy transition far more expensive than it can or should be. This leaves the GOI and PLN with 3 options. These are:

1. Pass the cost of PPA payments on to end users in the form of higher electricity tariffs. This would violate Article 33 and be detrimental to workers and small businesses and the broader economy.

2. Absorb (completely or partially) the high costs of renewables, which will show up as higher PLN debt or as a growing budget allocation for the GOI. This will depend on the degree to which the GOI is able to absorb the higher costs (including "system costs"—see below)

3. Abandon the energy transition and rely even more heavily on coal for new power generation capacity.

However, the Article 33 Scenario creates a fourth option for the GOI, which involves moving away from IPP projects with long-duration PPAs, retaining more of electricity sales revenues, all within a framework of public financing.

[332] For example, see https://www.climate-transparency.org/wp-content/uploads/2023/11/Implementation-Check-Indonesia-General-National-Electricity-Plan-Scorecard-2023.pdf

[333] Guild, J. (2019). The state, infrastructure and economic growth in Jokowi's first term. Doctoral thesis, Nanyang Technological University, Singapore. As Guild writes, "[PLN] cannot pass the high costs of renewable energy onto its customers, as it is legally bound to provide reasonably priced energy to its citizens. This means the state must essentially absorb the high initial capital costs for developing renewable energy plants which are still relatively high in Indonesia due to low investor confidence, even as the global levelized cost is coming down. As it seeks to add additional capacity to fuel economic growth, policymakers have shown a clear preference for pursuing cheaper coal-fired plants, especially as abundant reserves of coal and natural gas mean self-sufficiency in renewable energies is not a matter of immediate strategic necessity.

PLN's Financial Crisis Was Made in a Lab. It is *Synthetic*

As discussed in Part Two, the World Bank's "standard model" of privatisation sought to establish "full cost recovery" (FCR) as the main metric of a public utility's "viability." Power utilities and/or governments should raise prices to recover costs, and this will, the Bank claims, attract investment from the private sector. But FCR was, and continues to be, a political scalpel designed to lacerate the public goods mission of publicly owned and operated utilities and services. FCR therefore runs counter to the principles embedded in Article 33, principles that view affordable and universally available electricity as one of the foundations of national and human development. It is the FCR *criterion* that creates a financial "crisis" for PLN (and scores of power utilities worldwide).

It is for these reasons that we consider PLN's financial crisis to be *synthetic.* It has been created in the laboratory of neoliberalism, and reflects the priorities of structural adjustment and the standard model of privatization.[334] However, because World Bank loans are often granted based a utility's commitment to achieve FCR (and firing workers is often suggested as necessary step towards this goal) this synthetic crisis can become a material reality if it prevents access to development finance. [335]

- **Unpacking the Costs-Prices Relationship**

To demonstrate how a public system can control and reduce the costs of generating electricity, it is necessary to examine costs and prices as separate categories.

In terms of costs, under the current system the cost of generating electricity is inflated by private profit for lenders, project developers, IPPs, and technology suppliers. For new generation capacity—especially renewables—the largest contributor to projects costs is the rate of interest on borrowed capital. And Indonesia's persistently high interest rate pose a significant challenge for developers looking to finance projects in ways that to secure maximum financial returns.[336]

High interest rates are then reflected in PPAs prices negotiated by private interests. IPP negotiations with other public utilities and government ministries normally revolve around a "strike price" (a payment for electricity per MWhr). However, the strike price is invariably set considerably higher than the actual costs of generating electricity.[337] This higher price creates

[334] TUED/AIDC/TNI: Eskom Transformed, 2021, https://aidc.org.za/eskom-transformed-full-report/

[335] The JETP with South Africa refers to the need to involve organized labor, while promoting unbundling and full cost recovery. "South Africa's nationally determined efforts to successfully and sustainably man age Eskom's debt, define the role of the private sector, and create an enabling environment through policy reform in the electricity sector, such as unbundling and improved revenue collection; See: https://ec.europa.eu/commission/presscorner/detail/cs/ip_21_5768

[336] https://www.climatepolicyinitiative.org/publication/energizing-renewables-in-indonesia-optimizing-public-finance-levers-to-drive-private-investment/?utm_source=chatgpt.com

[337] Zachmann, G., Hirth, L., Heussaff, C., Schlecht, I., Mühlenpfordt, J., Eicke, A. The design of the European electricity market, Publication for the committee on Industry, Research and Energy (IRTE) Policy

space for investors and developers to show lenders a rate of return high enough to cover interest payments, dividends, costs of competition, etc. The discrepancy between the strike price and actual costs therefore inflates the cost of the electricity purchased by the off taker—in this case, PLN.

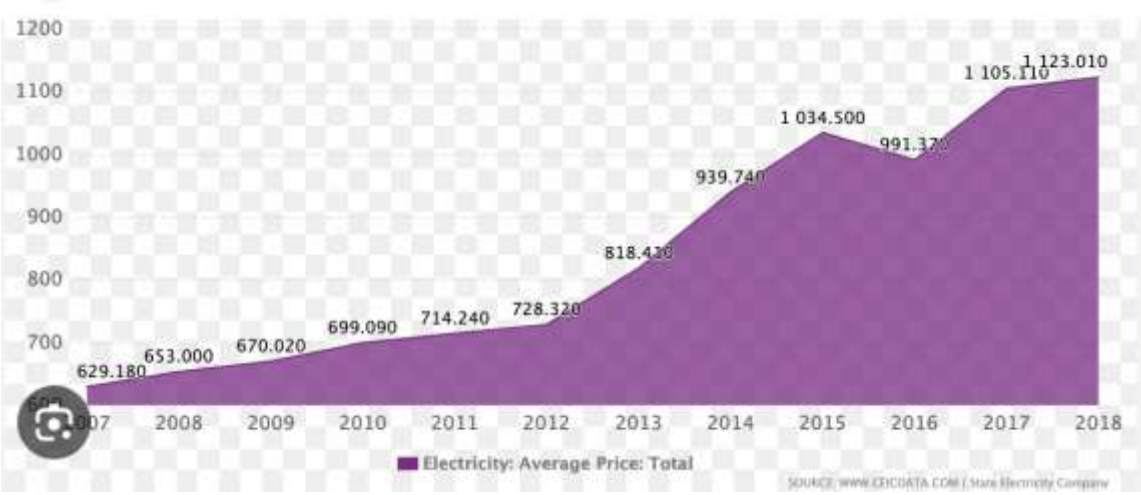


Figure 21: Household electricity prices have risen steadily since 2007

Investment decisions are also based on the minimum financial return that a project developer would require over a project's lifetime. This is known as the "hurdle rate." Hurdle rates tend to be technology-specific, reflecting different financing costs for different technologies. The hurdle rate is often decisive in terms of whether an investor will or will not pursue a specific project, and riskier projects generally have higher hurdle rates than those with less risk. Either way, governments are not in control of final investment decisions for power generation projects, because the control lies with the private developer and, ultimately, the entity financing the project.[338]

- **The IPP-PPA Model Means Higher Electricity Prices**

It is important to emphasise that higher retail tariffs are part of the "enabling environment" neoliberals are trying create, because higher prices produce higher revenue potential and healthier profit margins, therefore "sending signals" to investors.[339] Neoliberals acknowledge that, for example, removing the DPO and DMO would lead to higher electricity prices which, they claim, is a necessary step to

Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg http://www.europarl.europa.eu/supporting-analyses

[338] Hurdle rates and strike prices are discussed in, Sweeney, Mapping a Public Pathway for Europe's Energy Transition (2024) https://rosalux.eu/en/2024/mapping-a-public-pathway-for-europes-energy-transition/

[339] World Bank, January 2020, *Cost Recovery and Financial Viability of the Power Sector in Developing Countries : Insights from 15 Case Studies (English).* Policy Research working paper|no. WPS 9136 Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/970281580414567801

attract investment—especially in the renewables sector where high upfront costs require a higher electricity price in order to order to generate returns on investment within a time frame considered acceptable by the IPP and its lenders.[340]

Reflecting its aversion to governmental attempts to control retail prices, the ADB has created an inventory of alleged impediments to renewable energy projects in Indonesia. It states, "among the most damaging are the disincentives or outright prohibitions against PLN purchasing renewable power at prices higher than conventional alternatives."[341] This formulation speaks volumes: for the ADB, the only acceptable energy transition is one where the Indonesian people pay higher prices for electricity. The alternative is to have PLN and/or the GOI absorb the high PPA costs, which then raises the anxiety levels of lenders with regard to PLN's long-term viability as the "off-taker" or purchaser of electricity generated by IPPs. Either way, the current arrangements mean the Indonesian people are either paying in the form of higher retail prices, or they are paying through their tax contributions to the government.

- **PLN's Ties to the GOI is Helping its Creditworthiness**

The primary rationale for expanding the role of the IPPs is to relieve the GOI of finding the upfront capital for generation capacity through debt financing (including issuing bonds), tax revenue, etc. Scores of developing country governments bought into this logic, in part because they had little choice—MDB financing was only made available to governments who had shown a commitment to the reform agenda.

Indonesia can begin to extricate itself from the IPP-PPA system. In terms of finding up-front investment, it is a well-established fact that utilities with strong state support can borrow at lower interest rates than public utilities who do not enjoy the same levels of support. For the Article 33 Scenario, this is a crucial advantage, especially given the important role of PLN as public investment vehicle. Currently, PLN is considered creditworthy by major international credit rating agencies. For example, the Fitch credit rating agency has set PLN's Standalone Credit Profile (SCP) at 'bb+'. As the Fitch agency notes, "with a monopoly in Indonesia's electricity-transmission and distribution sector and dominant position in power generation," PLN's status as a state-owned company supported by the GOI has enhanced the

[340] IEEFA Pathways to Financial Sustainability for PLN through Renewable Energy Development, May 2024. Author: Mutya Yustika https://ieefa.org/resources/pathways-financial-sustainability-pln-through-renewable-energy-development

[341] Asia Development Bank, Renewable Energy Tariffs and Incentives in Indonesia: Review and Recommendations, Sept 2020. https://www.adb.org/sites/default/files/publication/635886/renewable-energy-tariffs-incentives-indonesia.pdf. The alleged impediments to renewables include; "inadequate power system planning and grid management practices; (ii) unbalanced power purchase agreements that adversely affect bankability; (iii) counterproductive procurement and contracting processes, negotiation practices, build–own–operate–transfer (BOOT) requirements, and change-of-ownership restrictions; (iv) high local content requirements prior to establishment of a market large enough to achieve domestic manufacturing economies of scale; and (v) limitations on foreign investment.

utility's capacity to raise finance. [342] Similarly, S&P Global Ratings has assigned PLN a 'BBB' credit rating, noting that "We expect the company to continue to benefit from ongoing and extraordinary government support."[343]

PLN is therefore in a good position in this respect. Although specific interest rates for IPP projects in Indonesia are not publicly available, the evidence suggests that PLN can secure more favorable borrowing terms for renewable energy projects than IPPs due to its lower credit risk profile. A significant interest rate differential between PLN and private IPPs would reduce the cost of financing projects considerably.

No.	Lembaga Pemeringkat / *Rating Agency*	Peringkat / *Rating*		*Outlook*
		2022	2023	
	Domestik / Domestic			
1	Pefindo	AAA	AAA	*Stable*
	Internasional / International			
1	S&P	BBB	BBB	*Stable*
2	Moody's	Baa2	Baa2	*Stable*
3	Fitch Ratings	BBB	BBB	*Stable*
4	Japan Credit Rating (JCR)	BBB+	BBB+	*Stable*

Figure 22: PLN, Laporan Tahunan, 2023

Importantly, a 2022 Fitch study concluded that, in general, publicly owned companies "have a key role to play in decarbonisation and development of low-carbon technologies'" due to their close ties with governments.[344] The study concluded that public companies are essential to the development of energy transition technologies that might play a significant or perhaps large role in future. According to Fitch, this is because public companies (or "SOEs") "typically have a significant influence on global technology costs and economies of scale for low-carbon technologies. Government support, particularly subsidies, has historically been a key factor in falling costs of solar technologies, but can also play a key role in developing unproven or high-risk new technologies and energy sources, such as green hydrogen. For example, China's nascent green hydrogen sector is almost all being developed by SOEs." [345]

The Article 33 Scenario anticipates that public financing will lower borrowing costs for new generation capacity significantly. This, in turn, will lower the Levelized Cost of Electricity (LCOE). A July 2024 OECD study considered the impact of high interest rates on renewable energy projects. In 2024, developers in rich countries could finance a utility-scale solar PV or onshore wind project at a borrowing

[342] https://www.fitchratings.com/research/corporate-finance/fitch-affirms-indonesia-perusahaan-listrik-negara-at-bbb-outlook-stable-27-09-2023?

[343] https://disclosure.spglobal.com/ratings/en/regulatory/article/view/type/HTML/id/3014930?

[344] https://www.fitchratings.com/research/infrastructure-project-finance/state-owned-enterprises-key-to-energy-transition-20-06-2022

[345] https://www.fitchratings.com/research/infrastructure-project-finance/state-owned-enterprises-key-to-energy-transition-20-06-2022

rate of roughly 5%, but for the same project in Indonesia the borrowing rate would be roughly 9%. The difference in borrowing costs converts to an increase in the LCOE by, respectively 34% and 29% for utility-scale solar PV and onshore wind projects.[346]

- **Revenue Retention as a Strategic Goal**

The available data on PPA contracts suggest that payments to IPPs have inflated the cost of providing electricity.[347] This is true regardless of the fuel source. In 2023, PLN's expenditures for IPP-generated power were approximately 155 trillion rupiah ($10.3 billion), while coal purchases cost PLN 69 trillion rupiah ($4.6 billion) in 2023. Therefore, PLN's payments to IPPs *are currently more than double what PLN pays for coal on an annual basis.*

PLN's 2023 annual report notes how, as PPA payments continue to outstrip revenues accrued from tariffs, PLN's dependence on the GOI' budget has increased accordingly. The percentage of subsidy and compensation income has risen from 19.1% of total PLN revenue in 2020, to 29.5% in 2023. The PLN report explains, "This was mainly due to the absence of adjustments to electricity sales tariffs for almost all customer groups since 2018. Thus, the difference between (BPP + margin) and tariffs will be calculated and paid in the form of subsidies and compensation."[348]

The Article 33 Scenario allows for PLN to retain a higher percentage of its revenues from electricity sales by reducing the "pass through" payments to IPPs.

Furthermore, direct public investment in generation capacity can generate revenue from electricity sales, and a high percentage of sales revenues are currently lost to PLN due to PPA obligations. This arrangement not only weakens PLN, but these investments—if they were publicly financed—also generate their own multiplier effect, increasing economic activity without contributing to the country's external debt and/or leading to capital outflows in the form of repatriation of profits in dollars, euros, yen, etc.

Revenues from electricity sales can also be used to service PLN borrowing. With electricity sales expected to grow significantly over the next several decades, the repayment of debt will be manageable, and PLN's physical assets—which are public property—will grow accordingly.

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[346] https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/07/bridging-the-clean-energy-investment-gap_a524f35e/1ae47659-en.pdf

[347] For example, the Dudgeon wind farm in the North Sea cost a total of £1.25 billion to build. Cumulative PPA payments from 2017 to 2022 totalled roughly £793 million, and the IPP is likely to receive a further £3.1 billion before the PPA expires. A report from *Common Wealth* notes, "It is surely better to spend a moderately greater amount and have the expenditure offset by the addition of a valuable public asset to the public balance sheet." Common Wealth, Power to the People: The Case for a Publicly Owned Generation Company, Sept 2022. https://www.common-wealth.org/publications/power-to-the-people-the-case-for-a-publicly-owned-generation-company

[348] PLN Annual Report 2023, https://web.pln.co.id/statics/uploads/2024/10/AR-PLN-2023_1610-hi.pdf

2. Control Costs and Prices

From the above we can see how the Article 33 Scenario can allow for the control of costs, giving the GOI, MEMR and PLN more leeway in terms of controlling prices.

Given the economic and social impact of higher electricity prices, the GOI has been politically averse to the idea of eliminating what the World Bank calls *underpricing* by introducing cost-reflective tariffs. Nevertheless, electricity prices for Indonesian households have risen considerably since 2007, reflecting in part the high cost of PPA commitments that PLN and GOI then try to recover by charging more for electricity. But the price increases seen in the past 10-15 years could have been more severe, if it were not for the power of popular opinion and the legacy of Article 33. But an IPP-led renewable energy expansion will increase the costs of generating electricity, especially when compared to coal-fired generation.

Meanwhile PLN has been reluctant to press the MEMR to allow it to purchase renewable power at above market rates, although recent regulations have taken tentative steps in this direction. This reluctance has invited accusations that PLN is against renewable energy and is subservient to the interests of coal producers. But this reluctance flows from the marketisation of the utility that started in 1994, when PLN was forced to move away from a national development mission, and to behave more like a private for-profit corporation.

If we further examine the costs of supplying electricity, the determinants include fuels (principally coal, gas, and diesel); the costs of generation, transmission, and distribution; as well as the costs associate with the procurement of a range of technologies. As noted above, lower borrowing costs will lower the LCOE significantly. In terms of fuel costs, we have already seen how the Domestic Market Obligation (DMO) and Domestic Price Obligation (DPO) ensures that PLN coals payments are predictable, reliable, and affordable—although a full investigation of the impact of these schemes is beyond the scope of this paper. Both the DMO and DPO were designed to protect PLN from fluctuating coal prices on the international market and to ensure that electricity remains affordable.[349] As noted above, this regulation currently caps the price of coal for domestic power plants at $70 per ton.

Price controls will also play a very significant role in the Article 33 Scenario. The GOI has sometimes intervened to freeze the price of electricity, much to the annoyance of neoliberal opinion.[350] It has attempted to balance what the Indonesian economy and its citizens are able to absorb in terms of higher electricity tariffs, while using the GOI's general budget to prevent the full cost of electricity production, inflated by PPA commitments, being passed on to end users. Because of Article 33, the GOI is legally obligated to keep electricity affordable, but this means the IPPs and neoliberal opinion will maintain an intense propaganda campaign against price controls. As we have seen, climate arguments will be used to justify what is really a desire to secure revenues and profits for private interests.

[349] MEMR Regulation 1395/2018

[350] Viriya P. Singgih. "Fuel, electricity prices to remain unchanged until 2019." Jakarta Post. March 6, 2018.

The MEMR should therefore continue to set the price of electricity and government price controls should *not* be relaxed; they should be reinforced, especially for the residential and small business sectors. This is because the positive effects of affordable electricity, both social and economic, far outweigh the cost of covering PLN's deficit. Under the Article 33 Scenario the GOI's financial support for PLN will amount to an investment in a vital public asset, one that generates revenues, whereas the current system sees GOI support being transferred to the bank accounts of IPPs and their lenders.

The Mexico Option: Step-by-Step Reclaiming

Here we draw attention to a series of steps taken by the Mexican government (since 2018) to restore the authority of its national power utility (the Federal Electricity Commission, or *La Comisión Federal de Electricidad—CFE)*. Other governments are also taking measures to reclaim their electricity systems, mostly through the cancellation of contracts with IPPs. In other words, Indonesia can join a growing number of countries that are, in one way or another, rejecting the "privatise to decarbonise" agenda of the rich countries.

Mexico provides a living example of a country that is determined to not only resist neoliberal policy but to take the lead on charting a new pro-public course. Of course, Indonesia is not Mexico, and the balance of political forces are currently less favorable in Indonesia than has recently been the case in Mexico. On the other hand, Indonesia's march towards privatisation and liberalisation has been a lot slower. IPP generated power currently stands at around 26% of total supply; in Mexico, IPP generated power reached 54% in 2018, but recent government actions are expected to see the share of IPP-generated power decrease in the coming years.

The political commitment to reclaim energy began in October 2017, when the Movement for National Regeneration (*Movimiento de Regeneración Nacional* or MORENA) party launched its *2018-2024 Nation* project, which included the need to strengthen the national electricity and oil utilities. The "to save this sector (…) we must financially strengthen the power utility CFE (*Comisión Federal de Electricidad*) and the public oil company, PEMEX (*Petróleos Mexicanos*) [and] consolidate them at the operational level in order to reduce dependence on the outside and allow energy to become again one of the pillars of development."[351]

In July 2018 the MORENA party swept to victory in the general election, and Andrés Manuel López Obrador, (known as "AMLO") began his six-year term as the President of Mexico on October 1st 2018. MORENA's margin of victory – 53% in the first round – was decisive.[352] AMLO's government immediately took measures to counter the effects of the neoliberal energy

[351] AMLO's official website, "Proyecto Nacional 2018-2024", November 20, 2017, available at: https://lopezobrador.org.mx

[352] https://www.bbc.com/mundo/noticias-america-latina-44678664

policy pursued by the previous president, Enrique Peña Nieto. In 2013-14, Peña Nieto's government made more than 20 legislative changes and three amendments to the Mexican Constitution that allowed foreign companies to own and invest in the country's energy resources.[353] The reforms aimed break up both CFE and PEMEX, and to invite IPPs in wind and solar multinationals to set up operations in Mexico, where they would benefit from 25-year PPAs.

Mexico's Energy Reclaiming Timeline

It is not possible here to provide a detailed account of Mexico's efforts to halt and reverse the role played by IPPs in Mexico's electricity sector. But the most important moments occurred as follows:

***March 2019**:* the scheduled renewable energy auctions were postponed, thus imposing an indefinite moratorium on new IPP wind and solar projects.

***July 2020**:* AMLO sent a memorandum to *Public Servants and Members of Energy Sector Regulatory Bodies.*[354] Referring to Peña Nieto's reform as a "policy of pillage," AMLO wrote, "We soon learned the result of this robbery and its corresponding deception: nothing was gained by the nation, everything was translated into lucrative business for private companies and corrupt politicians…It is time to correct the course of the policy of surrender that has been imposed on the energy sector." [355] He reiterated that PEMEX and CFE were "strategic and indispensable for the independent and sovereign development of our nation." This, he wrote, "translates into not continuing with the privatization of the energy sector" and "putting a stop to juicy private business…The granting of subsidies of any kind to private companies in the energy sector should be abolished."[356] CFE, said AMLO, "was left almost in ruins: indebted, with its productive capacities reduced [and] subject to regulation that privileges individuals in the implementation of the energy reform."[357]

July 2020: the **Energy Ministry (SENER)** released the government's *Sectorial Energy Program (PROSENER) 2020-2024*. The Program identified public financing of renewable energy as an

[353] https://www.bakerinstitute.org/media/files/files/b7ccc9ca/mex-pub-mextradeamlo-041919.pdf

[354] Memorandum, from Andres Manuel Lopez Obrador, President of Mexico to Public Servants and Members of Energy Sector Regulatory Bodies. https://www.bnamericas.com/en/analysis/amlo-memo-seen-as-threat-to-investment-in-mexicos-energy-sector

[355] Memorandum, from Andres Manuel Lopez Obrador, President of Mexico to Public Servants and Members of Energy Sector Regulatory Bodies. https://www.bnamericas.com/en/analysis/amlo-memo-seen-as-threat-to-investment-in-mexicos-energy-sector

[356] "Both in oil extraction and refining, as well as in electric power generation, partnerships with private investors will not be ruled out, as long as they are complementary actions and do not affect the national interest."

[357] Memorandum, from Andres Manuel Lopez Obrador, President of Mexico to Public Servants and Members of Energy Sector Regulatory Bodies. https://www.bnamericas.com/en/analysis/amlo-memo-seen-as-threat-to-investment-in-mexicos-energy-sector

option, and new capacity could be deployed by the energy utility, CFE.[358] Nahle said, "We want to do this through CFE. Private companies install, and then they leave. CFE can carry out the installations and provide maintenance."[359]

October 2020: Energy Minister Rocio Nahle García gave a 3-hour presentation to Mexico's Senate that laid bare how the Peña Nieto reforms had damaged Mexico's electricity sector.[360] She pointed out that the country's maximum demand for electricity has never exceeded 47 Gigawatt hours (GWh) on any given day. But, following Peña Nieto's orders, the Regulatory Commission (CRE) had granted enough permits to private generators to increase supply to 84 GWh. Nahle reported that "take-or-pay" PPAs with IPPs had thrown CFE into a death spiral of financial distress, and burdened the utility with considerable system costs incurred as a result of the need for transmission and distribution systems to integrate wind and solar energy.[361] "This is a clear lack of planning in previous governments" that, she said, revealed "enormous regulatory gaps in the [electricity] sector."[362]

***February 2021*:** AMLO sent to the Congress a bill to reform the Electric Power Industry Law to give priority to the dispatch of electricity produced by the State through the CFE. The bill proposed to review the PPA system and the role of private energy companies which "have caused great damage to CFE's assets" and to eliminate the obligation to purchase energy through auctions." The goal of the bill, said AMLO, is to put an end to "years of plundering."[363] AMLO told Congress that Peña Nieto had "granted full legal coverage to the neoliberal policy that imposed a privatization process to weaken and [then] transfer public companies to private individual

March 2021: Electric Power Industry Law amended, instructing grid operator to prioritize for dispatch CFE-generated electricity over electricity generated by all IPPs

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[358] **Energy Ministry ("SENER")** *Sectorial Energy Program (PROSENER) 2020-2024,* English summary: https://www.whitecase.com/publications/alert/energy-sector-program-2020-2024

[359] **Energy Ministry ("SENER")** *Sectorial Energy Program (PROSENER) 2020-2024,* English summary: https://www.whitecase.com/publications/alert/energy-sector-program-2020-2024

[360] Transcript of Minister Nahle's speech (in Spanish) http://comunicacion.senado.gob.mx/index.php/informacion/versiones/49520-presentacion-de-la-ingeniera-rocio-nahle-garcia-secretaria-de-energia-al-comparecer-ante-la-comision-de-energia-del-senado-de-la-republica-en-el-marco-de-la-glosa-del-segundo-informe-de-gobierno.html. See also: https://www.youtube.com/watch?v=FVUSWglcvxc&feature=youtu.be (also in Spanish)

[361] For more information on Mexico's struggle to regain its energy sovereignty, see: Sean Sweeney, Mexico's Wall of Resistance: Why AMLO's Fight for Energy Sovereignty Needs Our Support, New Labor Forum, May 2021, https://newlaborforum.cuny.edu/2021/05/17/mexicos-wall-of-resistance-why-amlos-fight-for-energy-sovereignty-needs-our-support/

[362] Transcript of Minister Nahle's speech (in Spanish) https://tinyurl.com/4wu8uzed See also: https://www.youtube.com/watch?v=FVUSWglcvxc&feature=youtu.be (also in Spanish). See also: https://tinyurl.com/4puscep4

[363] La Jornada, Feb 1, 2021, AMLO sends initiative that gives priority to CFE in electricity dispatching, https://www.jornada.com.mx/notas/2021/02/01/politica/envia-amlo-al-congreso-iniciativa-de-reforma-a-ley-de-la-industria-electrica/ //

April 2021: Mexico canceled 125 licenses for private oil trading companies.[364]

April 2023: The Mexican Government signed an agreement to purchase 13 power generation plants (roughly 6.5 GW of mostly gas-fired capacity) from the Spanish multinational Iberdrola.[365] With this measure, said AMLO, "CFE becomes the majority [generation] company. If we add to this that final plants are being built, hydroelectric plants are being rehabilitated with new turbines, all under the CFE, we can affirm that the Mexican state will maintain around 65 per cent of all energy generation at the end of the six-year term [October 2024]."[366]

December 2023: The Mexican Ministry of Energy issued an expropriation of a French-owned hydrogen production plant located inside the Tula Refinery on the state of Hidalgo. The move was described as one designed to "benefit Pemex and the state run CFE, making it more difficult for the companies to invest directly on the sector… the technology of the Hydrogen Generation Plant will allow Pemex to develop new facilities that will allow for production of clean energies." [367]

June 2024*:* MORENA presidential candidate Claudia Sheinbaum Pardo won the general election with a first-round vote of over 61%, more than 33% higher than the second-placed candidate. Sheinbaum Pardo has committed to install 13 GW of renewable energy before 2030, but it will limit the presence of IPPs and continue to grow state-owned and controlled capacity

August 2024: The Mexican Chamber of Deputies approved a bill that proposes the dissolution of the Energy Regulatory Commission (La Comisión Reguladora de Energía–CRE). This body was set up in the early 1990s to CFE from impeding the entry of IPPs into the country's electricity system.[368]

November 2024: President Claudia Sheinbaum Pardo formalized constitutional changes that allowed CFE and PEMEX to recover their status as state-owned public companies President Claudia Sheinbaum Pardo said the reform "gives back to the people the companies that have always belonged to the people of Mexico and that in 2013 were privatized, because by transforming Pemex and CFE into state enterprises; in reality they ceased to be public and became private."[369]

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[364] "CRE cancela 139 permisos a privados por no iniciar operaciones", *Oil & Gas Magazine*, April 29, 2021, available at: www.oilandgasmagazine.com.mx.

[365] https://www.tuedglobal.org/bulletins/defying-u-s-mexicos-second-nationalisation-of-electricity-moves-forward

[366] https://www.youtube.com/watch?v=Ob2KF0zuZWw

[367] https://www.clydeco.com/en/insights/2024/01/mexican-government-carries-out-expropriation-of-hy

[368] https://mailchi.mp/unionsforenergydemocracy/mexico-cre-cnh?e=64d032a967

[369] https://iclnoticias.com.br/governo-sheinbaum-nacionaliza-energia-mexico/

3: Reassess, Renegotiate, Reposition: A New Approach to Energy Transition Plans and Targets.

We will now further consider what the public pathway or Article 33 Scenario anchored in both public financing and a reclaimed and restored PLN might entail for Indonesia's energy future.

Drawing on the evidence presented in this position paper, a just energy transition must be anchored in energy sovereignty, policy independence, and a global public goods approach. Here we offer a series of steps that, if pursued, could mark a clear shift in the direction of policy for Indonesia, one that might resonate across the wider Asia Pacific region.

Step 1: **Reassess current targets and timeframes**

Realistic targets informed by a public ownership model are better than unrealistic ones that ultimately depend on the decisions of private interests. This will require developing a "public RUPTL" to guide the process.

Step 2: **Reconstitute energy planning, led by PLN**

Implementing energy targets will require planning, with final investment decisions determined by the GOI, MEMR and PLN—not the IPPs.

Step 3: **Move towards direct procurement of generation and auxiliary technologies**

The GOI and PLN's interactions with private developers, technology producers, and independent power producers (IPPs) need to be renegotiated within a framework of global public goods.

Each of these three steps are summarized below.

Step 1: Reassess current targets and timeframes

Indonesia should reassess its current energy transition commitments and targets. A reassessment is necessary for several reasons. These include:

1) **Excess Coal Capacity.** Fast Track I and II has seen IPPs develop coal-fired (and gas-fired) capacity, and the country (particularly Java and Bali) currently has surplus generation. The ADB and neoliberal think tanks have proposed closing coal-fired power stations to "carve out space" for renewables. As we will see, this proposal is both unworkable and unfair. Wherever they are present, IPPs and Take-or-Pay arrangements frequently lead to overcapacity. The entities that promoted IPPs (especially the World Bank) must shoulder most of the responsibility for this policy and its negative impacts.

2) **The Impact of the Investment Strike in Renewables.** Neoliberal reforms have not led to a renewables' boom in Indonesia, and the answer to this problem is not more sweeping reforms. In 2023 the MEMR abandoned its 23% by 2025 renewable energy target (or 24 GW of installed

renewable energy capacity).[370] The new renewable energy target for 2025 was set lower at 17%-19%, which is also likely to be missed.[371] The investment strike of IPPs in renewables has meant that Indonesia's deployment of hydropower, geothermal, and wind and solar power has been painfully slow. If the investment deficit is not addressed, the energy transition will proceed at a snail's pace.

3) **Policy Failures Could Increase Reliance on Coal.** There is a real possibility that, at the current rate of economic growth coupled with the slow deployment of renewables, GOI policy could pivot back towards new coal-fired generation This is not just a problem in terms of climate change, it could eventually mean that Indonesia's electricity demand—currently rising at roughly 6% per year—will eventually outstrip supply. By reconstituting planning, a public pathway approach could prevent this happening. Indonesia's hydroelectric, geothermal and solar potential is very considerable—but the current policy framework means that the potential will remain unfulfilled.

These factors point to the need to establish achievable targets. Based on a public ownership model, realistic targets will be better than unrealistic ones that ultimately depend on the decisions of private interests that depend on the decisions of private interests. This will require developing a "public RUPTL" to guide the process.

We have seen how "climate ambition" has become an instrument for neoliberal reform. The renewable energy targets proposed by the JETP Secretariat for Indonesia are less driven by climate concerns than they are driven by a desire to advance the incursions of IPPs. The targets *are* informed by IPCC science and the need for the world to meet Net Zero, but the claim that more ambitious targets are "needed to incite investor confidence" is completely groundless.[372] The Article 33 Scenario acknowledges the overall conclusions and recommendations of the IPCC and the need for science-based targets, but the current investor-facing policies have shown themselves to be incapable of reaching them. As we will see, the same is true regarding proposals to retire close coal fired power plants (CFPPs) before the end of their design life. *(*See below: *Stranded Policy: Prospects for Early Coal Retirement*)

[370] MEMR. 2023a. Laporan Kinerja Kementerian Energi Dan Sumber Daya Mineral 2022, www.esdm.go.id/assets/media/content/content-laporan-kinerja-kementerianesdm-tahun-2022.pdf

[371] See: https://web.pln.co.id/statics/uploads/2021/10/ruptl-2021-2030.pdf, https://setkab.go.id/en/govt-issues-regulation-on-2020-2024-national-medium-term-development-plan/. See also: https://www.thejakartapost.com/business/2024/04/30/plan-for-70-renewables-in-2024-ruptl-could-face-challenges.html; https://www.thejakartapost.com/business/2024/01/16/indonesia-to-abandon-23-renewable energy-target-by-2025.html.

[372] https://www.there100.org/sites/re100/files/2024-09/RE100%20Letter%20to%20His%20Excellency%20President%20Joko%20Widodo%20-%20Online.pdf

2020: World Bank Acknowledges the Neglect of Planning was a Major Mistake

Decades of neoliberal propaganda have attempted to undermine the record of public energy planning while cultivating naïve and ill-informed expectations regarding the role of the private sector in delivering vital public goods.

In the power sector, in the late 1980s and 1990s, World Bank officials were unequivocally dismissive of energy planning, seeing it as a relic of Soviet-style "command economy" thinking. Governments were also criticized for using power utilities "to achieve a wide range of other objectives such as employment (which led to overstaffing) or the transfer of resources to particular groups (such as supplying cheap power to farmers)."[373]

Writing in 2008, a World Bank energy policy advisor expert noted that, in situations where IPPs and public transmission and distribution companies co-exist, "[It] often became unclear who was responsible for generation expansion planning. Would the private sector, or 'the market', simply respond to needs for more power? What was the role of planning? And, if planning was still necessary and important, who was responsible—the utility, the regulator, or the government?[374] Eberhardt – who remains an enthusiastic privatizer – acknowledged: "Planning, procurement and contracting functions, which were previously undertaken by monopoly state-owned utilities now 'fall between the cracks' and are either neglected or are performed inadequately."

The Bank recently acknowledged that it was a mistake to push a policy that made undermining energy planning a virtue, when it should have been obvious that "price signals" were never going to steer investments into the power sector. In its 2020 study *Rethinking Power Sector Reform in the Developing World,* reads like a confession of guilt. On planning, the report states, "Central planning functions were overlooked or downplayed. Indeed, in some countries, the planning function traditionally housed in national power utilities or line ministries fell between the cracks as power sector reform processes worked toward the unbundling of the incumbent utilities and the creation of technical capacity in regulatory agencies outside of line ministries. In practice, power markets proved difficult to establish in all but a handful of developing countries, and even among those countries, price signals have not provided an adequate basis for investment decisions." [375] As we have seen, neoliberal policymakers seem to be oblivious to these failings and they continue to push a structural adjustment agenda in Indonesia and elsewhere.

[373] https://www.gsb.uct.ac.za/files/KenyasLessonsFromTwoDecades.pdf

[374] Eberhard, A., Foster, V., Briceño-Garmendia, C., Ouedraogo, F., Camos, D., Shkaratan, M., 2008. Underpowered The State of the Power Sector in Sub-Saharan Africa, Background Paper 6, Africa Infrastructure Country Diagnostic. The World Bank, Washington, DC.

[375] Foster, Vivien, and Anshul Rana. 2020. Rethinking Power Sector Reform in the Developing World. Washington, DC: World Bank. doi:10.1596/978-1-4648-1442-6. License: Creative Commons Attribution CC BY 3.0 IGO, page 117

Unfulfilled: Indonesia's Hydropower and Geothermal Potential

The importance of realistic targets is illustrated by the current state of Indonesia's hydroelectric and geothermal deployment. Many projects have been stalled at the PPA and construction stages.

According to the *World Hydropower Report 2024* Indonesia has roughly 80 GW of hydroelectric potential, which is almost 12 times greater than the 6.7 GW already online. PLN estimates the potential to be as high as 95 GW.[376] Announced in November 2024, the GOI's goal is to add 10 GW of hydropower by 2030, with a long-term vision to reach 72-75 GW of total capacity and 4.2 GW of pumped storage hydropower (PSH) by 2060.[377]

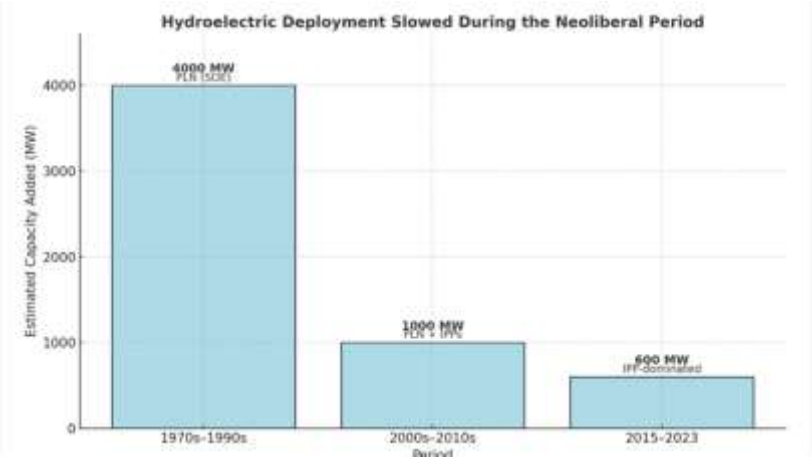
These targets, while ambitious, stand in contrast to the deployment trends seen during past 50 decades. Hydroelectric deployment has slowed markedly since the 1990s, when the MDBs decided to stop funding public energy projects.

Hydroelectric Deployment Slowed During the Neoliberal Period

Period	Lead Developer(s)	Typical Project Type	Approx. MW Added	Notes
1970s–1990s	PLN (SOE)	Large-scale dams	4,000+ MW	State-led era: Cirata, Saguling, Jatiluhur; multilateral finance-backed
2000s–2010s	Mixed (PLN + IPPs)	Small-to-mid scale hydro	~1,000 MW	Shift to IPPs begins; many SHP projects struggle with permits and finance
2015–2023	IPP-dominated	Mostly SHP + mid-scale hydro	~500–700 MW	Slower growth; Batang Toru (510 MW) delayed; fewer public investments

[376] https://www.thejakartapost.com/front-row/2023/11/02/pln-explains-hydropower-development-strategy-to-jokowi.html

[377] https://www.reuters.com/business/energy/indonesia-build-75-gw-renewable-energy-next-15-years-cop29-envoy-says-2024-11-12/



New hydroelectric projects are expected to bring an extra 4 GW online by 2030, with smaller projects also expected to make a significant contribution.[378] But this remains to be seen. Either way, 4 GW of additional hydroelectric capacity is far below the GOI's 2030 target of 10 GW.

Lack of Financing for Large Hydroelectric Projects: Kayan Cascade, Mamberamo, and Batang Toru

The story of the **Kayan Cascade Hydroelectric Power Plant** provides a cautionary example of the risks that the GOI is taking in terms of relying on joint ventures to develop new capacity. Discussions to build 9 GW of new hydroelectric capacity began in 2009, and in 2012 KHE obtained initial permits and began conducting feasibility studies for constructing 5 hydroelectric dams along the Kayan River in North Kalimantan.

In 2015, KHE partnered with PowerChina, a major Chinese SOE, to provide engineering, procurement, and construction (EPC) services for the project. Discussions about financing began, with an emphasis on attracting international investors. In 2019 KHE began collaboration with Japan's Sumitomo Corporation which brought additional financial and technical expertise to the project. However, in 2024 both Sumitomo Corporation and PowerChina withdrew from the project, due to "differences in commercial perspectives,"

[378] https://www.hydroreview.com/hydro-industry-news/new-development/ground-broken-on-1375-mw-metarang-induk-hydropower-in-indonesia/ several hydropower projects from the 1960s onwards, such as the Jatiluhur, Saguling and Cirata Dams. PLN still owns these dams. However, the shift towards IPPs that began in the 1990s has seen the creation of several private companies that have since developed partnerships with non-Indonesian companies. PT Kayan Hydro Energy (KHE) was established in 2009 and is currently developing the 900 MW **Kayan 1 project,** and **Kerinci Merangin Hydro (KMH),** a subsidiary of the infrastructure conglomerate **Bukaka Mega Investama (BMI)**, is leading the development of the 420 MW **Kerinci Merangin Hydroelectric Power Plant** in Sumatra. In 2018 PT Kayan Hydropower Nusantara (KHN) emerged as an additional private actor, which is currently in a joint venture with Malaysia's Sarawak Energy and Indonesian companies PT Adaro Energy Indonesia and PT Kayan Patria Pratama (KPP) Group. Together they are developing the 1,375 MW Mentarang Induk Hydroelectric Project (MIHEP), a $2.6 billion PPA-based effort that is expected to be completed by 2029 and will provide power to the Mentarang industrial park 300 kilometers away by the end of 2029.[378] Nevertheless, PLN also continues to add new hydroelectric capacity. The 110 MW Jatigede Hydroelectric Power Plant became operational in 2024, and PLN is currently developing a 1,040 MW pumped hydro facility, the **Upper Cisokan Pumped Storage Power Plant** in West Java

although few details regarding these differences are publicly available. Therefore, despite being identified as a National Strategic Project (*Proyek Strategis Nasional,* PSN), the GOI pinned its hopes on private (and mostly foreign) capital to expedite project implementation to reduce fiscal pressure on PLN.

Another example of hydroelectric projects that have been unable to attract investor interest include the **Mamberamo Hydropower Project** in Papua—which has a potential capacity of up to **24 GW (which is larger than the Three Gorges Dam in China, which is 22.5 GW).** First considered in the 1990s when foreign companies interested in Indonesia as a platform for nickel, steel, chemical and aluminium production, as well as car and engine manufacturing, began to engage the GOI around the need to secure electricity supply for their planned operations.[379] In 2001 one source noted that investors also sought to own the **Mamberamo complex** once it was completed: "The power plant would have an IPP build-own-operate (BOO) commercial structure, with minority Indonesian government equity to accommodate its expected US$5-7B development costs." [380]

Despite recent interest in the Australian company **Fortescue Metals Group (FMG), the project currently does not have the capital to move forward. At the Indonesia-China Energy Forum (ICEF) in September 2024, MENR Minister** Bahlil Lahadalia publicly invited **Chinese investors to develop both the** Kayan Cascade and **Mamberamo projects but, as of early 2025, both projects are on hold.**[381]

The Batang Toru hydropower project, which signed its PPA in 2015, will take 11 years to develop, with the power plant expected to reach its Commercial Operation Date (COD) in 2026 (Perdana et al., 2024).

PPA amendments have delayed the progress of existing projects such as the Muara Laboh unit 2 and Rajabasa projects, which are still in the exploration phase, with expected CODs in 2025 [382]

[379] According to one source, "US investors were interested in developing dockyards, pulp & paper and heavy industries, Australian companies were interested in steel, chemical and aluminium industries; British investors in ports, Japanese in steel, petrochemicals and fuel cell engines; German investors in steel, chemicals, petrochemicals, and automotive industries; and the Netherlands in port, industrial areas and town development." See https://www.downtoearth-indonesia.org/story/mamberamo-mega-project-proceed?

[380] Indonesia Considers Hydro, April 2013, https://www.waterpowermagazine.com/news/indonesia-considers-hydro/?utm_source=chatgpt.com

[381] According to the Jakarta Post (Sept 4th, 2024) Minister Lahadalia said, "I'm offering Chinese fellow investors several opportunities that we can develop together. This [the ICEF] is where meetings will be held to find a suitable formulation to establish business partnerships." https://www.thejakartapost.com/business/2024/09/04/ri-offers-kayan-mamberamo-hydropower-plant-investment-opportunities-to-china.html. See also: "The Journey of Kayan Hydropower, Expected for IKN until Left by Giant Investors", https://katadata.co.id/ekonomi-hijau/energi-baru/66e4327d86ff4/perjalanan-plta-kayan-digadang-untuk-ikn-hingga-ditinggal-investor-raksasa

[382] Institute for Essential Services Reform (IESR), 2024) Indonesia Energy Transition Outlook 2025: Navigating Indonesia's Energy Transition at the Crossroads: A Pivotal Moment for Redefining the Future. Jakarta:

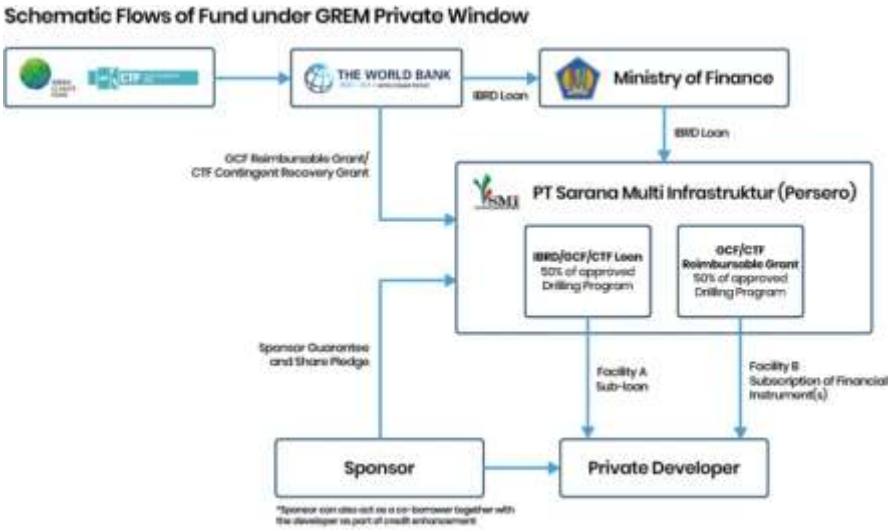
Geothermal: Government Support, But Poor Results

The development of geothermal power in Indonesia has also been slower than anticipated. Indonesia is one of a small number of countries with geothermal potential, but only a tiny fraction of this potential has been developed thus far.

The GOI has put its faith in a public-private partnership or joint venture model as a way of attracting investors. The GOI has provided considerable policy support for the sector. For examples, the 2014 Geothermal Law provided incentives to geothermal producers. The 2022 Presidential Regulation No. 112 (Acceleration of Renewable Energy Development for Electricity supply, or PerPres 112/2022) set higher tariffs caps for geothermal energy.

Supporting the GOI, in 2021 the World Bank introduced a credit facility—the Geothermal Resource Risk Mitigation (GREM) project—that would direct $650 million in finance into geothermal exploration drilling, "through a combination of lending, concessional finance, and funding from the Indonesian government." According to the Bank, the GREM was needed because the levels of up front capital for geothermal projects meant required "deep pockets and a large appetite for risk—barriers that have often been too high for developers." [383]

The money allocated for the de-risking of exploration under GREM financing would be disbursed by PT Sarana Multi Infrastruktur (PT SMI) [384] via the Ministry of Finance (see World Bank image, *Schematic Flows of Fund under GREM Private Window*, below).



[383] https://www.worldbank.org/en/about/partners/brief/indonesia-tapping-geothermal-for-greener-growth?utm_source=chatgpt.com. For more details on GREM, see: https://www.ptsmi.co.id/strategic-cooperation/grem

[384] PT Sarana Multi Infrastruktur (Persero) " was established under the Government Regulation No. 66 Year 2007, which was amended by the Government Regulation No. 75 Year 2008. The Company obtained the license as infrastructure financing company based on Decree of the Minister of Finance of the Republic of Indonesia No.396/KMK.010/2009 and started operating commercially on October 12, 2009.

Under the GREM private window option, the GOI is awarded a "reimbursable grant" (which resembles a no-interest loan) that it then disbursed by PT SMI. In other words, the repayment obligation is public, but the beneficiary will be a private developer.

Either way, as with other de-risking measures, the outcomes have been discouraging. A March 2024 World Bank Implementation Status & Results Report (ISR) report on the GREM (March 2024) declared that, although the project's development objectives is to "scale up investment in geothermal energy development and support the borrower in its efforts to reduce greenhouse gas emissions in the country," the results had thus far been "moderately unsatisfactory." In fact, the same ISR disclosed that, "The project has not received any pre-proposals under the Private Window."[385]

The PLN's RUPTL 2015, endorsed by MEMR, had set a target of roughly 6 GW of installed geothermal power capacity by 2024—more than 4 times higher than the 1,438.5 MW that was then already online. But in 2023, the installed capacity of geothermal power in Indonesia amounted to just 2.6 GW. In late 2024, the Unit 5 power plant at Sorik Marapi Geothermal Field in North Sumatra added 33 MW, and the expansion of the Wayang Windu Geothermal Power Plant will likely add 30 MW capacity in 2025 or 2026. A series of other projects are currently moving forward that will add approximately 400 MW. Either way, in early 2025, installed capacity stands at a little over 3 GW, and the GOI's 6 GW by 2024 target set in 2014 has not been accomplished. The GOI's 23 GW of geothermal power online by 2050 goal—expressed in its *Long-Term Strategy for Low Carbon and Climate Resilience* submitted to the UNFCCC in 2021—will, given the experience of the past 10-15 years, require a different approach if Indonesia is to reach this target.[386]

The Muara Laboh Geothermal Project

The story of the Muara Laboh geothermal project in West Sumatra clearly illustrates why the policies that the GOI and the World Bank have endorsed have fallen short and will continue to do so.

Early geothermal projects in Indonesia were developed by **PT Pertamina (Persero) which signed** Engineering, Procurement, and Construction (EPC) projects with foreign companies. Beginning in 1997 twelve projects (involving 17 units totaling approximately 900 MWs) were developed with Japan's Sumitomo corporation (mentioned above). The projects currently represent 43% of Indonesia's installed geothermal capacity.[387]

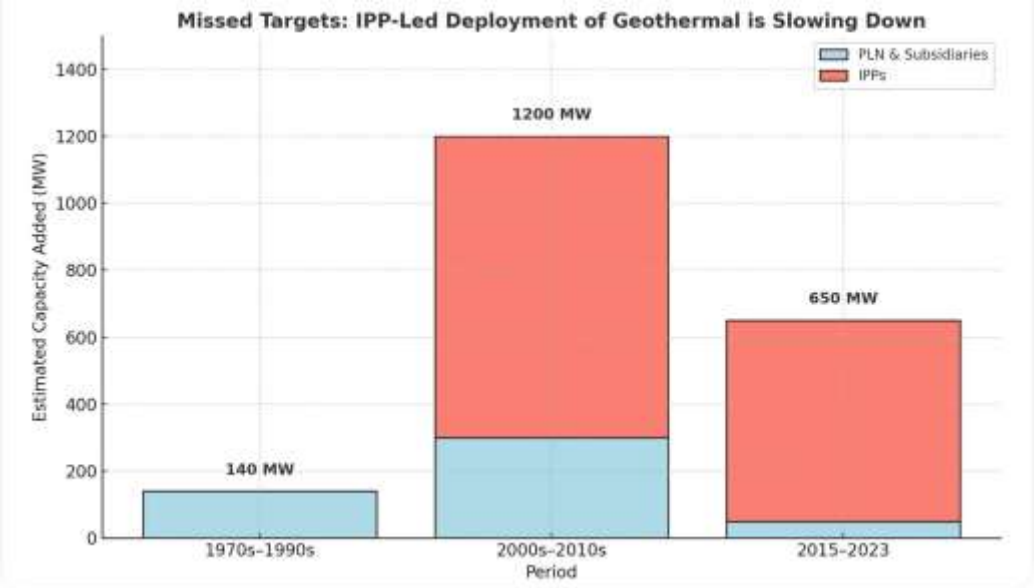
[385] Johansen, Peter. *Disclosable Version of the ISR - Indonesia Geothermal Resource Risk Mitigation Project (GREM) - P166071 - Sequence No: 06 (English).* Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/099020006292213839/P16607100635d90080a4590f94006f7b01c

[386] https://unfccc.int/sites/default/files/resource/Indonesia_LTS-LCCR_2021.pdf?download

[387] https://www.sumitomocorp.com/en/mideast-africa/business/case/group/geothermal?utm_source=chatgpt.com

But Sumitomo found its role as a construction company too constraining and in 2012, supported by GOI policy, it became an IPP. As an IPP, it secured a 30-year PPA with PLN for power generated by Muara Laboh.[388] Sumitomo drilled exploration wells, only to find that the geothermal potential was less than first anticipated. Sumitomo then renegotiated the PPA with PLN. It noted, "It took nearly two years before all parties reached a unanimous agreement. The next step was to make financial arrangements for the actual power station construction. After five years of concluding the initial long-term power purchase agreement, we were able to achieve finance close and start the construction work in March 2017…Finally, we were able to commence commercial operation in December 2019." **PT Pertamina** went on to sign a number a number of 30-year PPAs with Sumitomo.

The negotiations that took place between **PT Pertamina and** Sumitomo around PPAs and other contract terms took years, making it difficult to both plan the transition and to reach the deployment targets that have been adopted. In the world of public-private partnerships (PPPs) project delays are typical, and they are nearly always blamed on the public partner or governmental "red tape" or "bureaucracy." Meanwhile, the IPP concerned is depicted as simply raring to go, when it is in fact well known that IPPs frequently play a waiting game (for lower interests rates, better PPA terms, more "enabling environment" laws and regulations that might improve investor returns, and so on. For the IPPs, not reaching energy transition targets is a problem for the *Indonesian government*; it is not a problem for the IPP.



[388] https://www.sumitomocorp.com/en/mideast-africa/business/case/group/geothermal?utm_source=chatgpt.com

Clearly, Indonesia's planned expansion of geothermal power is not on track. In fact, as with hydroelectric power, the longer-term trend suggests a *slowing down* of geothermal deployment. As with hydropower, geothermal targets must be reassessed based on these realities and the obstacles they present.

Given the importance of hydroelectric and geothermal power to both Indonesia's energy transition and future enemy needs, each of these projects must be reassessed with the view to finding ways to publicly finance their development. The current policy framework will mean that protracted PPA negotiations and the "bankability" challenges will mean these and similar projects could be on the "drawing board" until such time as the IPPs and private investors get what they want—and what they want is not compatible with either the interests of the Indonesian people or the country's climate commitments.

If the current targets for hydropower and geothermal are unrealistic based on the current policy framework, what would a more realistic public pathway target for these technologies look like? Absent a thorough reassessment of the potential for new procurement policies, this question is impossible to answer. The obstacles to all forms of renewable energy deployment—including the investment strike by IPPs—must be removed and the GOI, the relevant ministries, and PLN must develop a "public RUPTL" based on public financing and a reclaimed public utility.

Step 2: Reconstitute energy planning, led by PLN

In Part Three of this position paper, we suggested that the effort to restore PLN should strive to achieve three distinct objectives, to restore PLN's finances and to enhance its capacity as a public investment platform, to control costs (through lower borrowing rates and pivoting away from PPAs, and keep electricity prices affordable. The third object—to reconstitute energy as an energy transition principle—is also a key feature of the Article 33 Scenario.

Effective energy planning will need to address discrepancies that currently exist between the energy targets of the relevant ministries. The discrepancies currently present in government planning documents can be addressed in the context of a return to a fully integrated public energy system where ministries and agencies responsible for these documents cooperate in a more effective and transparent manner.[389] Advocates of neoliberal reform propose establishing an "independent regulator" in Indonesia to, in IEEFA's words, "oversee the planning and operation of Indonesia's electricity sector to protect the long-term interests of stakeholders, including consumers…This body would progress transparency, accountability and good governance, and

[389] IESR (December 2024). Indonesia Energy Transition Outlook 2025: Navigating Indonesia's Energy Transition at the Crossroads: A Pivotal Moment for Redefining the Future. Jakarta: Institute for Essential Services Reform (IESR).

therefore provide confidence to international investors."[390]

Indonesia has a tradition of energy planning dating back to the Sukarno period, a tradition that neoliberal would-be reformers would rather airbrush from the historical record. However, planning within a public ownership framework is needed now more than ever. The idea that the current set of policies can quickly scale up low-carbon sources of energy while simultaneously scaling-down coal-fired power is false. The GOI currently has limited control over final investment decisions, without which it is impossible to reach the kind of targets established under the more recent RUPTLs.

We believe that the global achievements of public energy offer important guidelines for Indonesia's energy future and are central to the goals of the public pathway and the fulfilment of the Article 33 Scenario. In particular, the energy transition will require coordination between generation, transmission and distribution functions. Direct investments in grid expansion and upgrades will proceed in tandem with public investments in new low-carbon generation capacity. This will require a fully integrated public utility to oversee a process of transition that will span several decades.

The Challenge of Variable Renewable Energy

The international experience of wind and solar deployment has drawn attention to the need to better coordinate between the deployment of wind and solar, battery storage, and transmission upgrades. (See Box: *Germany: Lack of Generation and Transmission Planning Has Created Problems*)

With planning, Indonesia can perhaps avoid the mistakes of other countries, among them being the failure to anticipate the technical challenges posed by the variable nature of wind and solar energy which is weather-dependent on often unpredictable. Termed Variable Renewable Energy (VRE), wind and solar entails rapid changes in power quality, as well as changes in capacity. These changes can be minute-to-minute, or they can affect the system for weeks and months at a time. [391] As the IEA notes, without a simultaneous increase in "system flexibility" then the effort to decarbonize power generation with renewables will in many countries and regions confront "serious technical roadblocks."[392]

The proposed solutions to the VRE challenge is to scale up energy storage,

[390] https://ieefa.org/wp-content/uploads/2019/11/IEEFA_The-Case-for-System-Transformation-in-Indonesia_November-2019.pdf

[391] According to the IPCC AR6, "Integration of large amounts of VRE generation particularly wind and solar generation presents economic and technical challenges to electricity system management across different time scales from sub-seconds, hours, days, seasons, to multiple years." See: Intergovernmental Panel on Climate Change, 2023, https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter03.pdf

[392] International Energy Agency (IEA). Getting Wind and Sun onto the Grid: A Manual for Policy Makers. Technical report, 2017

particularly stationary battery storage, to allow electricity generated during peak periods to be available during night-time hours. There is also a need to expand and upgrade transmission and distribution infrastructure to ensure that renewable power gets to where it is needed and to enable an increased penetration of embedded generators (also known as distributed generation or distributed energy resources) in local grids.[393]

The neoliberal approach to developing system flexibility has been to try to find new forms of remuneration for investors and companies that might provide "flexibility services." This approach turns what should be technical challenge into a challenge to create new markets so that the VRE challenge can be addressed in ways that private interests can benefit. The restoration of energy planning within a public ownership framework provides the means to separate the technical challenges from those related to remuneration or, in simpler terms, the need for private interests to make money. Public ownership therefore removes the remuneration problem, thus helping to isolate the technical challenges.

The Importance Transmission Planning

It is widely accepted that large-scale renewable energy generation sites are often located
far from the existing transmission network or load centers. Therefore, as renewable generation increases, so does the need to expand infrastructure to connect these remote generation sites to the existing transmission network.

In terms of Indonesia, PLN has estimated that it needs $25 billion to build a 47,723 kilometer transmission grid to connect renewable energy sources.[394] According to PLN, the "supergrid" is needed to connect, by 2050, consumers and industries to 19.6 GW of hydroelectric power, 16.5 GW of solar energy, 11.3 GW of wind energy as well as 7.1 GW of geothermal energy. [395] PLN also plans further developments of the substations infrastructure.[396]

But if new sources of renewable power require transmission infrastructure to be operational, and the GOI is not in charge of final investment decisions for new generation projects, then how can the construction of new generation and transmission infrastructure be synchronized?

[393] It is worth noting that there are a number of different types of storage technologies, including pumped hydro energy storage (PHS or PHES), power-to-gas, power-to-heat, liquid air, batteries, supercapacitors, and flywheels. These technologies can operate as "grid storage" or as "behind the meter" systems (grid storage can be embedded in transmission and distribution networks, whereas "behind the meter" systems are normally located in homes and businesses

[394] PLN says it needs $25b to build renewable energy grid https://www.thejakartapost.com/business/2024/06/05/pln-says-it-needs-25b-to-build-renewable-energy-grid.html

[395] https://www.thejakartapost.com/business/2024/06/27/ri-needs-to-look-beyond-jetp-to-pursue-energy-transition-goals.html.

[396] https://www.ashurst.com/en/insights/plns-new-greener-ruptl--key-highlights/

A 2012 World Bank report acknowledged the problem. According to the report, transmission upgrades are necessary "in order to attract investors in renewables." [397] But, "transmission providers do not wish to start building a line until generation developers have committed to using it, and developers do not wish to commit until transmission access is assured in the near future." Titled *Transmission Expansion for Renewable Energy Scale-Up Emerging Lessons and Recommendations,* the Bank's report suggested that putting transmission infrastructure in place required "a public sector–led proactive planning effort" based on "anticipatory investments." (AI) This approach requires governments commit public funds for grid investments without any guarantee that IPPs will respond positively to the availability of the new infrastructure once it is in place. [398]

From both a public spending and a climate perspective, anticipatory investments constitute a costly gamble, and are antithetical to planning. IPPs are not expected to assume any risk or investment which goes beyond the needs of their immediate project, which means that the burden of providing transmission infrastructure will rest on the shoulders of the Indonesian people.

The GOI must surely be aware of the transmission challenges facing the European Union's energy transition. Modern renewables (principally wind and solar) have grown impressively due to robust derisking aimed at making projects profitable (or "bankable"), but the last 20 years has seen falling levels of investment in both transmission and distribution systems. Most EU Member States are simply not willing to "build it and hope they come," which explains why calls for a public ownership approach energy transition planning have gained momentum in recent years.[399]

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[397] Marcelino Madrigal and Steven Stoft, *Transmission Expansion for Renewable Energy Scale-Up Emerging Lessons and Recommendations*, Washington: The World Bank, 2012. https://openknowledge.worldbank.org/server/api/core/bitstreams/ae42374b-52d4-5d8e-990a-ea2ca872af83/content

[398] Marcelino Madrigal and Steven Stoft, *Transmission Expansion for Renewable Energy Scale-Up Emerging Lessons and Recommendations*, Washington: The World Bank, 2012. https://openknowledge.worldbank.org/server/api/core/bitstreams/ae42374b-52d4-5d8e-990a-ea2ca872af83/content

[399] Euractiv with Reuters, "Europe's power industry warns ageing grids put green goals at risk", *Euractiv*, 21 September 2023. Available at: www.euractiv.com/section/electricity/news/europes-power-industry-warns-ageing-grids-put-green-goals-at-risk. See also, Kadri Simson, "There is no green future for Europe without an upgraded power grid", *Financial Times*, 4 September 2023. Available at: www.ft.com/content/4c843612-1890-49bb-83eb-ddbe4495d6c9 (last accessed 13 June 2024). See also: Common Wealth, "Grid is Good: The Case for Public Ownership of Transmission and Distribution", Common Wealth, August 2023. Available at: www.common-wealth.org/publications/grid-is-good-the-case-for-public-ownership-of-transmission-and-distribution. And, David Hall and Vera Weghmann, "Public ownership, benefits and compensation I: benefits of nationalisation of UK water and energy girds and legal and economic issues in determining compensation", University of Greenwich CREW, November 2019. Available at: gala.gre.ac.uk/id/eprint/26026/

Germany: Lack of Generation and Transmission Planning Has Created Problems

In 2023 wind and solar power accounted for 43% of Germany's electricity supply, the highest in the world in percentage terms.[400] However, Germany's decision to phase out 9 Gigawatts (GWs) of coal-fired generation capacity by 2030 (2038 at the latest) and for going ahead with the closure, in April 2023, of the country's three remaining nuclear reactors has been very controversial.[401] Both governmental decisions bolstered the right-wing narrative that the current government's zeal for renewables is compromising the country's energy security. Furthermore, Germany's decision to deploy high levels of wind power before the transmission infrastructure was in place to move the power to where it is most needed reveals a serious lack of planning. The bulk of Germany's electricity needs are in the industrial south will, but its wind capacity and potential is in the north and northeast of the country. According to some estimates, transporting wind power will require 13,000 km of transmission upgrades and new build by 2030. This includes a planned 2600-km high-voltage underground direct-current cable.[402] The costs for these infrastructures are expected to be in the region of €33 to €50 billion.[403]

In 2023, Germany became a net importer of electricity, thus further heightening energy security concerns.[404] A 2024 Federal Audit Office (*Bundesrechnungshof*) offered a blunt assessment: "The energy transition is not on track when it comes to electricity supply: security of supply is jeopardized, electricity is expensive and the Federal Government is unable to comprehensively assess the impact of the energy transition on the landscape, nature and the environment."[405]

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[400] https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/DE/2024/20240103_SMARD.html?nn=659670

[401] In 2011, 54% of Germans supported the nuclear phase out; by 2022—with Russia having cut its gas supplies to Germany—a large majority (65%) of Germans wanted to keep the remaining nuclear plants operational. https://www.cleanenergywire.org/news/two-thirds-germans-against-shutting-down-last-nuclear-power-plants-point-survey

[402] The additional transmission lines required to bring power from offshore wind parks will total between 2300 and 3700 km with a capacity of 7400 megawatts by 2030 and 11400 by 2035, the equivalent of 11 nuclear power plants.https://www.cleanenergywire.org/sites/default/files/styles/lightbox_image/public/images/factsheet/fig7-german-power-import-export-1990-2016.png?itok=xsKKwAoR

[403] Community protests forced the developers to buy the cables underground, apparently tripling the cost of the project. https://www.nytimes.com/2023/10/17/climate/electric-grids-climate-iea.html?campaign_id=2&emc=edit_th_20231018&instance_id=105474&nl=todaysheadlines&regi_id=63692790&segment_id=147637&user_id=edd9a99552656979b642d62e6445e311 . See also: http://www.faz.net/aktuell/wirtschaft/energiepolitik/netzbetreiber-50-milliarden-euro-fuer-stromleitungsausbay u-bis-2030-14808264.html

[404] https://www.cleanenergywire.org/factsheets/germanys-dependence-imported-fossil-fuels

[405] Report on the implementation of the energy transition with regard to the security of supply, affordability and environmental compatibility of the electricity supply https://www.bundesrechnungshof.de/SharedDocs/Kurzmeldungen/EN/2024/energiewende-en.html

Stranded Policy: Prospects for Early Retirements of Coal-Fired Power Plants (CFPPs)

A reassessment of climate targets must also consider proposals for the early closure of fired power plants (CFPPs). Discussed below, the scientific case for early closure is robust and has been evident for well over a decade, but the economic case—as presented by neoliberal opinion—is weak. The World Bank and the ADB have suggested ways to "incentivize" early closures, but their own research acknowledges that this is not working. [406]

- **The Scientific Case for Early Retirement of CFPPs.**

The case for early closure of a large segment of the world's coal fleet is based on scientific data generated by the Intergovernmental Panel on Climate Change (IPCC). Released in 2014, the IPCC's 4th Assessment Report (AR4) warned that building new CFPPs would lead to "carbon lock-in" in the power sector and should therefore be avoided. In its *Special Report on 1.5°C* of 2018, the IPCC proposed that the use of "unabated" coal (meaning, coal burning without carbon capture and storage—known as CCS) to generate electricity should be almost completely phased out by 2050.[407]

Its most recent Assessment Report (AR6, 2023) the IPCC emphasized the need for the early retirement of a substantial segment of the global coal fleet—as much as 1700 GW of coal and 600 GW of gas need to come ofline to be compatible with the Paris targets.[408] According to AR6, without CCS, coal and gas power plants worldwide would need to retire about 23 years earlier than expected to limit global warming to 1.5 degrees and 17 years earlier than expected to limit global warming to 2 degrees.

The IPCCs findings are supported by the IEA, whose "Net Zero by 2050 Scenario" (NZS) concludes that to maintain the global carbon budget within bounds of the Paris Agreement, one CFPP steam turbine will need to come ofline every day, or one CFPP every 3 days, until 2040.[409] Under the NZS, the world's most inefficient CFPPs must be phased out by 2030, while all coal units not equipped with CCS in advanced economies must also be shut down by that year, before full global phaseout by 2040. [410]

- **The Economic Case for Coal Retirements is Weak**

Neoliberals have attempted to make an economic case for early coal retirement,

[406] The World Bank, Energy & Extractives Global Practice, To Phase Down: A renewed approach to coal power in developing countries, July 2024, https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099071824065511599/p1779111da99d6071acc31969b45218369

[407] https://www.ipcc.ch/sr15/, Chapter 2, p 123-124

[408] Intergovernmental Panel on Climate Change, 2023, https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter03.pdf

[409] https://www.iea.org/reports/net-zero-by-2050

[410] https://www.iea.org/energy-system/fossil-fuels/coal

one that is determined to avoid considering options based on global public goods, which offers the only plausible way to apprehend and then reverse "carbon lock in" and the set in motion a process of managed decline of coal- and gas-fired power

The case being made by neoliberals rests on two arguments, both of which are out of touch with the existing capitalist reality. As expressed in the 2006 *Stern Review*, the first argument is based on the seemingly solid assertion that economic damage caused by burning coal will be more costly than the costs of preventing it. The second argument relies on convincing investors and/or current owners of CFPPs risk huge financial losses due to "stranded assets." These losses can come from either the impact of climate policy, from the increasing competitiveness of renewable energy, or a combination of the two.

Neither one of these arguments stands up to scrutiny. In the first instance, private capital has shown itself to be impervious to this long-term damage argument because such a threat, although real, cannot be "monetized" in ways that can generate returns on investment. In the second instance,

CFPPs will only become stranded assets if governments are firmly committed to climate targets and can turn those commitments into effective policy. It is today glaringly obvious that the commitments registered with the UNFCCC have not been able to control the rise of fossil fuel use, and one solution to the risk of stranded assets is to abandon climate policy altogether, which several key governments are unfortunately in the process of doing. Furthermore, the argument that "renewables are the least-cost option" and will mean CFPPs will likely suffer financial harm may have some validity in terms of new power generation capacity, (although this, too, is contested) but it does not take into account the fact that in capitalist energy markets modern renewables are not viewed alongside *new* coal; rather, they are viewed against CFPPs that are already fully operational and contract-driven. In these situations, the only meaningful competition is a competition for government supports and guarantees of various kinds. And we have already seen that the falling costs of renewable energy *reduces* profit margins. From the perspective of IPPs and investors, cheap electricity is a curse, not a blessing—which is why the IPPs in renewables seek the removal of price controls.

As we have seen, these sobering truths are currently expressing themselves in the world of energy investments and the recent decision (late 2024 and early 2025) by several large oil companies to increasing their commitment to fossil fuels.[411] Clearly, whatever anxieties about stranded assets that might have once existed appear to be disappearing into the horizon. Despite fluctuations in supply and demand for coal, oil and gas, fossil fuels generally deliver higher returns than renewable forms of energy. Energy for profit realities are turning science-based emissions reduction targets into science fiction.

[411] For BP see: https://www.reuters.com/markets/commodities/bp-ramps-up-oil-gas-spending-10-billion-ceo-rebuilds-confidence-2025-02-26/. For similar decisions by oil companies . see: https://www.reuters.com/business/energy/big-oil-backtracks-renewables-push-climate-agenda-falters-2024-12-27/

Who Pays for CFPP Closures?

Another massive impediment to early retirement of CFPPs concerns financing. If Indonesia's coal phasedown is to proceed as planned, then who will pay for the decommissioning costs?

The World Bank and the ADB expect the financing burden to be shouldered by governments, or through higher charges for electricity. In a 2023 report titled *Scaling Up to Phase Down: Financing Energy Transitions in the Power Sector*, the World Bank suggests that "Targeted buyouts through negotiation or market-based auction mechanisms can be used to compensate plant owners. Plants can also be purchased directly and decommissioned; this often requires special financing to supplement public budgets." [412] End users can also pay more for electricity, therefore governments have the option of "revising tariffs to compress the recovery period of the repurposing investments, resulting in higher tariffs for customers."

The ADB proposes a similar approach. Its Energy Transition Mechanism (ETM) was established to find ways to finance efforts to retire (or repurpose) CFPPs, by "leveraging investments from public and private sectors."[413] In September 2021 the ADB released what it called a pre-feasibility study on CFPP closures as part of its Energy Transition Mechanism work, (although the report was prepared by Carbon Trust, Asia Group Advisors and Climate Smart Ventures.)[414] In Indonesia's case, the ADB report noted that the MEMR's coal phasedown plans, while ambitious, were not based on any financial or technical modelling, and this would need to be remedied. Furthermore, "The scenarios show too much dependence on external factors, i.e. new technology, without disclosed methodology. The scenarios also merely highlighted the need for internal push factors i.e. strong psychological and political will without concrete plans." [415] In simpler language, the ADB is saying that the GOI has no idea how much finance will be needed to implement its coal phase down proposals.

Either way, the economic case for early retirement of CFPPs is fragile, especially if the GOI and/or PLN are expected to absorb the compensation costs. The investment strike by IPPs in renewables means that there is no guaranteed MW-for-MW replacement of coal by renewable energy sources. These two factors – "new build" and compensation costs then there will be no appreciable decline of coal use in Indonesia or, for that matter, across the Asia-Pacific region.

[412] World Bank, 2023, Scaling Up to Phase Down: Financing Energy Transitions in the Power Sector, Washington, DC: World Bank.

[413] https://seads.adb.org/news/adb-indonesia-philippines-launch-partnership-set-energy-transition-mechanism

[414] ADB, Opportunities to Accelerate Coal to Clean Power Transition in Selected Southeast Asian Developing Member Countries, [September] 2021https://www.adb.org/sites/default/files/project-documents/55024/55024-001-tacr-en.pdf

[415] ADB, Opportunities to Accelerate Coal to Clean Power Transition in Selected Southeast Asian Developing Member Countries, [September] 2021https://www.adb.org/sites/default/files/project-documents/55024/55024-001-tacr-en.pdf

A Just Transition for IPPs?

The financial analysis of closure costs released in 2021 by the ADB was based on a proposed shortlist of large and older CFPPs, primarily located in Java-Bali. The plants named on the shortlist were Keban Agung, Sumsel 5, Paiton 1 and Celukan Bawang, and together the plants "have an estimated market value of $10.1 billion." According to the ADB, "Asset owners are expected to request for full value and market comparables."[416]

This approach alludes to the need to fully compensate CFPP owners for revenues lost from terminated PPAs. According to the NGO Transition Zero, if this full compensation approach was extended to all active PPAs in coal, then the buyout costs could be around $37 billion, or $1.2 million per MW of capacity.[417]

In a July 2024 paper, the World Bank noted that CFPP closure costs "typically fall on cash-strapped governments, which are paralyzed to act because they must either incur costs as additional debt or else pass them to taxpayers or ratepayers, whose limited ability to pay makes this approach a politically risky prospect." Not surprisingly, the paper concluded, "Against the backdrop of massive financing needs to support early phase out of coal, progress under existing initiatives is largely stalled."[418]

Indonesia's Plans for Coal Phase Down

As part of the effort to comply with the Paris targets and Net Zero commitments, in May 2021 then President Joko Widodo announced a moratorium on new CFPP beyond those that have reached financial close or were already under construction. The commitment was reflected in PLN's 2021-2030 RUPTL, when the utility announced that construction of 13 GW of coal-fired power would not go ahead as planned. PLN has singled out three coal-fired power plants, totaling 1.1 GW, for closure by 2030 (namely Muara Karang in Jakarta, Tambak Lorok in Semarang, and a gas and coal-fired power plant in Gresik).[419] PLN also plans to develop biomass cofiring (where biomass is used as a partial substitute for coal) at 52 CFPPs by the end of 2025.[420]

[416] ADB, Opportunities to Accelerate Coal to Clean Power Transition in Selected Southeast Asian Developing Member Countries, [September] 2021https://www.adb.org/sites/default/files/project-documents/55024/55024-001-tacr-en.pdf

[417] https://www.transitionzero.org/insights/coal-phase-out-indonesia-coal-asset-transition-tool#based-on-estimates-of-ppas-it-will-cost-usd37-billion-or-usd1-2-million-mw-to-shutter-the-existing-coal-fleet-by-2040

[418] World Bank, To Phase Down: A renewed approach to coal power in developing countries The World Bank, Energy & Extractives Global Practice, July 2024. https://documents1.worldbank.org/curated/en/099071824065511599/pdf/P1779111da99d6071acc31969b45218369.pdf

[419] https://earthjournalism.net/stories/experts-urge-awareness-of-debt-trap-as-indonesia-eyes-funding-for-energy-transition

[420] https://web.pln.co.id/pln-jetp/jetp-home

Table 2. PLN and IPP coal plants retirement schedule

# of Plants, GW	PLN Retirement	IPP Retirement	Total Retirement
2022-2030	8 plants, 5.0 GW	10 plants, 4.2 GW	18 plants, 9.2 GW
2031-2040	18 plants, 7.6 GW	21 plants, 14.1 GW	39 plants, 21.7 GW
2041-2045	5 plants, 3.1 GW	10 plants, 9.4 GW	15 plants, 12.5 GW

Figure 23: chart source unknown

PLN's timeline for coal-fired power plants (CFPPs)

2035: PLN aims to retire its conventional power plants which have a total capacity of 9 GW.

2040: More modern "supercritical" CFPPs capacity of 10 GW, will be shut down.

2056: "Ultra supercritical" CFPPs will be closed.

The GOI has been praised for making a commitment to retire some of its coal-fired capacity. But this does not alter the fact that there is currently a glaring disconnect between the coal phasedown timetables proposed by the IPCC and the IEA and current energy realities. Climate science may suggest that a CFPP needs to close every 3 days until 2040, but it is difficult to find a single example of a CFPP that has been retired early anywhere in the world, and planned closures—such as those proposed by PLN—are only likely to happen if other conditions fall into place. [ieefa] The UK closed its last CFPP in 2024, but most of the CFPPs that were retired in the years previous had been operating for 50 years and sometimes longer—at the end of their design life.[421]

The GOI and PLN's plans to phase down coal must therefore be viewed in context of these realities, which have themselves been shaped by the painfully slow growth in low carbon energy deployment.

[421] https://www.bbc.com/news/articles/c5y35qz73n8o

Cirebon 1: Slow Motion Closure

In 2022, The ADB and the GOI identified the 660 MW Cirebon-1 plant in West Java to demonstrate "proof of concept" for ETM financing. In December 2023, a non-binding framework agreement was signed at COP28 by the ADB, PLN, and Cirebon Electric Power and the Indonesia Investment Authority (INA). This agreement aims to shorten the plant's power purchase agreement, facilitating its retirement in 2035, 7 years before the expiration of the PPA.[422]

But even this single initiative is still in the negotiation phase over buyout terms. Rather than providing a proof of concept, the Cirebon 1 story merely draws attention to the problems of an approach that amounts to a just transition for IPPs, with the associated costs being carried by the GOI.[423] As with the JETP, concessional finance may lighten the financial burden on the GOI, but it does not alter the fact that it is the GOI who must come up with the money to cover its PPA commitments.

The MDBs categorically refuse to entertain the idea that financing the closure of CFPPs is a global responsibility. Those committed to this "full compensation" policy fail to understand that it encourages countries that have access to coal (and/or gas) to proceed for with a high-carbon development trajectory. The MDBs categorically refuse to question the legitimacy or equity of fully compensating IPPs for the loss of PPA payments, even though these payments are likely to far surpass the levels of investment in any particular project, and the IPP investment that was committed was in many instances supported by de-risking schemes in one form or another.

Is Carbon Capture and Storage (CCS) an Option for Indonesia?

For both the power sector and energy intensive industries like steel, carbon capture and storage (CCS) and carbon capture utilisation and storage (CCUS) have been described as essential technologies in terms of reaching climate targets.

PLN has identified 37.6 GW of power generation capacity suitable for CCS application, with 19 GW deemed technically feasible and prioritized for implementation. The company aims to implement CCS for a total capacity of 2 GW by 2040 and 19 GW by 2060, but the implementation is still the subject of an investigation.[424] Given the anticipated size of Indonesia's CFPP in 2040, 2 GW of CCUS will make a modest contribution in terms of Indonesia's emissions mitigation.[425]

[422] https://www.adb.org/news/new-agreement-aims-retire-indonesia-660-mw-coal-plant-almost-7-years-early?utm_source=chatgpt.com

[423] https://www.reuters.com/sustainability/climate-energy/global-plan-early-ditch-coal-power-hits-indonesia-hurdle-2024-09-25/?utm_source=chatgpt.com

[424] PT PLN (Persero)Listrik Indonesia+5The Jakarta Post+5PT PLN (Persero)+5PT PLN (Persero)+2Antara News+2Listrik Indonesia+2Listrik Indonesia+1Antara News+1

[425] https://web.pln.co.id/pln-jetp/jetp-home

The possibility of significant level of CCS or CCUS being deployed in Indonesia also warrants scrutiny.

Despite decades of talk about carbon capture and storage (CCS) the technologies involved have yet to be deployed beyond the pilot project stage.

Recently there has been significant growth in the number of CCS or CCUS demonstration projects being developed around the world. More than 100 new projects were announced in 2021 alone.[426] But for the past 15 years or so, CCS has relied on public finance. For the private technology companies, then goal is *not* capturing and storing carbon; rather, the end goal is to create *a market* where CCS projects can become commercially viable and lucrative for investors. Private companies will not develop capture technologies unless they are reasonably certain that power plant owners, be they public or private, will purchase capture technologies at sufficient scale.

In the eyes of the IPCC and IEA, CCS and CCUS enjoy "essential technology" status with considerable potential for climate change mitigation. But the development and deployment of CCS "at commercial scale" is nowhere near where it needs to be. The upfront costs of CCS and CCUS are formidable, but the main reason why capture technologies have not taken off is because any energy company or energy-intensive industrial operation will not make money from CCS or CCUS; rather, they will incur additional costs that will put them at a competitive disadvantage with companies that do not use the same technologies. CCS and CCUS currently face some formidable technical challenges, which should not be underestimated. Even so, it is the market model that is today the main obstacle that stands in the way of CCS and CCUS. Without a *public pathway* approach to the development of CCS, its potential as an "essential mitigation technology" will be unfulfilled.

The net result in Indonesia is private profit overwhelms science, CFPPs remain open and new ones are under construction, the deployment of hydropower, geothermal, solar, etc. has been starved of investment. It is precisely these conditions, not government regulations, that are creating "carbon lock in" and thus sustaining the use of coal.

The Article 33 Scenario allows for a reconstituting of energy planning within a framework of public financing, a fully reclaimed utility to lead the planning effort. But it does not mean that carbon lock in will miraculously disappear, neither does it mean that the rapid scale up of low carbon forms of energy to replace the energy generated by CFPPs will proceed without difficulty. But such an approach can intercept and begin to address the problems caused by the lack of planning that accompanied the IPP-PPA system, and thus lay the foundations for the public pathway alternative.

[426] Samantha McCulloch, "Carbon capture in 2021: Off and running or another false start?" IEA, 24 November 2021, https://www.iea.org/commentaries/carbon-capture-in-2021-off-and-running-or-another-false-start

Renegotiate Existing PPAs

A reassessment of climate targets must be accompanied by a period of GOI and PLN renegotiation with key domestic and international actors, such as technology producers, private developers, and IPPs.

Existing PPAs should be subjected to a presidential investigation along the lines of those conducted by other developing nations (see below, *Countries Renegotiating PPAs*)

The re-negotiation of PPAs with IPPs has precedent in Indonesia, but what is needed now is a comprehensive reassessment of both the terms of current PPAs and for projects that have reached financial close but have yet to begin construction. Such a process should not rule out an across-the-board reduction of PPA prices, with modifications depending on the energy source and/or the sectors concerned.

There is clear evidence that where IPPs and PPA arrangements exist, they have led to increasing pressures on governments to either approve tariff increases, increase their financial support national utility, and sometimes both.[427] This is true for IPPs in coal, gas, and renewables. The GOI is currently expected to honor its PPA commitments well into the 2030s and early 2040s, and with new PPAs expected in the period ahead. With neoliberal climate policy unravelling, now is a good moment to renegotiate and/or cancel PPAs, while considering the different technology categories.

Countries Renegotiating PPAs

There are signs that the number of governments attempting to renegotiate PPAs in beginning to increase. In March 2021, Mexico enacted reforms to the Electricity Industry Law (*Ley de la Industria Eléctrica, LIE*), which included provisions allowing the utility (CFE) to renegotiate or terminate existing PPAs.

There are, however, other examples:

Kenya: In 2020 the Government of Kenya established a Presidential Taskforce on PPAs. The Task Force was set up in response to the national utility *(Kenya Power & Lighting Company, or* KPLC) posting its worst financial performance in 17 years and because of the public outcry over the high costs of electricity. In 2019, IPPs supplied 25% of KPLC's power, but PPAs with IPPs accounted for 47% of KPLC's power purchase costs. PPAs with IPPs were widely identified as contributing to both KPLC's poor financial state and to the high electricity costs to consumers. The Taskforce delivered its report to the President in September 2021, proposing a raft of changes to reform the regime on PPAs.[428]

[427] See: Jefri Porkonanta Tarigan, Unconstitutionality of Unbundling System in Electricity Supply Business Registrar and Secretariat General of the Constitutional Court of the Republic of Indonesia. (February 2018).

[428] Presidential Taskforce on PPAs https://kplc.co.ke/img/full/28102021_210-The-Report-of-the-Presidential-Taskforce-on-PPAs.pdf

Ghana: In 2017 the government of Ghana cancelled 11 PPAs and paid $402 million in compensation to IPPs. Because honoring the PPAs would have cost $7.21 billion over a 13-year period, Ghana decided to cut its losses.[429] A further seven PPAs with a total capacity of 2,960 MW were postponed.[430]

Uganda: In 2021, the government of Uganda government announced plans to eliminate take-or-pay clauses in future PPAs. Uganda's Auditor General reported that the government paid approximately $24 million (UGX 87.7 billion) for 13 PPAs where electricity was available but not dispatched, primarily due to transmission constraints. Uganda aims to introduce a system that includes a "deliver-or-pay" mechanism (see above) where IPPs are compensated only for electricity that is actually consumed. Media sources report that the government is drafting a new legal framework for the electricity sector.[431]

Pakistan: In October 2024, the government of Pakistan unilaterally altered PPA contracts with a number of wind and solar power IPPs.[432] The government said the adjustments would cut electricity tariffs for consumers and save at least $3.6 billion (Rs 1 trillion). In the early 2010s, Pakistan's PPAs were dollar-indexed that, and guaranteed IPPs a fixed return on equity but the government's intervention means that electricity will be purchased in rupees, and at a significantly lower exchange rate to the US dollar than current rates. But the lenders financing the projects will still need to be repaid in US dollars.

The World Bank, ADB, and other MDBs have criticized Pakistani authorities for changing the PPAs in a "non-consultative manner" a move it described as "undermining investor confidence and discouraging much-needed future private investment." According to the *Financial Times,* "Businesspeople involved said the talks were conducted in military installations and security officials had threatened investors with investigations into their other business ventures. They added they felt intimidated to agree to new contracts that would make their investments unviable and force them to shut down energy plants." The MDBs wrote that the IPPs they had financed were "not permitted to agree to changes to any major project document", including PPAs "without a prior written approval from the lenders." [433]

[429] http://www.reportingoilandgas.org/govt-cancels-11-power-agreements-state-to-pay-us402m-in-settlement/

[430] Institute of Economic Affairs, Accra Energy for Growth Hub, A Case Study of Ghana's Power Purchase Agreements, March 2021, https://www.energyforgrowth.org/report/a-case-study-of-ghanas-power-purchase-agreements/, http://energycom.gov.gh/files/2019%201111%20ESRP%20ESTF_Clean_v3.0redacted%20final.pdf

[431] https://africa-energy-portal.org/news/uganda-scrap-take-or-pay-contracts-electricity-industry?utm_source=chatgpt.com

[432] https://www.reuters.com/business/energy/world-bank-unit-other-lenders-criticise-pakistans-energy-negotiations-2025-02-26/

[433] https://www.ft.com/content/570e4f97-b006-486a-b896-f2d4e47514a1; https://www.moneycontrol.com/news/world/coercion-threats-how-pakistan-military-engineered-a-shake-up-in-power-sector-12841457.html

The Article 33 Scenario provides full power and authority to oversee the development of low carbon energy sources in Indonesia. However, this will require gaining access to specific technologies (and the skills associated with those technologies) that are not domestically produced.

As noted above, just a handful of countries control or own the key technologies to generate hydroelectric, geothermal and nuclear power. In the case of wind power, just six turbine suppliers control nearly three quarters of the global market, and just 10 producers account for 80% of the total global wind turbine blade supply.[434] In terms of solar PV production, in 2020 China accounted for 73% of global solar PV production. China is also the main player in solar PV supply markets (manufactured polysilicon, and components such as ingots, wafers, cells, and modules).[435]

How, then, can Indonesia fulfill its clean energy potential in ways that extricates the country from the "privatize to decarbonize" agenda? Policies consistent with this agenda have been unable to attract the levels of investment required to appreciably advance the energy transition, but what is the alternative?

Rank	Company Name	Country	Estimated Market Share
1	LONGi Green Energy	China	~14%
2	JinkoSolar	China	~12%
3	Trina Solar	China	~10%
4	JA Solar	China	~9%
5	Canadian Solar	Canada	~7%
6	First Solar	United States	~5%
7	Hanwha Q CELLS	South Korea	~4%
8	Risen Energy	China	~3%
9	GCL System Integration	China	~2%
10	SunPower Corporation	United States	~1%

Figure 25: The world's leading solar pv producers

[434] Rasmus Lema, Axel Berger, and Hubert Schmitz, "China's Impact on the Global Wind Power Industry," Journal of Current Chinese Affairs 42, no. 1 (2013): 37-69, available at https://journals.sagepub.com/doi/pdf/10.1177/186810261304200103

[435] Sean Sweeney, Sustaining the Unsustainable: Why Renewable Energy Companies are Not Climate Warriors, New Labor Forum, August 2021. https://newlaborforum.cuny.edu/2021/08/27/sustaining-the-unsustainable-why-renewable-energy-companies-are-not-climate-warriors/

The Step 3: Move Towards the Direct Procurement of Generation and Auxiliary Technologies

The level of market and supply chain concentration in low carbon energy-related technologies presents a massive challenge to the countries of the South. It is widely acknowledged that the scale of production required to reach emissions targets is beyond the capacity of the handful of countries and companies that currently dominate the sector.[436]

At first glance, the suppliers of net zero technologies are in the driver's seat, and countries that wish to gain access those same technologies have little room to maneuver. But this is not entirely the case. For technology exporters, the relationship with governments of importing countries must be amicable and mutually beneficial.

As of this writing, (May 2025) there is a real danger that the largest markets for wind and solar (the US and the EU) may slow down their deployment, therefore generating a significant oversupply of these technologies. For example, China currently dominates the world's solar PV sector. It accounts for over 80% of global production, but just 36% of solar PV production serves its domestic market. A third of its solar output is exported to the US and Europe. If China loses a third of its current market for solar, this will amount to the equivalent of 330 GW of annual output. Based on capitalist competition, this could lead to the destruction of productive capacity that, in a system shaped by global public goods, could be used to address energy scarcity and advance decarbonization in the more developed countries. To put this 300 GW figure into perspective, the entire of continent of Africa has installed just 20GW of solar power, and most of it in the Arab states in North Africa and in South Africa.[437]

As a general rule, it is the project developers that negotiate the PPAs and secure the financing, but these functions could be performed by PLN and key ministries. The GOI and technology suppliers can work to establish guaranteed customer status via state-to-state agreements, thus dealing directly with these suppliers and navigating around the project developers and private lenders.

Bi-lateral trade agreements have proliferated over the past 20 years, and there is no reason, in principle, why terms for the direct procurement of technologies cannot be negotiated. Mexico has pressed forward with a public procurement model and is building the largest solar array in Latin America and is upgrading the country's hydroelectric power infrastructure.[438]

[436] T. Poulsen and R. Lema, "Is the Supply Chain Ready for the Green Transformation? The Case of Offshore Wind Logistics," Renewable and Sustainable Energy Reviews 73: 758-77, doi: 10.1016/j.rser.2017.01.181

[437] https://assets.bbhub.io/professional/sites/24/Africa-Power-Transition-Factbook-2024.pdf?utm_source=chatgpt.com

[438] IRENA (2022), RE-organising power systems for the transition, Abu Dhabi.

indonesia Energy_Technology_Suppliers

Company Name	Sector	Country of Origin	Key Activities	Presence in Indonesia
Jinko Solar Holding Co. Ltd.	Solar	China	Solar PV modules and energy solutions	Yes
Canadian Solar Inc.	Solar	Canada	Solar PV modules and power projects	No
Vestas Wind Systems A/S	Wind	Denmark	Wind turbine manufacturing and installation	No
Siemens Gamesa Renewable Energy SA	Wind	Spain	Onshore and offshore wind turbines	No
Ormat Technologies, Inc.	Geothermal	USA	Geothermal power solutions	Yes
Energy Development Corporation (EDC)	Geothermal	Philippines	Geothermal and renewable energy projects	Yes
China National Nuclear Corporation (CNNC)	Nuclear	China	Nuclear power plant design and operation	Yes
China General Nuclear Power Group (CGN)	Nuclear	China	Nuclear reactor design and operation	Yes
Statkraft	Hydropower	Norway	Hydropower and solar projects	No
ThorCon International	Nuclear	USA	Thorium-based nuclear power plants	Yes

Repositioning Indonesia as a Strong Advocate of Global Public Goods

The series of steps required to begin the implementation of the Article 33 Scenario in Indonesia should include a number outward-facing initiatives. In terms of the multilateral system and processes, Indonesia can add its voice to the effort to bring about much needed changes in global economic management and priorities.

Calls for reform of the multilateral system have grown in recent years, and they have been accompanied by an awareness that the multiple crises facing the world require a global public goods approach.[439] In August 2021, UN Secretary-General Guterres appealed to governments to work together to "strengthen the governance of our global commons and global public goods" and to facilitate the start of "a new era of universal social protection, health coverage, education, skills, decent work and housing." [440] The delivery of global public goods, UNCTAD suggested, must be accompanied by changes in global governance—a "new multilateralism" — and through the revitalization of public finance. [441] Among other things, it noted that WTO rules are an obstacle to "South-South cooperation on low-emission research and design, and green investment strategies that include technology transfer."[442]

If Indonesia were to embrace the Article 33 scenario and the public pathway approach at home, it would begin to demonstrate, in the form of new laws, regulations, and achievable energy transition objectives that "another energy transition is possible" at the global level. This would mark a significant step forward in terms of developing a GPG framework that is

[439] UNCTAD / TDR 2024

[440] United Nations, *Our Common Agenda – Report of the Secretary-General*, August 2021, at https://www.un.org/en/content/common-agenda-report/assets/pdf/Common_Agenda_Report_English.pdf.

[441] UNCTAD and Boston University, A New Multilateralism for Shared Prosperity: Geneva Principles for a Global Green New Deal, at https://unctad.org/webflyer/new-multilateralism-shared-prosperity-geneva-principles-global-green-new-deal. See also UNCTAD, Reforming the International Trading System for Recovery, Resilience and Inclusive Development, UNCTAD Research Paper No. 65, UNCTAD/SER.RP/2021/8.

[442] Ibid.

anchored in reciprocity, solidarity and internationalism.[443]

Regarding the specifics of Indonesia repositioning itself as an advocate of global reform and a new international energy order, there are several high-priority issues that Indonesia can help address. These include helping to develop a radically different approach to climate and sustainable development finance, to propose ways to expedite the transfer and further develop technologies, and—most challenging of all—the need for a global agreement on the managed decline of coal use.

Indonesia and the Search for an Alternative to JETPs and Green Structural Adjustment

Under the principle of "common but differentiated responsibilities and respective capabilities" adopted in the early 1990s negotiations around the UNFCCC, rich countries accepted "the urgent need to enhance the provision of finance, technology and capacity-building support" from the North to the developing South. This clear obligation was subsequently reworded, although not officially. Instead of providing finance, rich countries began to talk about providing *access* to finance — which is a different proposition altogether.[444] In other words, rich countries did not want climate finance to become an extension of "overseas development assistance" (with a heavy emphasis on grants); they wanted it to take the form of loans.

As we discussed in Part Two, the need for climate and sustainable development finance led to the "billions to trillions" and "blended finance" adventure led by the World Bank. If further evidence of the failure of this policy were needed, in February 2025 the Chief Economist of the World Bank Group and Senior Vice President for Development Economics, Indermit Gill, noted that even though the world had amassed $17 trillion in savings when the World Bank launched its "billions to trillions" initiative in 2015, the idea that blended finance would unleash an unstoppable flow of private investment "turned out to be fantasy."[445] The crisis facing each of the three main JETPs are but one expression of this monumental policy failure.

But what is the solution? One of the more grounded proposals has been developed by UNCTAD writers Kevin Gallagher and Richard Kozul-Wright who, in March 2022, called for a Global Marshall Plan.

[443] See Sean Sweeney, Beyond Recovery: The Global Green New Deal and Public Ownership of Energy, 2023. TUED Working Paper 16, https://www.tuedglobal.org/bulletins/beyond-recovery-the-global-green-new-deal-and-public-ownership-of-energy

[444] This not-so-subtle shift became visible in late 2009 at COP15 in Copenhagen, when then US Secretary of State Clinton announced that rich countries were going to jointly "mobilize" $100 billion a year by 2020 from "a wide variety of sources, public and private." https://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf#page=4

[445] https://blogs.worldbank.org/en/voices/for-developing-economies-the-finance-landscape-has-become-a-wasteland

They noted that, under the Bretton Woods system established in the mid-to-late 1940s, the World Bank was constructed around a public finance model to lead the post-war reconstruction and was shaped by New Deal thinking.[446] Interestingly, it was the success of the Tennessee Valley Authority—the engine of publicly owned rural electrification in the US from 1935 onwards—that shaped the public mandate of the World Bank. Before the World Bank was established, "no international financial institution had ever been created with the purpose of channeling resources to poorer countries."[447]

The US committed more 1% its national income to the Plan for four consecutive years. Gallagher and Kozul-Wright suggest that, once established, a new Marshall Plan could disperse capital either as grants or zero interest loans, and this could be accompanied by debt moratoria followed by restructuring and cancellation. Marshall aid, they note, was based on the recognition that heavy debt-servicing obligations would hold back the investment needed for recovery and longer-term growth.

Under a new Global Marshall Plan, the resources transferred from one part of the world to another in the interests of advancing climate change mitigation and adaptation could be deployed in ways that would benefit and protect *everyone*, regardless of location. A *shared expense* approach thus provides a viable alternative to loans-based climate finance that, as we have seen, is both inadequate and incurs further debt on the countries of the South. A Global Marshall Plan therefore provides a platform for the kind of global public goods approach that the current situation demands.

Expediting Technology Transfer

We have seen how a direct procurement policy pursued as part of the Article 33 Scenario creates space for new forms of non-predatory joint ventures that can deemphasize commercial outcomes and focus more on the delivery of low carbon energy and energy-related services to meet energy transition goals. This can provide avenues for technology transfer based on cooperation and reciprocity.

However, the multilateral system can do more to require technology transfer—and Indonesia can add its voice to such an effort. The IPCC, UNFCCC and IEA agree that **technology transfer is essential** and that intellectual property rights (IPRs) should be relaxed or removed. The UNFCCC regards technology transfer as a core obligation under the Convention (Article 4.5). Article 10 of the Paris Agreement (2015), *Technology Development and Transfer* reads: "Parties share a long-term vision on the importance of fully realizing technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions." The IEA's Net Zero by 2050 As the IPCC itself has noted, cooperation is

[446] Gallagher and Kozul-Wright, "The Fierce Urgency of Now: The Case for a New Bretton Woods Moment." The Case for a New Bretton Woods, Polity, March 2022,

[447] Helleiner, 2014, cited by KGS/RKW. [[full ref needed]

key: "Effective mitigation will not be achieved if individual agents advance their own interests independently" and cooperation "can play a constructive role in the development, diffusion and transfer of knowledge, and environmentally sound technologies." In a 2020 report, the IEA (again) expressed concern regarding the decade-long stagnation in energy-related R&D levels, which it called a "Public goods market failure." Following a decade of strong growth in patenting low-carbon energy technologies, the IEA noted there had been "an almost uninterrupted slowdown since 2011." [448]

The IEA's assessment succinctly captures the global problems confronting technology transfer and research and development, and it should serve as a massive warning. It states, "*The private sector has limited incentive to produce knowledge if firms cannot fully exploit the returns on their investment because that knowledge is easily available to others."* [Emphasis added] Companies "prioritize expenditures from which profits are more certain…Disruptive technologies can be of particular importance in relation to social or environmental outcomes that are desired by governments but have low market value." [449]

In his 2021 speech *Our Common Agenda*, UN Secretary-General António Guterres called for patents for green technologies (akin to COVID-19 vaccines) be waived. He also supports **mandatory sharing** of technology for renewables and adaptation under the **Net-Zero Coalition**.[450] Both the **UNDP and UNEP (**UNDP's *2023 Human Development Report*). At COP28 in Dubai in late 2023, the Africa Group of Negotiators at COP 28 in Dubai proposed that a "global technology pool" be established to make the best available technologies available to the effort to address climate change.

There is a need for greater governmental control over R&D investment and then ensuring that R&D outputs are not handed over to private investors to select or reject depending on *their* respective interests as for-profit entities. If public resources are used to increase levels of R&D, then intellectual property must be classed as *public* property, and used in ways that advance global public goods, and not leave the fate of potentially useful technologies to the private sector

If Indonesia were to consistently and forcefully support these and similar efforts to expedite technology transfer and public R&D, then a global public goods approach to energy transition might have a better chance of success. And if success was ever achieved, it would help Indonesia extricate itself from various technology-related dependencies and improve to prospects of developing domestic supply chains for the energy transition.

[448] IPCC. (2014). *Climate Change 2014: Mitigation of Climate Change* . www.ipcc.ch/report/ar5/wg3

[449] IEA (2020), *Clean Energy Innovation*, IEA, Paris https://www.iea.org/reports/clean-energy-innovation,

[450] https://www.unep.org/resources/report/our-common-agenda-report-secretary-general

PLN on the International Stage

PLN also has a role to play in Indonesia's repositioning itself as a champion of global public goods delivered via a public pathway approach to energy transition. In recent times PLN has used the global stage as an opportunity to display its commitment to Net Zero via the scale up of renewable energy and the slower deployment and cancellations of new coal-fired capacity. PLN aspires to be among the world's 500 largest companies, with business activities that go beyond electricity (for example, EV infrastructure).[451]

However, its effort to present itself as a modern company on the cutting edge of the energy transition (including digitalization), PLN has also displayed a loyalty to the current public private partnership (PPP) approach. It is as if PLN is trying to convince private investors to see PLN as a trusted partner, and not as an antiquated utility that is "addicted to coal" and being sustained by government subsidies. But—for reasons that should by now be clear—a rebranding of PLN's reputation as a successful, profit-making business will not solve the country's investment crisis. The IPPs want stronger guarantees, and any concessions made to IPPs will undermine PLN's own market share and reduce its revenue streams, therefore compromising PLN's own ambitions to lead Indonesia's energy transition.

We would like to see PLN work with allies to help Indonesia and the Global South articulate a new approach. PLN's *NZE Moonshot Aspiration* initiative aims to situate PLN as a leader of the energy transition, and we strongly support this goal, and its companion, the Accelerated Renewable Energy Development (ARED) program (de-dieselization, scale-up of biomass use as a co-firing fuel, transmission upgrades, etc.)[452] But PLN does not need to be reticent in terms of advocating for a public pathway approach and the need for PLN to be fully demarketized.

[451] https://web.pln.co.id/statics/uploads/2024/10/AR-PLN-2023_1610-hi.pdf

[452] https://web.pln.co.id/statics/uploads/2024/10/AR-PLN-2023_1610-hi.pdf

However necessary from a climate standpoint, proposals for the early retirement of CFPPs are essentially going nowhere. New CFPPs are under construction in a host of countries. In 2024, China initiated construction on 95 GW of new coal-fired energy. Meanwhile, examples of early retirement of CFPPs are conspicuous by their complete absence.

The phase down of coal use is a global public good that will contribute to the safety and welfare of everyone, which means that this is a global responsibility, and the costs must be shared by all. This draws attention to the need for a global agreement or protocols developed to expedite managed decline of coal use in ways that avoids massive compensation packages to IPPs.

A global agreement on managed decline of CFPPs (sometimes called "strategic decommissioning") could be built around a like-for-like decommissioning of fossil-generated power in both the North as well as the South, perhaps measured in generator nameplate capacity. (According to the US-based Energy Information Administration, "Installed generator nameplate capacity is commonly expressed in MWs and is usually indicated on a nameplate physically attached to the generator.") [453]

Negotiating a global agreement to implement managed decline may seem a herculean task given how long it took to arrive at the Paris Agreement, but current energy realities and the threat of climate change requires that a range of extremely unlikely scenarios need to be considered.

A global agreement can and should be anchored in the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC). As noted in Part One, in the OECD countries, many CFPPs are reaching the end of their design life and are being decommissioned.[454] For comparison, the average age of a coal plant in the U.S. is 39 years; for Indonesia the average age is 12-15 years.[455] Many of the soon-to-be-retired OECD-based power stations were built decades ago and have, in a sense, been "fully paid for" and there are normally no PPA payment obligations to consider. By the same token, the cumulative emissions generated by these older CFPPs have already contributed to global warming and will continue to do so for many decades to come, because CO2 particles often stay in the atmosphere for a century or longer. A global agreement should mandate that OECD countries finance early retirement in the South, and also help—through grant-based finance—to generate new low carbon capacity to replace the coal- and gas-fired capacity that is taken ofline.

[453] https://www.eia.gov/tools/glossary/index.php?id=Generator%20nameplate%20capacity%20(installed)

[454] https://www.iea.org/data-and-statistics/charts/average-age-of-existing-coal-power-plants-in-selected-regions-in-2020

[455] EIA, "Most coal plants in the United States were built before 1990," April 17, 2017, https://www.eia.gov/todayinenergy/detail.php?id=30812 Carbon Brief, "Analysis: Will China build hundreds of new coal plants in the 2020s?" 24 March 2020, https://www.carbonbrief.org/analysis-will-china-build-hundreds-of-new-coal-plants-in-the-2020s

It is worth remembering that the year 2025 is the 70th anniversary of the Bandung Conference where, in 1955, representatives of 29 countries from Asia and Africa, having emerged from a long period of colonial rule, laid the foundations for a South-led effort in the mid-1970s to construct a New International Economic Order (NIEO) based on peace, cooperation, and a radical restructuring of the North-South economic relationships.[456] But, in the spirit of the 1955 gathering in Bandung, and the ongoing significance of Pancasila Principles that embrace both national unity and internationalism, Indonesia can help lead the effort to rally a coalition of countries committed to a global public goods approach to addressing sustainable development needs and climate protection. With neoliberal climate policy seemingly unravelling, the bold approach taken by the leaders in Bandung 70 years ago needs to be revisited and revived. As we have seen, climate and energy policy currently stands at a crossroads. The old climate policy (green growth) is dying and should not be resuscitated. But the world cannot afford to ignore the threat of climate change and its impacts. There is too much at stake, especially for the Global South which is more vulnerable to the impacts of climate instability and warming temperatures.

For Indonesia, the choice is clear: its abundant natural resources (including coal) can either be used to drive the kind of carbon-intensive and extraction-based growth trajectory, or Indonesia can become a voice for a new economic model based on a more prudent management of natural resources and an emphasis on human development and improving the quality of life of the many, and not just the few.

The Article 33 Scenario presents an opportunity for Indonesia to reposition itself as a force for fundamental change at the global level, and to lay the foundations of a new international *energy* order, where energy systems are reclaimed to public ownership and control and repurposed to serve both human needs and to address the challenges posed by the ongoing expansion of fossil fuel use and the massive investment deficit that is currently impeding the development of low carbon energy alternatives.

Unused material

Renegotiation of PPA with Paiton – see google doc
Who are the IPPs?

Indonesia banks are in good shape insert [from Guild]
Danantara SWF new holding company indonesia

456 https://digitallibrary.un.org/record/218450?v=pdf