

The Future of Indonesia's Energy Sector: Climate Commitments or Committed to Coal?

By Alhafiz Atsari and Zoe Brent



AUTHORS: Alhafiz Atsari and Zoe W. Brent

COPY EDITOR: Benjamin Cunningham

DESIGN: Bas Coenegracht

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Introduction

After lengthy negotiations, leaders of the Republic of Indonesia, Japan, the United States and other partner countries came away from the G20 summit, held in Bali in parallel to the COP27 in November 2022, with what many are celebrating as a historic agreement. The government of Indonesia made a deal with the G7 group of industrialised countries plus Denmark and Norway. Called the Just Energy Transition Partnership (JETP), is billed as, 'the final piece of Indonesia's puzzle to accelerate its energy transition'.¹

The JETP is a \$20 billion financing package to facilitate Indonesia's transition from coal to renewable energy. As one of the world's largest coal producers and fifth largest greenhouse gas emitter, this announcement is indeed encouraging news. As the details of the plan will still be hashed out over the next six months, it remains difficult to fully evaluate the agreement's real impact. Nonetheless, this article aims to provide an overview of Indonesia's coal sector, as well as its existing climate commitments, in hopes of making sense of these new developments.

While coal mining in Indonesia dates back to the activities of Dutch colonial forces in the 1800s, it is only over the past 40 years that Indonesia has become one of the world's leading coal hubs. Indonesia churns out enough floating barges filled with black mountains of the world's dirtiest energy source to make it the world's fifth-largest coal producer. The country also has the globe's 10th largest coal reserves.² It exports some 63% of its production. That is enough to make it the top exporter of thermal coal, which is used to produce electricity from India to Germany.³ Indonesia produces nearly 90% of Southeast Asia's coal supply.⁴ In terms of domestic consumption, Indonesia is also highly dependent on coal to meet national electricity

needs. In 2021, Russia was responsible for almost 20% of global thermal coal exports. Now, as a result of the war in Ukraine and the resulting sanctions, coal prices are surging and banks stand at the ready to profit. In Indonesia, the boom in lending is especially pronounced in the province of East Kalimantan, the country's coal-mining heartland. According to official data, bank loans to the provincial mining industry grew by 74.36% year-on-year in February 2022, compared to 18.87% growth in overall lending.⁵

Meanwhile, the Indonesian government has committed to reduce greenhouse gas emissions. Despite such promises (which necessarily demand the country phase out coal), the state is facilitating the construction of coal-fired power plants on a massive scale. They are granting permits to mining entrepreneurs, securing funding through national and international banks, and issuing favourable regulations such as the Omnibus Law and the revision of Law No. 3 of 2020 concerning Minerals and Coal. This continued dependence on dirty coal energy is not only bad for greenhouse gas emissions, it also has very serious implications for already marginalised communities — especially along Indonesia's extensive coastline. Pollution of fishing zones, adverse health effects on humans, and policy processes which sideline communities are all part of the expanding coal landscape in Indonesia explored in this article. As we will see, the political will to confront climate change is lacking. The government of Indonesia, influenced by corporate interests and corruption, is prioritising immediate profit over future generations. At the same time, the Indonesian case points to the relevance of conversations about climate reparations, raises important questions about how we got here and what constitutes truly just energy policies.

Empty climate promises

Ahead of the 26th United Nations Framework Convention on Climate Change (UNFCCC) in Glasgow, the government of Indonesia submitted its **revised climate commitments** to the UN. They pledged to: 'reduce greenhouse gas (GHG) emissions 26% below business-as-usual by 2020 which decreased from the previous target of 29%, or a 41% reduction target contingent on sufficient international financial support by 2030. Indonesia also **submitted its first long-term strategy** to the UNFCCC, which indicates the country plans to peak GHG emissions in 2030 and

could reach net-zero GHG emissions by 2060 or sooner.⁶ Two primary sources of GHG emissions in the country are coal-fired power plants and land use changes usually linked massive deforestation of land that is cleared for palm oil production and mining.⁷ In Glasgow, Indonesian President Joko Widodo ("Jokowi") reiterated his commitment to reducing greenhouse gas emissions. However, in practice the coal sector is booming, making this commitment seem increasingly out of reach.

A few days after COP-26 took place, the Indonesian Minister of Forestry and Environment, the only minister with a specific mandate for climate change mitigation and adaptation in Indonesia, stressed that massive development under President Jokowi must not stop in the name of preventing carbon emissions or deforestation. Even more troubling: the government is proposing to increase coal and decrease renewable energy production. The government issued a regulation no longer classifying fly ash and bottom ash as hazardous and toxic waste.⁸ Whereas the 2016 climate policy, the government had set targets for coal to comprise just 25% of the country's energy mix by 2050, the revised March 2021 government plan increased coal's share to a

55% share in 2050. In 2021, renewables accounted for just 11% of Indonesia's energy mix, even as targets call for 25% renewable energy sources by 2025. This target looks increasingly unrealistic amid a halting post-pandemic recovery and the threat of a global recession in 2023.

Though Indonesia experienced a brief decline in emissions during the COVID-19 pandemic, the more general trend sees them continuing to rise. Though the government has allocated around \$48 billion in the National Economic Recovery (PEN) programme in the wake of the pandemic, none of that money has been earmarked for developing low carbon energy.

Climate reparations and the importance of a historical view

The Indonesian government argues that the low levels of renewable energy directed at electricity are a result of the comparatively high price for producing energy through renewable means. This makes it difficult to compete with fossil power generators, especially those fuelled by cheap, but dirty, coal. Furthermore, "Coal taxes are a vital source of revenue, helping plug a budget deficit running at about 3 percent of GDP."⁹ Meanwhile, domestic industry's inability to produce components necessary to generate renewable energy and the difficulty of obtaining low-interest financing have also hampered development in the sector. Here Indonesia joins the chorus of nations in the Global South calling for more effective mechanisms of climate finance.¹⁰ In order to slash emissions by the promised 41%, the government calculates that it will need \$323 billion. Between 2007 and 2019 they have only received \$6.4 million in international contributions, mostly in the form of loans.¹¹ According to the Jakarta-based Institute for Essential Services Reform (IESR), 'replacing all of Indonesia's coal capacity with renewables will cost around \$1.2 trillion by 2050'.¹² The JTEP promises \$20 billion coming from a mix of public and private sources, including, 'Seven global financial institutions — Bank of America, Citi, Deutsche Bank, HSBC, Macquarie, MUFG, and Standard Chartered, which are members of the Glasgow Financial Alliance for Net Zero (GFANZ) which have agreed to participate in a partnership.¹³ These funds will come in the form of grants, concessional loans, market-rate loans, guarantees and private investments. There are concerns that the deal with Indonesia will be heavy on loans, similar to the [ones the] JTEP struck last year between industrialized countries and

South Africa. Under that deal, valued at \$8.5 billion, **less than 4%** of the funds will be in the form of grants.¹⁴ While the exact details of the financing package in Indonesia remain to be seen, what is clear is that loans suggest more debt, which ultimately contributes to the continued flow of capital away from the Global South.¹⁵

For this reason, critics of mainstream climate finance mechanisms propose to simply cancel sovereign debt of countries in the Global South. '[I]nstead of sending resources away for debt service and accumulating pollution and social problems with extractive industries, they could use those same resources to build a regional economy of autonomous communities linked by solidarity. That would mean divesting from debt service and extraction and investing in national and local systems of care, a universal basic income, and food sovereignty for communities.¹⁶

These proposals are part of what scholars and activists call climate reparations, a term which highlights how the lack of economic resources to confront climate change comes in large part from a history of accumulated inequalities and injustices. Indonesia's empty climate promises and commitment to coal today are a reflection of short-sighted and pro-capital policymaking at a time when the planetary implications are catastrophic. The following sections unpack the details of how the production of such an ecologically dangerous substance is being ramped up rather than phased out, and the impacts of these decisions on the ground. However, we also emphasise the importance of a climate reparations frame to historicise this analysis. Indeed, a 'snapshot view of corruption neglects the role

of colonialism in explaining the strengths and weaknesses of the institutional structures that post-colonial societies have in place to manage corruption'.¹⁷ As Olúfhemi Táiwò suggests,

we should take a historical view of distributive justice. On a historical view of distributive justice, we are still concerned about the problems with current distributions of justice on purely consequential grounds, based on the differences they make in the lives of the people here and now. But we also understand the nature of the here and now. 'Here' is a place in a global system, and 'now' is a moment in an ongoing global transfer that does not pause just because we took a picture.¹⁸

This perspective reminds us that Indonesia's current coal production model, which extracts wealth at the social and ecological expense of the majority of the Indonesian population, is not a recent phenomenon. Though true that the large-scale production of coal is a relatively new phenomenon in the country — having really taken off in the 1980s — important elements of the institutional and extractive blueprint that keeps coal flowing out of Indonesia's mountains and across its waters were developed during Indonesia's colonial past. As one report put it:

The colonial development model

Dutch colonial rule in Indonesia lasted three and a half centuries. Over this period, the Dutch implemented an extractive and export-oriented plantation economy geared toward enriching foreign powers. The archipelago was prized for its rich forests as well as its profitable production of sugar and spices. The colonial model established control over land, resources and labour.²³ Indeed, 'The extensive extraction of natural resources is not a recent phenomenon in the Indonesian archipelago. Rather, exploitation activities have shifted between different resources due to technological developments and the changing demands of international markets.'²⁴ Large scale extraction of wealth by the Dutch East Indies Company (VOC, founded by Dutch colonial merchants in 1602) began on the island of Java, but subsequently expanded to islands like Borneo/Kalimantan. '[T]hese regions are perceived to contain large areas of sparsely populated land. Furthermore, the appropriation of land in these areas was facilitated by the absence of formally recognized land titles and weak state institutions.'²⁵ In order to gain access to these natural resources and a local labor

Coal is the latest in a series commodities used by the Indonesian government to boost macroeconomic growth. This is the development model pursued for thirty years under the regime of former president Suharto and is still continuing today. Timber, oil & gas, gold, and now oil palm, migrant workers and coal, are exported to generate foreign exchange, at the expense of local people who must suffer the impacts. This development path - a systematic, planned exploitation of Indonesia, island by island - is littered with corruption scandals, human rights abuses and environmental damage.¹⁹

Located on the island of Borneo, Kalimantan is ground zero for Indonesia's coal boom and provides perhaps the most illustrative example of the ways colonial development models laid the groundwork for the current coal production model. The large majority of Indonesia's coal production comes from East and South Kalimantan.²⁰ Despite the abundant natural resources in these regions, 'the local population does not benefit. The local power system is only able to supply 610 villages out of a total number of 1,410 villages (43.26%). Samarinda the provincial capital, with a population of just over half a million, suffers regular blackouts'.²¹

force, the Dutch pursued agreements with local rulers.²⁶ The Dutch colonial government (1799/1816 – 1941), which succeeded the VOC, built on these territorial acquisitions and initiated a further step in the appropriation of land by focusing on law-based control of access rights.²⁷

When the legal route faltered, ongoing extraction was ensured by the use of corruption and violence.²⁸

One of Indonesia's foremost writers, Pramoedya, writes vividly about the historical roots of this problem in Indonesia's colonial past; its powerful and corrupt bureaucracies and shameful inequalities tied Indonesia with Europe. Similar powerful and unequal connections exist today between Europe and Indonesia in the form of multinational business interests. These include the giant UK and Australian registered multinational mining company Rio Tinto [who's role in coal exploration is discussed further below], which has large mining interests in Indonesia.²⁹



An historical Dutch map of Batavia, the previous name for today's Indonesian capital Jakarta. (Supplied: Dutch National Archive)²²

In sum, the colonial model of development in Indonesia focused on extraction of natural resources for export, rather than the benefit of local communities. This model was implemented through a combination of decentralised agreements with local leaders and the centralisation of

state power through the creation of new legal structures and policies to facilitate ongoing access to land, resources and labour. At every stage, corruption and repression bolstered the process to ensure it kept running smoothly.

The coal development model

After independence (1945) and the cessation of hostilities with the Dutch (1949), 'basic patterns of colonial forest management were retained as Dutch laws were often literally translated and the execution of pre-independence law continued'.³⁰ Coming to power on the momentum of the anti-imperialist independence movement, Indonesia's first president, Sukarno, faced massive challenges uniting the many political factions within the country that had previously shared a common colonial enemy. Against the backdrop of the Cold War, Sukarno was ultimately overthrown in a military coup led by General Suharto, who radically shifted the course of Indonesian politics back into line with Western powers.

It wasn't until the Suharto New Order era (1966-1998), that the Indonesian government showed an interest in coal.

This interest was shaped by the same colonial pattern of resource extraction that Suharto kept alive during his rule.³¹ Though not central to the colonial development model, coal was produced during the Dutch colonial period and came from mines in Kalimantan and Sumatra to be sold to the shipping industry.³² However, after petroleum was introduced as a ship propulsion fuel in 1940, Indonesia's coal industry entered a three decade period of decline. By 1972, coal production had dipped to 200,000 tonnes per year, just one-tenth of peak production in 1941.³³

Suharto nonetheless saw an opportunity for profit in coal and drew on the well-worn extractive colonial export model to guide its development. A year after he wrested political control and power from Sukarno in 1966,

he introduced the new 1967 Mining Law. This was the beginning of a formative period for the coal industry. With encouragement from the government, Shell Mijnbouw, affiliated with the Dutch Shell Oil Company, and Rio Tinto Zinc (RTZ), now known as Rio Tinto, invested in exploring, extracting, and marketing coal from Sumatra island. Though these efforts did not find high quality coal deposits, it did lay the groundwork for what would become the mode of operation between coal companies and the government.

A 1969 law further developing the Mining Law, established the framework for the 'contract of work' concept that was successfully used for Freeport Indonesia's copper and gold mining project in Papua. This saw foreign companies receive direct contracts from the government of Indonesia to grow and export their coal businesses. In addition, the government issued the Foreign Capital Law of 1967, that allowed foreign investors to repatriate their earnings while protecting them from expropriation without compensation.³⁴

Like the Dutch, Suharto built the foundations of a legal framework to ensure access to land and coal resources. The refining of this legal framework is an ongoing project, and is discussed further below. However, the dependence on local labour that was common during the colonial period to cultivate cash crops and manage forest plantations, was not reproduced in the coal development model. "[C]oal mining governance in Indonesia today is less oriented towards controlling labor by means of directly employing the people living in the respective areas for resource extraction. Rather, control over labor is established through hiring workers from other parts of the archipelago who often move between different mining sites. This makes them less likely to participate in protests held by the local population."³⁵ Further control over labour and local populations is ensured via intimidation and criminalisation, an issue also discussed below.

With access to land, resources and labour assured, foreign coal companies focused on Kalimantan as the main coal investment frontier. With its abundant coal reserves and

close proximity to direct shipping routes to the rest of Asia, it became ground zero for the coal boom that began in 1989.³⁶ Before management of mining licenses was centralised in 2014, either district heads or city mayors were responsible for issuing concessions. As Indonesia put itself on the map as a global coal producer, concessions for mining in Kalimantan proliferated at a rapid rate. These arrangements left space for various practices of self-enrichment amongst local authorities. For example, many government officials, parliamentarians, and administrative workers are directly involved in the coal mining business in one way or another, taking advantage of their political positions. Furthermore, widespread practices of bribery over mining concessions had been established on various political and administrative levels.³⁷ As an example of the dramatic impact this combination of ensuring legal access to land and resources for coal extraction, and related the corruption used to greasing the wheels, by 2011 mining concessions had usurped some three-quarters of the total municipal area of East Kalimantan's capital Samarinda.³⁸

Another consequence of coal development has been the growing involvement of the Indonesian elite in the actual business of coal production. In other words, the business interests extracting and exporting coal are no longer only Western merchants. Foreign ownership is now more commonly present as partial equity stakeholders on a minority basis, with new foreign interests coming from regional actors like Tata Power of India or Huadian of China, or from international investment banks and funds such as Goldman Sachs, Merrill Lynch, Saratoga Investments, and Farallon Capital Management.³⁹ Some analysts see this trajectory as a model of success, where Indonesia has unexpectedly become a global coal champion, taking back control over its reserves and using the resulting tax revenues to keep the country afloat. But who are the winners and losers in this scenario? A government enabled elite in Indonesia may have captured a greater share of the profits from coal production, but is this benefitting local populations?

Deepening dependence

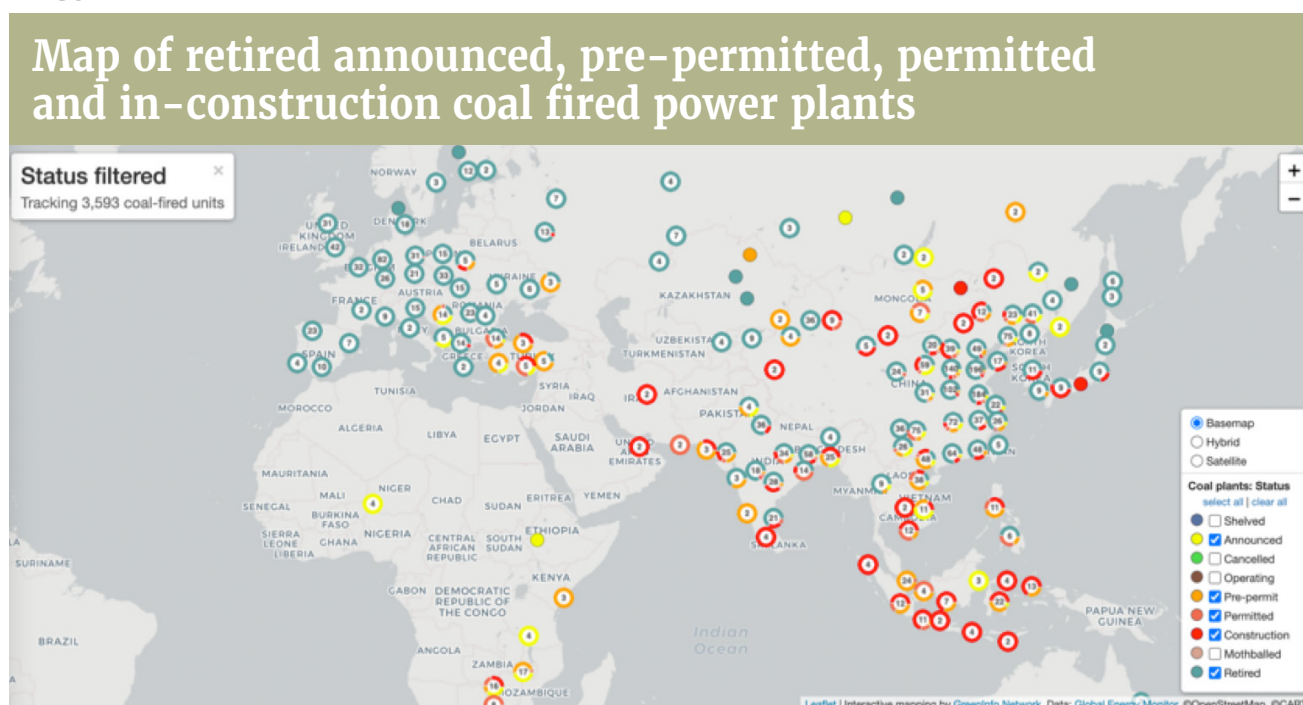
Indeed, another feature of the current energy landscape in Indonesia is the high price of transitioning away from coal and towards renewable fuel sources. Here, as Táiwò suggests, this predicament is best understood as a snapshot of one moment in a long history of debt payments

steadily carving a channel of funds flowing from South to North. International financial institutions like the World Bank have a long history of financing development projects in the name of climate action in Indonesia. However, the content and vision of such programmes — like funding

for palm oil plantations, REDD+ or marine protected areas (COREMAP) — have been roundly criticised for ultimately favouring investors interests over communities in the areas where these projects are being implemented,⁴⁰ not to mention their tendency to rack up more debt. Some of these international programmes have even contributed to the expansion of the coal sector, like financing the construction of the 9 & 10 coal power plant in Banten, where the credit is granted until 2035, which goes against the target of the '30 by 30 Zero Program'.⁴¹ Even though the JETP proposes to help wean the country off of coal, it still only covers a fraction of the total cost while requiring

Indonesians to add even more weight to the country's debt burden. Critics question if the overall impact of climate finance is actually as good as it sounds. As Risma Umar of Solidaritas Perempuan explains, 'Large amounts of dollars in the name of climate finance pour into a county that has not changed in terms of militarisation. Can we ensure that this will not affect human rights and people's ability to live their lives? For those who live in resource rich areas, we are struggling to guarantee that the climate finance processes include a full consultation process, including women in these areas.'⁴²

FIGURE 1



Source: <https://globalenergymonitor.org/projects/global-coal-plant-tracker/tracker/>

Finally, a historical perspective also helps reveal a critical difference between Europe and South and Southeast Asia in terms of coal fired power plant infrastructure. The declining use of coal in the Global North is driven by the fact that many coal-fired power plants are reaching the end of their useful lives.⁴³ In contrast, in Indonesia, the average coal power plant is only a dozen years old. Seen in this light, the cost of abandoning fully functional energy infrastructure in the peak of its productive life is far higher than transitioning away from an already aging infrastructure.

All that said, the model of coal development, the availability of funds for an energy transition and the incentives embedded in the built infrastructure do not make the need for a cleaner energy model any less urgent. Nor do they absolve current political and business elites in Indonesia from the responsibility to contribute to change. However, seeing these features in the light of Indonesia's colonial history helps expand our understanding of the here and now (to which we now turn) and helps better assess the nature of the barriers that must be overcome.

Energy transition or expansion?

Indonesia has been the target of colonial aspirations for centuries, largely because of its abundant natural resources. 'In 2019, the country produced 616 million tons of coal, 2.8 million standard cubic feet of natural gas and 272 million barrels of oil.⁴⁴ Because of this, the country is a net exporter of energy, with coal being the country's primary export (11.2% of total energy export value), followed by palm oil (8.76%).⁴⁵ Proven untapped coal reserves are calculated to be around 149 billion tonnes, with another 37.6 billion tonnes of potential reserves.⁴⁶ At the same time, new energy sources also show potential. The government estimates that Indonesia could become the world's largest geothermal energy source, and there is additional potential for hydropower, biomass and biogas development. 'Projections for renewable energies are estimated at 60.6 GW for wind energy, 208 GW for solar energy, and 17.9 GW for ocean and tidal energy.⁴⁷

With all of these diverse energy sources, coal has remained the focus of energy development. In part, the rapid development of coal mining and coal-fired power plants appears to be a hurried attempt to improve energy security. 'About 60 million Indonesians are not connected to the grid and the government is pushing rapid investment in coal-fired power stations to fix power shortages and to drive strong economic growth.⁴⁸ In addition, the population is now 270 million people and still growing, making the pressure to meet energy needs even greater. Another factor driving the expansion of coal fired power, critics suggest, is Indonesia's aim of developing Special Economic Zones (SEZs).⁴⁹

At the start of the G20 summit in November 2022, that resulted in the JETP, the Indonesian government was carrying out plans for the construction of 18 SEZs spread

across Sumatra, Java, Kalimantan, Sulawesi, Maluku and Papua islands. Eight of them are intended for the development of the mining, palm oil, automotive and electronics industries. Two SEZs are intended for the fisheries processing industry, and eight SEZs are planned for the tourism industry.⁵⁰ In 2011, the government of Indonesia changed the nature of tax incentives for coal fired power plants, offering a reduced tax rate for coal power plants operating in SEZs.⁵¹ It is in this context, despite promises of a transition to renewable energy, the Indonesian government is facilitating a rapid expansion of coal-based energy. It is too early to tell how much the JETP will reshape these plans. However, seen in this light, coal-fired power is used as means of building out the infrastructure for the country's SEZs as a strategy to attract investment and strengthen export markets. This familiar model, though updated and refined to fit current global market patterns, reflects the colonial prioritisation of extractive exports over local needs.

Around half of the coal mined in Indonesia is dug out of the ground in East Kalimantan. Given the archipelagic nature of the country, and increasing dependence on that coal for electricity, Indonesia's waterways have become coal highways. One description of the Mahakam River flowing through Samarinda (East Kalimantan's capital) captures it well: 'Barges the size of an Olympic swimming pool flow past every few minutes, pulled by tugboats to bulk carriers waiting along the coast nearby. Each barge carries about 8,000 metric tons of coal, most loaded up river from myriad coal terminals that jut out into the river. Samarinda is ringed by coal mines and vast coal stockpiles that constantly feed the barges via conveyer belts.⁵²



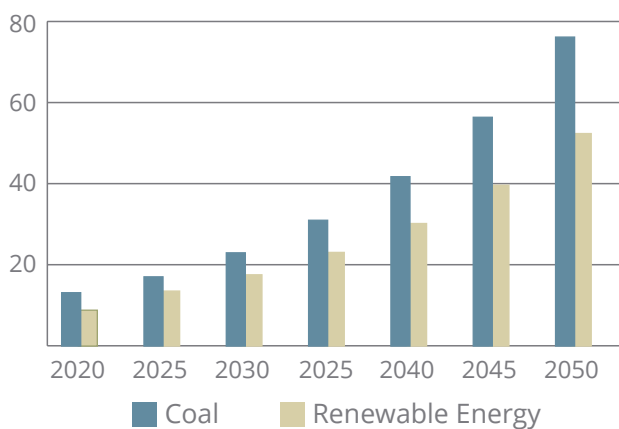
Barges with large tonnage loaded with coal and other goods pass by on the Mahakam river, Samarinda City, Indonesia.
 Photo – Herusutimbul⁵³

Through the National Energy Council, the government has prepared three scenarios for the use of coal and renewable energy: Business as Usual (BaU), sustainable development and a low carbon scenario. In the business-as-usual

scenario, the demand and supply of coal will reach 75 Mtoe and 300 Mtoe respectively in 2050. Coal use will continue to be dominant compared to the demand and supply of renewable energy, as shown in Charts 1 and 2.

CHART 1

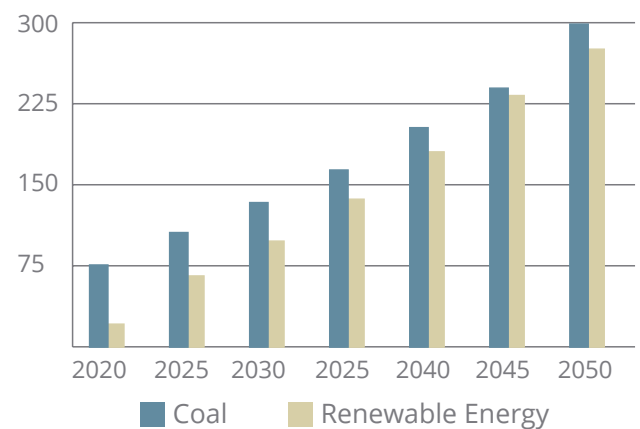
Business As Usual Scenario Coal and Renewable Energy Demand (MTOE)



Source: Collected from Outlook Energi Indonesia 2019

CHART 2

Business As Usual Scenario Coal and Renewable Energy Supply (MTOE)

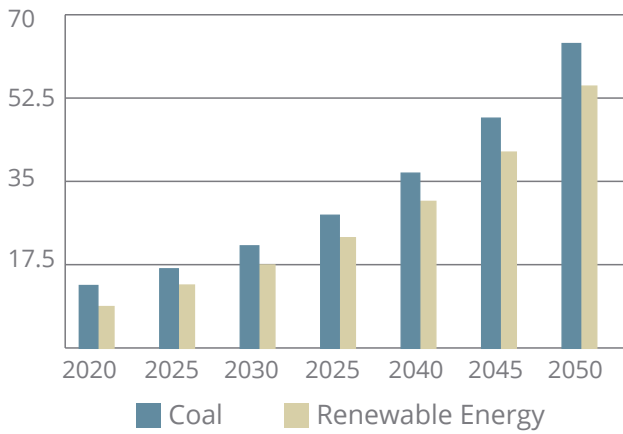


The government predicts that coal energy demand will still be dominant in the sustainable development scheme, which will reach more than 60 Mtoe. However, if using the

sustainable development scheme, the supply of renewable energy exceeds coal in 2045 and 2050, which will reach 300 Mtoe, as can be seen in charts 3 and 4.

CHART 3

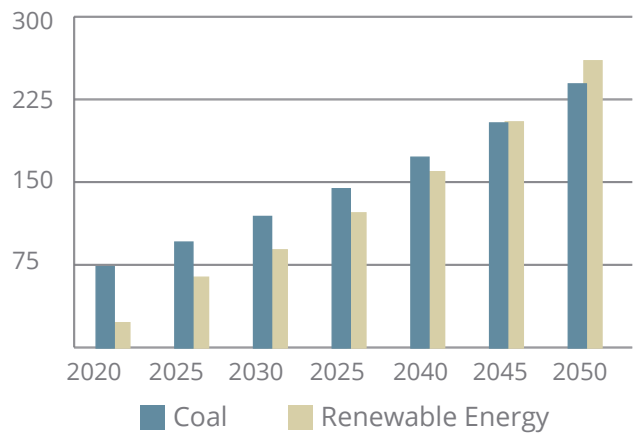
Sustainable Development Scenario Coal and Renewable Energy Demand (MTOE)



Source: Collected from Outlook Energi Indonesia 2019

CHART 4

Sustainable Development Scenario Coal and Renewable Energy Supply (MTOE)

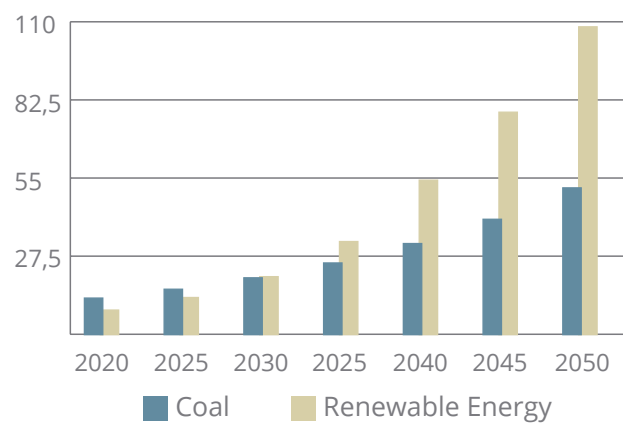


Meanwhile, in the low carbon scenario, the demand for coal energy still consistently increases, but there is also a significant increase in the demand for renewable energy,

which reaches 110 Mtoe in 2050—double the demand for coal in the same year (Chart 5). The supply of coal energy will decrease after 2045 (Chart 6).

CHART 5

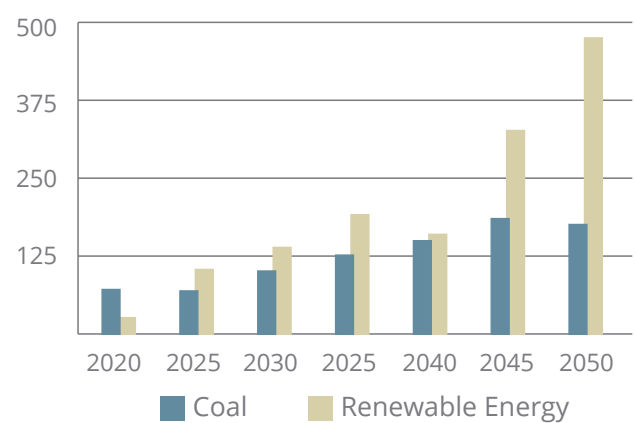
Low Carbon Scenario Coal and Renewable Energy Demand (MTOE)



Source: Collected from Outlook Energi Indonesia 2019

CHART 6

Low Carbon Scenario Coal and Renewable Energy Supply (MTOE)



In all three of the scenarios above, demand for coal will continue to increase for the next 30 years. Although the government predicts the supply of coal energy will decrease in the sustainable development and the low carbon scenario in 2050, the supply of coal energy in 2050

will still reach around 200 Mtoe or only be reduced by 90 Mtoe if using the business-as-usual scenario. Barring a dramatic shift, according to all predictions, coal remains the primary energy source for Indonesia until the middle of the 21st century.

Impacts on the ground

The coal development strategy pursued by the government of Indonesia has serious consequences for coastal communities. 'PT Adaro is one of South Kalimantan's three prominent coal companies. While the company promotes its low sulphur coal as "Envirocoal" the impacts on the ground tell a different story.'⁵⁴ Coal mining sites are hubs of coal dust and pollution, plus other social and health impacts. For example, sex work and high rates of sexually transmitted diseases are common near mining sites.⁵⁵ People living near coal mining sites suffer from coughing, shortness of breath and respiratory problems. 'In 2007, West Kutai Public Health Service recorded 19,375 people with ISPA [Acute Respiratory Tract Infections]. This was an increase from 17,373 in the previous year. Records in 2008 showed that 2,233 of those with ISPA were babies and 5,701 were children.'⁵⁶ After decades of coal barges transporting the black material, rivers are turning black, killing fish and damaging mangroves.⁵⁷

It's not just the mines that are causing sickness and pollution. In Banten, the province with the most coal-fired power plants in Indonesia, (21 units), located on the coast and around residential areas, dust also pollutes homes and threatens people's health. Fishers have to go farther out to sea and often return with insufficient catches as a

result of the coastal pollution and obstruction from coal loading and unloading activities. Coal pollution has had severe impacts on the growth of cultivated seaweed as well, thus threatening the fisher livelihoods in this predominantly feminised part of the fisheries sector.

Land acquisition for new mines in Kalimantan has displaced communities and caused conflict. Two villages, Lamida Atas Village and Juai Village, were displaced by the expansion of the mine in 2003. The incidence of violence against residents and environmental activists has increased as the company pushes ahead with operations. Meanwhile it seems the security forces don't want to take any responsibility for this.⁵⁸ The range of negative impacts of coal are not lost on activists and communities. At the inauguration of the most significant projected coal power plant in Southeast Asia, in Batang Regency of Central Java Province, residents held demonstrations at sea in opposition to land acquisition.⁵⁹ And there are many more examples of disputes over PLTU development projects with residents, such as those in PLTU Batang, Central Java,⁶⁰ PLTU Celukan Bawang, Bali,⁶¹ PLTU Tomilito, Gorontalo,⁶² PLTU Indramayu, West Java⁶³ PLTU Nagan Raya, Aceh⁶⁴ and PLTU Panau, Central Sulawesi.⁶⁵

Policy and financial mechanisms to enable coal expansion

In the face of these ecological, social and economic impacts, the government has remained committed to coal, making policy decisions to enable its continued expansion secretly and hastily. In 2015, President Jokowi proposed to build a series of coal power plants (referred to as PLTU for the acronym in Indonesian) with a total capacity of 35,000MW by 2019. In 2017, President Jokowi inaugurated three coal power station projects worth \$5.87 billion and reviewed the progress of the construction of a coal terminal with a capacity of 20 million tonnes worth \$145 million. The government also inaugurated PLTU Jawa 4, with a capacity of 2000 megawatts (MW) located in Tubanan Village, Jepara Regency, Central Java.

Despite these significant projects, by 2020 Jokowi's planned development had only reached 24% of the projected 35,000MW capacity, or 8,400MW.⁶⁶ Several projects

experienced obstacles related to land acquisition, relocation, regional spatial planning (RTRW), and contractors' ability. To enable access to the land required for these developments (20 hectares in the case of the coal terminal, and 77.4 hectares for PLTU Jawa 4 in Central Java, for example), the government issued Presidential Regulation Number 14 in 2017, guaranteeing businesses government support for the development of electricity infrastructure by accelerating licensing and access to information about investments and fiscal issues, natural resource supply, spatial planning, land provision, and solving obstacles and other problems.⁶⁷

Further enabling coal expansion, the Mineral and Coal Mining Law passed secretly in May 2020 cleared the way for additional benefits including making it easier for coal mining companies to extend the length of mine operating

permits. In November 2020, the government passed the so-called Omnibus Law via an opaque political process, essentially forcing into law a package of 79 laws consisting of 1244 articles containing investment simplification, land

management, and an exclusive economic zone infiltrated by mining interests and dirty energy. Political leaders in the legislature and executive stand to be among the biggest financial beneficiaries.⁶⁸

The Omnibus Law

Amid pressure from civil society that prompted a judicial review, a year after the 2020 Omnibus Law passed, the Constitutional Court ordered the government to suspend all strategic and broad-impact policy actions and the issuance of new implementing regulations related to the law. Nonetheless, the government has continued implementing the existing regulations.⁶⁹ Some of the troubling elements of this law are as follows:

In Article 17A points 1, 2, and 3, the law stipulates a new provision that business permits can be granted by the central government for the use of the sea related to strategic national policies such as infrastructure development, regional development, and economic development, even when spatial planning or zoning plans have not been established.⁷⁰ Meanwhile, Article 26A states the use of small islands and the surrounding waters must get a business permit from the central government for foreign investment. This essentially bypasses the role of local and provincial governments in determining their own zoning priorities, giving power to the central government to grant permits for mineral and coal businesses regardless of whether local authorities agree.

In Law Number 27 of 2007 concerning the management of coastal areas and small islands, the zoning plan regulates how many permits can be granted to a particular water area by taking into account the carrying capacity and environment issued by the regional government. The Omnibus Law transfers that authority to the central government. In fact, local governments generally better understand the actual conditions in their area. Thus, the elimination of the role of the Regional Government has the potential to harm the community and what safeguards exist to protect marine ecosystems that are the foundation of life for coastal communities (IOJI, 2020).

Finally, the aim of weakening civil society organisations working on environmental issues is clearly stated in the law. Citizen participation in the Environmental Impact Analysis (AMDAL) preparation can only be carried out by the affected community. This limits participation to only those people affected by development on the coast, in the case of many of the Coal Power Stations (PLTU), where construction has resulted in land grabbing and pollution. Solidarity from outside groups has historically been an important part of resistance efforts to such developments, which the Omnibus Law effectively undermines.

The Mineral and Coal Law

Law Number 3 of 2020 concerning minerals and coal, passed in the height of the COVID-19 crisis, also undermines resistance efforts and further damages the environment. Article 162 is the central tool contained in this law which helps mining corporations silence the voices of the affected communities. It states that anyone hindering or interfering with the mining business activities of the mining permit holder can be punished with a maximum imprisonment of one year or a maximum fine IDR100 million (\$6,372 in 2022). Through Article 169A, the government provides unlimited opportunities for mining companies to be granted license extensions twice every 10 years without going through an auction and evaluation process. It can perpetuate mining companies' activities proven to have polluted the environment and harm residents

around the mine area. In February 2021, for instance, a coal embankment owned by PT Kayan Putra Utama Coal (KPUC) collapsed and polluted the Malinau River in North Kalimantan. The river water turned brown and dead fish appeared floating on the surface of the water. The contamination of the watershed impacted up to 14 villages. Even drinking water companies taking water from the Malinau River as the primary raw material stopped the production process for two days.⁷¹

Even though it polluted the environment and harmed residents, the Malinau Regency Government only issued sanctions in the form of a company request to repair the embankment, stockpile soil, replace dead fish, and establish an early management system handling broken embankments, and periodically inspect levees. These

sanctions reveal the government's inability to punish or stop mining companies that have polluted the environment and harmed residents.⁷²

Article 47, point 'G' states if coal mining is integrated with development and utilisation activities, it will obtain a permit for 30 years and is guaranteed an extension for 10 years each time it is requested. This last provision provides an extraordinary opportunity for companies if they operate mining activities and manage post-production processes in which, in return, they are able to continuously apply for an extension of 10 years at any time. As explained above, coal mining not only causes severe impacts around mining pits, but loading activities also carried out both on the coast and in the middle of the sea leaves polluted waters leading to unavoidable impacts on fishers, such as damage to fishing gear due to waste occurring in Balikpapan Bay, East Kalimantan,⁷³ in Tarakan, North Kalimantan,⁷⁴ and around the waters where the Batang PLTU was built.⁷⁵

In sum, the spirit of the Mineral and Coal Law is well aligned with the Omnibus Law and vice versa. Both damage the environment and marginalise vulnerable communities. The Omnibus Law offers regulatory support

Funding

Recently, the Clean Indonesia Coalition of 42 civil society organisations found PT Adaro Energy, run by Garibaldi Thohir, secured a loan of \$400 million from state-owned banks. PT. Adaro Energy Tbk. is the second-largest coal company in Indonesia and the largest coal company by market capitalisation. The company started its commercial operations in Indonesia in 1992. It controls (or has options on) coal resources of approximately 12.8 billion tonnes, including coal reserves of 1.1 billion tonnes where it operates mines in South Sumatra, South Kalimantan (the main mine site), East Kalimantan and Central Kalimantan. Adaro's largest export destinations in Asia include Japan, Korea, China, India, Hong Kong and Malaysia. Since the disruption of energy supply in Europe from the Russia-Ukraine war, Adaro has received requests and shipped 300,000 tonnes of coal to the Netherlands and Spain. Burning all those coal reserves would produce emissions of 2.2 GtCO₂-e or nearly 1.5 times the total emissions produced by Indonesia in 2018. The Minister of State Owned Enterprises (BUMN), Erick Thohir, is the younger brother of the company's CEO. There are indications of an intense conflict of interest behind several BUMN ministry decisions related to banks operating in the coal industry.⁷⁶

for the exploitation of coal, dirty energy, as the primary source of electricity generation in Indonesia. This law slows development of renewable energy, despite global commitments. It opens the door again to more foreign investment in the mineral and coal mining sector and reduces the authority of local governments in the permitting process. The Omnibus Law also excludes everyone except the communities directly impacted by coal production from participating in the environmental impact assessment process, thus weakening potential resistance efforts. Meanwhile, the Mineral and Coal Law ensures a steady stream of permits for coal companies, regardless of the social or ecological destruction that they cause. In addition, the government issued a Presidential Regulation on National Strategic Projects in 2020 to encourage coal gasification as a strategic project. The prospect of coal gasification essentially expands the potential uses for coal in the country. Denominating this process 'strategic' means this project will get strong policy support and facilitation from the state, further deepening the country's dependence on coal.

Adaro's CEO, Boy Thohir, also has a business relationship with President Jokowi regarding the progress of the coal power plant construction in the SEZ, Batang, in Central Java. A few months after President Jokowi was sworn in in 2014, Thohir was invited to the Presidential Palace, where he voiced his concerns about the issue of land acquisition for the power plant project. After the meeting, he became a regular guest at the palace, either alone or accompanied by officials from his Japanese partners, the Electric Power Development Co. and Itochu Corporation. The land acquisition was completed in 2015.⁷⁷ The Indonesian government allocated funding from 2011 to 2013 to the State Electricity Company to build 166 electrical power plants (mostly coal-fired). Meanwhile, from 2013 to 2015, further financing was allocated for another 13 electricity projects. However, the government currently finds itself unable to finance the 35,000MW project that Jokowi envisioned. Through the State Electricity Company, the government financed its investment with a debt that had reached RP500 trillion (\$32 million) in 2019, for which the company owes RP100 trillion (\$6.4 million) annually.⁷⁸ Amid increasing debt and increasing poverty rates, the Minister of State-Owned Enterprises Erick Thohir, insists

that the 35,000MW project will continue.⁷⁹ Some of this is achieved with financing from foreign banks. The construction of PLTU Jawa 4, for example, costs \$4.2 billion and is funded through a loan from the Japan Bank for International Cooperation (JBIC) and a syndicate of seven commercial banks (Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Tokyo-Mitsubishi UFJ Ltd., Sumitomo Trust Bank Limited, Mitsubishi UFJ Trust and Banking Corporation, The Norichukin Bank, and Singapore's Overseas-Chinese Banking Corporation Limited guaranteed by NEXI Overseas Investment Insurance).⁸⁰ Nonetheless, in June 2021, the COVID-19 pandemic forced the government to renegotiate the 35,000MW project, discontinuing 54 of the planned coal power plants.⁸¹

Meanwhile, Indonesia possesses a significant potential for renewable energy sources. However, very little has been realised.⁸² Approximately 2GW of renewable (non-hydro) capacity was added from 2005 to 2019. In 2018, the Indonesian government built two onshore wind power plants in Tolo and Sidrap, South Sulawesi, with 72MW and 75MW of production capacity, respectively. Likewise,

Conclusion

Indonesia remains dependent on coal-fired power plants, for about half of its energy production capacity (36,976MW of 73,736MW). Despite being a coal producing country, Indonesia actually experienced a domestic coal energy crisis in early 2021. Instead of committing to stop coal exports as a global commitment to climate change, the government suspended coal exports for just one month, in January 2022, to fulfill its domestic needs. That did not last long, however. Strong pressure from coal mining companies led the government to gradually open coal exports in the second week of the coal export ban. The situation illustrates that even ignoring the ecological consequences, coal cannot guarantee the country's energy needs.

It is clear that a certain degree of political will to phase out coal is essential. We have tried to provide a critical assessment of how the government of Indonesia has enabled the expansion of coal production. We see a continued commitment to an extractive, export-oriented model of development that shows little concern for much of the

solar power plants with a capacity of 7MW in Lombok and Sulawesi started operating in 2018.⁸³ The IEA noted that the level of investment in renewable energy achieved over the past few years was far below the investment required to achieve the Paris Agreement targets, thus the JETP may signify an important step in the right direction. Indeed, Indonesia has calculated that external climate finance will be needed to effectively meet climate commitments. But the regulatory framework for renewable energy investment is not facilitating the process.⁸⁴ As this short article has illustrated, the country's commitments to coal run deep. Indonesia limits the employment of expatriates to key management positions and a minimum capital requirement of \$700,000 or 200 times higher than that required by domestic capital. Here the limits on foreign capital suggest an effort to maintain domestic control over renewable energy developments. While seen with historical perspective, one can understand why limiting foreign investment would resonate with an interest in breaking colonial patterns of development. In practice, though, this has also meant that fewer projects are taking place.⁸⁵

population or the environment. However, we also illustrate how the model of colonial development has deeply shaped patterns of resource extraction as well as current policymaking tendencies. Whatever the natural resource, a legal framework for ensuring access to land, resources and labour, bolstered by corruption and violence or intimidation has continued to permeate and enable the development of coal in Indonesia up until today.

Indonesia faces very real material costs and limitations in transitioning away from fossil fuels. Jokowi's comments demanding funding from Northern countries for this transition might be interpreted by some as deflection, but he also raises important questions about how a transition is going to be financed, whether it will be a just transition and who is responsible for footing the bill? Are loans an appropriate solution? Given the depth of colonial conditioning that has shaped natural resource extraction in Indonesia, other kinds of reparations may be necessary to remedy historic injustices.

Endnotes

- 1 Hans Nicholas, 'Indonesia Seals \$20 Billion Deal with G7 to Speed up Clean Energy Transition', *Mongabay Environmental News*, November 2022, sec. Environmental news, <https://news.mongabay.com/2022/11/indonesia-seals-20-billion-deal-with-g7-to-speed-up-clean-energy-transition/>.
- 2 BP Statistical Review of World Energy – 2021
- 3 See: <https://www.iea.org/reports/coal-2020/trade> and Indonesia Energy Outlook 2019 report compiled by the National Energy Council
- 4 IEA (2022), *Southeast Asia Energy Outlook 2022*, IEA, Paris <https://www.iea.org/reports/southeast-asia-energy-outlook-2022>
- 5 Hans Nicholas Jong, 'Banks Bet Big on Coal in Indonesia, Bucking Global Shift Away from Fossil Fuel', *Mongabay Environmental News*, May 2022, sec. Environmental news, <https://news.mongabay.com/2022/05/banks-bet-big-on-coal-in-indonesia-bucking-global-shift-away-from-fossil-fuel/>.
- 6 World Resources Institute, 'STATEMENT: Indonesia Submits New 2030 Climate Targets and First Long-Term Climate Strategy' (Jakarta: WRI, July 2021), <https://www.wri.org/news/statement-indonesia-submits-new-2030-climate-targets-and-first-long-term-climate-strategy>.
- 7 Jan Sievernich, Stefan Giljum, & Sebastian Luckeneder, 'Mining-induced deforestation in Indonesia; Identifying spatial patterns and synergies with other economic activities', FINEPRINT Brief No. 13, Institute for Ecological Economics, 2021.
- 8 See: Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management (CNN, 2021)
- 9 David Fogarty, 'Indonesia Tries to Clamp down on Coal Sector's Worst Excesses', *Mongabay Environmental News*, October 2014, sec. Environmental news, <https://news.mongabay.com/2014/10/indonesia-tries-to-clamp-down-on-coal-sectors-worst-excesses/>.
- 10 Lauren Sommer, 'Developing Nations Say They're Owed for Climate Damage. Richer Nations Aren't Budging', *NPR*, November 2021, sec. The COP26 Summit, <https://www.npr.org/2021/11/11/1054809644/climate-change-cop26-loss-and-damage>.
- 11 Basten Gokken, 'International Funding Nowhere near Enough for Indonesia to Cut Emissions: Study', *Mongabay Environmental News*, April 2022, sec. Environmental news, <https://news.mongabay.com/2022/04/international-funding-nowhere-near-enough-for-indonesia-to-cut-emissions-study/>.
- 12 Joe Lo, 'As Cop27 Kicks off, Where Are the Coal to Clean Deals At?', *Climate Home News*, November 2022, sec. Finance, <https://www.climatechangenews.com/?p=47454>.
- 13 Nicholas, 'Indonesia Seals \$20 Billion Deal with G7 to Speed up Clean Energy Transition'.
- 14 Nicholas, 'Indonesia Seals \$20 Billion Deal with G7 to Speed up Clean Energy Transition'.
- 15 Olúfẹ̀mi O. Táíwò and Patrick Bigger, 'The Global South Is Calling for Climate Reparations', *The Nation*, April 2022, <https://www.thenation.com/article/environment/climate-reparations/>.
- 16 Olúfẹ̀mi O. Táíwò, *Reconsidering Reparations*, Philosophy of Race (Oxford, New York: Oxford University Press, 2022), 182.
- 17 Táíwò, 59.
- 18 Táíwò, 186.
- 19 JATAM, 'Deadly Coal - Coal Exploitation and Kalimantan's Blighted Generation', *Down to Earth Newsletter*, August 2010, No. 85-86 edition, sec. Indonesia's Coal, 1-2, <https://www.downtoearth-indonesia.org/sites/downtoearth-indonesia.org/files/85-86.pdf>.
- 20 See for example: <https://www.statista.com/statistics/1092798/indonesia-coal-production-by-province/>
- 21 JATAM, 'Deadly Coal - Coal Exploitation and Kalimantan's Blighted Generation', 2.
- 22 Max Walden, 'The Netherlands Will Pay Reparations to Indonesian Victims of Colonial Atrocities. Could the UK Do the Same?', *ABC News*, April 2020, <https://www.abc.net.au/news/2020-04-26/netherlands-pay-reparations-indonesia-colonial-violence-1940s/12114892>.
- 23 Anna Fünfgeld, 'Governing Resources, Governing People: From Timber to Coal in Indonesia', Occasional Paper, Occasional Paper Series (Germany: University of Freiburg, July 2017), <https://www.southeastasian-studies.uni-freiburg.de/documents/occasional-paper/op37.pdf>; Nancy Lee Peluso, *Rich Forests, Poor People: Resource Control and Resistance in Java* (Berkeley: University of California Press, 1994).
- 24 Fünfgeld, 'Governing Resources, Governing People: From Timber to Coal in Indonesia', 2.
- 25 Fünfgeld, 2.
- 26 Fünfgeld, 5.
- 27 Fünfgeld, 5.
- 28 See for example: <https://www.justiceinfo.net/en/88511-dutch-colonial-violence-missing-voices-indonesians.html>
- 29 JATAM, 'Deadly Coal - Coal Exploitation and Kalimantan's Blighted Generation', 19.
- 30 This included low taxes, long-term concessions, and good trade opportunities. Fünfgeld, 'Governing Resources, Governing People: From Timber to Coal in Indonesia', 6-7.
- 31 Fünfgeld, 6-7.
- 32 Bart Lucarelli, 'The History and Future of Indonesia's Coal Industry: Impact of Politics and Regulatory Framework on Industry Structure and Performance', *Program on Energy and Sustainable Development*, no. July (2010): 14.
- 33 Lucarelli, 15.
- 34 Lucarelli, 16.
- 35 Fünfgeld, 'Governing Resources, Governing People: From Timber to Coal in Indonesia', 10.
- 36 Lucarelli, 'The History and Future of Indonesia's Coal Industry: Impact of Politics and Regulatory Framework on Industry Structure and Performance', 25.
- 37 Fünfgeld, 'Governing Resources, Governing People: From Timber to Coal in Indonesia', 8.
- 38 Fünfgeld, 8.
- 39 Lucarelli, 'The History and Future of Indonesia's Coal Industry: Impact of Politics and Regulatory Framework on Industry Structure and Performance', 32.
- 40 See: <https://www.rainforest-rescue.org/petitions/587/no-world-bank-money-for-palm-oil>, <https://www.downtoearth-indonesia.org/story/solidaritas-perempuan-save-earth-stop-commodification-nature>, or <https://www.tni.org/en/publication/marine-spatial-planning>
- 41 The Big Shift Global, 'Investing in Climate Disaster: World Bank Finance for Fossil Fuels', October 2022, https://bigshiftglobal.org/Investing_In_Climate_Disaster.
- 42 Risma Umar, 'Safeguards and Climate Finance in Indonesia in the Context of REDD+' (September 2011), <https://www.brettonwoodsproject.org/2011/09/art-569041/>.
- 43 Sean Sweeney et al., 'Energy Transition or Energy Expansion?', 2021.
- 44 Asian Development Bank, 'Indonesia Energy Sector Assessment, Strategy and Road Map Update', 0 ed. (Manila, Philippines: Asian Development Bank, January 2021), 2, doi:10.22617/TCS200429.
- 45 Asian Development Bank, 2.

- 46 Asian Development Bank, 3.
- 47 Asian Development Bank, 3.
- 48 Fogarty, 'Indonesia Tries to Clamp down on Coal Sector's Worst Excesses'.
- 49 Hertanti, R. personal communication, 2022.
- 50 See Special Economic Zones (SEZs) distribution map on <https://kek.go.id/peta-sebaran-kek>.
- 51 Clem Attwood et al., 'Financial Supports for Coal and Renewables in Indonesia', GSI report (International Institute for Sustainable Development, 2014), 19.
- 52 Fogarty, 'Indonesia Tries to Clamp down on Coal Sector's Worst Excesses'.
- 53 Accessed Oct. 27, 2022: https://commons.wikimedia.org/wiki/File:Kapal_Tongkang_Batubara_melintas_dibawah_jembatan_Mahkota_2_Samarinda1.jpg
- 54 JATAM, 'Deadly Coal - Coal Exploitation and Kalimantan's Blighted Generation', 5.
- 55 JATAM, 3.
- 56 JATAM, 3.
- 57 JATAM, 5.
- 58 JATAM, 5.
- 59 Sri Lestari, 'Masih ada masalah lahan, Presiden Jokowi resmikan PLTU Batang', BBC, 28 August 2015, https://www.bbc.com/indonesia/berita_indonesia/2015/08/150828_indonesia_pltu_batang.
- 60 Tommy Apriando, 'Konflik Lahan PLTU Batang: Proses Kriminalisasi Warga Berlanjut ke Meja Hijau', Mongabay, 22 January 2013, <https://www.mongabay.co.id/2013/01/22/konflik-lahan-pltu-batang-proses-kriminalisasi-warga-berlanjut-ke-meja-hijau/>.
- 61 Tommy Apriando, 'Nasib Warga Sekitar PLTU Celukan Bawang, Bakal Makin Sulit dengan Perluasan Pembangkit', Mongabay, 15 September 2019, <https://www.mongabay.co.id/2019/09/15/nasib-warga-sekitar-pltu-celukan-bawang-bakal-makin-sulit-dengan-perluasan-pembangkit/>.
- 62 Susanti Sako, 'Warga minta pemerintah serius tangani sengketa lahan PLTU Tomilito', Antaranews, 1 August 2019, <https://www.antaranews.com/berita/987318/warga-minta-pemerintah-serius-tangani-sengketa-lahan-pltu-tomilito>.
- 63 Rachmawati, 'Tolak PLTU Indramayu, Warga Bentuk Jatayu dan Berjuang hingga ke Jepang', Kompas.com, 8 June 2020, <https://regional.kompas.com/read/2020/06/08/08380091/tolak-pltu-indramayu-warga-bentuk-jatayu-dan-berjuang-hingga-ke-jepang-2?page=all>.
- 64 Bakri, 'Ganti Rugi Lahan/Rumah Warga Dibayar Bulan Ini, Hasil Pertemuan Forkopimda dengan PLTU Nagan', Tribunnews.com, 6 December 2020, <https://aceh.tribunnews.com/2020/12/06/ganti-rugi-lahanrumah-warga-dibayar-bulan-ini-hasil-pertemuan-forkopimda-dengan-pltu-nagan>.
- 65 Moh. Taufik, 'Rekonstruksi PLTU Panau, Memperpanjang Derita Warga', JATAM, 5 May 2021, <https://www.jatam.org/upaya-rekonstruksi-pltu-panau-memperpanjang-derita-warga/>.
- 66 Filemon Agung, 'Hingga Agustus 2020, proyek listrik 35.000 MW baru tercapai 24%', Kontan, 23 September 2020, <https://industri.kontan.co.id/news/hingga-agustus-2020-proyek-listrik-35000-mw-baru-tercapai-24>.
- 67 Desi Aditia Ningrum, 'Presiden Jokowi resmikan megaprojek PLTU senilai USD 5,87 miliar', Merdeka.com, 5 October 2017, <https://www.merdeka.com/uang/presiden-jokowi-resmikan-megaprojek-pltu-senilai-usd-587-miliar.html>.
- 68 Aulia Nastiti, 'Menguatnya Oligarki dari UU Cipta Kerja', Katadata, 14 October 2020, <https://katadata.co.id/muchamadnafi/indepth/5f85c7358af42/menguatnya-oligarki-dari-uu-cipta-kerja>.
- 69 Abdul Basith Bardan & Adi Wikanto, 'Omnibus Law UU 11/2020 Cipta Kerja inkonstitusional, apa efeknya', Kontan.co.id, 26 November 2021, <https://nasional.kontan.co.id/news/omnibus-law-uu-112020-cipta-kerja-inkonstitusional-apa-efeknya>.
- 70 IOJI, 'Analisis UU Cipta Kerja Sektor Kelautan dan Perikanan', (Jakarta: Indonesia Ocean Justice Initiative (IOJI), 2020).
- 71 Della Syahni & Sapariah Saturi, 'Ketika Kolam Limbah Perusahaan Batubara Jebol Cemari Sungai Malinau', Mongabay, 13 February 2021, <https://www.mongabay.co.id/2021/02/13/ketika-kolam-limbah-perusahaan-batubara-jebol-cemari-sungai-malinau/>.
- 72 Della Syahni, 'Menyoal Kasus Pencemaran Sungai Malinau dan Sanksi bagi Perusahaan Batubara', Mongabay, 5 March 2021, <https://www.mongabay.co.id/2021/02/13/ketika-kolam-limbah-perusahaan-batubara-jebol-cemari-sungai-malinau/>.
- 73 Sri Gunawan Wibisono, 'Bongkar muat batubara tetap berjalan meski diprotes nelayan', Beritagar.id, 21 June 2018, <https://beritagar.id/artikel/berita/bongkar-muat-batu-bara-tetap-berjalan-meski-diprotes-nelayan>.
- 74 Thibault Josse et al., 'Marine Spatial Planning. Resolving or Entrenching Conflicts over and in Ocean Space?' (Amsterdam: Transnational Institute (TNI), 2019), <https://www.tni.org/en/publication/marine-spatial-planning>.
- 75 CNN Indonesia, 'Nelayan Temukan Batu Bara di Jaring, Diduga Dampak PLTU', CNN Indonesia, 23 December 2020, <https://www.cnnindonesia.com/nasional/20201222194328-20-585392/nelayan-temukan-batu-bara-di-jaring-diduga-dampak-pltu>.
- 76 <https://trendasia.org/sejumlah-bank-masih-danai-krisis-iklim-terbaru-dengan-membiayai-perusahaan-batu-bara-adaro-energy/>
- 77 Viriya Singgih, 'Unearthing Indonesia's 10 Biggest Coal Oligarchs', Project Multatuli, 10 February 2022, <https://projectmultatuli.org/en/unearthing-indonesias-10-biggest-coal-oligarchs/>.
- 78 Maulandy Rizky Bayu Kencana, 'Bangun Proyek 35.000 MW, PLN Terlilit Utang Rp 500 Triliun', Merdeka.com, 25 June 2020, <https://www.merdeka.com/uang/bangun-proyek-35000-mw-pln-terlilit-utang-rp500-triliun.html?page=1>.
- 79 Eko Wahyudi, 'Ada Covid-19, Erick Thohir Jamin Proyek 35 Ribu MW Jalan Terus', Tempo.co, 1 April 2020, <https://bisnis.tempo.co/read/1326502/ada-covid-19-erick-thohir-jamin-proyek-35-ribu-mw-jalan-terus>.
- 80 Harwanto Bimo Pratomo, 'Telan biaya Rp 56 triliun, PLTU Jawa 4 ditarget beroperasi 2021', Merdeka.com, 2 September 2017, <https://www.merdeka.com/uang/telan-biaya-rp-56-triliun-pltu-jawa-4-ditarget-beroperasi-2021.html>.
- 81 Verda Nano Setiawan, 'Pemerintah Evaluasi 54 Proyek Pembangkit Listrik Program 54 Ribu MW', Katadata.co.id, 4 June 2021, <https://katadata.co.id/agustiyanti/berita/60ba709704210/pemerintah-evaluasi-54-proyek-pembangkit-listrik-program-35-ribu-mw>.
- 82 IEA (2022), *Scaling up renewables in the Java-Bali power system: A case study*, IEA, Paris <https://www.iea.org/articles/scaling-up-renewables-in-the-java-bali-power-system-a-case-study>
- 83 *Ibid.*
- 84 OECD (2021), *Loc.Cit.*
- 85 *Ibid.*



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