

Strategic Analysis Paper

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Indonesian Climate Change Policies: Striking a Balance between Poverty Alleviation and Emissions Reduction

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Key Points

- Indonesia is one of the largest emitters of greenhouse gases, most of those emissions being caused by land use change and peat and forest fires.
- More than ten per cent of the Indonesian population lives in poverty; the government has promised to reduce that to four per cent by 2025. Strong climate policies could impede that effort.
- As part of its commitment to the Paris Climate Agreement, Indonesia aims to reduce its greenhouse gas emissions by 29 per cent from the business-as-usual baseline by 2030. If it receives international assistance, it aims to reduce its emissions by 41 per cent.
- While Indonesia has had some success in reducing deforestation, protecting peatlands and limiting fires, its biofuel and energy policies suggest that it will struggle to meet its 2030 emissions reduction targets.

Summary

Indonesia is an overlooked contributor of global greenhouse gas emissions. Land use changes, peat fires and deforestation are the largest sources of greenhouse gases in the country. Over the next decade, however, its energy policies could see the main source of emissions shift to the energy sector. Since 2009, the Indonesian Government has made a number of pledges to reduce its emissions and contribute to global efforts that aim to ensure

that temperatures do not rise by more than two degrees Celsius. Its desire to reduce poverty and maintain a relatively high rate of economic development, however, could undermine those pledges.

Analysis

Indonesia is the world's third- to sixth-largest emitter of greenhouse gases. Environmental policy became more prominent in the later years of Susilo Bambang Yudhoyono's presidency. At the 2009 G20 conference in Pittsburgh, he announced that Indonesia would reduce its carbon emissions by 26 per cent, compared to business-as-usual projections, by 2020. That reduction would rise to 41 per cent if his country received international assistance.

Those pledges were included in the Indonesian [Intended Nationally Determined Contribution](#) (INDC), which was published ahead of the Paris Climate Conference in 2015. The INDC estimated that Indonesia emitted 1,800 megatonnes of carbon dioxide equivalent (MtCO₂e) in 2005, an increase of 400MtCO₂e compared to 2000. Unlike other large emitters, however, Indonesian emissions are predominantly caused by land use change and peat and forest fires; the combustion of fossil fuels contributes about 19 per cent of total emissions. As the Indonesian population continues to grow in number and wealth, however, it is likely that the sources of emissions will also shift to become similar to the profile of other large emitters. According to [estimates](#) from the World Resources Institute, the Indonesian energy sector is likely to become the largest source of emissions by 2026-2027.

The Indonesian Government recognises that Indonesia is particularly vulnerable to the effects of climate change. As an archipelagic country, with low-lying and small island areas, it is threatened by rising sea levels and extreme climate events. Climate change will undermine Indonesian agriculture and, in turn, weaken its [food and water security](#). Inequality remains high in Indonesia and there is a perception that action on climate change will impair efforts to reduce poverty. Jakarta aims to strike a balance between economic development, which it sees as vital to reducing poverty, and environmental sustainability. Its INDC stated that:

[...] approximately 11% of Indonesia's population is living below the poverty line. To lift people out of poverty, the Government of Indonesia is promoting economic development projected to average at least 5% per year in order to reduce the poverty rate to below 4% by 2025 ... As climate change becomes a reality, Indonesia must continue to seek a balance between its current and future development and poverty reduction priorities.

After the Indonesian Parliament ratified the Paris Agreement in October 2016, it submitted a Nationally Determined Contribution (NDC) document. While the NDC is not significantly different from the INDC, it pledges to reduce Indonesian greenhouse gas emissions by 29 per cent by 2030 against a business-as-usual baseline. It also reiterated the pledge to increase that reduction target to 41 per cent, if it received [US\\$6 billion](#) in financial support from developed countries.

The NDC estimates that business-as-usual emissions will reach 2,869 MtCO₂e in 2030. If Indonesia is to meet its unconditional emission reduction target, its emissions will need to be no higher than 2,037 MtCO₂e by that time. If it receives international assistance, its emissions need to decline even further, to 1,693 MtCO₂e.

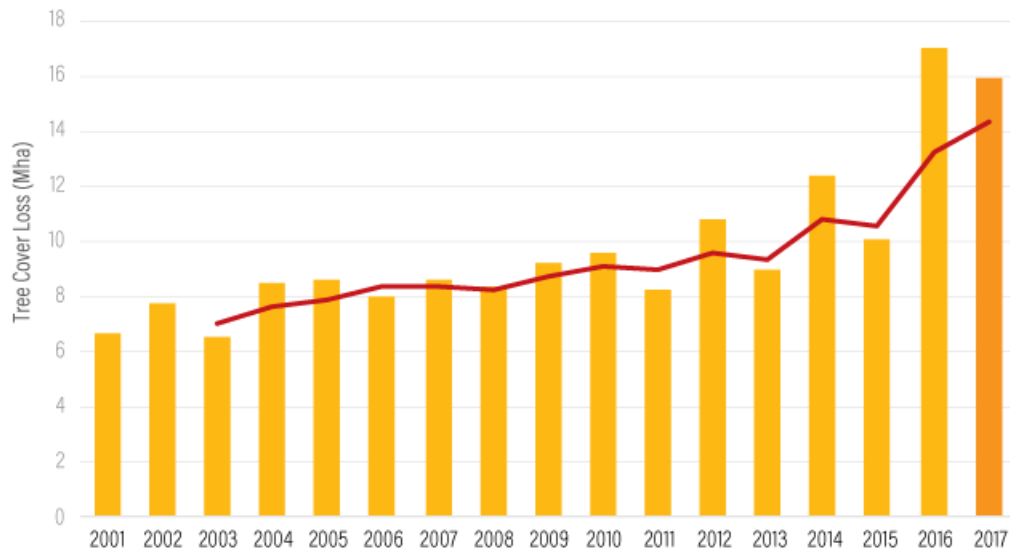
Indonesia is the [largest contributor](#) of forest-based emissions globally and most of its emissions come from land use, land use change and forestry. In 2010, a two-year moratorium was placed on the issuance of new permits to develop primary forests and peatlands, which covered 74 million hectares of forest. The moratorium was supported by the Norwegian Government, which agreed to provide US\$1 billion to help Indonesia monitor, evaluate and disseminate payments for reducing deforestation. The funding was offered as part of the Reducing Emissions from Deforestation and Forest Degradation framework. The moratorium was extended by the Widodo Administration in 2015 and for another two years in 2017.

National Greenhouse Gas Emissions in 2000 and 2014 (tonnes CO ₂ e)		
Sector	Main Greenhouse Gases (CO ₂ , CH ₄ and N ₂ O)	
	2000	2014
Energy	298,412	602,458
Industrial Processes and Product Use (IPPU)	42,610	47,449
Agriculture	99,717	113,440
Land Use, Land Use Change and Forestry (LULUCF)	505,368	979,422
Waste	61,351	101,560
Total Without LULUCF	502,090	864,907
Total With LULUCF and Peat Fire	1,007,458	1,844,329

Source: Indonesia Third National Communication, UNFCCC, 2017

In 2017, global tropical tree cover loss was the [second-highest on record](#). In Indonesia, however, the rate of tree cover loss decreased by 60 per cent compared to a year earlier. The reduction was likely the result of the implementation of the national peat drainage moratorium and wetter conditions, which reduced the number of fires experienced in Indonesian forests compared to earlier years.

Tropical Tree Cover Loss



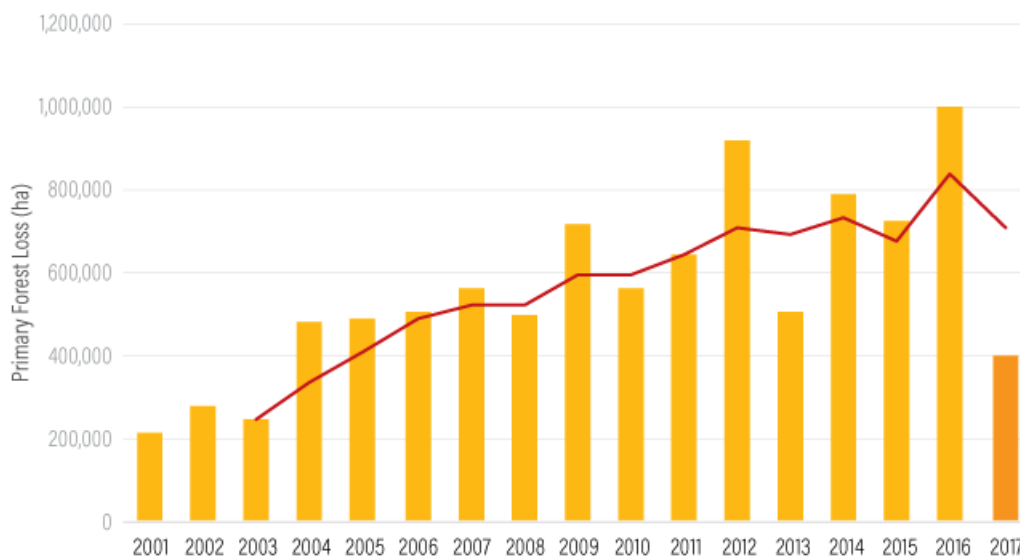
— Three-year moving average. The three-year moving average may represent a more accurate picture of the data trends to uncertainty in year-to-year comparisons. All figures calculated with a 30% minimum tree cover canopy density.



WORLD RESOURCES INSTITUTE

Source: World Resources Institute

Indonesia Primary Forest Loss



— Three-year moving average. The three-year moving average may represent a more accurate picture of the data trends to uncertainty in year-to-year comparisons. All figures calculated with a 30% minimum tree cover canopy density.



WORLD RESOURCES INSTITUTE

Source: World Resources Institute

An [analysis](#) of Indonesian climate change policy options by the World Resources Institute suggests that a continuation of its forest moratorium policy has the greatest potential to reduce emissions. Stopping the clearing and conversion of primary forest and peatlands could avoid the emission of 188 MtCO₂ by 2030. If the moratorium is extended to include secondary forests and removes exemptions for existing licenses, up to 437 million tons of CO₂ emissions could be prevented from entering the earth's atmosphere.

After the most [severe peatland fires in Indonesian history](#) occurred in 2015, the Indonesian Government [established the Peatland Restoration Agency](#) (*Badan Restorasi Gambut*). It aims to restore about two million hectares of peatland that was destroyed in those fires by 2020. High costs and limited funds, however, have [limited the agency's effectiveness](#). Indonesian officials also believe that questions about the management of public funds, transparency and accountability in Indonesia are limiting the international assistance that Indonesia receives. To help address those shortcomings, the Indonesian Government plans to [establish](#) a Public Service Agency (*Badan Layanan Umum*), to administer, channel and audit funds to environmental conservation projects. It is hoped that transparency and accountability will improve as a result and attract international agencies, such as the World Bank and the Asian Development Bank.

Energy is the second-largest contributor to Indonesian greenhouse gas emissions. The 2014 National Energy Policy (NEP) includes a target to increase renewable energy to 23 per cent of the total primary energy supply by 2025. The updated NEP, which was released in 2018, calls for the construction of 27 gigawatts (GW) of new coal-fired power plants over the next ten years and 15GW of renewables over the same period. Electricity sourced from coal-fired power plants has already increased by 13.6GW since 2013, compared to 1.8GW of renewable energy.

	Historic Share of Energy Supply (%)			National Energy Plan Targets (%)	
	2007	2011	2016	2025	2050
Coal	26	28	30	30	25
Oil	48	47	40	25	20
Gas	22	22	23	22	24
Renewable	4	3.8	6.5	23	31

Biofuel demand is also expected to double from 2017 levels due to [favourable government incentives](#). Increased production will come as the result of an expansion in the palm oil industry, which is likely to drive an increase in deforestation as more land is cleared for plantations. While Indonesian oil palm plantations require Indonesian Sustainable Palm Oil (ISPO) certification, plantations for biofuel are exempt from that requirement. Farmers and corporations that manage plantations less than 25 hectares in size are also [exempt from ISPO certification](#). Those smallholders own 40 per cent of the palm oil plantations in Indonesia. There are plans to make ISPO certification mandatory for smallholders by 2020. Doing so would help to ensure that emissions from the sector are monitored and reduced,

however, it will add a regulatory burden to those farmers and, as many of them lack formal land ownership records, possibly undermine their livelihoods.

The presidential election is scheduled to occur in Indonesia on 17 April 2019. Joko “Jokowi” Widodo, the incumbent, is running against Prabowo Subianto, who was also a candidate at the last election in 2014. Climate change policy has not been a major focus for either candidate; religion, the economy and social welfare dominate their campaign platforms. The campaign season is still in its early stages, however, and climate change is [guaranteed](#) to be a topic of debate.

In the 2014 campaign, Prabowo [promised](#) ‘to take an active role in addressing global climate change in balance with Indonesia’s conditions’. He also articulated plans to reforest 77 million hectares of damaged forests and work to make coal mining more environmentally and socially friendly. Jokowi’s campaign platform was similarly vague on climate change. His Vision and Mission document (*Visi Misi*) stated that ‘We are committed to a climate change blueprint, not only as an environmental issue but also for the national economy’. He also planned to rehabilitate 100 million hectares of land most at risk of further degradation and land without forest cover.

While many Indonesians have been lifted out of poverty, about 11 per cent of the population continue to live below the poverty line. Jakarta wants to avoid implementing any climate policies that could be perceived, fairly or not, to have deleterious effects on those people. It has implemented a number of policies to reduce emissions from land use changes, deforestation and peatland. By 2030, however, it will need to have developed policies to reduce emissions from the energy sector if it is to meet its Paris Agreement commitments.

Any opinions or views expressed in this paper are those of the individual author, unless stated to be those of Future Directions International.