# WORLD BANK DEVELOPMENT POLICY FINANCE AND CLIMATE CHANGE:

## Is the Bank providing the Right Incentives for Low-Carbon Development in Indonesia?

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# World Bank Development Policy Finance and Climate Change:
## Is the Bank providing the Right Incentives for Low-Carbon Development in Indonesia?

The World Bank acknowledges that "all development is now taking place in a world shaped by climate" and that the poor are the hardest hit by climate change impacts.[1] As such, the Bank states that it is committed to help countries avoid exceeding a 2°C warmer world – the globally agreed limit – and assist them onto a low-carbon development path.[2] Moreover, the Bank maintains that meeting this challenge requires nothing less than "economic transformations and net-zero emissions" and that "creating the right incentives" for this economic transformation is the key. Towards this end, the World Bank has specifically pledged to assist countries to end fossil fuel subsidies.[3]

The World Bank creates "the right incentives" mainly through Development Policy Finance or DPFs. Through DPFs, the World Bank influences government policies and institutions. The reforms implemented under DPFs are often aimed at increasing investments in a country. As such, DPFs can influence investment decisions towards either carbon-intensive development or low-carbon development. For example, DPF reforms sometimes include tax breaks or incentives for fossil fuel development. On the other hand, a DPF may include a new legal framework to support the entry of renewables into the market. Reforms implemented under DPFs can drive development trends for many years after the World Bank formal operation has ended. For all of these reasons, **it is critical that DPFs are carefully assessed for climate change risks and designed to specifically support policies that provide the right incentives to prioritize low-carbon development**.[4]

This paper reviews recent World Bank DPFs in Indonesia totaling US$1.4 billion and aimed at infrastructure investment and the energy sector. Indonesia is a key country in the climate change crisis. It is both highly vulnerable to climate change impacts and its greenhouse gas emissions (GHG) per capita – already the sixth largest globally – are growing faster than GDP per capita. Indonesia's largest source of GHGs is deforestation. The fastest growing and second largest GHG source is fossil fuel combustion. It is critical that the investment incentives and governance reforms embodied in the World Bank DPF programs in Indonesia specifically prioritize low-carbon development, including mitigation of negative pressures on forests.

## Summary of Findings

The World Bank's recent Infrastructure Development Policy Loan (I-DPL) and current Energy DPF in Indonesia support actions to increase private investments in infrastructure projects, including through an enhanced public-private partnership (PPP) investment framework. Unfortunately, these DPFs do not provide the right incentives to prioritize low-carbon development in Indonesia. Moreover, the Bank's environmental assessment of the DPFs was very selective, focusing largely on potentially positive climate measures and did not identify any potential forest risks. As such, the World Bank did not adequately consider the climate change risks of DPF-supported reforms.

The following assessment concludes that in the case of Indonesia the reviewed DPFs support an increasingly carbon-intensive development path through:

- **Introduction of New Fossil Fuel Subsidies -** The World Bank DPFs supported many incentives for fossil fuel development, including subsidies given to PPP projects, which in the energy sector are predominantly coal power plants, and government contract incentives for natural gas exploration. The newly established government guarantees for PPP projects have only gone to coal power plants. All of these DPF-supported investment incentives contradict Indonesia's G-20 commitment and the Bank's pledge to phase out fossil fuel subsidies.

- **Unintended Boost to Coal from Energy Subsidy Reforms** – The I-DPL and Energy DPF both supported the reduction of electricity subsidies. However, climate benefits linked to associated reductions in GHG

emissions from potential cut backs in electricity consumption are severely diminished because savings from reduced subsidies have been used to partially fund coal power plants and transmission lines for coal power distribution.

- **Incentives for Oil and Gas Exploration** – The current Energy DPF sponsors reformed fiscal terms for contracts to promote investment in gas exploration and the development of unconventional and marginal fields. Although the Bank only mentions gas, exploration for gas cannot be separated from oil exploration and exploration for either contradicts the 2 degree climate goal.

- **Lacking Renewable Energy Support** – The main thrust of the I-DPL program is the PPP investment framework. The PPP projects offered by the GOI include four coal-fired power plants, three coal transport railways, and one large hydropower plant. There are currently no upcoming PPP projects for solar, wind, geothermal, small hydropower or distributive energy. In addition, although the DPFs supported a new Geothermal Law, it did not adequately address barriers to geothermal investments, including, *inter alia*, an insufficient feed-in tariff. As such, Indonesia's vast geothermal resources remain highly under-developed. Lastly, the DPFs did not provide any substantive support for solar, wind or distributive energy.

- **Weakened Governance** – The World Bank notes that Indonesia is hampered by weak environmental governance and pressures on forests from non-forestry sectors including mining, agriculture, and large infrastructure. However, instead of using the DPFs to strengthen Indonesia's governance, the Bank supported measures to speed up land acquisition for large infrastructure projects and licensing for Independent Power Producers. These reforms greatly undermine efforts to improve the governance structures, specifically of the Minister of Environment and Forestry, so critically needed in Indonesia to abate forest loss and climate change.

- **Heightened Deforestation Risks** – The DPF's promotion of large-scale infrastructure projects under the context of further weakened environmental governance is dangerous. Many of the upcoming infrastructure projects, including PPP projects, involve drivers of deforestation in Indonesia, such as coal mining linked to new coal power plants, roads, coal railways, and gas pipelines, especially given much of this development is targeted for the forest-rich regions of Sumatera and Kalimantan.

## Recommendations

World Bank development policy finance represents a crucial opportunity to re-orient countries onto a low-carbon development path and to better protect climate vulnerable poor communities. As such, the World Bank must heed its own advice on confronting climate change by providing the right incentives for a clear pathway to low-carbon development. To this end, the World Bank should adopt:

1. **Robust Climate Change Assessment for DPFs – Does it pass the 2 degree test**? The Indonesian case demonstrates how critical it is to fully assess and adequately address the climate risks associated with reforms contained in Development Policy Finance. Such operations reach far beyond the impacts of project investments and yet they are not adequately assessed by any Bank operational policy. The Bank should revise Operational Policy 8.60 on Development Policy Lending to ensure adequate assessment and mitigation of climate risks, including risks to forests.[5] Overall, the DPF operation must be assessed against the World Bank's commitment to the globally-agreed goal of limiting temperature rise to 2°C. (For more details, please see the Recommendations section at the end of the document.)

2. **Improved DPF Transparency –** It is very difficult to understand the specific reforms and government actions supported by the World Bank's DPF operations, especially if one only reads the Bank's program documents. In order for community stakeholders to understand what these operations

are supporting and the potential social and environmental risks of these DPF operations, the DPF program document must disclose:

- All measures contained in DPF-supported laws, policies and investment frameworks.
- All current and planned investment projects related to the DPF operation.

3. **Sufficient Low-Carbon Incentives -** DPFs must be specifically designed to promote incentives that prioritize low-carbon development over carbon-intensive options. DPF operations should be assessed to determine if all possible low-carbon alternatives have been adequately supported before any other options are considered.

4. **Comprehensive End to Fossil Fuel Subsidies** – The World Bank's Climate Action Plan states that "the WBG will scale up country-level support and global advocacy to "get prices right" by reducing damaging fossil fuel subsidies…" The Bank often does not recognize its own promotion and creation of new fossil fuel subsidies largely to producers through support for government guarantees, infrastructure investment incentives, and Public-Private Partnerships. Producer subsidies are the drivers of investment and, in the case of those provided to fossil fuels, a significant barrier to low-carbon development.

5. **Elimination of All Measures Supporting Fossil Fuel Exploration** – According to the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), in order to meet the internationally agreed goal of limiting global average temperature increase to 2 degrees Celsius, at least two-thirds of already existing reserves of fossil fuels need to be left in the ground. Thus, any DPF measures supporting fossil fuel exploration are directly incompatible with preventing the worst impacts of climate change. It is worth noting that the Asian Development Bank already excludes finance for oil and gas exploration.

6. **Comprehensive Primary Forest Protection** – The World Bank Group's Climate Action Plan, together with the new Forest Action Plan FY16-FY20, specifically states that "the WBG aims to support clients to promote growth that does not come at the expense of their natural forests…" As such, the World Bank must ensure ex-ante DPF assessment of potential risks and impacts of land use change, including direct and indirect impacts to forests. Any DPF reform measures that support project investments that could cause significant adverse impacts to primary forest or critical habitat, and the peoples that depend upon them, should not go forward.

7. **Strengthened Governance – DPF Reforms Must Not Undermine Governance.** DPFs need to ensure that countries have adequate governance capacity to develop and enforce proper regulations and incentives (e.g., GHG emissions limits and forest protection) to transition the country onto a low-carbon development path. The World Bank specifically needs to ensure that DPFs do not introduce policy reforms that undermine such governance. Policy reforms to strengthen and protect indigenous peoples' and communities' security of tenure of forests should be prioritized as proven strategies to protect forests and combat climate change.[6]

## Indonesia and Climate Change

Indonesia is a key country in the struggle against climate change. Indonesia is highly vulnerable to climate change impacts. It is a country of over 13,000 islands making it exceptionally vulnerable to sea-level rise. It is also highly dependent on the agriculture sector, which faces increasing and variable threats from climate change. At the same time, Indonesia's greenhouse gas (GHG) emissions are globally significant and rapidly increasing. According to data through 2011, Indonesia is the sixth largest GHG emitter in the world in terms of total emissions and per capita emissions.[7] It emits more per capita emissions than China or Brazil with only Canada, US, Russia, Japan and the EU emitting more per capita. GHG emissions per capita are growing faster than GDP per capita.[8] This signifies that Indonesia is on an increasingly carbon-intensive development path.

**Indonesia's forests are of paramount importance to the climate**. The largest source of Indonesian GHG emissions stem from land use change and forestry (LUCF) – mainly the cutting and burning of tropical forests and peat lands – accounting for 62 percent of Indonesia's emissions in 2011 or 945 $MtCO_2$ (million metric tons).[9] When being cleared, Indonesia's forests are a significant global source of GHGs. Indonesia has the third largest extent of tropical forests in the world, after Brazil and the Democratic Republic of Congo.[10] Indonesia's forests are home to some 50-60 million Indonesians and many forest-dependent communities. The protection of its forests is vital to shielding Indonesia from climate impacts such as flooding and soil erosion and also vital to combating global climate change as a significant carbon sink. According to the Food and Agriculture Organization (FAO), Indonesia's forests are estimated to store 9.39 billion metric tons of carbon or more than the US emits annually.[11]

Unfortunately, Indonesia has the highest rate of forest loss in the world,[12] making it also the world's largest GHG emitter from deforestation. In 2012, the annual loss of primary rain forest in Indonesia (840,000 ha) was much higher than in Brazil (460,000 ha).[13] This is a consequence of a many factors, including poor governance. Indonesia's forest management suffers from: overlapping or unclear regulations, lack of technical capabilities, unclear land tenure, and lack of transparency and public participation. [14]

There are inconsistencies and contradictions across legal frameworks, including those regulating: forestry, agriculture, mining, finance, and infrastructure. As a result, land that is officially state forest lands have been allocated for large development activities, including oil palm plantations, mining and infrastructure.[15] At present, the Minister of Forestry has no authority to impose administrative sanctions for violations in state forests if permits were issued within another sector, such as mining or estate crops.[16] These drivers of deforestation are exacerbated by Indonesia's unclear land tenure system.

Indonesia has pledged to reduce its emissions from land use change and forestry by 26% by 2020.[17] **In order to mitigate negative pressures on forests and achieve meaningful low-carbon development, it is vital to strengthen Indonesia's forest governance, both inside and outside the forestry sector, and support the promotion of secure tenure rights for forest-dependent communities.**

Even when emissions associated with LUCF are excluded, Indonesia is still the eighth top GHG emitter in the world based on 2011 data. Emissions from the energy sector, the second largest source in Indonesia (over 25 percent), are rapidly growing. From 1994 to 2004, Indonesia's emissions per capita from fossil fuels grew faster than China's and India's.[18] Unfortunately, Indonesia's energy sector development plans out to 2024 rely predominantly on coal. If this plan goes forward, by 2025 Indonesia's GHG emissions from fossil fuels are set to surpass current emissions from LUCF (based on 800 $MtCO_2$ annually).[19]

Based on World Bank data, Indonesia's $CO_2$ emissions in 2011 stood at 2.3 metric tons (t) per capita.[20] This already exceeds the level of 2 $tCO_2$ per capita associated with keeping the global average temperature rise to less than 2°C.[21] Moreover, the World Bank data for per capita $CO_2$ emissions only include emissions from burning fossil fuels and cement production. If Indonesia's emissions from LUCF, i.e., deforestation, are included, Indonesia's per capita emissions would be approximately 5.5 $tCO_2$.[22] Moreover, even if Indonesia meets its goal to reduce LUCF emissions by 26%, given its carbon intensive energy sector development plans, emissions from fossil fuel burning

and LUCF would still come in at approximately 1,408 $MtCO_2$ or 4.9 $tCO_2$ per capita in 2025.[23]

Clearly, Indonesia's current energy sector development plans are not a low-carbon path and are not consistent with keeping global temperature rise below 2 degrees.

Lastly, Indonesia is a member of the G-20 or Group of 20 major economies of the world. In 2009, G-20 countries committed to phase out fossil fuel subsidies in an effort to specifically address climate change and boost investment in clean energy sources.[24] Thus, **given the World Bank's own commitment to reduce fossil fuel subsidies and the fact that Indonesia is a G-20 country, the Bank must ensure that no DPF-supported measures introduce subsidies to fossil fuels**.

## World Bank Development Policy Finance in Indonesia

In the last decade, the World Bank has had a significant amount of DPF operations in Indonesia. According to the World Bank website no less than 20 DPFs totaling more than $8.8 billion. Several of these operations have climate change significant reform measures, including a recent Infrastructure DPF series, a 2010 Climate Change DPF (see Box 2 below) and a current Energy DPF.

### Infrastructure DPFs

From 2007 to 2011, the World Bank provided four Infrastructure Development Policy Loans (I-DPL) equaling $850 million to support the Government of Indonesia's (GOI) infrastructure master plan out to 2022. The I-DPL series focused on, *inter alia*, **electricity and roads; an investment framework for public-private partnerships (PPP); land acquisition reforms; and energy subsidy reforms**. Even though this I-DPL formal program has ended, the I-DPL reforms continue to be the driving force behind current infrastructure investments in Indonesia. Furthermore, the investments facilitated by these reforms largely determine the type of infrastructure Indonesia will be utilizing for the next 20 to 50 years. This is especially significant for the carbon intensity of energy investments – a targeted sector of the World Bank I-DPL program.

World Bank I-DPL program documents do not provide a cohesive picture of the specific government actions triggered by the I-DPL operation, and lack important detail about social and environmental implications. In order to understand exactly what these operations are supporting and the climate risks of these DPF operations, as well as many other social and environmental risks, it is critical to understand:

1. Indonesia's PPP investment framework;
2. Infrastructure projects planned by the Government of Indonesia; and
3. Land acquisition reforms in the context of weak governance.

## PPP Investment Framework and Fossil Fuel Subsidies

According to the World Bank – "by definition there is always a public component to a PPP."[25] The form that this component takes depends on the country and the project and can range from direct financial support, to in-kind support (such as provision of land), and to more indirect or contingent support (such as through government guarantees). However, no matter what form the support takes, it costs the government or costs public money. In other words, **by definition PPP projects are subsidized projects**. This is an important context to understand with regards to the World Bank's pledge to get incentives right for the low carbon transition and to reduce fossil fuel subsidies.

Indonesia's PPP investment framework, backed by the I-DPL, includes a wide range of government support. Some of the specific PPP investment incentives and subsidies that are part of Indonesia's PPP framework include: project preparation costs; land acquisition costs (in the tens to hundreds of millions US$ per project); VAT tax exemptions;

import duty exemptions; income tax rate reductions; land tax exemptions; and building tax exemptions. **These subsidies apply to PPP power projects whether fossil fuel-based or renewable**. As a member of the G-20, the introduction of new fossil fuel subsidies directly contradicts Indonesia's 2009 G-20 commitment to phase out fossil fuel subsidies.[26]

In addition, as part of the PPP investment framework, the I-DPL established the Indonesia Infrastructure Guarantee Fund (IIGF).[27] The IIGF was created to provide government guarantees, which are subsidies according to the OECD, to infrastructure PPP projects.[28] These government guarantees can be granted to both fossil fuel and renewable energy projects. However, the only energy sector projects to receive or still under consideration for IIGF guarantees are four coal power plants and one large hydropower project (see Table 1). In fact, the World Bank Group led the promotion of the first IIGF guarantee of $30 million to the 2,000 MW Central Java Coal Power Plant (see Box 1 below). Three additional coal power plants are still under consideration for IIGF guarantees, including South Sumatera 9 – Mine Mouth Coal Fired Power Plant (2 X 600 MW), South Sumatera 10 – Mine Mouth Coal Fired Power Plant (600 MW), and the Tebo-Jambi Mine Mouth Coal Plant (2 x 400 MW).

*The World Bank's I-DPL program and current DPF energy program have not resulted in any renewable energy projects receiving IIGF guarantees.*

Subsequent to the I-DPL support, the World Bank also provided a direct loan of $30 million to the IIGF. As of September 2016, the World Bank's I-DPL program and current DPF energy program have not resulted in any renewable energy projects receiving IIGF guarantees and have not displaced any coal projects from receiving this World Bank-introduced subsidy.

## Infrastructure Projects of the Government of Indonesia

Two infrastructure sectors specifically targeted by the World Bank I-DPL program included electricity and transportation. In order for the World Bank to understand its potential social and environmental impacts of its policy lending operation, it needs to start by assessing the government planned infrastructure projects in these two sectors. With regards to electricity, **over 60 percent of the GOI's priority electricity projects of its infrastructure master plan are coal power plants**.[29] Thus, higher government expenditure on electricity infrastructure, which was specifically mandated and enabled by the World Bank I-DPL funds, contributed to the development of coal projects.[30] Some of the coal power plants are projects of the Indonesian state power company (or PLN) making them direct recipients of the higher GOI infrastructure expenditures.

Moreover, as Table 1 shows, the PPP projects offered by the GOI include four coal-fired power plants, three coal transport railways (one dedicated to coal and two with multi-freight) and one large hydropower plant. Given large hydropower projects in tropical regions often result in forest loss and are threatened by climate change related fluctuations in water availability, there are no climate-smart renewable energy PPP projects on offer. These PPP project plans were known by the World Bank before the initial I-DPL operation and during the subsequent release of additional I-DPL funds.

Indonesia is already the world's largest exporter of coal.[31] Indonesia's coal resources are located in Sumatera (57%), and Kalimantan (43%).[32] The PPP coal railway projects in these two regions will accelerate both Indonesia's domestic utilization of coal and export of coal. Increasing Indonesian coal exports drives further coal plant expansion across Asia, specifically in India and Vietnam, which are large importers of Indonesian coal. Of further concern is the fact that many coal mining operations are established in conservation areas or protection forests.[33] At least one estimate puts **8.6 million hectares of forest at risk from coal mining or almost nine per cent of Indonesia's total forest cover**.[34]

From 2003 to 2009, there were 2,047 coal mining concessions in Kalimantan.[35] In East Kalimantan coal concessions cover an area of 3.1 million ha. The area of concessions in Kutai Kartanegara District alone is 1.2 million ha, or

more than half of the district's area of 2 million ha. In South Kalimantan, coal mining operations have encroached on the Meratus Mountain Range Protection Forest. Of 299 mining concessions in the Meratus Protection Forest, only one has a state forest lease-use permit from the Ministry of Forestry.[36] At present, the Minister of Forestry has no authority to impose sanctions for violations in state forests if permits were issued for another sector, such as mining.[37]

In addition, the I-DPL targeted increased government expenditure on roads.[38] When taking place in forest-rich regions, large-scale road projects often open up previously less accessible forests to expanded deforestation. Table 1 indicates that there are large-scale PPP road projects planned in Sumatera and Kalimantan that could potentially lead to expanded deforestation in those forest-rich regions (see Box 2). This should have caused concern for the World Bank I-DPL program especially given the Bank itself notes the weak capacity of the GOI in managing the protection of its forests.[39]

**Table 1. Energy, Road* and Railway PPP Projects**

| Project Name | Description | Cost (US$) | Status |
|---|---|---|---|
| **Tendered Projects** | | | |
| Central Java Coal Fired Power Plant | 2,000 MW coal-fired power plant in Batang, Central Java (see Box 1) | > $4 billion | Financial closure June 2016, under construction, expected 2020. IIGF & MoF guarantee |
| Puruk Cahu-Bangkuang Coal Railway | Dedicated coal transportation system in Central Kalimantan | $2 - 3 billion | Contract signed January 2014, expected 2017 |
| Medan-Kuala Namu-Tebing Tinggi Toll Road | 62 km toll road in Sumatera – known as Highway Trans Sumatera | $475 million | Under construction. Expected 2017 |
| South Sumatera 9 Mine Mouth Coal Fired Power Plant | 1,200 MW coal-fired power plant in South Sumatera – known as Mulut Tambang power station | $2 billion | IIGF & MoF guarantee. Current status is unclear. Expected 2020. |
| South Sumatera 10 Mine Mouth Coal Fired Power Plant | 600 MW coal-fired power plant in South Sumatera | | IIGF & MoF guarantee.<br><br>Current status is unclear. Expected 2021. |
| Kayu Agung-Palembang-Betung Toll Road | 112 km toll road in South Sumatera | | Concessions agreement, October 2015, expected 2018 |
| **Offered Projects** | | | |
| Tanjung Enim – Tanjung Api-Api Railway | Double track railway for coal, palm oil and rubber from Muara Enim to the special economic zone (SEZ) of Tanjung Api-Api, South Sumatera | $3 billion | Offered |
| **Prospective Projects** | | | |
| Karama Hydro Power Plant | 450 MW Karama Hydro Power Plant in West Sulawesi | $1.3 billion | Government guarantee pending, unclear status |
| Tebo Mine Mouth Coal-fired Power Plant | 800 MW coal-fired power plant in Jambi | $832 million | Permits pending, PLN purchase agreement pending, IIGF guarantee pending |
| Balikpapan-Samarinda Toll Road | 100 km toll road in East Kalimantan – known as the Trans Kalimantan Highway | $1.2 billion | IIGF guarantee pending, pre-feasibility |
| Manado-Bitung Toll Road | Toll road in North Sulawesi | $133 million | Unclear status |
| South Sumatera Monorail | Railway in South Sumatera | $550 million | Unclear status |
| Batam Railway | Railway on Riau Island | $217 million | Unclear status |
| Pulau Baai-Muara Enim Railway | Railway for coal, other freight and passengers, South Sumatera | $3 billion | Unclear status |
| Batu Ampar-Muka Kuning-Hang nadim Toll Road | Toll road on Riau Island | $157 million | Unclear status |

*Source: Public Private Partnerships: Infrastructure Projects Plan in Indonesia 2015. Republic of Indonesia, Ministry of National Development Planning, Jakarta.*

*Note: The table does not include road PPP projects in Java and Bali. Although these regions are not considered to be forest-rich regions, the projects may also pose potential forest cover loss.

**Box 1. Central Java Coal Power Plant – The "Model" PPP Project**

If any energy project can be considered an outcome of the World Bank's Infrastructure-DPL program, the Central Java Coal Power Plant is it. The 2,000 MW coal-fired plant in Batang was selected as one of the "model" projects of the new PPP investment framework implemented under the I-DPL program. From 2008 to 2011, the IFC[45] was the Transaction Advisor to the state power company, PLN. In this role, the IFC prepared and promoted the project to investors and in turn secured the coal plant's finance. In October 2011, it was the first project to receive a government guarantee of $30 million from the Indonesian Infrastructure Guarantee Fund or IIGF, which was established under the I-DPL and partially funded by the World Bank.[46]

Despite all of the Bank assistance and the I-DPL's assurance of strengthened government capacity for Environmental Impact Assessments (EIA), the "model" PPP project is strongly opposed by thousands of local residents who insist that the coal plant will harm the environment and threaten their livelihoods.[47] The coal plant is located on the coast and the Batang regent passed a special bylaw to exempt the plant from restrictions of development in the vicinity of a protected marine park.[48] This decision was hotly contested by many local people and authorities.

In October 2013, local and global civil society groups sent a letter calling on the World Bank to request that the government of Indonesia cancel its IIGF loan guarantee.[49] Even though the "model" PPP project appears to have a highly flawed EIA, stands to threaten local livelihoods, and conflicts with low-carbon development, the World Bank dismissed the request and the communities' concerns stating the Bank was not "involved" in the Central Java Power Plant project.[50]

After complaints from the community, in February 2015 the Indonesian Ministry of Environment and Forests visited the project site and subsequently recommended the GOI move the coal project to a different site.[51] This recommendation was not followed. The EIA has been criticized as being inadequate on several grounds including unspecified pollution control technology and lack of alternatives analysis.[52] In addition, the IIGF's guarantee to the Central Java Coal Power Plant is a government subsidy according to the OECD and therefore undermines Indonesia's G-20 and APEC commitments to phase out fossil fuel subsidies.

Lastly, the land acquisition process has reportedly been plagued by manipulation, coercion and intimidation.[53] The project had been delayed for over four years due to approximately 50 land-owners' refusal to give up their land representing about 13 percent of the project area. In the end, the state power company, PLN, resorted to a consignment clause in Indonesia's 2012 Land Acquisition Law that forced the remaining residents off their land (note the adoption of this law was a World Bank I-DPL benchmark).[54] The utilization of the expedited land acquisition process was the final measure that ushered in financial closure in June 2016. The 2,000 MW coal plant is now expected to be finished by 2020.

## Land Acquisition Reforms in the Context of Weak Governance

The I-DPL series included **land acquisition reforms with the aim to expedite the process and clear the way for large infrastructure projects**.[40] The GOI's new 2012 land acquisition law, which was guided by the I-DPL, eliminated bureaucratic barriers and stipulated stricter timetables (e.g., no longer than 2 years in total and court decisions within 30 days for contested compensation cases) to accelerate the land-acquisition process. It also provided a more transparent compensation framework for land owners.[41] In general, the new law can force people to sell their land for "public" infrastructure projects, including PPP projects, with "fair" compensation.

News reports indicate coal power plants and road projects were some of the first projects to utilize the new law.[42] Local communities surrounding the Central Java Coal Power Plant PPP project contend the new law was used to force land owners off their land to make way for the highly contested coal project (see Box 1).

As previously explained, Indonesia's alarming deforestation rate is exacerbated and facilitated by uncertain land tenure; conflicting legal frameworks; and the loss of customary communities' land rights. Given this context, it is dangerous for the World Bank to suppor expediting land acquisition for large infrastructure projects as it further undermines forestry governance and communities' land rights.

In 2012, following deadly conflicts in Mesuji and Bima between farmers and oil palm and mining companies, a newly formed alliance of rural Indonesians and supporting NGOs called for an end to "the expropriation of people's rights over land, forest, mining, fishing areas, indigenous' and villages' area and territory, all for the mere benefit of investors."[43] Among their demands was the revocation of laws that facilitate land grabbing, including the Land Acquisition Law.

Furthermore, **the "fair" land compensation framework is inadequate in addressing land tenure issues for local communities and forest-dependent communities; and does nothing to strengthen the protection of forests or resolve conflicting legal frameworks**. A study covering forestry sector conflicts from 1997 to 2003 in Indonesia found that although compensation payments helped to resolve conflict to the extent that they eased communities' anger, such compensation failed to resolve the root cause of conflict, which is the loss of communities' and/or customary communities' land rights.[44]

## 2015 Energy Development Policy Finance

**Incentives for Natural Gas**

Currently, the World Bank has an active Energy DPF for $500 million in Indonesia that was approved December 2015.[55] **This DPF has prior actions**, **triggers and targeted outcomes aimed at increasing investment in natural gas, including upstream operations of exploration**. One indicative trigger is that the GOI adopts "revised fiscal terms for production sharing contracts to increase investment into the upstream/midstream [gas operations], including incentives for developing marginal fields and unconventional resources".[56] Unconventional resources typically include deep water reserves and the use of hydraulic fracturing or fracking to extract oil or natural gas from deep underground. The specific "incentives" are unclear, but government-based incentives can often be a form of subsidy, e.g., contract terms that provide reduced taxation or royalty rates.

*This DPF reform greatly undermines efforts to improve the governance structures critically needed in Indonesia to abate forest loss and climate change.*

**Providing incentives for gas exploration is in direct conflict with the 2 degree goal**. Scientists have determined that at least two-thirds of the world's current, proven reserves of oil, gas, and coal must not be burned if we are to avoid raising global temperatures above 2 degrees Celsius. Thus, any incentives for fossil fuel exploration are directly incompatible with preventing the worst impacts of climate change.

**The DPF also includes a trigger that requires the GOI to introduce regulations that incentivize accelerated investment in gas processing and transportation, e.g., pipelines.**[57] All such projects would potentially be linked to significant increased GHG emissions from associated end use burning of gas and potentially significant deforestation in the Indonesian context.

Although the World Bank only mentions natural gas as a target of the improved energy investment conditions, the letter from the GOI to the World Bank regarding the DPF and GOI progress on improved investment conditions speaks of a new law aimed at both oil and gas investments.[58] **The Energy-DPF's required prior action includes adoption of the Ministry of Energy and Mineral Resources Regulation 15/2015, which is a time-bound process for managing expiring production sharing contracts for both oil and gas**.

**Licensing Reform undermines Environmental Governance** – The Energy DPF expedites the licensing procedure for Independent Power Producers (IPPs). One of the DPF's prior actions stipulates that the Minister of Environment and Forestry relinquishes the licensing authority for setting up IPP projects to the Indonesia Investment Coordinating Board, whose mandate is to increase investments not protect the environment or manage the forests. This weakening of environmental governance surrounding IPPs is especially concerning because the Government of Indonesia's IPP development plan calls for coal to generate 60% of the targeted 18 GW of new IPP-supplied power in the next 5 years.[59]

Rather than using the DPF to address past failures to strengthen environmental and forest governance in Indonesia, the Bank promoted measures to further weaken it. By taking the licensing authority for IPPs away from the Ministry of Environment and Forestry, this DPF reform greatly undermines efforts to improve the governance structures critically needed in Indonesia to abate forest loss and climate change.

**Energy Subsidy Reforms** – Both the Infrastructure DPL series and the Energy DPF supported electricity tariff reforms, which reduce consumer subsidies and potentially reduce consumption of electricity largely generated from fossil fuels. The World Bank I-DPL program worked to reduce energy price subsidies with the aim of "generating additional budgetary savings and improving the financial footing of the energy sector".[60] In 2010, the GOI applied an electricity tariff increase, ranging from no increase for the low income users to 18 percent for the higher use categories.

The Energy DPF continued further reduction of electricity subsidies, including prior actions requiring regulations to phase out electricity subsidies for large- and medium-sized industrial, business and residential consumers.[61] As such, in June 2014 electricity tariffs of six electricity customer categories in Indonesia started to increase gradually to reflect the decrease in subsidy from the government. [62]

**Although a well-targeted reduction of energy price subsidies is welcome, these improvements are undermined and diminished from a climate stance by the I-DPL and Energy DPFs' sponsored increases in investor subsidies for coal and gas as described above. Furthermore, it is reported that the government savings from cuts in electricity subsidies will partially fund new coal power plants and new high voltage direct current power lines to transport the coal-based electricity from Sumatera to Java and Bali.**[63]

**Support for Renewable Energy** – Indonesia is located at the convergence of several tectonic plates in Southeast Asia, giving it significant geothermal potential, although most of its potential reserves remain unexplored.[64] Indonesia's vast geothermal resources stand at an estimated generation capacity of 29 GW of power – representing 40 percent of the world's geothermal reserves.[65]

Both the Infrastructure-DPL and the Energy-DPF had measures supporting adoption and revisions to the GOI's new Geothermal Law to help encourage geothermal investments. While the new Geothermal Law does reduce some obstacles to geothermal investments, it is short on concrete incentives for investment. In addition, the DPFs targeted outcomes are general policy improvements and not specific targets on gigawatts of geothermal generation, unlike the Energy DPF's result indicator of an increase in domestic "gas supply of a minimum of 125 million cubic feet per day by end-2016."[66] Thus, **targeted geothermal outcomes are significantly weaker than DPF-targeted outcomes for natural gas**.

*The Bank notes Indonesia's potentially significant solar resources, but does nothing to specifically support development of these solar resources or other renewables outside of geothermal.*

The DPFs' support for geothermal development has been inadequate.[67] Thus, Indonesia's geothermal capacity is still largely untouched with only 1.3 GW so far developed or around 5% of its potential (see also Table 2).[68] This is primarily the result of a number of outstanding challenges that remain unresolved, particularly with respect to the feed-in tariff policy (covered by the new Geothermal Law), which many investors consider unattractive in view of the high capital requirements needed to develop a geothermal project in Indonesia.[69] This factor alone may hinder the GOI's target to add 4,815 MW of geothermal electricity generation by 2020.[70]

The DPFs are also notable in their lacking support for other renewables, such as solar, wind and distributive technologies, which are most needed to expand the poor's access to energy. Even as the World Bank notes that the GOI's low-carbon legal framework still has many gaps, the only current Energy-DPF measure related to other renewables is a trigger that requires the GOI to "review performance of existing schemes promoting market-based mechanisms for development of renewable energy". The Bank notes Indonesia's potentially significant solar resources, but does nothing to specifically support development of these solar resources or other renewables outside of geothermal.

The development of geothermal resources is essential to assisting Indonesia towards a lower carbon development path as geothermal power can directly displace coal as a base load power source. As such, **the World Bank should be assisting Indonesia to ensure that all potential geothermal power projects and other renewables**

**are developed before locking Indonesia into 16+ GW of coal power for the next 40 years**.

Even though geothermal is a low-carbon energy source and great for climate change mitigation, it is important to note that geothermal projects can be associated with negative outcomes such as unfair land acquisition and environmental damage (e.g. deforestation and sulfur gas emissions). As for any infrastructure project, such impacts must be carefully and appropriately resolved.

**Indonesia's Electricity Generation Fuel Mix** – Table 2 provides Indonesia's electricity generation fuel mix at the beginning of the Infrastructure DPL program (2008), a few years after the end of the I-DPL program and at the beginning of the Energy-DPF (2014) and the planned outcome for 2022. Since the first I-DPL program, Indonesia's fuel mix has become significantly more carbon intensive. The overall share of renewables did not grow at all. Since the Bank's I-DPL ended, as of 2014, coal's share in installed generation capacity has grown from 35% to 47.5 percent while geothermal is only at 4.4 percent.[71]

**Table 2. Indonesia's Electricity Generation Fuel Mix***

| | **2008**[72] | **2014**[73] | expected **2022**[74] |
|---|---|---|---|
| **Coal** | 35% | 47.5% | 65.6% |
| **Natural gas** | 17% | 29.2% | 16.6% |
| **Oil** | 36% | 12.3% | 1.7% |
| **Renewables** | 12% | | |
| Hydropower | | 6.5% | 5.1% |
| Geothermal | | 4.4% | 11% |

*Figures exclude captive power generation, which is dominated by diesel and coal in Indonesia.

**Box 2. World Bank's Climate Change DPL in Indonesia**

In May 2010, the World Bank approved a Climate Change DPL to Indonesia for $200 million. This DPL was intended to support the Government of Indonesia's agenda on climate change, which includes mitigating greenhouse gases, enhancing adaptation, and strengthening institutions. It was intended to be the first loan in a four-year programmatic Climate Change DPL series, but the GOI decided not to proceed with the program after only one disbursement. Reportedly, the GOI believed that borrowing for climate change was no longer acceptable given a "consensus" at the UNFCCC that developing countries should only receive grants to help address climate change.[77] The GOI's failure to meet two of the four pre-agreed triggers and its delay in meeting a third one for the second loan undoubtedly also played a role in the programs demise.[78]

Even though some of the measures contained in the canceled Climate Change DPL were picked up by the Infrastructure DPL and the Energy DPF (e.g., electricity subsidies and geothermal policy framework), important initiatives to strengthen forest governance were severely undermined by the I-DPL's land acquisition reforms and the Energy DPFs reforms to IPP licensing authority.

Although an assessment of the effectiveness of the Climate Change DPL measures is beyond the scope of the current paper, it is believed the approach could have been made stronger if measures addressed subsidies driving coal investment, safeguarded against the transfer of savings from reduced electricity subsidies to coal investments, and directly addressed the legal frameworks of drivers of deforestation outside the forestry sector, such as mining, roads, and agriculture.

Even if the GOI is able to overcome its barriers to geothermal development and meet its targets, Indonesia will remain overly reliant on carbon intensive energy, i.e., 86% fossil fuels. The GOI's current electricity infrastructure plan through 2024 continues the country's move toward greater reliance on coal with plans to have over 60 percent of the 70 GW of the planned new power generation to be coal-fired with the remaining 40 percent evenly split between gas and renewables (hydropower and geothermal).[75]

As explained above, even if Indonesia meets its goal to reduce LUCF emissions by 26%, given its carbon intensive energy sector development plans, emissions from fossil fuel burning and LUCF alone would still be 4.9 $tCO_2$ per capita in 2025.[76] **Such high emissions are not consistent with keeping global temperature rise below 2 degrees**. **Instead of recognizing this threat and addressing GOI's subsidies for coal investments (many of which were introduced by the previous I-DPL)**, **the current Energy-DPF supports further incentives for oil and gas exploration**.

## Climate Change Risk Assessment

The World Bank's environmental review for both DPFs recognize that the energy infrastructure plan supported by the DPFs posed potential significant negative environmental impacts, including increased emissions of GHGs. However, both DPFs came to the conclusion that overall the measures supported by the World Bank's DPF would result in net positive environmental impacts. In both cases, the Bank's environmental reviews appear to be selectively considering the potential policy outcomes and using inappropriate baselines to conclude overall positive results.

For example, **in the case of the Infrastructure DPL, the Bank's environmental review focused mainly on electricity tariff reforms and did not consider the impacts from increased government expenditures, guarantees or tax incentives supporting coal projects – and thus concluded the operation overall would have positive environmental outcomes**. Moreover, the Bank did not recognize the risk that government savings from the electricity subsidy reforms would be used to fund coal plants. Thus, instead of the Bank's assumed positive environmental impacts, the DPF-supported subsidy reforms are linked to negative environmental impacts, especially with regards to climate change.

In addition, the I-DPL stated it would address the potential for increased GHGs by strengthening the government's capacity to conduct environmental impact assessments (EIAs). However, increased EIA capacity does not address the potential for a significant increase in GHG emissions associated with supporting a coal intensive infrastructure plan. Strong EIA capacities in the US and Europe have very little role, if any, in these countries' measures to reduce GHGs. Even so, the Bank also did not include any indicative triggers or targeted outcomes of the DPL related to improved EIA capacity. Triggers that may have had a positive EIA-climate change link could have included requiring coal, oil and gas exploration operations to obtain an approved EIA (or AMDAL as they are called in Indonesia). Currently, EIA's are not required in Indonesia for exploration activities, even in protected forest areas.[79]

**Box 3. Importance of Robust Risk Assessment: Previous DPF Reforms and Deforestation**

It is important for the Bank to better understand and assess the cumulative impacts of its DPFs as reforms may drive development trends for many years after the Bank formal DPF program has ended. For example, World Bank policy lending in Indonesia a decade ago promoted reforms to increase investment in palm oil. Bank-required reforms included, *inter alia*, the removal of restrictions on foreign investment in oil palm plantations.[80] **These reforms contributed to Indonesia's significant increase in palm oil investments over the last decade** – ultimately becoming the world's largest producer and exporter of palm oil. To this day, some of these oil palm investment incentives still remain in place and Indonesia continues to increase its acreage of oil palm plantations.

**Even though the World Bank has supported measures aimed at improving government capacity to manage and protect forests, Indonesia remains significantly weak on this front. As such, palm oil investments have been one of the main drivers of deforestation and forest fires in Indonesia**. Greenpeace research found that palm oil production was the single biggest cause of deforestation in Indonesia between 2009 and 2011, accounting for about a quarter of all forest loss over that period.[81] World Bank DPLs need to address the root causes of climate change, including investment incentives supported by previous World Bank DPLs.

Continuing the selective approach, the current Energy DPF's environmental review provided an estimate of GHG emissions linked to DPF reforms but only included estimates for prior actions and not for any of the DPF's triggers going forward, which include: contract incentives for oil and gas exploration; development of marginal gas fields and unconventional resources; and investment incentives for gas production and pipelines. In addition, the DPF's review concludes there could be a potential reduction in GHGs compared to a business as usual baseline. However, **the baseline appears to be assuming future power generation is fully based on coal resources and thus any gas generation is considered a reduction in GHGs**. **Furthermore, the DPL states it "does not anticipate reducing the GOI planned coal generation". Instead the DPL will "reduce the risk of an even greater share from coal."** This is not an ambitious low-carbon outcome. Even if Bank support for natural

gas did end up displacing some coal, this would still leave Indonesia significantly exceeding the 2 degree goal (see Indonesia and Climate Change section above).

Lastly, **the Bank did not assess any potential deforestation risks of the DPFs.** Given the context of Indonesia having the highest deforestation rate in the world and containing the third largest tropical forest cover critical to climate change mitigation, for the World Bank to be dismissive of any forest risks linked to support for large infrastructure growth, specifically targeting forest-rich Sumatera and Kalimantan, is inexcusable. At least in the case of the planned large-scale road projects, expansion of coal mining linked to new power plants, and incentives for gas pipelines, significant deforestation is a risk in Indonesia that the World Bank should have considered, assessed and at the very least included measures to improve governance aimed at protecting forests and forest-dependent communities. As explained above, such measures would need to specifically address drivers of deforestation outside of the forestry sector, such as mining, transport (roads, rails, and pipelines), and agriculture (see Box 3).

## Main Findings

The Indonesian case demonstrates how critical it is to get the investment and other economic incentives right to foster low-carbon development. Unfortunately, the World Bank did not get the incentives right for Indonesia

The World Bank's Infrastructure and Energy DPLs in Indonesia supported both low-carbon and carbon-intensive incentives. Unfortunately, given Indonesia's already existing high GHG emissions rate such a strategy will result in significantly exceeding 2 degrees of warming. In addition to there being no room in the carbon budget for exploring and adding to already proven fossil fuel reserves, 27 leading climate and energy scientists have stated that "There is no room in the remaining carbon budget for building new unabated coal power plants, even highly efficient ones, given their long lifetimes.[82] Thus, the World Bank's DPF operations in Indonesia needed to provide adequate incentives that would allow low-carbon options to displace investments in coal power. However, instead of adequate incentives for low-carbon options the Bank supported new subsidies to coal.

Moreover, the Bank's environmental assessment of the DPFs was very selective, focusing largely on potentially positive climate measures and did not identify any potential forest risks. As such, the World Bank did not adequately consider the climate change risks of DPF-supported reforms.

The following assessment concludes that in the case of Indonesia the reviewed DPFs support an increasingly carbon-intensive development path through:

- **Introduction of New Fossil Fuel Subsidies -** The World Bank DPFs supported many incentives for fossil fuel development, including subsidies given to PPP projects, which in the energy sector are predominantly coal power plants, and government contract incentives for natural gas exploration. The newly established government guarantees for PPP projects have only gone to coal power plants. All of these DPF-supported investment incentives contradict Indonesia's G-20 commitment and the Bank's pledge to phase out fossil fuel subsidies.

- **Unintended Boost to Coal from Energy Subsidy Reforms** – The I-DPL and Energy DPF both supported the reduction of electricity subsidies. However, climate benefits linked to associated reductions in GHG emissions from potential cut backs in electricity consumption are severely diminished because savings from reduced subsidies have been used to partially fund coal power plants and transmission lines for coal power distribution.

- **Incentives for Oil and Gas Exploration** – The current Energy DPF sponsors reformed fiscal terms for contracts to promote investment in gas exploration and the development of unconventional and marginal fields. Although the Bank only mentions gas, exploration for gas cannot be separated from oil exploration and exploration for either contradicts the 2 degree climate goal.

- **Lacking Renewable Energy Support** – The main thrust of the I-DPL program is the PPP investment framework. The PPP projects offered by the GOI include four coal-fired power plants, three coal transport railways, and one large hydropower plant. There are currently no upcoming PPP projects for solar, wind, geothermal, small hydropower or distributive energy. In addition, although the DPFs supported a new Geothermal Law, it did not adequately address barriers to geothermal investments, including, *inter alia*, an insufficient feed-in tariff. As such, Indonesia's vast geothermal resources remain highly under-developed. Lastly, the DPFs did not provide any substantive support for solar, wind or distributive energy.

- **Weakened Governance** – The World Bank notes that Indonesia is hampered by weak environmental governance and pressures on forests from non-forestry sectors including mining, agriculture, and large infrastructure. However, instead of using the DPFs to strengthen Indonesia's governance, the Bank supported measures to speed up land acquisition for large infrastructure projects and licensing for Independent Power Producers. These reforms greatly undermine efforts to improve the governance structures, specifically of the Minister of Environment and Forestry, so critically needed in Indonesia to abate forest loss and climate change.

- **Heightened Deforestation Risks** – The DPF's promotion of large-scale infrastructure projects under the context of further weakened environmental governance is dangerous. Many of the upcoming infrastructure projects, including PPP projects, involve drivers of deforestation in Indonesia, such as coal mining linked to new coal power plants, roads, coal railways, and gas pipelines, especially given much of this development is targeted for the forest-rich regions of Sumatera and Kalimantan.

## Recommendations

World Bank development policy loans represent a crucial opportunity to re-orient countries onto a low-carbon development path and better protect climate vulnerable poor communities. As such, the Bank must heed its own advice on confronting climate change by providing the right incentives for a clear pathway to low-carbon development. To this end, the World Bank should adopt:

1. **Robust Climate Change Assessment for DPFs** – **Does it pass the 2 degree test**? The Indonesian case demonstrates how critical it is to fully assess and adequately address the climate risks associated with reforms contained in Development Policy Finance. Such operations reach far beyond the impacts of project investments and yet they are not adequately assessed by any Bank operational policy. The Bank should revise Operational Policy 8.60 on Development Policy Lending to ensure adequate assessment and mitigation of climate risks, including risks to forests.[83]

   Overall, the DPF operation must be assessed against the World Bank's commitment to the globally-agreed goal of limiting temperature rise to 2°C. Thus, does the DPF operation support policy reforms that put the country on a 2 degree development path (based on 2 t/$CO_2$ emissions per capita) by 2030? This does not mean simply supporting renewable energy but also limiting/reducing fossil fuels to the necessary country level to not exceed 2 degrees warming.

   To begin, a DPF climate risk assessment needs to include an assessment of:

   - All DPF policy and institutional reforms and all corresponding measures and incentives (not just a selected sub-set) embodied within a new policy or institution.

- How DPF reforms will change the overall carbon-intensity direction of targeted sectors, including current government sector medium-term strategies. Do they pass the 2 degree test?
- The government's planned projects associated with the DPF operation: carbon intensive vs. low carbon projects; and projects involving both direct and indirect drivers of deforestation.
- The risks embodied by policy/institutional reforms that are not explicitly part of the DPF-specified reforms but took place leading up to the DPF and/or have shared objective(s), such as promoting infrastructure investment or expediting land acquisition.
- Whether the DPF reforms will enhance or undermine the governance capacity of key ministries regarding social and environmental safeguards, including forest protection.
- Whether any DPF changes to land acquisition or investment laws will weaken or strengthen the land tenure and forest resource security of forest-dependent peoples.
- Whether the DPF will strengthen or weaken the implementation of laws relating to forest protection, including international commitments regarding forest conservation.

2. **Improved DPF Transparency –** It is very difficult to understand the specific reforms and government actions supported by the World Bank's DPF operations, especially if one only reads the Bank DPF program documents. In order for community stakeholders to understand exactly what these operations are supporting and the potential social and environmental risks of these DPF operations, the DPF program document must disclose:

**-** All measures contained in DPF-supported laws, policies and investment frameworks.
**-** All current and planned investment projects related to the DPF operation.

3. **Sufficient Low-Carbon Incentives -** DPFs must be specifically designed to promote incentives that prioritize low-carbon development over carbon-intensive options. DPF operations should be assessed to determine if all possible low-carbon alternatives have been adequately supported before any other options are considered.

In the case of Indonesia, the DPFs should have:

- Ensured the government's planned/offered PPP infrastructure projects included adequate climate-smart renewable energy projects (e.g., geothermal, solar, wind, small hydropower, and distributive energy) to put the country on a 2 degree development pathway.
- Ensured the vast geothermal resources of Indonesia were receiving adequate policy support and investment incentives. For example, the DPF should have ensured the government's initial fund for upstream geothermal exploration had sufficient funding to mitigate upstream risks for investors.
- Included an indicative trigger based on a targeted amount of GW from geothermal sources. The target should be in line with the estimated 29 GW of geothermal resources. The current government target of 4.8 GW by 2024 is too low to meet the 2 degree goal.
- Ensured the DPF operation was doing every measure possible to support Indonesia's geothermal as well as other climate-smart renewables' potential before any measures for fossil fuel projects are supported.

4. **Comprehensive End to Fossil Fuel Subsidies** – The World Bank's Climate Action Plan states that "the WBG will scale up country-level support and global advocacy to "get prices right" by reducing damaging fossil fuel subsidies…" Thus far, the World Bank has taken a limited approach to phasing out fossil fuel subsidies by targeting largely consumer subsidies mainly through decreasing government price-support for electricity and fuels. The Bank often does not recognize its own promotion and creation of new fossil fuel subsidies largely to producers through support for government guarantees, infrastructure investment incentives, and Public-Private Partnerships. Producer subsidies are the drivers of investment and, in the case of those provided to fossil fuels, a significant barrier to low-carbon development.

In the case of Indonesia:

- The Bank's DPF-supported new PPP investment framework should have specified that PPP projects involving fossil fuels were exempt from receiving any subsidies, including *inter alia*: government guarantees, project preparation costs, tax refunds, and project finance.
- The DPFs' electricity tariff subsidy reforms should have specified that increased government revenue due to cuts in electricity subsidies could only fund clean renewable energy projects or energy projects predominantly targeted to supply energy for the poor.

5. **Elimination of All Measures Supporting Fossil Fuel Exploration** – Scientists have determined that at least two-thirds of the world's current, proven reserves of oil, gas, and coal must not be burned if we are to avoid raising global temperatures above 2 degrees Celsius – the globally agreed limit. Thus, any DPF measures supporting fossil fuel exploration are directly incompatible with preventing the worst impacts of climate change. It is worth noting that the Asian Development Bank specifically excludes finance for oil and gas exploration.

6. **Comprehensive Primary Forest Protection** – The World Bank Group's Climate Action Plan, together with the new Forest Action Plan FY16-FY20, specifically states that "the WBG aims to support clients to promote growth that does not come at the expense of their natural forests…" As such, the World Bank must ensure ex-ante DPF assessment of potential risks and impacts of land use change, including direct and indirect impacts to forests. Any DPF reform measures that support project investments that could cause significant adverse impacts to primary forest or critical habitat, and the peoples that depend upon them, should not go forward.

In the case of Indonesia, the PPP projects that will benefit from the Bank-sponsored PPP investment framework are likely to have negative impacts on the forests and forest peoples in Indonesia. Amidst ongoing concerns that Indonesia's environmental oversight is being undermined by efforts to shore up private investment, this missed opportunity to support the GOI in strengthening its protections for forests and forest-dependent communities is of paramount significance.

7. **Strengthened Governance – DPF Reforms Must Not Undermine Governance.** To achieve successful low-carbon development, DPFs need to ensure that countries have adequate governance capacity to develop, implement and enforce proper regulations and incentives (including GHG emissions limits, carbon taxes, and forest protection) to transition the country onto a low-carbon development path. The World Bank specifically needs to ensure that DPFs do not introduce policy reforms that undermine such governance. Policy reforms to strengthen and protect indigenous peoples' and communities' security of tenure of forests should be prioritized as proven strategies to protect forests and combat climate change[84].

In the case of Indonesia, strengthened governance is essential to avoiding forest loss. According to the UN's REDD program, drivers of deforestation that are outside of the forestry sector must be addressed outside of the forestry sector. We must address the politics, legal frameworks and economic incentives of the drivers in other sectors.[85] As such, the DPFs should have:

- Strengthened laws prohibiting the conversion of primary forests on state land to get rid of exemptions for mining and energy projects.
- Eliminated contradictions stemming from regulations in other sectors that allow permits for mining, agriculture, exploration, transport and other infrastructure projects in state forest land.
- Not supported land acquisition laws that expedite the process and weakens local communities' land rights
- Not supported IPP licensing reform that takes permitting authority away from the Minister of Environmental and Forestry and gives it to the Indonesia Investment Coordinating Board. Such a reform undermines the World Bank's own efforts to improve the environmental impact assessment of infrastructure projects in Indonesia.

## End Notes

1. See http://www.worldbank.org/en/topic/climatechange/overview This paper reflects the contents of this World Bank webpage on March 14, 2016.
2. The globally agreed goal of holding warming below a 2°C increase above pre-industrial temperatures by 2100 means that the emissions of greenhouse gases need to be reduced rapidly in the coming years and decades, and brought to zero shortly after 2050.
3. See http://www.worldbank.org/en/news/feature/2015/03/18/5-ways-reduce-drivers-climate-change
4. The World Bank also provides technical assistance (TA) and advisory services that are often associated with DPFs. This paper does not cover these types of assistance. However, these types of assistance also influence government policies and investment incentives and thus, need to be adequately assessed and appropriately designed.
5. Regarding the assessment of climate risks of DPLs, the current policy OP8.60 only suggests a non-binding "toolkit" to be used at the task team's discretion.
6. Soares-Filho et al, 2010. Role of Brazilian Amazon Protected Areas in Climate Change Mitigation. *PNAS* 107(24):10821–26.
7. See http://www.wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters
8. World Bank, 2010. Republic of Indonesia, Climate Change Development Policy Loan: Program Document. International Bank for Reconstruction and Development, World Bank. April 26, 2010.
9. Republic of Indonesia, 2009. Indonesia Climate Change Sectoral Roadmap. December 2009. http://adaptation-undp.org/sites/default/files/downloads/indonesia_climate_change_sectoral_roadmap_iccsr.pdf
10. http://rainforests.mongabay.com/
11. FAO, 2015. Global Forest Resources Assessments: Country Reports – Indonesia. Food and Agriculture Organization of the United Nations, 2015. http://www.fao.org/forest-resources-assessment/current-assessment/country-reports/en/
12. Toumbourou, Tessa, 2015. Improving Indonesia's Forest and Land Governance. The Asia Foundation, January 2015. http://asiafoundation.org/resources/pdfs/ImprovingLandGovernanceIndonesia.pdf
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16. Indrarto, GB. *et. al.,* 2012. *The context of REDD+ in Indonesia: Drivers, agents and institutions*. Working paper 92. CIFOR, Bogor, Indonesia.
17. Indrarto, GB. *et. al.,* 2012. *The context of REDD+ in Indonesia: Drivers, agents and institutions*. Working paper 92. CIFOR, Bogor, Indonesia.
18. ESMAP, 2012. Planning for a Low Carbon Future: Lessons Learned from Seven Country Studies (Paper 73508). Energy Sector Management Assistance Program (ESMAP), World Bank. September 2012
19. World Bank, 2010. Republic of Indonesia, Climate Change Development Policy Loan: Program Document. International Bank for Reconstruction and Development, World Bank. April 26, 2010.
20. http://data.worldbank.org/indicator/EN.ATM.CO2E.PC
21. 2 $tCO_2$ per capita is the level of per capita emissions that is associated with a 50 percent chance of keeping the global average temperature rise to less than 2°C – the globally agreed limit. Source: ESMAP, 2012. Planning for a Low Carbon Future: Lessons Learned from Seven Country Studies (Paper 73508). Energy Sector Management Assistance Program (ESMAP), World Bank. September 2012.
22. Estimate is based on adding 800 MtCO2 from LUCF (Source: Republic of Indonesia, 2009. Indonesia Climate Change Sectoral Roadmap. December 2009.) and a population of 244 million in 2011.
23. Estimate is based on a reduction of 208 $MtCO_2$ LUCF emissions (or 26% of 800 $MtCO_2$) and 816 $MtCO_2$ from the energy sector in 2025 based on Republic of Indonesia, 2009. Indonesia Climate Change Sectoral Roadmap. December 2009. http://adaptation-undp.org/sites/default/files/downloads/indonesia_climate_change_sectoral_roadmap_iccsr.pdf Furthermore, estimate is based on a population of 288 million in 2025 representing a growth rate of 1.2% per year from 2013 base of 250 million.
24. G-20 Leaders Statement The Pittsburgh Summit 2009, para 29; available at http://www.g20.utoronto.ca/2009/2009communique0925.html
25. http://ppp.worldbank.org/public-private-partnership/financing/government-support-subsidies
26. G-20 Leaders Statement The Pittsburgh Summit 2009, para 29; available at http://www.g20.utoronto.ca/2009/2009communique0925.html
27. Prior Action 6 in IDPL3: Issuance of Government Regulation establishing the Guarantee Fund, and Prior Action 7 in IDPL4: Guarantee Fund established, including staffing of senior management and draft operating procedures.
28. Government guarantees provide insurance to cover investment risks, such as delays or failure to secure licenses, changes in

regulations or laws, and offtake or payment obligations for state-owned enterprises. These government guarantees transfer private investment risks to public risks. A transfer of private liabilities to public liabilities is a subsidy.

29. PricewaterhouseCoopers, 2011. Electricity in Indonesia: Investment and Taxation Guide 2011.
30. Higher budget allocation for national infrastructure, with a focus on electricity and roads, was a prior action for the first I-DPL and accounted for indicative triggers for I-DPL 2 and 3.
31. World Coal Association at http://www.worldcoal.org/resources/coal-statistics/
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37. Indrarto, GB. *et. al.,* 2012. *The context of REDD+ in Indonesia: Drivers, agents and institutions*. Working paper 92. CIFOR, Bogor, Indonesia.
38. *Ibid.*
39. World Bank, 2010. Republic of Indonesia, Climate Change Development Policy Loan: Program Document. International Bank for Reconstruction and Development, World Bank. April 26, 2010.
40. *Indicative Triggers for IDPL* 2: 1. *Adoption of an action plan by the Land Working Group to accelerate land acquisition processes and ensure fair compensation and rehabilitation measures to project affected persons.2. Adoption of Ministry of Public Works decree, in agreement with Ministry of Finance, on allocation of land acquisition and compensation costs as project costs in budget allocation for each Ministry of Public Works/Directorate-General of Highways national roads project. Indicative Trigger for IDPL 3: Implementation of Land Working Group's action plan.*
41. Law No. 2/201 on Land Acquisition: Price of land is determined through independent appraisal. Land owner may choose to reject through court, yet court has to decide in 30 days (final). After transaction process (normal) or by court verdict, project can commence. Re-settlement is also an option. As explained in the *Jakarta Post* http://www.thejakartapost.com/news/2015/03/26/analysis-infrastructure-execution-key.html#sthash.tDk859ud.dpuf
42. See: http://www.gbgindonesia.com/en/property/article/2016/indonesia_s_land_acquisition_laws_on_paper_only_11365.php
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44. Wulan, Y.C and Yasmi, Y. 2004 Analisa konflik: sektor kehutanan di Indonesia 1997–2003 [An analysis of forestry sector conflict in Indonesia 1997–2003]. CIFOR, Bogor, Indonesia.
45. The International Finance Corporation or IFC is the World Bank Group's private sector arm.
46. US$29.60 million loan for the Indonesia Infrastructure Guarantee Fund (IIGF project ID# P118916). World Bank Appraisal document for the IIGF project (paragraph 22): … "the current project is linked to other WB operations through Prior Action 6 in IDPL3: Issuance of Government Regulation establishing the Guarantee Fund, and Prior Action 7 in IDPL4: Guarantee Fund established, including staffing of senior management and draft operating procedures, [i.e., the Operations Manual]."
47. Police arrest 43 peaceful coal power plant protesters in front of State Palace, Oct. 6, 2015,http://jakarta.coconuts.co/2015/10/06/police-arrest-43-peaceful-coal-power-plant-protesters-front-state-palace;Jakarta Globe: Residents Continue Fight Against Batang Power Plant, http://jakartaglobe.beritasatu.com/news/residents-continue-fight-batang-power-plant, 3/30/15; People living in Batang protest against PLTU in Indonesia, 7/22/13.http://news.xinhuanet.com/english/photo/2013-07/22/c_132563353.htm;The True Cost of Coal Abuses: Health impacts and Risks Associated with Indonesia's Batang Coal Fired Power Plant Project, Greenpeace Briefing Paper, March 2014.
48. *The Jakarta Post*, 2016. Supreme Court ruling paves way for Batang megaproject. March 2, 2016. Available at: http://www.thejakartapost.com/news/2016/03/02/supreme-court-ruling-paves-way-batang-megaproject.html
49. http://priceofoil.org/content/uploads/2013/11/Civil-Society-Letter-to-WB-Pres-Kim-Indonesia-Coal-Oct-2-2013.pdf
50. http://endcoal.org/2015/08/in-japan-indonesian-villagers-file-official-complaints-on-batang-coal-plant/
51. *Ibid.*
52. http://endcoal.org/2015/08/in-japan-indonesian-villagers-file-official-complaints-on-batang-coal-plant/
53. *Ibid.*
54. *IJ Global*, PLN to start acquiring land for Central Java. March 19, 2015.

55. The complete title of the World Bank's Energy DPL is "First Indonesia Sustainable and Inclusive Energy Development Policy Loan'.
56. Pillar B Investment Climate: Indicative Trigger #3 – "The Borrower adopts revised fiscal terms for production sharing contracts to increase investment into the upstream/midstream including incentives for developing marginal fields, and unconventional resources."
57. Pillar B Investment Climate: Indicative Trigger #4 "The Borrower introduces regulatory measures in the gas mid-stream that would encourage mid-stream entities to accelerate investment in critical gas processing, transportation and storage facilities."
58. World Bank, 2015. First Indonesia Sustainable and Inclusive Energy Development Policy Loan: Program Document. World Bank, November 3, 2015.
59. EY, 2015. Opportunities and challenges of the Indonesian electrification drive. EY, March 2015. http://www.ey.com/Publication/vwLUAssets/opportunities-and-challenges-of-the-indonesian-electrification-drive-february-2015/$FILE/ey-opportunitiesand-challenges-of-the-indonesian-electrification-drive.pdf
60. In Indonesia, the Public Service Obligation (PSO) is a price subsidy to consumers from the budget covering the difference between the cost of supply and the regulated tariffs for different consumer categories.
61. **Pillar A**, **Prior action #1:** The Minister of Energy and Mineral Resources has issued regulations to phase out electricity subsidies for: (a) large- and medium-sized industrial and business categories; and (b) large- and medium-sized residential consumers, as evidenced through MEMR Regulation 9/2014 and MEMR Regulation 19/2014, and PLN has implemented the corresponding tariff increases. **Prior action #2:** The Minister of Energy and Mineral Resources has issued regulations for the monthly automatic indexation of electricity tariffs – to reflect changes in oil prices, the exchange rate, and inflation – for: (a) large- and medium-sized industrial and business categories; and (b) large residential consumers, as evidenced through MEMR Regulation 31/2014 and MEMR Regulation 9/2015; and, from January 2015, PLN has adjusted its tariffs in accordance with said regulations for the abovementioned categories.
62. EY, 2015. Opportunities and challenges of the Indonesian electrification drive. EY, March 2015. http://www.ey.com/Publication/vwLUAssets/opportunities-and-challenges-of-the-indonesian-electrification-drive-february-2015/$FILE/ey-opportunitiesand-challenges-of-the-indonesian-electrification-drive.pdf
63. EY, 2015. Opportunities and challenges of the Indonesian electrification drive. EY, March 2015. http://www.ey.com/Publication/vwLUAssets/opportunities-and-challenges-of-the-indonesian-electrification-drive-february-2015/$FILE/ey-opportunitiesand-challenges-of-the-indonesian-electrification-drive.pdf
64. EIA, 2015. Indonesia has significant potential to increase geothermal electricity production. US Energy Information Agency, October 19, 2015. http://www.eia.gov/todayinenergy/detail.cfm?id=23392
65. PricewaterhouseCooper, 2011. Electricity in Indonesia: Investment and Taxation Guide 2011. Note: Approximately, 13 GW of this estimation are still considered to be speculative. Also, see http://awsassets.wwf.or.id/downloads/geothermal_report.pdf
66. The Energy DPL's results indicator is "PLN enters into new long-term agreements for domestic and/or inter-island gas supply of a minimum of 125 million cubic feet per day by end-2016, as measured by the daily gas volume to be supplied under new contracts or contract extensions signed after December 2015 of 5-years or greater duration. Measurement against this indicator would not only show reform progress but would have important demonstration value for future gas procurements, both by PLN and IPPs."
67. Geothermal is a special focus of Indonesia's US$400 million Clean Technology Fund co-financed by the World Bank and Asian Development Bank.
68. EIA, 2015. Indonesia has significant potential to increase geothermal electricity production. US Energy Information Agency, October 19, 2015. http://www.eia.gov/todayinenergy/detail.cfm?id=23392
69. Renewable Energy World, 2016. Indonesia's geothermal potential: a legal review. July 27, 2016. http://www.renewableenergyworld.com/articles/ucg-content/2016/07/27/indonesias-geothermal-potential-a-legal-review.html
70. Power Supply Provision Business Plan 2015-2019, as ratified by the Minister of Energy and Mineral Resources.
71. First Indonesia Sustainable and Inclusive Energy Development Policy Loan, World Bank Program Document, November 3, 2015. Note: figures exclude captive power generation, which is dominated by diesel and coal.
72. *Ibid*.
73. See the First Indonesia Sustainable and Inclusive Energy Development Policy Loan, World Bank Program Document, November 3, 2015. Note: figures exclude captive power generation, which is dominated by diesel and coal.
74. EY, 2015. Opportunities and challenges of the Indonesian electrification drive. EY, March 2015. http://www.ey.com/Publication/vwLUAssets/opportunities-and-challenges-of-the-indonesian-electrification-drive-february-2015/$FILE/ey-opportunitiesand-challenges-of-the-indonesian-electrification-drive.pdf
75. See the First Indonesia Sustainable and Inclusive Energy Development Policy Loan, World Bank Program Document, November 3, 2015. Note: figures exclude captive power generation, which is dominated by diesel and coal.
76. Estimate is based on a reduction of 208 $MtCO_2$ LUCF emissions (or 26% of 800 $MtCO_2$) and 816 $MtCO_2$ from the energy sector in 2025 based on Republic of Indonesia, 2009. Indonesia Climate Change Sectoral Roadmap. December 2009. http://adaptation-undp.org/sites/default/files/downloads/indonesia_climate_change_sectoral_roadmap_iccsr.pdf Furthermore, estimate is based on a population of 288 million in 2025 representing a growth rate of 1.2% per year from 2013 base of 250 million.
77. IEG, 2016. Indonesia Climate Change Development Policy Loan: Project Performance Assessment Report. World Bank, ion shttp:// Evaluations Group, World Bank, February 9, 2016. http://ieg.worldbank.org/Data/reports/PPAR_Indonesia.Clmt_.ChgDPL.pdf
78. IEG, 2016. Indonesia Climate Change Development Policy Loan: Project Performance Assessment Report. World Bank, ion shttp:// Evaluations Group, World Bank, February 9, 2016. http://ieg.worldbank.org/Data/reports/PPAR_Indonesia.Clmt_.ChgDPL.pdf
79. http://www.oentoengsuria.com/wp-content/uploads/2010/11/15056-PUB-OSP-Indonesian-Regulatory-Update-09-11-web.pdf

80. The reforms also included a significant reduction in export tariffs for palm oil, but the GOI went back and forth on the level of export tariffs.
81. http://www.greenpeace.org/international/en/publications/Campaign-reports/Forests-Reports/Certifying-Destruction/ For information on forest fires and oil palm plantations see: http://www.theguardian.com/environment/2015/nov/06/illegally-planted-palm-oil-already-growing-on-burnt-land-in-indonesia
82. Metz, Bert (Dr.), et al, 2013. New unabated coal is not compatible with keeping global warming below $2^0$C. Coal and 2 degrees C statement. European Climate Foundation, The Netherlands. October 2013.
83. Regarding the assessment of climate risks of DPLs, the current policy OP8.60 only suggests a non-binding "toolkit" to be used at the task team's discretion.
84. Soares-Filho et al, 2010. Role of Brazilian Amazon Protected Areas in Climate Change Mitigation. *PNAS* 107(24):10821–26.
85. Salvini, G., Herold, M., Sy, V.D., Kissinger, G., Brockhaus, M., Skutsch, M., 2014. How countries link REDD+ interventions to drivers in their readiness plans: implications for monitoring systems. Environ. Res. Lett. 9, 074004. Doi:10.1088/1748-9326/9/7/074004