Collaboration Toward Zero Deforestation

Aligning Corporate and National Commitments in Brazil and Indonesia

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Forest Trends

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Executive summary

A number of companies have committed to eliminating deforestation in their supply chains, while governments have included plans to address deforestation in their Nationally Determined Contributions (NDCs)—official climate action plans submitted by parties of the Paris Agreement. Despite sharing similar objectives, corporations and governments have, to a large degree, acted in isolation regarding deforestation policies. However, deeper collaboration and coordination between the two sectors would provide valuable synergies. Corporations require a regulatory and policy environment that supports their zero deforestation ambitions. Likewise, governments are more likely to achieve their NDC goals with the participation of key corporate actors implementing reduced deforestation and forest landscape restoration corporate policies across their operations.

In this report, Environmental Defense Fund and Forest Trends examine case studies on corporate commitments, government policies, and multi-stakeholder initiatives that support NDCs in Brazil and Indonesia. The report analyzes how current initiatives align with NDCs and identifies ways to improve this alignment. The report concludes with specific recommendations to enhance collaboration on private sector commitments and NDCs in both countries. It also presents relevant findings that could apply in other countries and contexts. The analysis in the report is based on desktop research, expert interviews, and input from a workshop during the Tropical Forest Alliance 2020 (TFA 2020) General Assembly Meeting in March 2017.

Brazil

Brazil's NDC

Brazil's Nationally Determined Contribution (NDC) aims to reduce emissions below 2005 levels by 37% in 2025 and 43% in 2030.[1] In the land-use and forest sectors, Brazil plans to implement the following measures by 2030:

- Strengthen and enforce the Forest Code
- Zero illegal deforestation in the Amazon and compensation for legal deforestation
- Restoration of 12 million hectares (Mha)
- Sustainable native forest management
- Sustainable agricultural development, including restoring 15 Mha degraded pastureland and 5 Mha of integrated cropland-livestock-forestry systems (ICLFS)

Case studies: Government policies, corporate commitments, and public-private partnerships in support of Brazil's NDC goals

Numerous companies are collaborating with governments and non-governmental organizations (NGOs) in multi-stakeholder initiatives that are supporting and accelerating

the implementation of Brazil's NDC goals. This report includes case studies on the following multi-stakeholder initiatives:

BRAZIL CASE STUDY 1

- Mato Grosso's Produce, Conserve, Include Strategy

BRAZIL CASE STUDY 2

- Cattle Agreements

BRAZIL CASE STUDY 3

- Soy Moratorium

A summary of the interaction between stakeholders in these initiatives and the ways they are supporting Brazil's NDC are listed in Table 1 (below) and Table 2 (page 6), respectively, and illustrate how multi-stakeholder initiatives are contributing to Brazil's NDC.

TABLE 1

Interaction between stakeholders

Brazil's NDC	Mato Grosso (MT) Produce, Conserve, Include (PCI) Strategy	Cattle sector	Soy sector
A "base document" to support the strategy for implementing Brazil's NDC was prepared by the Ministry of Environment in cooperation with the International Development Bank. The Ministry of Environment plans to elaborate its NDC strategy by conducting consultations with stakeholders in 2017. The Brazilian Coalition on Climate, Forests, and Agriculture, which consists of 131 NGO and private sector members, was created to advocate for an ambitious NDC and other policies.	According to the base document on implementing its NDC, Brazil aims to formalize public-private partnerships for restoration with Mato Grosso's PCI Strategy. The PCI is led by the MT government as part of a steering committee with representatives from NGOs, producer associations, ministries, and private sector entities. Companies such as Amaggi and Marfrig have signaled demand for commodities from the state. The government of MT also participates actively in the Legal Amazon Governor's Forum and the Environmental Secretaries Forum in Brazil, and TFA2020 and UNFCCC conferences internationally.	In 2009, meatpackers signed Terms of Adjustment of Conduct (TAC) agreements with the offices of the Federal Public Prosecutor in several states. A subset of companies signed the G4 agreements with Greenpeace. Two initiatives, the Novo Campo Program and the São Félix do Xingu (SFX) project, have served as models for the cattle agreements. Companies in the cattle agreements allowed market access only to suppliers that complied with zero deforestation requirements, while companies in Novo Campo and SFX provided incentives such as long-term purchase agreements, price premiums for higher quality beef, special marketing strategies, and access to finance. The SFX project also received incentives from Pará state (e.g. tax revenue) and a grant from the Amazon Fund. To implement its NDC, Brazil plans to promote The Novo Campo Program and the TAC agreements.	The Soybean Working Group (GTS) is comprised of soy trade associations, NGOs, the Ministry of Environment, and the Bank of Brazil. The Ministry of Environment provides satellite data on deforestation on soy properties, which companies use to block purchases from producers that violate the moratorium. To support the implementation of its NDC, Brazil plans to promote the Soy Moratorium and formalize public-private partnerships for restoration with the initiative. The Soy Moratorium is also integrated into Brazil's Action Plan for Prevention and Control of Deforestation in the Legal Amazon (PPCDAm).

TABLE 2

Examples of corporate actions supporting Brazil's NDC goals

Five forest-related themes in Brazil's NDC	MT PCI	Cattle Agreements, Novo Campo, and the São Félix do Xingu project	Soy Moratorium
Strengthen and enforce the Forest Code	The PCI aims to register 90% of rural properties with Brazil's rural environmental registry (CAR) by 2016 and validate 100% of properties by 2018. The Brazilian government requires all properties to be registered with the CAR by December 2017, though it has extended this deadline in the past and signaled it might allow for another one-year extension.	The Cattle Agreements accelerated implementation of the CAR by requiring suppliers to register with the system. In addition, JBS negotiated with consultants to provide lower fees to help suppliers register with the CAR. JBS and Marfrig also collaborated with IBAMA (the environmental protection agency) and the Public Prosecutor's office to collect and process data on embargoed properties.	The Soy Moratorium does not require compliance with the Forest Code. Many producers with zero deforestation since 2008 are still not compliant with the Forest Code because they have not restored their legal forest requirements. However, soy trade associations provide trainings on compliance with Brazil's regulations through the Soja-Plus Program to farmers.
Zero illegal deforestation in the Amazon and compensation for legal deforestation	MT aims to have zero illegal deforestation by 2020 for all biomes (Amazon, Cerrado, and Pantanal), going farther than Brazil's NDC, which targets zero illegal deforestation by 2030 for the Amazon. The PCI sets additional goals of reducing deforestation by 90% in the Amazon and 95% in the Cerrado. Similar to Brazil's NDC, MT plans to compensate landowners with legal rights to deforest.	The TAC agreements prohibit illegal deforestation, while the G4 agreements prohibit all deforestation. The agreements were shown to reduce deforestation by direct suppliers, although cattle associated with deforestation could still end up in signatories' supply chains through indirect suppliers. Initiatives such as Novo Campo have gone beyond the cattle agreements to require and track zero deforestation for direct and indirect suppliers.	The Soy Moratorium prohibits all deforestation in the Amazon after 2008.
Restoration of 12 Mha	MT aims to restore 2.9 Mha of legal reserve and riparian areas by 2030, just below one quarter of the national restoration target. This also contributes to compliance with Brazil's Forest Code.	The Cattle Agreements do not require ranchers to restore forests. However, initiatives such as Novo Campo and the SFX project are supporting reforestation. The Novo Campo program requires ranchers to restore their legal forest requirements and provides technical assistance to support them. The SFX project promotes restoration on 588 acres of degraded land through cocoa agroforestry.	The Soy Moratorium does not require producers to restore their legal forest requirements under the Forest Code.
Sustainable native forest management	MT aims to increase the area of timber harvesting under sustainable forest management plans (PMFS) from 2.8 Mha to 6 Mha by 2030.	N/A	N/A
Sustainable agricultural development	By 2030, MT plans to restore 6 Mha of degraded pasture, 2/5 of the national goal, 3 Mha of which it intends to convert to agriculture and 0.5 Mha to forest plantation.	The cattle agreements require zero deforestation, leading ranchers to intensify new cattle production on already cleared land. In addition, Novo Campo and SFX project provide technical assistance on good agricultural practices to producers.	The Soy Moratorium incentivizes producers to intensify soy production and concentrate expansion on already cleared lands, such as pastureland.

Recommendations for Brazil

Government

- Restore and fortify federal resources and regulations for environmental protection, including for protected areas and indigenous peoples
- Provide total transparency with the CAR (Rural Environmental Registry) and the GTA (Animal Transportation Guide) to aid companies in monitoring and tracking deforestation throughout supply chains
- Provide incentives to protect forests, increase restoration, and support sustainable agriculture
- Explore innovative financing mechanisms (e.g. loan guarantees and co-financing) to reduce risk of investment

Companies

- Maintain and strengthen corporate governance of deforestation-free policies, especially considering reversals of federal environmental protections
- Engage in collectives to advocate for policies that support common goals
- Require zero deforestation and compliance with the Forest Code in supply chains for both direct and indirect suppliers
- Provide incentives and support to suppliers to accelerate government policies
- Source new purchases from jurisdictions that are putting in place ambitious programs to address deforestation, in addition to traditional tools to reduce deforestation in individual supply chains

Indonesia

Indonesia's NDC

Indonesia's Nationally Determined Contribution (NDC) makes an unconditional commitment to reduce emissions 26% below the business as usual (BAU) scenario by the year 2020, and 29% below BAU by 2030.[2,3] The NDC also specifies a conditional commitment—contingent upon international support—to reduce emissions 41% below BAU by 2030 (i.e. a 12% increase in reductions beyond its unconditional commitment).

In the land use and forest sectors, Indonesia plans to implement several measures related to forest and peatland conservation and restoration, with potential for involvement and support from the private sector. These aims and approaches can be categorized into five key themes:[4]

- Protection and restoration of forests and peatlands
- Landscape approach
- Multi-stakeholder involvement
- Spatial planning and land-use planning
- Enhancing agricultural productivity

Case studies: Government policies, corporate commitments, and public-private partnerships in support of Indonesia's NDC goals

The report highlights the following key government policies, corporate commitments, and multi-stakeholder initiatives which offer the most promising examples of existing and potential collaboration between the private sector and the government that can enhance Indonesia's NDC (see Table 3, page 8 for detailed information about existing collaborations):

INDONESIA CASE STUDY 1
Government policies

- Moratorium on Primary Forest Clearing and Conversion of Peatlands
- Palm Oil Permit Moratorium
- Peatland Restoration Agency

INDONESIA CASE STUDY 2
Corporate commitments: No Deforestation, No Peat, No Exploitation (NDPE)

- Wilmar
- Asia Pulp and Paper
- Unilever

INDONESIA CASE STUDIES 3 AND 4
Jurisdictional multi-stakeholder initiatives

- South Sumatra Eco-Region Alliance/South Sumatra Partnership Consortium for Landscape Management
- Central Kalimantan Jurisdictional Commitment to Sustainable Palm Oil

TABLE 3

Examples of corporate actions supporting Indonesia's NDC goals

Protection and restoration of forests and peatlands	• Asia Pulp and Paper (APP) committed to conserve or restore 1 Mha of forest and peatland in Indonesia by 2020, and provided seed-funding for the Belantara Foundation to catalyze public-private partnerships toward forest and peatland protection and restoration. APP is also collaborating with the Provincial Government of South Sumatra through its Eco-Region Alliance to scale up its efforts of forest conservation and peatland restoration to the jurisdictional level. • Asia Pacific Resources International (APRIL) Group developed the Fire Free Village Program and successfully piloted it at the village level in Riau Province, prompting other companies to adopt similar policies and programs, and the South Sumatra Provincial Government to pilot a similar effort aimed at eventually scaling up to the jurisdictional level.
Landscape approach	• Many of the corporations pursuing implementation of their NDPE commitments are making investments at the landscape scale and forming partnerships with subnational governments. Unilever has committed to preferential sourcing from jurisdictions committed to reducing deforestation, and is working with the Provincial Government of Central Kalimantan and three district governments within the province to pilot an effort to achieve jurisdictional certification for all palm oil produced in the districts.
Multi-stakeholder involvement	• Many of the most promising examples of public-private partnerships to reduce deforestation (i.e., in South Sumatra and Central Kalimantan) have involved deep and formal collaboration between key private sector commodity companies, multiple levels of the government (e.g., national, provincial, regency, district, village), and NGOs—all working toward shared goals. These collaborations have enabled a degree of collective forward progress that the individual institutions could not otherwise have achieved on their own.
Spatial planning and land-use planning	• A wide range of companies producing or purchasing Indonesian palm oil or pulp/paper publicly committed through a TFA 2020 statement to share their concession maps with the Indonesian Government's Peat Restoration Agency (*BRG*) in order to support the agency's efforts to map and conserve the country's peatlands.
Enhancing agricultural productivity	• Wilmar is partnering with smallholder palm oil producers in its supply chain to increase their yields while also ensuring their production methods are in line with the company's NDPE policy. The company is supporting independent smallholders in South Sumatra to achieve RSPO group certification. • At Davos in January 2017, Unilever committed to invest $25 million ($5 million per year for five years) into the Public-Private Jurisdictional Forest Fund (coordinated by the Norwegian government's International Climate and Forest Initiative), likely to be used in support of boosting palm oil production and yields for smallholders in three districts in Central Kalimantan, in collaboration with the district and provincial governments.

Recommendations for Indonesia

Based on interviews and analysis of existing government policies, corporate commitments, and jurisdictional multi-stakeholder partnerships, we recommend the following to achieve more effective collaboration between the Indonesian government and companies:

- Legalize forest conservation by companies within their concessions
- Collaborate toward shared mapping and land classifications
- Incentivize local governments to prioritize forest protection
- Embed national policies in subnational action, and scale-up lessons learned
- Implement key land use policies and reforms
- Provide platforms for private sector consultation and input
- Develop new public-private investment vehicles to support smallholder intensification
- Utilize existing public-private investment vehicles for peatland restoration
- Partner to develop best practices for peatland management and restoration

Introduction

Between 2000 and 2012, commercial agriculture accounted for an estimated 71% of global tropical deforestation, while illegal agro-conversion was responsible for 24% of tropical forest loss.[5] The links between commercial agriculture and deforestation are especially pronounced in Brazil and Indonesia, which collectively accounted for 38% of tropical deforestation in 2014.[6] Over the same time period, an estimated 90% of forest loss in Brazil was caused by commercial agriculture, primarily by conversion for beef and soy, while in Indonesia, an estimated 80% of forest loss was due to commercial agriculture, driven primarily by oil palm and pulp plantation expansion.[7] In light of these trends, consumer-facing companies are under increasing pressure to take responsibility for the deforestation impacts of their supply chains. As of March 2017, 447 companies globally have made commitments to curb forest destruction in supply chains linked to palm oil, soy, timber & pulp, and cattle.[8] These commitments take a variety of forms, including targets related to purchasing certified products, supply chain traceability, moratoria on areas or suppliers linked to deforestation, and other targets for low or zero deforestation.

The links between commercial agriculture and deforestation are especially pronounced in Brazil and Indonesia, which collectively accounted for 38% of tropical deforestation in 2014.

Concurrently, governments have made pledges to address deforestation and climate change. In 2015, 191 countries submitted plans to the United Nations Framework Convention on Climate Change (UNFCCC) to address climate change after 2020, termed Intended Nationally Determined Contributions (INDCs), or when ratified by the country, Nationally Determined Contributions (NDCs).[9] The vast majority (80%) of countries included forestry, land use, and land-use change in their targets.[10]

Many companies have been calling for government support to meet their goals by removing policy barriers and spurring investments. The implementation of corporate zero deforestation commitments is hindered by weak governance, unclear land titles, a lack of financial and technical resources for farmers to change their practices, a lack of traceability and monitoring systems, and costs of certification and other initiatives.[11]

At the same time, governments will be hard-pressed to meet the emission reduction targets laid out in their NDCs without private sector collaboration. Corporations hold tremendous power to shape landscape management practices on the lands they control—directly and indirectly—throughout their supply chains. If corporate commitments and actions can be properly aligned with government policies and NDC goals, the private and public sectors will be able to reinforce each other's efforts to achieve zero deforestation at subnational, national, and global scales. Moreover, when government priorities change, or when law enforcement lacks sufficient capacity, the private sector's support and participation can help fill this void and ensure consistency of forest conservation during administration transitions.

Multi-stakeholder collaboration to reduce deforestation has been accelerating in the past few years. Companies, non-governmental organizations (NGOs), and governments have formed a variety of international partnerships to achieve their shared forest and climate goals. These partnerships include:

- **New York Declaration on Forests:** Companies, national and subnational governments, and NGOs signed the New York Declaration on Forests in 2014, endorsing a package of policies

and actions that they would jointly implement to halve global deforestation and eliminate deforestation from the production of agricultural commodities by 2020, toward the ultimate goal of ending deforestation globally by 2030.[12]

- **Tropical Forest Alliance 2020 (TFA 2020):** TFA 2020 convenes governments, private sector actors, and NGOs to collaborate on reducing deforestation.[13] TFA 2020 began in 2012 to support the Consumer Goods Forum (CGF), a consortium of around 400 companies, to achieve its goal of zero net deforestation by 2020 for palm oil, soy, beef, paper and pulp.
- **The Marrakesh Partnership for Global Climate Action:** Parallel to the UNFCCC negotiations, the Marrakesh Partnership provides a platform for non-governmental, private sector, and sub-national actors to showcase initiatives that are accelerating action on deforestation and other climate issues, especially in ways that support countries' NDCs.[14] In 2015, the initiative (known as the Lima-Paris Action Agenda at the time) provided a platform for Unilever and Marks & Spencer to announce at COP21 in Paris the launch of the Produce-Protect Compact, indicating that they would preferentially source commodities from jurisdictions with strong forest policies, including ambitious NDCs.[15] Subsequently, a multi-stakeholder group was convened to help Unilever, Marks & Spencer, and other companies to implement the Produce-Protect Compact.[16]

Considering the common goals of companies, governments, and multi-stakeholder initiatives, it is imperative to identify opportunities for collaboration to harness synergies between initiatives and catalyze action.

Considering the common goals of companies, governments, and multi-stakeholder initiatives, it is imperative to identify opportunities for collaboration to harness synergies between initiatives and catalyze action. This report utilizes case studies to demonstrate how the private sector can support Brazil and Indonesia in achieving their respective NDCs, through greater reductions in deforestation and increased forest landscape restoration, than could be achieved solely via government effort. Concurrently, government policies and incentives could hasten the ability of companies to meet their commitments, which in turn further supports their ability to achieve the NDC targets. We focus on the leading drivers of deforestation—beef and soy in Brazil and palm oil and wood products in Indonesia. We identify best practices, challenges, and opportunities to scale up current initiatives. We conclude with specific recommendations to enhance collaboration on private sector commitments and NDCs in both countries as well as relevant findings for potential applicability in other countries and contexts.

Approach and methodology

The analysis is based on desktop research of company and CSO reports, government documents and peer-reviewed literature. It also draws upon findings from expert interviews, and input from a workshop held during the TFA 2020 General Assembly Meeting in March 2017 in Brasilia, Brazil. The workshop and interviews were conducted under Chatham House Rules, without attribution of specific statements to any individual or company. When companies are named in the report, the information provided is based upon publicly available information. Participants in the workshop and interviewees have been listed in the Annex.

The purpose and scope of this report is to identify the ways in which private sector and government efforts toward shared goals of reduced deforestation and increased forest restoration are supporting—and could better reinforce—one another in Brazil and Indonesia. The analysis is not meant to be interpreted as a comprehensive analysis or endorsement of all aspects of the initiatives that are highlighted in the report. This does not in any way preclude the value of other studies which might seek to assess the initiatives by evaluating the outcomes of their early actions with regard to important issues, such as impacts on local communities. Finally, while corporate pledges and multi-stakeholder processes often utilize slightly different definitions of deforestation—which many studies have analyzed and evaluated (e.g., Supply-Change.org)—this report focuses on corporate commitments and actions to reduce deforestation, without delving into the specific definitions of deforestation (e.g., net, gross) used by individual companies.

Brazil

Brazil's NDC

Brazil's NDC aims to reduce emissions below 2005 levels by 37% in 2025 and 43% in 2030.[17] In the land-use and forest sectors, Brazil plans to implement several measures, which are listed in "Elements of Brazil's NDC with relevance for private sector deforestation-free commitments" below.

The government of Brazil is now working with the private sector and NGOs to elaborate its national strategy for implementing and financing its NDC.[18] As part of this process, the Inter-American Development Bank worked with the Ministry of Environment to create a "base document" to initiate discussions.[19] This document emphasizes that the private sector will play an important role in implementing Brazil's NDC by complying with regulations and supporting sustainable production. The report specifically mentions that the government will promote the adoption of sectoral strategies such as the Soy Moratorium, the Novo Campo program, and the Terms of Adjustment of Conduct (TAC) agreements by the cattle industry. In addition, the document mentions that Brazil will formalize public-private partnerships for restoration with initiatives such as Mato Grosso's Produce, Conserve, Include (PCI) Strategy and the Soy Moratorium. The Ministry of Environment has been conducting

Elements of Brazil's NDC with relevance for private sector deforestation-free commitments[20]

Strengthen the Forest Code:
"Strengthening and enforcing the implementation of the Forest Code, at federal, state and municipal levels." (see "Brazil's forest code," page 13)

Zero illegal deforestation and compensation through restoration:
"Strengthening policies and measures with a view to achieve, in the Brazilian Amazonia, zero illegal deforestation by 2030 and compensating for greenhouse gas emissions from legal suppression of vegetation by 2030."

Restoration:
"Restoring and reforesting 12 million hectares of forests by 2030, for multiple purposes."

Sustainable native forest management:
"Enhancing sustainable native forest management systems, through georeferencing and tracking systems applicable to native forest management, with a view to curbing illegal and unsustainable practices."

Sustainable agricultural development:
"In the agriculture sector, strengthen the Low Carbon Emission Agriculture Program (ABC) as the main strategy for sustainable agriculture development, including by restoring an additional 15 million hectares of degraded pasturelands by 2030 and enhancing 5 million hectares of integrated cropland-livestock-forestry systems (ICLFS) by 2030."

Text in italics comes directly from the NDC text:
http://www4.unfccc.int/submissions/INDC/Published%20Documents/Brazil/1/BRAZIL%20iNDC%20english%20FINAL.pdf

Brazil's Forest Code

The Brazilian Forest Code requires that private properties maintain a Legal Reserve (LR) of 80% forest cover in the Amazon biome, 35% in the Cerrado, and 20% in other areas.[21] Properties are also required to maintain Areas of Permanent Preservation (APPs), including environmentally sensitive areas such as riparian areas. Landowners also must register their properties with the Rural Environmental Registry (CAR). If landowners have an insufficient LR, they can restore native vegetation on their properties or purchase Environmental Reserve Quotas (CRA), a tradeable legal title from a property with excess LR within the same biome and preferably the same state. APPs must be restored in specific places.

consultations with multiple stakeholders on Brazil's NDC and its implementation in the first half of 2017.[22]

Several companies have already been engaging with the Brazilian government on the NDC. The Brazilian Coalition on Climate, Forests, and Agriculture is a multi-stakeholder group that has had a strong influence on Brazil's NDC and other policies. The Brazilian Coalition has 131 members, including NGOs and companies such as Cargill, Carrefour, and Unilever.[23] Prior to the release of Brazil's NDC, the coalition presented their own suggestions for Brazil's commitments, as well as 17 proposals for implementing them.[24] One member of the coalition that we interviewed emphasized that support from private sector coalition members gave the government of Brazil confidence to present and ratify an ambitious NDC. Multiple members also asserted that the coalition played a critical role in negotiating with the federal government to publicly disclose information on the CAR in 2016. However, some NGOs argued that more information on the CAR, including producers' names and registration numbers, should be open to the public to achieve full social accountability and implementation of the system.[25]

Implications of Brazil's NDC for private sector deforestation-free commitments

Brazil's NDC has been lauded as a significant commitment, especially its economy wide goal of reducing emissions by 37% by 2025 and 43% by 2030.[26] However, many have also identified areas where Brazil can strengthen its goals, its mechanisms for achieving them, and its engagement with stakeholders. In any case, Brazil's NDC will dictate climate action in the country for the next 10 years and beyond, and thus has many implications for companies to meet their zero-deforestation commitments.

Limited incorporation of the private sector and civil society: Brazil's NDC does not explicitly mention a role for the private sector, although many companies are already contributing to its goals. Brazil's recent base document on implementing its NDC clarifies that actions by the private sector will be crucial to its strategies. The Ministry of Environment has also been holding consultations with companies, NGOs, and other stakeholders on the implementation of the NDC. However, the Brazilian Coalition and other stakeholders have emphasized the need to involve civil society to a greater extent in the creation of metrics and implementation mechanisms for Brazil's NDC.[27]

Need to strengthen goals around deforestation and reforestation: Brazil's goal to have zero illegal deforestation in the Amazon by 2030 signals that illegal deforestation can continue until 2030. The government needs to instead state clearly that illegal deforestation will not be tolerated and should be halted immediately. Without this assurance that the government will

enforce its laws, there is a higher risk that products linked to illegal deforestation will end up in supply chains. Moreover, the target indicates that legal deforestation can continue beyond 2030. This endangers the 88 Mha of forests that can still be legally cleared in Brazil.[28] Businesses and NGOs have shown support to increase ambition on deforestation. The Brazilian Coalition argued that all deforestation (legal and illegal) in Brazil can be eliminated well before 2030.[29] The coalition acknowledged that Brazil's goal to restore 12 Mha of forests was significant, but argued that higher restoration metrics are already mandated by the Forest Code. One study estimated that the Forest Code requires about 21 Mha of restoration.[30]

Recent reversal in progress on deforestation, budget cuts, and rollbacks of environmental regulations: Brazil has recently been struggling to control deforestation. Deforestation increased by 29% in 2016,[31] threatening the progress the country has made in decreasing deforestation in the Legal Amazon by 70% between 2006 and 2014.[32] In the face of economic pressures, corruption scandals, and powerful agri-business lobbies, environmental protection efforts are under threat. The budget of the Ministry of Environment was reduced by 43%.[33] The budget cut also reduced resources for the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA), Brazil's Environmental Protection Agency, restricting its ability to combat illegal deforestation. Additionally, Congress passed laws to reduce protected forest areas by 600,000 ha,[34] which, as of June 2017, could still be vetoed by Brazil's President Temer.[35] Lawmakers are also considering proposals to weaken environmental licensing rules (e.g. for agricultural projects) and reduce the size and protections for indigenous territories.[36]

In the face of economic pressures, corruption scandals, and powerful agri-business lobbies, environmental protection efforts are under threat.

Lack of economic incentives for implementation: Brazil's NDC does not mention specific economic incentives to operationalize its land-use goals. The base document on implementing the NDC elaborates that Brazil will consider several financial measures. Importantly, the report states that Brazil will approve the incentives programs in its Forest Code (Article 41).[37] NGOs have identified the lack of regularization of Article 41 as a key challenge in the implementation of the Forest Code.[38] The base document also states that Brazil will consider new resources for the National Fund for Climate Change and the Amazon Fund as well as new mechanisms such as green bonds and guarantees from public banks to reduce risks of investment.[39] Participants in the workshop identified these public-private financing strategies as important ways the government can support private sector initiatives.

Government policies, corporate commitments, and public-private partnerships in support of Brazil's NDC goals

In the following sections, we illustrate how partnerships between governments, companies, and NGOs are already supporting land-use components of Brazil's NDC.

BRAZIL CASE STUDY 1

Mato Grosso's Produce, Conserve, Include Strategy

During the Paris Agreement negotiations in 2015, Governor Pedro Taques of Mato Grosso, Brazil announced the launch of the Produce, Conserve, Include (PCI) Strategy.[40] By 2030, the PCI aims to prevent 6 gigatonnes of carbon dioxide equivalent ($GtCO_2eq$), increase production of agriculture and livestock on already cleared lands, reduce deforestation and increase reforestation, and incorporate smallholders and indigenous people in low-emission rural development.[41] Led by the Mato Grosso government, the PCI has a steering committee with representatives from nine CSOs, ten producer associations, eleven ministries, and nine private sector entities.[42] Mato Grosso has already shown progress in reducing deforestation. The largest agriculture producing state in the Amazon, Mato Grosso has reduced deforestation by 87% over the last decade while

The Sustainable Trade Initiative De-risking Fund in Mato Grosso

The Sustainable Trade Initiative (IDH) is helping connect Mato Grosso with innovative finance and commodity markets as part of its Initiative for Sustainable Landscapes (ISLA). IDH created a de-risking facility to increase cattle intensification and reforestation. IDH and Agroicone found that intensification-reforestation initiatives could be profitable with a payback period of 8–11 years.[43] However, these initiatives require upfront investment, which IDH plans to provide at low risk through blending public-private capital. This fund aims to accelerate compliance with the Forest Code, and therefore Brazil's NDC. Towards this goal, the IDH fund requires producers to restore their LRs and APPs within five years, instead of 20 years as required by law.[44] Several individuals interviewed for this report remarked that by providing incentives for producers, IDH is filling a gap left by the federal government.

dramatically increasing beef production and soy production.[45] In 2016, deforestation decreased by 6% in the state compared to the previous year, while national deforestation increased by 29%.[46]

Interaction between the private sector, governments, and NGOs

Mato Grosso's PCI Strategy has aggregated a wide range of stakeholders, which was recognized as a core strength of the program by interviewees. It is significant that rural producer associations, who generally oppose certification systems, are engaged in the PCI process. The participation of 11 government entities in Mato Grosso plays a critical role in aligning policies within the state. Engaging a broad range of stakeholders ensures all priorities are taken into consideration but can also create governance challenges. To that end, strong leadership from the government was identified as another strength of the program. Governor Taques's participation in and promotion of the initiative has played an important role.

Businesses and NGOs are also contributing to the design, implementation, and mobilization of finance for Mato Grosso's PCI. Companies, including Amaggi and Marfrig (both on the PCI steering committee),[47] and European Feed Manufacturers' Federation (FEFAC)[48] have indicated interest in purchasing commodities from Mato Grosso. Companies are also helping Mato Grosso access funding (see "The Sustainable Trade Initiative De-risking Fund in Mato Grosso," above).

Mato Grosso also shares its experience at international and national levels. Mato Grosso showcases its PCI Strategy internationally at UNFCCC and TFA 2020 conferences. At the national level, Mato Grosso participates in the Legal Amazon Governor's Forum and the Environmental Secretaries Forum in Brazil. The Ministry of Environment in Brazil has signaled that it plans to collaborate further with Mato Grosso. Brazil's "base document" to support discussions on implementing its NDC states that the country will work to formalize public-private partnerships for restoration with Mato Grosso's PCI Strategy.[49]

Relation to Brazil's NDC

Mato Grosso's PCI Strategy includes goals that align with all of the land-use components of Brazil's NDC (see Table 4, page 16).

Recommendations on how government and companies can further support NDCs and deforestation-free commitments—lessons from Mato Grosso's PCI

- **The federal government should support and collaborate on Mato Grosso's PCI Strategy.** The federal government should consider ways to support the PCI. This could include convening dialogues with Mato Grosso to identify needs, public-private partnerships for restoration (as identified in Brazil's "base document" on implementing its NDC),[50] and other financial support.

TABLE 4

Mato Grosso PCI and Brazil's NDC

Five key forest-related themes in Brazil's NDC	Mato Grosso(MT) PCI[51]
Strengthen and enforce the Forest Code	The PCI aims to register 90% of rural properties with CAR by 2016 and validate 100% of properties by 2018. The Brazilian government requires all properties to be registered with the CAR by December 2017, though it has extended this deadline in the past and signaled it might allow for another one-year extension.
Zero illegal deforestation in the Amazon & compensation for legal deforestation	MT aims to have zero illegal deforestation by 2020 for all biomes (Amazon, Cerrado and Pantanal), going farther than Brazil's NDC, which targets zero illegal deforestation by 2030 for the Amazon. The PCI sets additional goals of reducing deforestation by 90% in the Amazon and 95% in the Cerrado. Similar to Brazil's NDC, MT plans to compensate landowners with legal rights to deforest.
Restoration of 12 Mha	MT aims to restore 2.9 Mha of legal reserve and riparian areas by 2030, just below one quarter of the national restoration target. This also contributes to compliance with Brazil's Forest Code.
Sustainable native forest management	MT aims to increase the area of timber harvesting under sustainable forest management plans (PMFS) from 2.8 Mha to 6 Mha by 2030.
Sustainable agricultural development: restore 15 Mha pasture & 5 Mha ICLFS	By 2030, MT plans to restore 6 Mha of degraded pasture, 2/5 of the national goal, 3 Mha of which it intends to convert to agriculture and 0.5 Mha to forest plantation.

- **The federal government should provide financial incentives, such as public-private financing.** Producers need upfront investment to restore forests, adopt sustainable agricultural practices, and reduce deforestation, but often are unable to access funding due to high investment risks.[52] The IDH de-risking fund has been addressing this by providing investment at low risk through blending public-private capital. The Brazilian government should consider providing co-financing and guarantees to reduce the risks of investment. Brazil's "base document" on implementing its NDC states that the Amazon Fund is currently exploring these financial measures.[53]

- **Companies should invest in and source from Mato Grosso, in addition to traditional tools to reduce deforestation in individual supply chains.** Companies should preferentially source commodities from Mato Grosso and other jurisdictions that are reducing deforestation. Addressing deforestation at scale will enable companies to reduce risk, while providing a demand signal to subnational and national governments that companies will invest in areas with strong governance and demonstrable reductions in deforestation. Companies should continue to create and maintain mechanisms to control deforestation in their own supply chains.

- **Mato Grosso should continue to demonstrate leadership and share lessons at international and national levels.** Mato Grosso should continue its leadership in the Legal Amazon Governor's Forum and Environmental Secretaries Forum, as well as at international conferences such as UNFCCC meetings, to share its experiences and lessons learned from the PCI strategy. These meetings also provide Mato Grosso with a platform to advocate for more ambition in Brazil's national strategies.

BRAZIL CASE STUDY 2

Cattle Agreements

In 2009, following an outpour of lawsuits and public pressure by government and civil society groups, meatpacking companies signed two zero-deforestation agreements in the Amazon, collectively known as the Cattle Agreements. First, meatpackers individually signed legally

binding Terms of Adjustment of Conduct (MPF-TAC) agreements with offices of the Federal Public Prosecutor (MPF) in Para, Acre, Rondonia, Amazonas and Mato Grosso. MPF-TAC agreements now cover two thirds of federally inspected slaughterhouses in the Legal Amazon. Second, JBS, Marfrig, Minerva and Bertin (later acquired by JBS) signed the G4 zero-deforestation agreement with Greenpeace. The G4 companies control around half of slaughter in the Legal Amazon. The MPF-TAC focuses on eliminating illegal deforestation, while the G4 agreement prohibits all deforestation. Both agreements require properties selling directly to meatpackers to be registered with the CAR.[54]

The Cattle Agreements have shown progress in reducing deforestation, though they have limitations. The G4 meatpackers had significantly less deforestation in their supply chains. A 2015 study found that JBS suppliers with recent deforestation fell from 36% in 2009 to 4% in 2013. The study also found that G4 meatpackers accelerated compliance with Brazil's Forest Code. Within one year of the agreement, 52% of properties supplying to G4 meatpackers registered with the CAR, compared with 16% of non-suppliers, many of which registered with the CAR three years later.[55]

Recent allegations have called meatpackers' commitments into question. In 2017, IBAMA accused JBS and 13 other companies of purchasing cattle associated with illegal deforestation.[56] IBAMA embargoed two JBS plants and fined the company $7 million, while Greenpeace suspended negotiations with the company.[57] In addition, several NGOs have elucidated the fact that the Cattle Agreements only cover properties that directly supply to meatpackers.[58] However, cattle purchased by meat-packers could still have caused deforestation on properties of indirect suppliers upstream in the supply chain.

Interaction between the private sector, government, and NGOs

From the outset, the Cattle Agreements involved a variety of stakeholders. In 2009, the MPFs filed lawsuits against large ranchers and slaughterhouses that were associated with illegal deforestation, and threatened to issue lawsuits against retailers, resulting in the TAC agreements.[59] NGOs, most notably Greenpeace, played a large role in convincing companies to act and helping to design the agreements.

TABLE 5

Cattle Agreements, Novo Campo, São Félix do Xingu, and Brazil's NDC

Five key forest-related themes in Brazil's NDC	Cattle Agreements, Novo Campo, and the São Félix do Xingu program
Strengthen and enforce the Forest Code	The Cattle Agreements have accelerated implementation with the CAR by requiring suppliers to register with the system. In addition, JBS convened and negotiated with consultants to provide lower fees to help suppliers register with the CAR. JBS and Marfrig also collaborated with IBAMA and the Public Prosecutors office to collect and process data on embargoed properties.
Zero illegal deforestation in the Amazon and compensation for legal deforestation	The TAC agreements prohibit illegal deforestation, while the G4 agreements prohibit all deforestation. The agreements have reduceddeforestation by direct suppliers, although cattle associated with deforestation could still end up in signatories' supply chains through indirect suppliers. Initiatives such as the Novo Campo Program have gone beyond the cattle agreements to require and track zero deforestation practices by direct and indirect suppliers.
Restoration of 12 Mha	The Cattle Agreements do not require ranchers to restore forests. However, initiatives such as the Novo Campo Program and the SFX Project are supporting reforestation. The Novo Campo Program requires ranchers to restore their legal forest requirements and provides technical assistance to support them. The SFX Project promotes restoration on 588 acres of degraded land through cocoa agroforestry.
Sustainable native forest management	N/A
Sustainable agricultural development: Restore 15 Mha pasture & 5 Mha ICLFS	The cattle agreements require zero deforestation, leading ranchers to intensify new cattle production on already cleared land. In addition, the Novo Campo Program and SFX project provide technical assistance to producers on good agricultural practices.

Novo Campo and São Félix do Xingu

Two programs, the Novo Campo Program and the São Félix do Xingu Project, serve as models for companies to go beyond the Cattle Agreements to achieve deforestation across their supply chains while increasing agricultural production.

NOVO CAMPO PROGRAM

The Novo Campo Program is a multi-stakeholder initiative started by Instituto Centro de Vida (ICV) that aims to promote sustainable cattle ranching in Alta Floresta in the north of Mato Grosso. ICV partners with Embrapa (the Brazilian Agricultural Research Cooperation, a subsidiary of Brazil's Ministry of Agriculture), rural unions from Alta Floresta and Cotriguaçu, private companies (e.g. JBS), and non-governmental institutions.[60] The program currently includes 40 ranches with 23,000 ha.[61] The program implements the following measures to increase sustainability in the cattle sector:

- **Requirements for zero deforestation, restoration, and Forest Code Compliance:** Producers in the program must have zero deforestation since 2008, while meatpacking companies must sign the TAC with the Federal Prosecutors Office. Novo Campo's partner Imaflora provides tools to track cattle throughout the supply chain, ensuring that both direct and indirect suppliers have zero deforestation.[62] In addition, producers are required to have plans to restore legal forest requirements and register with the CAR.
- **Technical assistance on good agricultural practices:** ICV works with Embrapa and JBS to train technicians to provide assessments of ranches, help create management plans, and implement Embrapa's Good Agricultural Practices (GAP).[63] These tools have enabled Novo Campo Program to intensify cattle production, increasing stocking rates by 30%.[64] The enhancement in cattle productivity have allowed producers in the Novo Campo Program to implement Crop-Livestock-Forestry Integration systems that were developed by the Brazilian Agriculture Ministry and targeted by Brazil's NDC.[65]
- **Incentives for participation:** Companies also help execute the Novo Campo Program through providing market access, finance, and other incentives. JBS provides special price premiums and long-term agreements due to improved beef quality to producers that participate in the program. McDonald's, which previously had a policy that prohibited sourcing beef from the Amazon, announced in August 2016 that it will purchase 250 tons of beef per year from ranches in the Novo Campo program.[66] Other private enterprises also provide finance for Novo Campo. Pecuaria Sustentavel da Amazonia (Pecsa), a for-profit cattle ranching management and partnership firm was formed in 2015 to carry out Novo Campo's sustainable agriculture protocol and provide technical assistance and capital to ranchers in exchange for profit-sharing. Pecsa plans to invest $31 million by 2022 in the form of capital, operational expenditures, and project reinvestment.[67] The Althelia Climate Fund has invested $12.5 million in Novo Campo and Pecsa's initiatives in exchange for a portion of the financial returns.[68]

SÃO FÉLIX DO XINGU (SFX) PILOT PROGRAM

The São Félix do Xingu (SFX) Pilot Program in Pará state is led by The Nature Conservancy (TNC) in collaboration with the state and municipal environment ministries, the rural producers unit, and companies such as Marfrig, Walmart, and Cargill. SFX has the largest cattle herd in Brazil.[69] In 2008, SFX was ranked second on the national government's blacklist of embargoed municipalities with the highest deforestation rates, which restricted farmers in SFX from accessing agricultural credits.[70] TNC and its partners helped reduce deforestation in SFX by almost 80% compared to a baseline from 1999–2008.[71] The project helped register 80% of properties with the CAR, supporting Brazil's NDC goal to strengthen the Forest Code.[72] In the process, the multi-stakeholder group helped the municipality remove itself from the national blacklist. The following elements enabled the SFX program to improve sustainability in cattle and agricultural production:

- **Support for sustainable cattle and economic alternatives:** TNC and its partners convened producers and technicians to train farmers on best practices for livestock production and created Model Farms to demonstrate good practices in action. In addition, TNC promotes cocoa production as an alternative to cattle ranching. Cocoa is a high-value, shade-grown crop, and thus allows producers to grow incomes and increase forest restoration. TNC is now working with 82 family farmers to restore 588 acres of degraded lands for cocoa agroforestry.[73] TNC aims to increase profitability of cocoa by introducing advanced cocoa fermentation and drying techniques, connecting farmers to new markets, and removing middle men.
- **Incentives from the private sector:** Walmart and Marfrig provided a source of demand for agricultural products from SFX. The two companies also created a joint marketing strategy to promote the products and their origin with consumers.[74]
- **Incentives from state government:** Two state-level programs provide incentives to SFX to reduce deforestation. First, Para's Green Value Added Tax allocates tax revenue to municipalities based on compliance with the Forest Code. Second, Para's Green Municipality Program aims to reduce deforestation and increase sustainable agriculture, in part by providing payments for environmental services.[75]
- **Grant from the federal government:** TNC provided funding through a grant from the Amazon Fund and other resources to provide financial and technical support for landowners to register with the CAR.[76]

Meatpackers in the Cattle Agreements monitor their supply chains by using data from the federal government and block purchases from ranches with deforestation and illegal activities. Meatpackers also help producers register with the CAR. For example, JBS partnered with environmental consultants and negotiated a reduced price to register its suppliers with the CAR.[77] In addition, JBS and Marfrig assisted the government in collecting information on embargoed properties. JBS helped IBAMA to disclose information on embargoed properties as part of a multi-stakeholder Embargoed Technical Group that JBS helped create.[78] Marfrig worked with the National Indian Foundation (FUNAI) and the Amazon Working Group of the Public Prosecutor (MPF) to create a list of farms embargoed for invasion of indigenous lands.[79] Marfrig and JBS also worked with MPF and the Ministry of Agriculture (MAPA) to implement a new measure to issue Animal Transit Forms (GTA) only to producers with zero illegal deforestation commitments.[80]

Relation to Brazil's NDC

Components of the Cattle Agreements, Novo Campo, and São Félix do Xingu align with many of Brazil's NDC goals (see Table 5, page 17).

Recommendations on how government and companies can further support NDCs and deforestation-free commitments—lessons from the Cattle Agreements

There are several ways the Cattle Agreements need to scale to increase their effectiveness and further support Brazil's NDC:

- **The Cattle Agreements need to expand to additional meatpackers and indirect suppliers:** First, the agreements need to reach other meatpackers. JBS, Marfrig, and Minerva account for half of cattle slaughtered in the Brazilian Amazon,[81] while the remaining half do not have zero-deforestation monitoring systems or commitments. In addition, the agreements need to address indirect suppliers, ensuring that meatpackers achieve zero deforestation throughout the supply chain. The Novo Campo Program offers a model for how companies can track and eliminate deforestation from direct and indirect suppliers.
- **Government should provide full transparency with the CAR and GTA:** Full transparency with the CAR and data on the transportation of cattle (Guia de Transporte Animal, GTA) would enable companies to better monitor and track deforestation by direct and indirect suppliers.

BRAZIL CASE STUDY 3

Soy Moratorium

In 2006, companies that control 90% of the soy trade in the Brazilian Amazon agreed not to purchase soy that contributed to deforestation, forming the Soy Moratorium. The moratorium was renewed indefinitely in 2016. This voluntary zero-deforestation agreement depends on

Soja-Plus Program

Soy traders are also working to increase farmer compliance with the Forest Code. Abiove, Aprosoja (the Soybean & Corn Producers Association), and SENAR-MT (National Service for Rural Learning in Mato Grosso State) created the Soja-Plus program to provide free training to farmers on compliance with Brazil's regulations.[82] Members of the Soja-Plus Program recently signed an MOU with European feed and vegetable oil associations (FEFAC and FEDIOL, respectively) and IDH to increase collaboration and trade between Europe and Brazil.[83]

NGOs, soy traders, and the government. The Soybean Working Group (GTS), which oversees the implementation and control of the soy moratorium, is comprised of soy trade associations ANEC and ABIOVE (the Brazilian Vegetable Oil Industries Association), NGOs (e.g. Greenpeace, IPAM), the Ministry of Environment, and the Bank of Brazil. After implementation of the moratorium, the expansion of soy into forests decreased markedly, falling from 30% of expansion two years before the moratorium to 1% in the Amazon Biome by 2014.[84] While deforestation driven by soy decreased drastically in the Amazon biome, it remained significant in the Cerrado biome, ranging from 11–23% from 2007–2013.[85] In addition, many suppliers are compliant with the Soy Moratorium because they have zero deforestation since 2008 but have not restored their legal forest requirements under the Forest Code.[86]

Interaction between the private sector, governments, and NGOs

The Soy Moratorium is a case of strong collaboration between the companies, NGOs, and the national government, through the Ministry of Environment. The Ministry of Environment inspects soy properties for deforestation through satellite imagery and shares the results with the GTS. Companies use this information to block purchases from producers that violate the Soy Moratorium. The Soy Moratorium is also integrated into Brazil's Action Plan for Prevention and Control of Deforestation in the Legal Amazon (PPCDAm),[87] demonstrating its importance to the national government's policies. Companies wield the threat of market access to incentivize producers not to deforest.

Relation to Brazil's NDC

Many aspects of the Soy Moratorium align with the forest-related themes of Brazil's NDC as demonstrated in Table 6.

Recommendations on how government and companies can further support NDCs and deforestation-free commitments—lessons from the Soy Moratorium

- **Expansion to the Cerrado and other regions and commodities:** The soy working group is now looking at ways to use the Soy Moratorium as a model for the Cerrado and other regions. In its PPCDAm, the federal government shows support for replicating the Soy Moratorium for other regions and commodities such as wood and meat.[88]
- **Zero deforestation and full compliance with the Forest Code:** Companies should require producers to have zero deforestation and full compliance with the Forest Code, including restoring their legal forest requirements.

TABLE 6

Soy Moratorium and Brazil's NDC

Five key forest-related themes in Brazil's NDC	Soy Moratorium
Strengthen and enforce the Forest Code	The Soy Moratorium does not require compliance with the Forest Code. Many suppliers with zero deforestation since 2008 are still not compliant with the Forest Code because they have not restored their legal forest requirements. However, soy trade associations provide trainings to farmers on compliance with Brazil's regulations through the Soja-Plus Program.
Zero illegal deforestation in the Amazon & compensation for legal deforestation	The Soy Moratorium prohibits all deforestation in the Amazon after 2008.
Restoration of 12 Mha	The Soy Moratorium does not require producers to restore their legal forest requirements under the Forest Code.
Sustainable native forest management	N/A
Sustainable agricultural development: Restore 15 Mha pasture & 5 Mha ICLFS	The Soy Moratorium incentivizes producers to intensify soy production and concentrate expansion on already cleared lands, such as pastureland.

Recommendations to align corporate deforestation-free commitments with Brazil's NDC

We collected several recommendations for the Brazilian government and companies to increase collaboration on Brazil's NDC and corporate deforestation-free commitments from expert interviews, workshops, and desktop research.

Government

- **Restore and fortify federal resources and regulations for environmental protection:** Corporate deforestation-free commitments need to be reinforced by strong government regulations. However, Brazil has recently been backtracking environmental protection efforts, including budget cuts to the Ministry of Environment and potential rollbacks of regulations on protected areas, environmental licensing, and indigenous territories. These rollbacks pose threats to companies' abilities to restrict purchases from suppliers that cause deforestation, operate illegally, and invade indigenous territories.
- **Provide total transparency with the CAR and the GTA:** Full transparency with the CAR (Rural Environmental Registry) is vital for monitoring deforestation in companies' supply chains. Full disclosure of data on the transportation of cattle (Animal Transportation Guide, GTA in Portuguese) is necessary for tracking cattle throughout supply chains.
- **Provide incentives to protect forests, increase restoration, and support sustainable agriculture:** Brazil needs to operationalize economic incentives outlined in its Forest Code (Article 41) and strengthen funding entities such as the ABC Plan for sustainable agriculture and the Amazon Fund.
- **Explore innovative financing mechanisms to reduce risk of investment:** Producers in Brazil are often unable to access credit needed to adopt sustainable agricultural practices due to high investment risks. Recent political uncertainty could increase risks even further. The Amazon Fund is currently looking at innovative financial measures such as co-financing and guarantees to reduce the risks of investing in forests and sustainable agriculture.[89] The federal government should ensure these financial measures are operationalized.

Companies

- **Maintain and strengthen corporate governance of deforestation-free policies, especially considering reversals of federal environmental protections:** In the midst of political turmoil and potential rollbacks of protections for forests and indigenous peoples, it is more important than ever for companies to police their own supply chains to eliminate deforestation.
- **Engage in collectives to advocate for policies that support common goals:** The Brazilian Coalition on Climate, Forests and Agriculture was recognized as an effective platform for companies and NGOs to influence federal policy. Companies might consider signing on to such platforms or exploring other options to influence policy outcomes.
- **Require zero deforestation and compliance with the Forest Code for both direct and indirect suppliers:** Suppliers with zero deforestation may still not be compliant with the Forest Code because they haven't restored their legal requirements. In addition, although properties supplying directly to companies may have zero deforestation, the products they sell could have caused deforestation upstream in the supply chain. Therefore, companies need to monitor and control deforestation from indirect suppliers as well as direct suppliers.

- **Provide positive incentives and support to suppliers to accelerate government policies:** Companies should provide incentives, such as long-term purchase to suppliers to comply with corporate and government policies. So far many initiatives rely on negative incentives, such as the loss of market access, to persuade suppliers. Alternatively, some companies have provided positive incentives and support such as long-term purchase agreements, increased marketing, technical assistance, and even price premiums, although the latter is often associated with increases in quality for higher value products (e.g. beef). In addition, companies can help provide direct funding to public-private funds such as IDH's de-risking fund. These incentives can help accelerate compliance with government policies.
- **Source new purchases from jurisdictions that are putting in place ambitious programs to address deforestation, in addition to traditional tools to reduce deforestation in individual supply chains:** Companies should reward jurisdictions such as Mato Grosso that are reducing deforestation at a large scale. This will enable companies to address deforestation beyond their own supply chains, while providing a demand signal to subnational and national governments that companies will invest in areas with strong governance and demonstrable reductions in deforestation. In addition, it will remain important for companies to control deforestation in their own supply chains.

Indonesia

Indonesia's NDC

Indonesia's NDC makes an unconditional commitment to reduce emissions 26% below the business as usual (BAU) scenario by the year 2020, and 29% below BAU by 2030.[90,91] The NDC also specifies a conditional commitment—contingent upon international support—to reduce emissions 41% below BAU by 2030 (i.e., a 12% increase in reductions beyond its unconditional commitment).

Indonesia is quite unique in that it is a leading emitter globally (behind China, the U.S., the EU, and India), while the majority of its emissions originate from the Land Use, Land Use Change, and Forestry (LULUCF) sector.[92] As its NDC states, 63% of the country's emissions are a result of land use change and peat and forest fires, while fossil fuel combustion contributes a much smaller share—19%—of total emissions. Indonesia is far-and-away the leading global

Elements of Indonesia's NDC with relevance for private sector deforestation-free commitments

Protection and restoration of forests and peatlands:

"Indonesia has taken significant steps to reduce emissions in land use sector by instituting a moratorium on the clearing of primary forests and by prohibiting conversion of its remaining forests by reducing deforestation and forest degradation, restoring ecosystem functions, as well as sustainable forest management…"

"REDD+ will be an important component of the NDC target from land use sector."

Landscape approach:

"A landscape-scale and ecosystem management approach, emphasizing the role of sub-national jurisdictions, is seen as critical to ensure greater and more enduring benefits from these initiatives."

Multi-stakeholder involvement:

"Recognizing significant strides in multi-stakeholder efforts in combating climate change, Indonesia intends to scale up the diversity of traditional wisdom as well as innovative climate change mitigation and adaptation efforts by the government, private sector, and communities."

"[Indonesia's efforts to reduce deforestation]include social forestry through active participation of the private sector, small and medium enterprises, civil society organizations, local communities and the most vulnerable groups, especially adat communities (Indonesian: Masyarakat Hukum Adat, internationally known as Indigenous People), and women—in both the planning and implementation stages."

Spatial planning and land-use planning:

"The commitment will be implemented through effective land use and spatial planning…"

"Indonesia's pathway toward low carbon and climate resilience must be developed by building a strong foundation based on...certainty in spatial planning and land use."

Enhancing agricultural productivity:

"The commitment will be implemented through...improved agriculture and fisheries productivity..."

"The preparation of the NDC has taken into account the Post-2015 Sustainable Development Goals (SDG) particularly...promoting food security and sustainable agriculture…"

"Indonesia's pathway toward climate resilience must be developed by building a strong foundation based on...land tenure security and food security."

"Indonesia plans to transform to low carbon economy and build resilience into its food, water and energy systems through ...sustainable agriculture and plantations."

Text in italics comes directly from the NDC text.
http://www4.unfccc.int/ndcregistry/PublishedDocuments/Indonesia%20First/First%20NDC%20Indonesia_submitted%20to%20UNFCCC%20Set_November%20%202016.pdf

emitter of GHG emissions from LULUCF, emitting 1.68 $GtCO_2e$ from the sector in 2014—an amount which represents more than half of the world's total LULUCF emissions for that year, and more than five times the amount of the next-largest LULUCF emitter.[93]

In the land use and forest sectors, Indonesia plans to implement several measures related to forest and peatland conservation and restoration, with potential for involvement and support from the private sector. These measures are explicitly mentioned within the country's NDC, and are listed in "Elements of Indonesia's NDC with relevance for private sector deforestation-free commitments" (page 23).

Indonesia's NDC explicitly calls for collaboration and engagement with the private sector as a key mechanism by which the country will seek to achieve its GHG reduction targets. A number of companies sourcing palm oil and pulp/paper from Indonesia have made commitments over the past several years to reduce and eventually eliminate the deforestation footprints of their commodities. At the same time, the Indonesian national government—as well as subnational provincial and district governments—have been pursuing policies and initiatives aimed at reducing deforestation.

Government policies, corporate commitments, and public-private partnerships in support of Indonesia's NDC goals

Indonesia's NDC explicitly calls for collaboration and engagement with the private sector as a key mechanism by which the country will seek to achieve its GHG reduction targets.

In the following sections, we identify and describe key actions being undertaken by the Indonesian government and major companies operating in Indonesia to promote zero deforestation, and highlight the ways in which these initiatives are contributing toward the five forest and land-use related goals and approaches identified in the country's NDC (see Tables 7 and 8, pages 27 and 30 respectively). Many of these efforts converge in the form of jurisdictional multi-stakeholder initiatives involving government, companies, and civil society (see Tables 9 and 10, pages 32 and 34 respectively). We explore how two of these subnational initiatives are advancing. Finally, we highlight preliminary lessons from these early partnerships, and offer recommendations for enhancing collaboration between the Indonesian government and the private sector to better achieve zero deforestation.

INDONESIA CASE STUDY 1

Government policies

Moratorium on primary forest clearing and conversion of peatlands

Indonesia's initial attempts at formulating government policy to support forest conservation took the form of a national level moratorium on the issuing of new licenses for conversion of primary forest and peatlands. The two-year moratorium was originally issued by former Indonesian President Yudhoyono in 2011, and was subsequently extended in 2013, 2015, and most recently by current Indonesian President Joko Widodo ("Jokowi") in 2017, now extending the ban into 2019.[94]

The moratorium has been hailed as evidence of the country's commitment to protecting its forests and peatlands, even as it aims to dramatically expand agricultural production. Early evidence suggests that enforcement of the ban has encountered challenges, due largely to limited national government capacity to provide both technical guidance in training district government officials to understand the scope and applicability of the ban, and oversight to ensure that district officials are properly administering the ban through local-level land-use allocation and permitting decisions.[95] The moratorium also exempts secondary forest and existing concessions, and allows for exceptions in the case of "national development" projects such as infrastructure and certain agricultural activities.

Despite these implementation and enforcement challenges, the moratorium in many ways set the stage for the raft of zero-deforestation and restoration commitments made by large commodity companies sourcing palm oil, timber, and pulp from Indonesia. In tandem with

the concerted public pressure placed on many of these companies in recent years, the Indonesian government's moratorium policy created a regulatory context that incentivized companies to make explicit commitments to zero deforestation in their Indonesian sourcing operations. Since the moratorium announcement in 2011, many of these companies have expressed explicit support for the policy.

Palm oil permit moratorium

In April of 2016, President Jokowi established a nationwide moratorium on the issuing of new concessions for oil palm plantations. The impetus for the moratorium is to preserve Indonesia's remaining forest and peatland from the deforestation and degradation associated with continued palm oil expansion into the country's forests. The moratorium was initially issued in the form of a presidential instruction, directing all government ministries to halt issuance of palm oil permits. Presidential instructions are not legally binding and carry less force than a more formalized government regulation—with violators potentially subject only to administrative sanctions but not criminal penalties. However, in December 2016 President Jokowi managed to issue the directive in the more binding form of a Presidential Regulation, enshrining the moratorium into law. The moratorium will be in effect until the Government finishes mapping the country's peatlands and zoning them for conservation and development. The regulation now requires four separate government ministries to issue individual implementing regulations.[96]

Strong and coordinated enforcement of the moratorium will be the key factor in determining its degree of success in halting the expansion of oil palm plantations into Indonesia's forests.

Strong and coordinated enforcement of the moratorium will be the key factor in determining its degree of success in halting the expansion of oil palm plantations into Indonesia's forests. Evidence thus far suggests that the government is taking enforcement of the moratorium seriously. In the months following the moratorium announcement, the Environment and Forestry Ministry began to review and cancel all outstanding permits which had entered the review process but had not yet been granted full and final approval. The palm oil permit moratorium is in many ways an expansion upon the country's prohibition of primary forest clearing and peatland conversion, which has been in place since 2011. This more recent moratorium goes above-and-beyond its predecessor by protecting not just primary forest and peatlands, but all forests and land outside of current concessions from oil palm expansion.

In announcing the moratorium, the Indonesian government expressed its intention to use the policy as a tool to incentivize the restructuring of existing oil palm estates, emphasizing the need for investments toward intensified production through replanting and the introduction of higher-yielding seed varieties. The government's aim is to better maximize the efficiency of production on land already cleared, enabling yields to increase to meet growing demand while preserving existing forest land. Smallholder palm producers in Indonesia particularly struggle to achieve full productivity, due largely to a lack of access to capital for crucial investments in improved crop varieties and fertilizers.

The President's announcement of the moratorium was met with positive reactions from many of the largest growers and buyers of Indonesian palm oil. Cargill and Unilever, among others, have publicly expressed their support for the policy and their intention to assist the government in whatever way they can to ensure its effective enactment and enforcement.

According to statements made by President Widodo, the success of the moratorium in both protecting the country's forests while allowing palm oil production to increase will rely upon more effective land-use planning to restructure current palm concessions and plantations to make them more efficient. Success will also depend upon the ability of the government to enforce the terms of the moratorium, through effective monitoring of forest cover change to detect and address instances of illegal palm oil expansion.

Peatland Restoration Agency

Indonesia's forest and peatland fires in late 2015 are estimated to have burned 2.6 Mha of land and caused upwards of US$16 billion in economic loss and damages. In the wake of

these devastating fires, Indonesian President Widodo announced in early 2016 the creation of a new Peatland Restoration Agency (*Badan Restorasi Gambut* or *BRG*) to coordinate government efforts aimed at preventing future forest and peatland fires.[97] The agency is tasked with restoring 2 Mha of degraded peatland in seven provinces on the Islands of Sumatra, Kalimantan, and Papua by 2020. The agency's mandate includes reviewing concessions that may overlap with peatland in the seven provinces of its jurisdiction, and conducting policy harmonization, peat mapping, and land use planning to ensure that peatlands are identified, mapped, and classified as protected rather than cultivable land.

The government's commitment to peatland restoration has received widespread public support from private sector companies active in Indonesia. Major palm oil and pulp/paper producers with land concession holdings in Indonesia voluntarily pledged through the TFA 2020 forum to share their concession maps on peatlands to assist the *BRG* as it plans, implements, and monitors its peat protection and restoration activities.[98] The companies also committed to establishing effective fire management systems to prevent fires on their concessions. Additionally, major palm oil and pulp/paper buyers which source from Indonesia—under the umbrella of the Consumer Goods Forum (CGF)—have also pledged their support to the mandate of the *BRG*.

To begin putting these commitments into practices, a partnership of private sector companies in Indonesia is collaborating to achieve their commitments related to fire reduction in their supply chains. In March 2016, leading companies including Asia Pacific Resources International (APRIL) Group, Asian Agri, Musim Mas, Wilmar and others founded the Fire-Free Alliance platform to share knowledge and scale-up lessons learned from the APRIL Group's Fire Free Village Program. Developed by the company in 2015, APRIL has since pioneered the Fire Free Village Program among its suppliers in nine villages in Riau province—achieving a 90% decline in fire incidence in the villages during the 2015 El Niño episode, compared to 2014.[99]

At their height in 2015 the Indonesian peat and forest fires were emitting more GHGs than the entire US economy on a per day basis. If Indonesia can successfully prevent future forest and peat fires, this single achievement would lead the country to successfully meet its unconditional NDC target of a 29% reduction in emissions by 2030.[100]

The government has an opportunity to not only allow, but require, concession holders to conserve HCS and HCV forest areas by issuing the required regulation with language that classifies the development of HCS and HCV areas as a form of "environmental damage."

Risks and opportunities for government policies

- **The Plantation Act:** In September 2014, the Indonesian House of Representatives passed a Plantation Act, requiring plantation companies to cultivate within their concessions all land areas capable of being planted within the first six years after receiving their cultivation right title. Any lands not developed after the six-year mark may be taken over by the state, and the plantation company may be subject to administrative sanctions.[101] While this law clearly poses risks to companies that wish to set aside high carbon stock (HCS) or high conservation value (HCV) forest areas for conservation within their concessions, a specific provision of the law does provide an opportunity for the Indonesian government to ensure that the regulation supports rather than threatens the prospect of forest conservation within concessions. This provision requires that developers cultivating plantation crops within concessions "apply procedures to prevent environmental damage," and stipulates that the government must issue a regulation detailing what these procedures entail. Therefore, the government has an opportunity to not only allow, but *require*, concession holders to conserve HCS and HCV forest areas by issuing the required regulation with language that classifies the development of HCS and HCV areas as a form of "environmental damage."[102]
- **Forest classification:** Ambiguity surrounding the ways in which "forest" and "deforestation" are defined and classified has hampered the ability of the Indonesian government and the private sector to collaborate on their avoided deforestation goals. While the government has traditionally followed political or legal classifications, companies have been adopting biophysical definitions—often based upon remote sensing and/or field-based environmental

TABLE 7

Government policies and Indonesia's NDC

Indonesia's five key forest-related NDC themes	Alignment of government policies with the NDC themes
Forest and peatland protection and restoration	The ultimate aim of the three policies, including the moratorium on primary forest clearing and peatland conversion, the moratorium on new palm oil permit issuance, and the establishment of the *BRG* is to protect and restore Indonesia's forests and peatlands.
Landscape approach	Enforcement of all three policies will require participation of provincial, district, and village-level government officials, and is intended to protect and restore forests at the landscape scale throughout the country.
Multi-stakeholder support and involvement	Key private sector palm oil and pulp/paper companies operating in Indonesia have expressed widespread support for the policies, and have voiced their intention to assist the government to ensure that the policies are effectively enacted and enforced.
Land-use planning, mapping and monitoring	The success of all three policies will rely upon more effective land-use planning, mapping & monitoring to: detect and address instances of illegal forest clearance, peatland conversion, or palm oil expansion; restructure current concessions to make them more efficient; and identify, map, and classify as protected rather than cultivable all peatlands in the seven provinces within the scope of the *BRG*'s mandate.
Enhancing agricultural productivity	The Palm Oil Permit Moratorium is intended as a tool to incentivize restructuring of existing palm oil estates toward intensified production through replanting and introduction of higher-yielding seed varieties. Better maximizing the efficiency of production on land already cleared will enable yields to increase to meet growing demand while preserving existing forest land.

assessments. A multi-stakeholder group, including plantation companies, commodity users, NGOs and technical support organizations have come together to form the High Carbon Stock Approach (HCSA) Steering Group—in an effort to develop a methodology to distinguish forest areas for protection from degraded lands that may be developed.[103] At the same time, the Indonesian government is seeking to harmonize land classification maps across all government agencies, through its One Map Initiative. These separate efforts by the government and the private sector in isolation from one another risk further gridlock which could prevent forward progress on defining, mapping, and monitoring forest cover and deforestation. Yet the opportunity exists for greater collaboration. The government could verify and incorporate forest cover maps created by companies on their concessions, and integrate this information into its own political and legal classifications of forest areas and deforestation.

Recommendations on how the government can support enhanced alignment and collaboration with the private sector—lessons from government policies

- **Legalize forest conservation by companies within their concessions:** The Indonesian government must issue the pending implementing regulations for the 2014 Plantation Act, removing the threat of penalties for companies which set aside forest areas for conservation within their concession areas.
- **Incentivize local governments to prioritize forest protection:** Indonesia's 34 provinces are divided into 405 regencies, and following the country's process of political decentralization, these sub-provincial governments exercise considerable authority and control over land use decisions and the issuing of corporate licenses and permits for oil palm and timber & pulp plantations. The Indonesian federal government should develop fiscal and regulatory incentives to reward regencies which maintain or increase their forest cover. In the absence of such incentives, local authorities will continue to grant permits due to the perceived revenue-generating benefits of development.[104]

- **Develop new public-private investment vehicles to support smallholder intensification:** Increased public sector funding in the form of loans or subsidies to smallholders and low-tech plantations will be needed to achieve the productivity gains envisioned. Private sector palm buyers, while looking to strengthen links in their supply chains to meet growing global demand, must also play a key role through equity investments toward intensified production methods. The government should initiate these investment structures and seek matching private capital to provide the finance, technology, and training needed for intensified production and improved yields on existing estates.
- **Collaborate toward shared mapping and land classifications:** Major palm oil and pulp/paper producers with land concession holdings in Indonesia have voluntarily pledged through the TFA 2020 forum to share their concession maps on peatlands to assist the *BRG* as it plans, implements, and monitors its peat protection and restoration activities. The Indonesian government should accept this offer, and work with these companies to develop harmonized maps based on shared definitions of 'forest' and 'deforestation' which are prerequisite to all planning, monitoring, enforcement, and investment efforts.
- **Expand the Fire-Free Alliance Platform to include government representation:** Companies including APRIL Group, Asian Agri, Musim Mas, Wilmar and others founded the Fire-Free Alliance platform to share knowledge and scale-up lessons learned from the APRIL Group's Fire Free Village Program. The Indonesian government should seek to support and learn from this Alliance, to ensure that public and private efforts toward fire prevention are aligned and mutually supportive.

NDPE commitments focus primarily on environmental sustainability goals, including zero deforestation and zero peat conversion.

INDONESIA CASE STUDY 2

Corporate commitments: No Deforestation, No Peat, No Exploitation (NDPE)

The primary vehicle through which private sector companies have made formal, forest-related sustainability commitments in their palm oil and pulp/paper supply chains in Indonesia can be broadly termed as "No Deforestation, No Peat, No Exploitation" (NDPE) commitments. These commitments focus primarily on environmental sustainability goals, including zero deforestation and zero peat conversion. Companies often explicitly commit to preserving high carbon stock (HCS) forests and high conservation value (HCV) areas, avoiding fires and burning, and adopting best management practices for existing plantations on peat. NDPE commitments also often include components related to human rights and social welfare for workers involved in various stages of the commodity supply chain. Globally, at least 298 companies involved in the palm oil industry, and 270 companies involved in the timber and pulp industries have made formal commitments related to environmental sustainability and zero deforestation, according to research by Forest Trends' Supply Change initiative.[105] Given Indonesia's role as a major global producer of both palm oil and timber/pulp, these corporate commitments hold tremendous promise to support the Indonesian government's efforts to achieve sustainable management of the country's forests. A few key companies have been on the leading edge of this trend toward corporate commitments in Indonesia. Their efforts serve as useful examples of the potential for the private sector to support Indonesia's forest-related NDC goals.

Wilmar

Wilmar was one of the earliest major companies to make a NDPE commitment, announced in December of 2013.[106] Wilmar is the world's largest processor and merchandiser of palm oil, and is both one of the largest oil palm plantation owners and the largest palm oil refiner in Indonesia.[107] In its announcement, Wilmar set an objective of delinking its entire supply chain

from deforestation by the end of 2015—not only for its own holdings, but also including its joint ventures and third-party suppliers.

As of the end of 2015, Wilmar reported that more than 80% of its oil palm plantation areas globally were certified to the Roundtable on Sustainable Palm Oil (RSPO) standard.[108] The company has not yet fully achieved its goals by its originally proposed timeline, but is nonetheless widely seen to be making significant progress. Beyond its own supply chain impacts, Wilmar's commitment was significant in that it set a new precedent for best practice within the palm oil industry and set the stage for the widespread issuance of similar policies by other palm oil companies throughout Indonesia.

Asia Pulp and Paper (APP)

APP, one of the world's largest pulp and paper companies, acted as an early adopter of corporate NDPE policies, announcing its Forest Conservation Policy in February 2013. In addition to its commitment to forgo development on all forested areas across its supply chain, APP announced its aim to be 100% Sustainable Forest Management (SFM) certified by 2020 across all of its operations. The company has also taken a leading role among Indonesian commodity producers by committing to conserve or restore 1Mha of forest and peatland across the country, as part of the global Bonn Challenge which aims to bring 150 Mha of the world's deforested and degraded land into restoration by 2020.

As of early 2016, APP had constructed more than 3,500 dams to re-wet drained peatlands, retired 7,000 ha of active plantations on peatland,[109] and completed LIDAR mapping of 4.5 Mha of peatland and lowland in Sumatra and Kalimantan at the landscape level. It also established the independent Belantara Foundation to support public-private partnerships for peatland conservation.[110,111] While full implementation remains to be seen, given the shared peatland restoration commitments of APP and the Indonesian government, enhanced collaboration between the company and the government could be mutually beneficial.

Unilever

Unilever is the world's single largest end user of palm oil, purchasing nearly 3% of global palm oil production.[112] The company's overall palm oil footprint throughout its broader supply chain is even larger, touching upon approximately 8% of palm oil production globally.[113] In 2009, Unilever was amongst the first companies to publicly commit to a long-term goal to source 100% of its palm oil sustainably under RSPO, as part of the company's broader commitment to source 100% of its agricultural raw materials sustainably by 2020.[114] In 2016, the company provided more specificity to this commitment through the formulation of a Sustainable Palm Oil Sourcing Policy. Given the scale of Unilever's palm oil supply chain, this NDPE commitment

Unilever commits to invest US$25M in tropical forest and agriculture fund

In early 2017, Unilever announced at the World Economic Forum that it would be investing US$25 million over five years into a newly-created tropical forest and agriculture fund spearheaded by the Norwegian government's International Climate and Forest Initiative (NICFI), IDH, UN Environment, and the Global Environment Facility. The fund aims to use $400 million in public finance to leverage $1.6 billion in private investments in agricultural commodity production in jurisdictions committed to forest protection, with a specific focus initially on Brazil and Indonesia. Unilever will direct its US$25 million to target smallholders in its priority sourcing areas in Indonesia (as well as West Africa)—expanding upon its efforts already underway in Central Kalimantan to support enhanced smallholder production and to secure long-term access to certified palm oil.

TABLE 8

Corporate NDPE commitments and Indonesia's NDC

Indonesia's five key forest-related NDC themes	Alignment of corporate commitments with the NDC themes
Forest and peatland protection and restoration	The NDPE commitments of Wilmar, APP, Unilever, and other major palm oil and pulp/paper companies operating in Indonesia express formal commitments by these companies to enforce zero deforestation and facilitate peatland protection and restoration in their supply chains. In many cases these NDPE policies go beyond government regulations by committing to conserve all forests, rather than just primary forests; company commitments also often include quantifiable and time-bound goals, which can facilitate greater accountability.
Landscape approach	Many of the corporations pursuing implementation of their NDPE commitments are making investments at the landscape scale and forming partnerships with subnational governments. Unilever has committed to preferential sourcing from jurisdictions committed to reducing deforestation, and is making investments in Central Kalimantan toward this goal.
Multi-stakeholder support & involvement	Companies with NDPE commitments are collaborating with a wide range of actors to formulate and implement their commitments, most prominently through multi-stakeholder initiatives such as the High Carbon Stock Approach Steering Group and the Roundtable on Sustainable Palm Oil (RSPO).
Land-use planning, mapping and monitoring	Many companies are undertaking in-depth mapping, monitoring, and land-use planning processes on their own properties and on those of their suppliers to better understand their supply chains and to support the implementation and enforcement of their NDPE commitments.
Enhancing agricultural productivity	A significant component of many NDPE commitments include goals to more effectively include smallholders into corporate supply chains, and to offer technical support and/or financial assistance to improve smallholder productivity in existing production areas.

has significant implications for the sustainability of Indonesia's palm oil sector, and for the broader forest-related goals outlined in the country's NDC. The Policy also includes goals related to facilitating the inclusion of smallholders throughout Unilever's palm oil supply chain, and promoting transparency in the operations of its suppliers.[115]

Unilever appears to be making progress toward its certified palm oil goals, both in relation to its industry peers and in relation to its own interim annual targets. In 2015, the company was the largest end user of physically certified palm oil in the consumer goods industry. As of 2016, it reported having procured 36% of its palm oil purchases from certified sources—exceeding its 2016 target of 30%.[116,117] The company's commitments provide an incentive for its involvement in the public-private partnerships described in the following section of this report, particularly its participation and investments in Central Kalimantan through the province's jurisdictional palm oil certification initiative.

Recommendations on how the government can support enhanced alignment and collaboration with the private sector—lessons from corporate commitments

- **Implement key land use policies and reforms:** In order to incentivize and enable greater private investment in sustainable, forest-friendly commodity production, the government needs to implement key reforms related to clarifying land rights and ownership, transparency of concession boundaries, and concession permitting and revocation (e.g., through completion of initiatives such as the country's One Map project).
- **Provide platforms for private sector consultation:** The government should create opportunities for the private sector to provide input on the country's NDC and supporting legislation, indicating where and how the private sector can participate, and making these interactions transparent (e.g., through publicly communicating the results of meetings).

- **Utilize existing public-private investment vehicles for peatland conservation:** The Indonesian government should prioritize directing public finance (domestic or international) to public-private partnerships for peatland conservation. These public investments should be contingent upon sufficient accompanying private investments, such as those put forth by APP through the Belantara Foundation.

- **Partner to develop best practices for peatland management and restoration:** Many corporate NDPE commitments include components related to peatland conservation and restoration, which align well with the goals of the Indonesian government as expressed through the creation of the Indonesian Peatland Restoration Agency (*BRG*). As companies such as APP move ahead to test and pilot peatland mapping and peatland restoration techniques, the government should seek to partner in these efforts—with the aim of developing policies and best practices which can be scaled up and applied nationally.

INDONESIA CASE STUDY 3

Jurisdictional initiative: South Sumatra Eco-Region Alliance/Partnership Consortium for Landscape Management

On the sidelines of the COP21 global climate negotiations in Paris in late 2015, the Governor of South Sumatra, His Excellency Alex Noerdin, announced the launch of an innovative public-private partnership—the "South Sumatra Eco-Region Alliance." The partnership aims to address deforestation, peatland degradation, wildfires and climate change impacts in the peatland forests of South Sumatra's Sembilang-Dangku landscape. The goals and approach of the alliance, including its core involvement of key private sector palm oil and pulp/paper companies, are well-aligned with the avoided deforestation goals of the country's NDC. The Island of Sumatra contains nearly 70% of Indonesia's oil palm plantations, and South Sumatra is among the most productive palm-oil producing provinces on the island.[118] Addressing deforestation, peatland degradation, and wildfires related to palm oil production in the province is therefore of critical importance to the country's NDC commitments. The success of the Alliance's partnership in achieving its goals would lend crucial support to the national government as it seeks to meet the emissions reduction targets laid out in the country's NDC.

The alliance aims to scale up collaboration between the government, the private sector, and communities in South Sumatra toward shared goals of reduced deforestation and more sustainable land management. The initiative has full buy-in from the provincial government, and is supported by funding from external donors—the Norway International Climate and Forest Initiative (NICFI) and the United Kingdom Climate Change Unit (UKCCU). From the private sector, APP has played a leading role in supporting the initiative in an effort to achieve its pulp and paper sustainability commitments. Cargill is also participating in the alliance in an effort to green its palm oil supply shed in the province. Various NGOs and multilateral partnership organizations are also involved, including the Zoological Society of London and IDH.

The initiative plans to explicitly monitor and report its progress, and is starting by collecting scientific data to inform the development of province-wide policies and landscape management mechanisms. In addition to its goals of reducing deforestation, peatland degradation, and wildfires, the alliance also intends to support local livelihoods and address climate impacts within the context of green growth development. As a demonstration of this commitment, the South Sumatra provincial government has launched a "fire-free" village scheme, aimed at training local people to extinguish fires and stop them from starting. To bolster participation and compliance, the program offers incentives—including farm equipment and fertilizers—that should boost productivity and deter slash-and-burn land clearing methods. The government plans to roll out the program in 75 villages located in high-risk districts within the province.[119]

TABLE 9

South Sumatra Eco-Region Alliance and Indonesia's NDC

Indonesia's five key forest-related NDC themes	Alignment of the South Sumatra Eco-Region Alliance with the NDC themes
Forest and peatland protection and restoration	Aims to address deforestation, peatland degradation, and wildfires in South Sumatra's peatland forests.
Landscape approach	Utilizes the 'Sustainable Landscape Model' to test and pilot approaches that can eventually be scaled up to the whole jurisdiction, and replicated in other Indonesian provinces.
Multi-stakeholder support & involvement	Focuses on scaling up collaboration between the government, the private sector, and communities in South Sumatra toward shared goals of reduced deforestation and more sustainable land management.
Land-use planning, mapping and monitoring	Will explicitly monitor and report on its progress, and is collecting scientific data to inform the development of province-wide landscape management policies and plans.
Enhancing agricultural productivity	Intends to support local livelihoods, including through provision of farm equipment and fertilizers to smallholders, which should boost productivity and deter slash-and-burn land clearing methods.

The program appears to have been inspired by the core elements of the APRIL Group's Fire Free Village Program. Private sector companies are planning to implement parallel supporting initiatives. Wilmar announced plans to pilot the Fire Free Village Program in three of its palm oil supplier estates in South Sumatra.[120]

The alliance intends to carry out its work utilizing the 'Sustainable Landscape Model', testing and piloting approaches that can eventually be scaled up to the whole jurisdiction, and replicated in other Indonesian provinces. By involving the provincial government as a key partner, and seeking to influence and build upon government jurisdictional policy, the alliance is carrying out one of the core goals of Indonesia's NDC—to utilize jurisdictional approaches to conservation which build and strengthen the capacity of subnational governments.

Recommendations on how the government can support enhanced alignment and collaboration with the private sector—lessons from the South Sumatra Eco-Region Alliance

- **Scale-up lessons learned to national level:** The Indonesian national government should actively seek to learn from the pilot attempts at jurisdictional public-private collaboration toward forest and peatland protection in South Sumatra through the Eco-Region Alliance, and apply the key lessons learned at the national level and/or within other provinces.
- **Provide opportunities for private sector input:** Private sector companies interviewed for this study expressed a desire for more effective lines of communication with national government agencies and officials, particularly regarding topics for which the private sector can offer valuable data or technical expertise. Private sector input to the provincial government through the Eco-Region Alliance should serve as a model for how the national government can engage the private sector on key issues related to forest conservation.

INDONESIA CASE STUDY 4

Jurisdictional initiative: Central Kalimantan Commitment to Sustainable Palm Oil

One of the most advanced public-private collaborations to address deforestation and emissions in Indonesia is taking place in Central Kalimantan Province—one of the major palm-oil producing provinces of Indonesia—with a focus on the palm oil sector. The initiative

began in 2013, with the issuance of the provincial Roadmap to Low Deforestation Rural Development. It took a major step forward in mid-2015 when the Governor of Central Kalimantan set a goal of certifying the entire palm oil supply chain in the province by 2019, and established the Jurisdictional Certification Working Group to steer the process. The Earth Innovation Research Institute of Indonesia (*INOBU* in Indonesian) was appointed to facilitate the Working Group process.

The initiative has identified three regencies within the Province to serve as pilots, with the aim of obtaining Roundtable on Sustainable Palm Oil (RSPO) certification for all palm oil produced in these three regencies before scaling up efforts to expand RSPO certification across the entire province.[121] The regency of *Seruyan*, within Central Kalimantan Province, has been a leader in the push for RSPO certification—containing nearly half of the province's RSPO-certified oil palm plantations.[122] The RSPO has called Central Kalimantan's commitment to jurisdictionally-certified palm oil the world's first commitment of its kind globally, along with a similar commitment made by the Malaysian state of Sabah.[123] The initiative has deep support and involvement from private sector companies, including Unilever, Wilmar, Golden Agri Resources, and others sourcing palm oil from the three pilot regencies.

The goals of the Central Kalimantan partnership align well with the forest and peatland protection aims of the Indonesian NDC. The Partnership also provides a concrete example of subnational Indonesian government ministries and officials collaborating with the private sector to work towards mutual goals of forest protection and sustainable commodity production. The mandates of the multi-stakeholder Working Group guiding the process align closely with the NDPE commitments made by Unilever, Wilmar, and other companies involved, and are threefold:

The Central Kalimantan partnership provides a concrete example of subnational Indonesian government ministries and officials collaborating with the private sector to work towards mutual goals of forest protection and sustainable commodity production.

1. Remove the risk of deforestation and social conflict from the palm oil supply chain;
2. Develop a work plan and resources needed to promote jurisdictional certification of palm oil; and
3. Provide inputs to support jurisdictional certification and perform other operational steps that are relevant to the jurisdictional certification of palm oil.[124]

As a member of the partnership, Unilever views its sustainable palm oil investments in the regency of *Kotawaringin Barat* as a pilot attempt to begin implementing the commitment the company made at the COP21 Paris climate summit to preferentially purchase commodities from jurisdictions that have comprehensive forest and climate policies in place. The company signed a three-year Memorandum of Understanding (MoU) with the provincial government of Central Kalimantan, the district government of *Kotawaringin Barat,* and *INOBU*—formalizing its involvement. Unilever describes the partnership as "the first public-private agreement between sub-national governments and an international buyer."[125] Wilmar has also expressed its commitment to support the Central Kalimantan jurisdictional palm oil certification goal, including by supporting the government as it works to put in place the necessary regulatory and policy framework.

Increasing the productivity of smallholder palm oil producers is a key goal of the partnership. Unilever has set concrete goals that its smallholder support program will aim to achieve. The company is beginning with one specific village (*Pangkalan Tiga*) with a goal of supporting all smallholder producers in the village to obtain RSPO certification. According to Unilever, this program would create the first certified "sustainable village" in the world for palm oil production. The program expects to initially impact 600 smallholders on 1,400 ha of land, with the goal of eventually expanding to other areas in the regency.[126]

A core component of the Central Kalimantan initiative has been the development of a performance monitoring and tracking system, called the "Information and Performance Monitoring System for Sustainable Plantations" or *SIPKEBUN* (its Indonesian acronym). The system is a collaboration between the Indonesian Central government (Ministry of Agriculture), the Central Kalimantan provincial government, the three regency governments

TABLE 10

Central Kalimantan Jurisdictional Commitment to Sustainable Palm Oil Initiative and Indonesia's NDC

Indonesia's five key forest-related NDC themes	Alignment of the Central Kalimantan Jurisdictional Commitment to Sustainable Palm Oil Initiative with the NDC Themes
Forest and peatland protection and restoration	Aims to remove the risk of deforestation from all palm oil supply chains in Central Kalimantan Province.
Landscape approach	Involves collaboration among government officials at the provincial, regency (sub-provincial), and district levels, all working toward the goal of landscape-scale palm oil certification across the province.
Multi-stakeholder support & involvement	The partnership's Working Group is comprised of representatives from local governments, non-governmental organizations, indigenous peoples, smallholder farmers, and oil palm growers and buyers—with Unilever as a particularly active private sector participant.
Land-use planning, mapping & monitoring	Pilots a performance monitoring and tracking system to store and display data on large-scale oil palm plantations and smallholder palm oil producers, including spatial data such as the location and area of plantings as well as production data and socio-economic indicators.
Enhancing agricultural productivity	A key goal of the partnership is to increase the productivity of smallholder palm oil producers.

piloting the jurisdictional palm oil approach at the sub-provincial level, and *INOBU*. As of late 2016, *SIPKEBUN* had begun storing and displaying data on large-scale oil palm plantations and smallholder palm oil producers in *Seruyan*, including spatial data such as the location and area of plantings, as well as production data and socio-economic indicators[127] The eventual aim is to use *SIPKEBUN* data to support jurisdictional land-use planning and permitting processes concerning palm oil expansion, to ensure that high conservation value (HCV) and high carbon stock (HCS) areas are identified and protected. The partnership has a goal of mapping all smallholder palm oil producers in *Seruyan*and *Kotawaringin Barat* by the end of 2017.[128]

Recommendations on how the government can support enhanced alignment and collaboration with the private sector—lessons from the Central Kalimantan Jurisdictional Commitment to Sustainable Palm Oil

Interviewees from organizations involved in the Central Kalimantan initiative shared three important lessons from the early experiences of the partnership, which could be usefully applied to promote more effective public-private collaboration toward zero deforestation goals by subnational and national government agencies and officials in Indonesia.

- **Pursue collaboration early and often:** One particularly effective strategy of the Central Kalimantan initiative has been to invite key government agencies and corporations to partner together from the beginning toward the shared goal of producing maps recognized as authoritative by both parties. This approach overcomes the tendency for governments and companies to work in isolation, which leads to confusion and stymies progress.
- **Utilize bridging organizations to facilitate partnerships:** A credible mediator has been instrumental in creating the space for constructive engagement—in this case, *INOBU* as facilitator of the Jurisdictional Certification Working Group.
- **Embed national policies in subnational action:** Subnational initiatives like the Central Kalimantan partnership are the most effective way to translate national-level policies and commitments, such as those identified in Indonesia's NDC, into concrete action that involves the private sector. The Indonesian government should foster more of these partnerships throughout the country as a primary means toward implementing and achieving its NDC goals.

Recommendations to align corporate deforestation-free commitments with Indonesia's NDC

The following recommendations that emerged from the analysis of existing government policies, corporate commitments, and jurisdictional multi-stakeholder partnerships illustrate how the Indonesian government and companies can collaborate more effectively to reduce deforestation and restore forest landscapes.

- **Legalize forest conservation by companies within their concessions:** The Indonesian government must issue the pending implementing regulations for the 2014 Plantation Act, removing the threat of penalties for companies which set aside forest areas for conservation within their concession areas.
- **Collaborate toward shared mapping and land classifications:** Major palm oil and pulp/paper producers with land concession holdings in Indonesia have voluntarily pledged through the TFA 2020 forum to share their concession maps on peatlands to assist the Indonesian Peatland Restoration Agency (*BRG*) as it plans, implements, and monitors its peat protection and restoration activities. The Indonesian government should accept this offer, and work with these companies to develop harmonized maps which are prerequisite to all planning, monitoring, enforcement, and investment efforts. In Central Kalimantan, for example, one particularly effective strategy of the multi-stakeholder working group has been to invite key government agencies and corporations to partner together from the beginning toward the shared goal of producing maps recognized as authoritative by both parties, utilizing a credible mediator organization to create the space for constructive engagement. This approach overcomes the tendency for governments and companies to produce their own separate maps, which leads to confusion and stymies progress.
- **Incentivize local governments to prioritize forest protection:** Indonesia's 34 provinces are divided into 405 regencies. Following the country's process of political decentralization, these sub-provincial governments exercise considerable authority and control over land use decisions and the issuing of corporate licenses and permits for oil palm and timber & pulp plantations. The Indonesian federal government should develop fiscal and regulatory incentives to reward regencies which maintain or increase their forest cover. In the absence of such incentives, local authorities will continue to grant permits due to the perceived revenue-generating benefits of development.
- **Embed national policies in subnational action, and scale-up lessons learned:** Subnational jurisdictional initiatives like those in South Sumatra and Central Kalimantan are proving to be the most effective way to translate national-level policies and commitments, such as those identified in Indonesia's NDC, into concrete action that involves the private sector. The Indonesian government should foster more of these partnerships throughout the country as a primary means toward implementing and achieving its NDC goals. The government should also actively seek to apply the key lessons learned from these pilot attempts at the national level and/or within other provinces.
- **Implement key land use policies and reforms:** In order to incentivize and enable greater private investment in sustainable, forest-friendly commodity production, the government needs to implement key reforms related to clarifying land rights and ownership, transparency of concession boundaries, and concession permitting and revocation (e.g., through completion of initiatives such as the country's One Map project).
- **Provide platforms for private sector consultation and input:** Private sector companies interviewed for this study expressed a desire for more effective lines of communication with national government agencies and officials, particularly regarding topics for which the private sector can offer valuable data or technical expertise. The government should

Subnational jurisdictional initiatives like those in South Sumatra and Central Kalimantan are proving to be the most effective way to translate national-level policies and commitments, such as those identified in Indonesia's NDC, into concrete action that involves the private sector.

create opportunities for the private sector to provide input on the country's NDC and supporting legislation, indicating where and how the private sector can participate, and making these interactions transparent (e.g., through publicly communicating the results of meetings).

- **Develop new public-private investment vehicles to support smallholder intensification:** Increased public sector funding in the form of loans or subsidies to smallholders and low-tech plantations will be needed to achieve the oil palm productivity gains envisioned by the government. Private sector palm buyers looking to strengthen links in their supply chains to meet growing global demand must also play a key role through equity investments toward intensified production methods. The Government should initiate these investment structures and seek matching private capital to provide the finance, technology, and training needed for intensified production and improved yields on existing estates.
- **Utilize existing public-private investment vehicles for peatland conservation:** The Indonesian government should prioritize directing public finance (domestic or international) to public-private partnerships for peatland conservation. These public investments should be contingent upon sufficient accompanying private investments, such as those put forth by APP through the Belantara Foundation.
- **Partner to develop best practices for peatland management and restoration:** Many corporate NDPE commitments include components related to peatland conservation and restoration, which align well with the goals of the Indonesian government as expressed through the creation of the *BRG*. As companies such as APP move ahead to test and pilot peatland mapping and peatland restoration techniques, the government should seek to partner in these efforts—with the aim of developing policies and best practices which can be scaled up and applied nationally.

Conclusion and general recommendations

This report has sought to demonstrate the ways in which government policies, corporate zero deforestation commitments, and multi-stakeholder partnerships in Brazil and Indonesia are enabling—and could better enable—companies and governments to collaborate toward NDC goals of reducing deforestation and enhancing forest landscape restoration in both countries. While a number of specific recommendations targeted to each country emerged from this analysis, general lessons for enhancing collaboration between companies and governments can also be extracted for potential wider applicability to other countries and contexts. Both companies and governments could consider the following recommendations in their efforts to enhance their partnerships toward shared deforestation-free goals:

Companies

- **Advocate for policies that support deforestation-free goals:** Companies should seek a seat at the table to discuss with governments how NDCs and other policies could support their commitments. Companies can use these dialogues to advocate to governments for policy reform, more effective law enforcement, and economic incentives for conservation that will better enable them to fulfill their corporate commitments.
- **Participate in existing multi-stakeholder initiatives and help them scale and replicate:** This report identified several initiatives that bring governments, companies, and NGOs together to address deforestation at scale, including Mato Grosso's PCI Strategy and the Central Kalimantan Jurisdictional Commitment to Sustainable Palm Oil Initiative. Companies should support these initiatives and look to replicate them in other areas.
- **Support efforts to strengthen and enforce regulations:** Companies can support government efforts to clarify or reform land tenure and monitor and enforce laws, with the understanding that these fundamental regulatory elements are needed for companies to meet their own corporate commitments. In the case studies presented in this report, companies supported government regulations by collaborating on data collection. They also placed stricter requirements on suppliers and provided incentives and support to suppliers to accelerate implementation of government regulations. In addition, companies should consider demonstrating in their annual corporate reports how their commitments and actions are supporting governments' NDC goals.

Governments

- **Conduct consultations on elaborating and implementing NDCs**: Governments should provide platforms for consultation on NDCs and supporting legislation and improve transparency about this participation by making the results of these interactions publicly available.

- **Identify ways that private sector actors and subnational initiatives can support NDCs:** Connect sub-national initiatives and private sector actors to the national government's planning processes by identifying ways they can support national goals and provide lessons at the national scale.
- **Support private sector action through policies, incentives, and financial mechanisms:** Governments should implement key land-use policies and reforms needed to incentivize and enable private investment in sustainable commodity production and forest protection. This includes clarifying land rights/ownership and concession boundaries. In addition, governments should develop incentive programs to reward companies for reducing deforestation in their supply chains and/or undertaking forest restoration on their properties (e.g., through tax reform, tariff adjustment, or providing other monetary or non-monetary benefits). Governments can also promote private sector investment by providing co-financing and loan guarantees.
- **Remove barriers to extra-legal conservation efforts by companies:** While the Brazilian government has supported corporate initiatives that pose more stringent environmental requirements than government regulations, Indonesian government legislation in some cases hinders these corporate conservation efforts. For example, Indonesia's Plantation Act brings into question the legality of conserving forests in concession areas. Governments should identify and revise regulations that inhibit private sector climate actions, and therefore progress on meeting NDCs.
- **Better align use of national forest monitoring systems with private sector deforestation-free policies:** In Brazil, the government and companies all use the national forest monitoring system— based on the government's satellite data—to identify forest conversion in the Amazon biome. This has contributed to the success of initiatives such as the Soy Moratorium. In contrast, the Indonesian government defines forests based on political or legal classifications, often excluding land that meets the biophysical definitions of forest—which companies may include within their corporate conservation commitments. Disagreement over which lands to monitor for conversion has impeded conservation efforts in Indonesia—such as those being undertaken by the High Carbon Stock Approach (HCSA) Steering Group. National governments should have scientifically robust deforestation monitoring systems that align with private sector deforestation definitions and policies.

Companies and governments will have several opportunities to further align corporate commitments and NDCs. As governments formulate their plans for implementing their NDCs and communicate successive NDCs, they should consider how to incorporate and encourage actions by the private sector. Platforms such as TFA 2020 will continue to support collaboration between governments and companies. In these processes, the above recommendations—if implemented—could help support and enhance partnerships between governments, companies, and NGOs.

Annex

The following experts were interviewed or participated in the TFA 2020 General Assembly workshop convened to inform this study.. The authors take sole responsibility for any errors in transcription or interpretation that occurred during the development of this report.

Interviewees and participants in TFA 2020 workshop

Amaggi
Asia Pulp & Paper Group (APP)
Belantara Foundation
BNDES
Brazil Ministry of Environment
Cargill
Center for Global Development (CGD)
Climate Advisors
Instituto Centro de Vida (ICV)
Instituto de Pesquisa Ambiental da Amazônia (IPAM)
Mato Grosso Produce Conserve Include Strategy State Committee
O Banco Nacional do Desenvolvimento (BNDES)
Pecuaria Sustentavel da Amazonia (PECSA)
PepsiCo
Roundtable on Sustainable Palm Oil (RSPO)
The Earth Innovation Research Institute of Indonesia (INOBU)
The Nature Conservancy (TNC)
The Prince of Wales' International Sustainability Unit
The Sustainable Trade Initiative (IDH)
U.S. Department of State
United States Agency for International Development (USAID)
Wilmar

Notes

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120 Wilmar International Limited. No Deforestation, No Peat, No Exploitation Policy Progress Update (December 2013–December 2015), p. 21. Accessed at: http://www.wilmar-international.com/wp-content/uploads/2016/01/Wilmar-Policy-Progress-Report-Final.pdf

121 The three regencies identified are: Gunung Mas, Kotawaringin Barat (West Kotawaringin), and Seruyan. Regencies represent the second-level of administrative subdivision in Indonesia, with provinces divided into regencies, and regencies into districts. Central Kalimantan Province has a total of thirteen regencies.

122 Earth Innovation Institute: http://earthinnovation.org/wp-content/uploads/2016/01/Jurisdictional-Certification-Approach-to-Support-Sustainable-Palm-Oil-Production-.pdf

123 RSPO-Certified Palm Oil could become the Norm in Sabah, Kalimantan: http://www.rspo.org/news-and-events/news/rspocertified-palm-oil-could-become-the-norm-in-sabah-kalimantan

124 *INOBU*: http://www.inobu.org/people/staff/herman-orisu/112-central-kalimantan.html

125 Unilever corporate website: https://www.unilever.com/news/news-and-features/2017/We-are-driving-a-new-approach-to-sustainable-palm-oil.html

126 Ibid.

127 *INOBU* press release: http://www.inobu.org/events/36-events/122-press-release-central-kalimantans-seruyan-district-leading-a-global-initiative-for-supporting-sustainable-palm-oil-production-update-from-the-rspo-annual-meeting.html

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