REDUCING DEFORESTATION: RECOMMENDATIONS FOR THE U.S. AND CHINA

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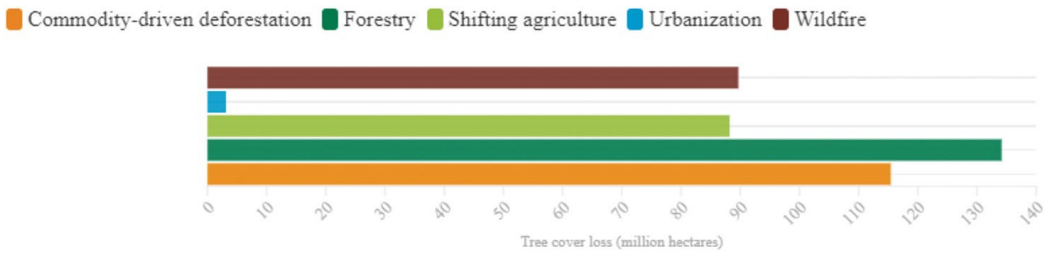
BACKGROUND AND CHALLENGES

Forests are critical to meet our Paris Agreement climate goals, protect biodiversity, and support livelihoods. The largest terrestrial carbon sink, forests are essential to prevent, mitigate, and adapt to climate change, and to regulate rainfall and water cycles. Tropical forests, in particular, are home to 50–90% of all terrestrial species (FAO, 2022a). The World Bank has estimated that approximately 1.6 billion people depend on forests for their livelihood, including about 60 million Indigenous peoples (World Bank, 2002).[1]

Figure 1 | Global Tree Cover Loss by Dominant Driver, 2001-2021



Source: (WRI, 2021). Note: Commodity-driven deforestation includes permanent conversion of forests for commodity production, including agriculture, mining, or oil and gas production.

Yet, forests are being lost at an accelerating and unprecedented rate. More than 10 million hectares (Mha) of primarily tropical forests are cleared every year, making deforestation the third largest source of carbon emissions after China and the United States (FAO, 2022a; UNEP, 2022). The annual rate of tropical tree cover loss nearly doubled from 2001 to 2021 with losses increasing by 12 percent from 2019 to 2020 (WRI, 2021). These losses are primarily driven by land clearing for timber and agricultural commodities such as beef, palm oil, and soy, with significant drivers from smaller-scale shifting agriculture, wildfires, and extractive industries such as mining, oil, and gas (FAO, 2022b; WRI, 2021).

According to an Intergovernmental Panel on Climate Change assessment on climate change and lands, all pathways that limit warming to 1.5º Celsius (C) or well below 2°C, require significant reductions in deforestation (IPCC, 2019). Global deforestation and forest degradation contribute

[1] Recent research refines this figure, finding that 1.6 billion rural people live within close proximity (5km) of forests, and this proximity relates to but is not synonymous with forest dependency (Newton et al., 2020).

11% of global greenhouse gas emissions (UNEP, 2022). In 2021, tropical primary forest loss was equivalent to the annual fossil fuel emissions of India (WRI, 2022). Halting deforestation and maintaining forests could avoid emitting 3.6 +/- 2 gigatonnes of carbon dioxide equivalent ($GtCO_2e$) per year between 2020 and 2050, equivalent to 14 percent of what is needed up to 2030 to stay below 1.5°C (FAO, 2022a). Without additional actions, an estimated 289 million ha of tropical forests could be deforested between 2016 and 2050, resulting in 169 gigatons of carbon dioxide equivalent ($GtCO_2e$) of emissions (FAO, 2022a).[2]

While it is difficult to assess, approximately half of tropical deforestation is done illegally, meaning in violation of producer countries' sovereign laws and regulations (Dummett and Blundell, 2021). In particular, a significant proportion of the global supply of agricultural commodities are linked to illegal logging or land clearing, violation of labor laws, tax avoidance, or corrupt allocation of permits and licenses. A recent report by Forest Trends finds that the majority of tropical deforestation was driven by commercial agriculture between 2013 and 2019, and 69% of this commercial agriculture-related deforestation was conducted in violation of national laws and regulations (Dummett and Blundell, 2021).[3] The rate of illegal deforestation from agricultural expansion increased over this same time period by 28 percent compared to 2000 to 2012 (Dummett and Blundell, 2021). Illegally sourced timber is also a significant issue and a huge industry. The trade in illegally logged timber is estimated to reach between $51 billion–$152 billion globally per year (INTERPOL, 2019). It includes 15-30% of the timber market, reaching 50-90% of forestry activities in tropical countries (INTERPOL, 2019). Illegal logging is leading to substantial losses in global tax revenue, estimated at between $6-9 billion per year (World Bank, 2019a). In addition, almost half (44%) of mining is taking place in forests (World Bank, 2019b), although the amount that is happening illegally is unclear.

Much of this deforestation – illegal and otherwise – is driven by the current economic signals and the value these signals place on forests. Simply put, clearing forests for agricultural commodities, timber, and extractive industries reflects the increasing demand for these forest-derived commodities as well as forested jurisdictions' desire to increase economic output for these sectors with resulting jobs and tax revenues (Boshoven et al., 2021). Compounding these signals, much of this deforestation is happening in countries with poor institutional systems, inadequate mechanisms to enforce existing laws, and high-level corruption. Often it occurs in and around Indigenous territories, impacting livelihoods and in violation of legal and customary rights (FAO and FILAC, 2021). These challenges highlight the critical need for promoting improved governance structures and law enforcement within and between jurisdictions (Seymour & Busch, 2016).[4]

Combating deforestation therefore requires recognizing the current economic realities that are driving deforestation and addressing these realities across scales—from the international to the national to the subnational (e.g., state or province) level—and through collaboration. Helping enable alternatives that ensure ongoing economic output (and resulting jobs, poverty alleviation, and tax revenues) through policy design, implementation, and enforcement in forested jurisdictions is key. The following list provides a broad categorization of how key types of policies and incentive efforts can be combined to reduce deforestation:[5]

1. **Efforts to reduce the amount of land available for deforestation**. This could be implemented by recognizing land tenure of Indigenous peoples and supporting their efforts to protect Indigenous territories (FAO and FILAC, 2021),[6] establishing and enforcing

[2] By way of example, some scientists fear that deforestation is pushing the Amazon, the largest tropical forest on the planet, toward a tipping point beyond which it cannot be recovered (McCoy, T., 2022; Lovejoy and Nobre, 2018).

[3] This includes only material violations, specifically on illegalities in licensing (e.g., failures to obtain permits or permission from landowners, failing to conduct environmental impact assessments, corrupt and fraudulent authorizations, etc.), forest clearance (overharvesting, outside of boundaries, tax evasion, etc.), or incidences of fraud and corruption.

[4] Seymour & Busch, 2016, note that "many of the actions needed to reduce deforestation are the same as those needed to promote improved governance. Increased transparency and accountability in land-use decision making, for instance, reduces opportunities for corruption, and clarification of land tenure can help strengthen the rights of indigenous peoples and reduce rural conflict."

[5] This categorization was adapted from Seymour & Busch, 2016, which itself built on categories developed by Nepstad et al., 2014 and Ferretti-Gallon and Busch, 2014.

[6] This is particularly important because forests in Indigenous and Tribal territories have lower deforestation rates than other forest areas, but also face significant and increasing threat of deforestation. See FAO, 2022a; FAO and FILAC, 2021 (meta-analysis of over 300 relevant studies in Latin America and the Caribbean); Aggarwal et al., 2021; and Sze et al., 2022. See also Scanlan Lyons et al., 2018.

protected areas to curb illegal land grabs and deforestation, and minimizing intrusion into remote forested areas (e.g., minimizing new road construction and enforcing laws on existing roads to prevent illegal intrusion);

2. **Efforts to incentivize forest conservation and avoided deforestation/emissions**. Incentives programs that link support for rural incomes to the maintenance of forest resources—such as through sustainably increasing production on already-cleared or already-degraded lands,[7] payment-for-ecosystem services programs, carbon market initiatives, and access to other financial mechanisms that incentivize and/or are contingent on reducing deforestation—are essential policies to address the current reality that cleared lands are valued more than forested land[8] (CFNA and GEI, 2022; TNC et al., 2022);

3. **Efforts to reduce demand for deforestation.** This would include bans on illegal imports, moratoria on unsustainable practices, sustainable procurement requirements, and zero-deforestation supply-chain commitments.[9] These efforts would include careful assessments of subsidies (for instance, U.S. subsidies for domestic production and consumption of beef or biofuel) and how such subsidies can drive or reduce demand for commodities from tropical forests (Seymour & Busch, 2016); and

4. **Improved enforcement to prevent the clearing of forests, and illegal exports (and imports), while supporting the implementation of incentive programs.** Policies to reduce land available for deforestation, incentivize forest conservation, and reduce demand for deforestation require adequate enforcement. Increased enforcement efforts in turn require institutional capacity, rigorous monitoring tools, significant deterrence (e.g., penalties and imprisonment), and transparent results.

Given the complexities and different drivers of deforestation, in most jurisdictions, no single policy or alternative strategy will be sufficient in and of itself, and the suite of policies will depend on the specific deforestation context of the jurisdiction. Stacking the benefits of utilizing a portfolio of regulatory, incentive, and market tools that are most relevant to the local context will be necessary to reverse the trends of global deforestation. Stacking efforts such as better law enforcement and pairing bans on commodities resulting from illegal deforestation (demand-side effort) with incentive programs that support rural producers to protect and value standing forests would be an example of this portfolio-type approach (see generally FAO, 2022a).

The U.S. and China are primary players in global supply chains and key to combating deforestation. The two countries have collaborated on the issue in the past, including through a Memorandum of Understanding on Combating Illegal Logging and Associated Trade (2008),[10] where both parties agreed to work cooperatively to support sustainable forest management globally and to work with other countries to combat illegal logging. This agreement created a bilateral forum for multi-agency exchange and information sharing to promote trade in legal timber products, encourage public-private partnerships, and address environmental issues that have significant implications for climate change (WEF, 2022; U.S. Department of State, 2008). Beginning in 2014, another joint collaboration, the Climate Change Working Group on Climate and Forests, led to technical and policy exchanges with government, civil society, and the private sector, including work to understand the impact of forest-related overseas investments on greenhouse gas emissions (U.S. Department of State, 2016).

At the 2021 Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), this effort was renewed through the U.S.-China Joint Glasgow

[7] See TNC et al., 2022.

[8] The Governors' Climate and Forests Task Force (GCF Task Force) described below reflects this reality in its recent endorsement (by 35 states and provinces) of the Manaus Action Plan for a New Forest Economy, which recognizes that achieving forest protections and reducing deforestation, thereby lowering greenhouse gas emissions, "will never succeed if it does not reduce poverty, enhance livelihoods, and bring meaningful economic opportunities to our people" (GCF Task Force, 2022). This plan emphasizes four pillars of action for moving forward on efforts to reduce deforestation: People and Communities; Knowledge, Technology and Innovation; Finance, Investment, and the Private Sector; and Government and Public Policies.

[9] For an assessment of opportunities and challenges surrounding corporate zero deforestation supply-chain commitments, see Thomson, 2020.

[10] This effort was suspended after seven forums in 2016.

Declaration on Enhancing Climate Action in the 2020s[11] and the Glasgow Leaders Declaration on Forests and Land Use (U.S. Department of State, 2021; UNFCCC 2021).[12] The U.S.-China Joint Glasgow Declaration focuses specifically on each country enforcing its respective laws on banning illegal imports, and the Glasgow Leaders Declaration seeks to halt and reverse forest loss and land degradation more generally by 2030 while delivering sustainable development and promoting an inclusive rural transformation. Achieving these outcomes will require substantial collaborative effort and capacity on the ground, including at the subnational (e.g., state, province) level.

Subnational government action is essential to addressing the tropical forest challenge. State and provincial governments are closest to their specific contexts and to the drivers of deforestation and the potential mechanisms to address it (Boyd et al., 2018; Stickler et al., 2018). To that effect, the Governors' Climate and Forests Task Force (GCF Task Force)[13] has been actively supporting its 39 member jurisdictions in developing strategies and financing plans that are grounded in their challenges and needs, while also leveraging each other's experiences and adapting and adopting successful subnational jurisdictional programs.[14] In 2022, GCF Task Force members renewed their commitment to reduce deforestation by at least 80 percent relative to current levels by 2030, contingent on adequate financial support—a critical step to helping achieve the Glasgow Leaders Declaration commitment (GCF Task Force, 2022).

As part of these national and subnational-level commitments, there is consensus that action needs to occur at scale and across entire global supply chains in a way to avoid leakage and ensure long-lasting reductions. This includes supporting producer countries with finance and capacity building to enable the implementation of existing laws, the development of new regulations and incentive systems, engagement with emerging financial opportunities such as voluntary carbon markets (e.g., LEAF Coalition), and the establishment of better tracking and transparency at the jurisdiction-scale through certification and traceability measures (Boshoven et al., 2021; FAO and WRI, 2022). According to the Food and Agriculture Organization, forest-related finance needs to at least triple by 2030 to meet climate, biodiversity, and land degradation neutrality targets (FAO, 2022a).

U.S. BACKGROUND AND CHALLENGES

Demand in the United States for timber, beef, cocoa, coffee, fuels, and other commodities that come from countries with high rates of deforestation—illegal and otherwise—remains high and for some commodities (e.g., beef, coffee (unroasted)), is increasing (FAS, 2022).[15] At the same time, recognizing that preserving and enhancing global forests is "essential to maintain a pathway to net zero emissions by 2050," the Biden Administration released a Plan to Conserve Global Forests: Critical Carbon Sinks. One of the Plan's goals is "[setting] forth a whole-of-government approach to conserving global terrestrial carbon sinks, leveraging a range of diplomatic, policy, and financing tools" (Plan to Conserve Global Forests, 2021). This Plan also recognizes that there are "many drivers of deforestation and ecosystem degradation that need to be addressed to successfully conserve critical carbon sinks, including: misaligned incentives, lack of available financial resources, limited political awareness and support, lack of transparent information, poor governance, vested interests, and weak capacity."

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[11] The language in the Joint Declaration is: "Recognizing that eliminating global illegal deforestation would contribute meaningfully to the effort to reach the Paris goals, the two countries welcome the Glasgow Leaders' Declaration on Forests and Land Use. The two sides intend to engage collaboratively in support of eliminating global illegal deforestation through effectively enforcing their respective laws on banning illegal imports."

[12] The Glasgow Leaders Declaration emphasized the need to "[w]ork collectively to halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting an inclusive rural transformation." Specific commitments in the declaration include: "facilitate trade and development policies, internationally and domestically, that promote sustainable development, and sustainable commodity production and consumption, that work to countries' mutual benefit, and that do not drive deforestation and land degradation."

[13] https://www.gcftf.org/

[14] See GCF Task Force webpage, Jurisdictional Strategies & Investment Plans, https://www.gcftf.org/jurisdictional-strategies-investment-plans/

[15] These imports may also be linked to jurisdictions where foreign animal disease can impact U.S.-based livestock (Blomme et al., 2021) and with human infectious diseases that are linked to tropical deforestation (Zimmer, 2019).

To that end, the United States has developed a portfolio of existing and emerging programs to address many of these drivers. These programs are outlined in greater detail in the Plan to Conserve Global Forests, but a few are highlighted below:

- Increasing access to reliable forest data through a Forest Data Partnership[16] and the SilvaCarbon[17] program. These programs draw on multiple U.S. Government agencies and partners to provide technical support and data, including state-of-the-art science and remote sensing technology, to support long-term capacity to generate and act on high-quality data and enhance forest management.

- Continuing full enforcement of the Lacey Act (16 U.S.C. § 3371) and working with Congress to pursue additional legislation if necessary[18] and enhancing law enforcement capacity to combat illegal deforestation. The U.S. Fish and Wildlife Service Office of Enforcement has posted attachés in Peru, Brazil, Gabon, and Bangkok to work directly with local law enforcement.

- Supporting Indigenous peoples' rights over land and land management, including through a $21.5 million Amazon Indigenous Rights and Resources program from USAID (USAID, 2021).

- Mobilizing finance for sustainable businesses and practice. This includes a USAID-initiated Amazon Biodiversity Fund for Brazil that will be invested in biodiversity and forest-friendly land-use; financial support for the BioCarbon Fund Initiative for Sustainable Forest Landscapes, which seeks to provide results-based payments for emissions reductions[19] from the land sector;[20] and implementation of a Forest Finance Investment Incubator that seeks to support the development of investment plans aligned with national and subnational climate and land use strategies for attracting finance.

- Ongoing support for the Forest Carbon Partnership Facility (FCPF),[21] a partnership to build capacity and develop strategies for implementing programs to reduce emissions from tropical deforestation and degradation (REDD+) at a national or subnational scale. Several U.S. government agencies also provide technical assistance to countries participating in the FCPF.

- Supporting jurisdictional[22] (subnational and national) market-based approaches such as the Lowering Emissions through Accelerating Forest Finance (LEAF) Coalition,[23] with an initial commitment by governments and corporations of $1 billion to incentivize national and subnational actions to reduce emissions from deforestation and purchase jurisdiction-scale carbon credits that meet accounting methods developed under the Architecture for REDD+ Transactions.[24] Any action in this regard should take into account ongoing debates over the efficacy of offset programs, such as concerning the ability of offsets to represent real, quantifiable, permanent, verifiable, enforceable, and additional emissions reductions (Wang et al., 2022).

- Strengthening Sustainable Forest Management by the U.S. Forest Service and USAID providing support for training, technical assistance, policy reforms, and sharing tools and best practices throughout Central Africa and the Amazon region.

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16 https://www.fao.org/newsroom/detail/enhancing-sustainable-forest-landscapes-deforestation-FAO-USAID-WRI-09112021/en

17 https://www.silvacarbon.org/

18 The Lacey Act, along with amendments of 2008, makes it illegal to "import, export, transport, sell, receive, acquire, or purchase any fish or wildlife or plant taken, possessed, transported, or sold in violation of any law, treaty, or regulation of the United States or in violation of any Indian tribal law" and to "import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce" any of the same categories (fish, wildlife, plant). The law provides explicit definitions of fish, wildlife, and plant, which include parts and products thereof, including timber and wood products.

19 Results-based payments refers to programs that provide financing based on specified results (e.g., donor country payments for demonstrated reductions in deforestation, carbon credit payments for demonstrated emissions reductions resulting from reduced deforestation, etc.).

20 https://www.biocarbonfund-isfl.org/

21 https://www.forestcarbonpartnership.org/

22 For this paper, a jurisdictional approach refers to a "government-led, comprehensive approach to forest and land use across one or more legally defined territories" (Boyd et al., 2018), and is different from the traditional project-scale approach common to some payment-for-ecosystem service programs and voluntary carbon market approaches. Jurisdictional approaches would include national-level and subnational-level programs and may incorporate (or nest) projects within their program.

23 https://www.emergentclimate.com/leaf-coalition/

24 https://www.artredd.org/

Additional Efforts In the United States:

- A recent legislative proposal, Senate Bill 2950, the Fostering Overseas Rule of Law and Environmentally Sound Trade of 2021 (FOREST Act), would prohibit U.S. imports of agricultural commodities produced on illegally deforested land and create a fund to support countries in combating illegal deforestation. Introduced in 2021, the initial list of commodities includes palm oil, soy, cattle, rubber, wood pulp, and cocoa. Companies importing from countries identified by the government as having no adequate and effective protection against illegal deforestation in place would be required to submit a declaration stating that they had exercised reasonable care to assess and mitigate the risks that any covered commodity used to make the covered product was produced from land subject to illegal deforestation on or after the date of enactment.[25]
- At the subnational level, regulators and civil society actors have sought to define robust assessment standards that could be paired with financing tools such as jurisdictional carbon markets and sustainable sourcing programs and procurement requirements such as the Forest Act. For instance, the California Air Resources Board, after years of partnership within the GCF Task Force, approved the California Tropical Forest Standard to provide a rigorous methodology for assessing jurisdiction-scale programs that reduce deforestation and to incentivize responsible action and investment (CARB, 2019).

Potential challenges to implementing the many programs listed in the Plan to Conserve Global Forests could include ensuring ongoing funding and human resources to fully implement each program, ensuring adequate tracking and cross-coordination to assess impacts and improve performance, time constraints on setting up and administering complex, multi-stakeholder processes, and ensuring that the benefits of these programs are widely accessible beyond national governments and implementing partner organizations (e.g., ensuring subnational governments and Indigenous territories are able to participate in these programs). Challenges to successful passage and implementation of new legislation could include difficulties of gaining sufficient votes for passage. The recommendations provided below are intended to help address some of these challenges.

CHINA BACKGROUND AND CHALLENGES

China is the world's largest importer, exporter, and consumer of timber and wood products. China's demand and use of wood and deforestation-related commodities has increased dramatically over the last twenty years. This is largely due to rapid economic growth, increasing export demand, and China's 2017 domestic logging ban in natural forests. These combined forces have led to a widening gap, reaching 60% over the last ten years, between domestic supply and timber required to meet demand (Richards et al., 2022). Timber imports are largely logs, sawn wood and wood chips, or unprocessed wood. China's timber imports come from over 100 countries, in recent years often through smaller suppliers including tropical forested countries that have a high risk of illegality. China's imports are often just one step in a larger supply chain, as wood is processed and then exported to another country, often as plywood or furniture (WEF, 2022). The majority of furniture in the United States is imported from China.

China is also the world's largest importer of beef and soy and the second largest importer of palm oil (CCICED, 2021). Illegal tropical forest clearing and selective felling linked to China's demand for agricultural and forest product imports has caused estimated annual carbon dioxide (CO_2) emissions of over 1% of China's total emissions (Richards et al., 2022). According to one assessment, over three-quarters (77 percent) of China's trade-related deforestation was linked to soy and beef products from Brazil (Pendrill et al., 2020) (Table 1).

[25] Following its introduction, the bill was referred to the Senate Committee on Finance in October 2021. No further action has been taken to date. https://www.congress.gov/bill/117th-congress/senate-bill/2950/text?r=2&s=2. A similar Deforestation-Free Procurement Act proposal exists in California, with Assembly Bill 1979. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1979

Table 1 | China's share of global imports of deforest related commodities	
Commodities	**China's share of global imports (2018)**
Timber	33%
Soy	60%
Pulp and paper	38%
Beef	17%
Palm oil	12%

Source: UN Comtrade data

Like the United States, China is committed to combating illegal deforestation. In 2019, the Forest Law was amended to ban illegal forest products and monitor sources of timber. Specifically, Article 65 states that "No organization or individual may purchase, process, and transport woods in full awareness of their illegal origins such as illegal felling or wanton deforestation" (MEE, 2019). Regulations to implement this law are currently under development.

In addition, industry and the government have developed various voluntary guidelines to address the impact of overseas trade on tropical forests. With support from the National Forestry and Grassland Administration, the Chinese Academy of Forestry developed the China Timber Legality Verification System (CTLVS). It has been piloted with Chinese enterprises (CCICED, 2021). In 2017, the China National Forest Products Industry Association formulated the voluntary China Timber Legality Verification Group Standard which requires enterprises that use imported wood to collect information to identify, evaluate, and mitigate illegal timber-sourcing risks. Thus far, 63 association member enterprises have adopted the standard with limited impacts on reducing deforestation (WEF, 2022). Beyond the timber industry, the "Green Development Guidelines for Overseas Investment and Cooperation" (MOFCOM and MEE, 2021), calls for government agencies and companies to build green supply chains, adopt green procurement practices, and prevent environmental risks, which could address deforestation-risks from other commodities.

China has also committed to numerous international collaborations around jointly combating illegal logging and associated trade with the United States, the European Union, and others. It has signed Memorandums of Understanding with at least 25 timber supplying countries, including Cambodia, Gabon, Indonesia, Mozambique, Myanmar, Laos, Russia and Vietnam (Forest Trends, 2020). It has engaged in multilateral forums such as the Asia-Pacific Economic Cooperation's Expert Group on Illegal Logging and Associated Trade and the China-Association of Southeast Asian Nations' International Forest Products Trade Forum.

In 2017, the China Soy Industries Association established an MOU with the Brazilian soy farmers association, Aprosoja, and the Brazilian Association of Vegetable Oil Industries, ABIOVE, to develop a collaborative agreement on soy trade with an initial focus on the Brazilian Amazonian state of Mato Grosso (CFNA and GEI, 2022). More recently, China's soy industry has established sustainable soy guidelines; its meat sector has created a working group on sustainability. Both of these processes have established sustainability criteria designed to inform China exports. In June 2022, during the High-level Dialogue on Global Development chaired by President Xi Jinping, China committed to establishing the Global Network for Sustainable Forest Management to promote ecosystem conservation and forest economy.

There are several major challenges to addressing deforestation in China's supply chain. First, regulatory authority to handle illegal deforestation is spread across different government agencies, including trade, finance, environment, agriculture, forestry, and customs (CCICED, 2020; WEF 2022). Second, many Chinese companies and their suppliers do not yet have the due diligence and traceability systems needed to deliver deforestation-free timber or commodities

(CCICED, 2020; WEF, 2022). Without these systems in place, it is impossible to ensure that there are no illegal activities in the supply chain. Third, the length and the complexity of the forest-product supply chain compounds these issues. Finally, there are common implementation challenges such as political will to put in place more rigorous policies to regulate illegal imports and ensuring enforcement.

RECOMMENDATIONS

Addressing tropical deforestation, including illegal deforestation, requires efforts at the global level and substantial efforts and support on the ground in key forest regions such as the Amazon to reduce the amount of land available for deforestation, incentivize increased forest conservation and avoided deforestation, reduce demand for deforestation, and improve enforcement efforts. This paper provides a number of inter-related recommendations intended to bolster and complement existing actions by the U.S. and China at all scales – global, national, and subnational.

Recommendations For the U.S.

- Pass the FOREST Act to prohibit U.S. imports of agricultural commodities from illegally deforested land, paired with clear national and/or subnational jurisdiction-scale standards and incentive programs for providing economic development alternatives;
- Increase financing, including up-front financing to support the transition to sustainable economies that keep standing forests intact;
- Continue and increase support for capacity building on remote sensing technologies, carbon markets, traceability, regulatory and incentive program design, and enforcement in exporter jurisdictions;
- Support subnational governmental actions and programs on the ground. This could include leveraging programs outlined in the Plan to Conserve Global Forests that would provide upfront capacity building and financial support to a wider-range of recipients, including providing support directly to subnational government and Indigenous territory recipients;
- Encourage American companies to make net neutral commitments and deepen their engagement with tropical forest jurisdictions (nations, as well as states and provinces) that are committed to low-carbon, forest-positive development.

Recommendations For China

- Clarify Forest Law Article 65 implementation rules and enforcement, drawing on lessons from the Timber Legality Verification System pilots;
- Strengthen capacity building for timber supply companies to understand and counter illegality risks in their supply chains;
- Strengthen cross-sector collaboration to address China's illegal forest-risk commodities imports collectively;
- Develop a regulatory framework for due diligence and traceability measures for soft commodities;
- Provide financing to improve forest management in timber exporting jurisdictions;
- Continue engagement with exporter jurisdictions to improve forestry practices;
- To the extent that the Chinese carbon market will incorporate carbon credits related to programs designed to reduce deforestation, require compliance with a high-integrity

standard such as The REDD+ Environmental Excellence Standard (TREES)[26] that underpins the LEAF Coalition or the California Tropical Forest Standard;[27]

- Support subnational actions and programs on the ground, especially in soft commodities trading hub cities and provinces.

OPPORTUNITIES FOR COLLABORATION

- Broaden collaboration to combat global deforestation generally, while also continuing collaboration to combat illegal deforestation building on the existing laws addressing illegal imports in both countries. This could include sharing lessons on implementation of the Lacey Act and linking forest companies in both countries to better address illegality in supply chains;
- Support targeted legal, regulatory, incentive, and fiscal approaches to combat various drivers of deforestation. For example:
  - To address deforestation from commercial agriculture, commence joint efforts on embedded carbon emissions in agricultural imports. Some tropical forest jurisdictions are poised to deliver large volumes of low-carbon or carbon-neutral soy, for example. If done collaboratively with the producer governments and sectors at the table, the chances of success will increase significantly;
  - For small-holder agriculture, support collaborative approaches with farmers and improve access to financing (e.g., credit) and renewable energy sources;
  - Collaborate on wildfire research and modeling.
- Support the development of enforcement mechanisms, transparency and accountability including traceable supply chains and utilization of remote sensing technology, working with countries and companies;
- Support upfront finance mechanisms for subnational and national jurisdictions to implement these actions, participate in programs utilizing high-integrity standards, and attract sustainable private sector investment. For instance, any efforts to support carbon markets and payments for ecosystem services programs would need to comport with high-integrity standards for carbon and forest accounting, transparent monitoring, reporting, and verification requirements, and stringent social and environmental safeguards that ensure the participation of and benefits to Indigenous peoples and local communities. Examples of existing rigorous standards include TREES and the California Tropical Forest Standard;
- Align infrastructure programs (Belt and Road Initiative plus new G-7 initiative) with sustainable, low-carbon agricultural and timber production;
- Ensure nature-based climate solutions, biodiversity, and forest protection commitments at UNFCCC COP and Convention on Biological Diversity (CBD) COP 15 are robust and recognize needs on the ground;
- Share bio-technologies with commodity producer countries to enhance agricultural productivity.
- Facilitate knowledge exchange between Chinese and American leading commodity trading companies and financial institutions to accelerate supply chain action for tackling deforestation in line with 1.5°C targets.

[26] https://www.artredd.org/trees/

[27] Any action in this regard should take into account debates over the efficacy of offset programs and implement best practices to ensure that offsets are real, quantifiable, permanent, verifiable, enforceable, and additional. See Wang et al (2022) at 38-40, 47-49.

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