Progress on the

New York Declaration on Forests

Technical Annexes

Goal 3: Significantly reduce deforestation derived from other economic sectors by 2020

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Contents

Description of the Goal and the Indicators

While Goal 2 addresses deforestation driven by commercial agriculture, Goal 3 focuses on deforestation driven by economic sectors other than agriculture. The most significant non-agricultural drivers of deforestation are infrastructure, human settlements and mining, while logging is the most important driver of degradation (Hosonuma et al. 2012). Between 2000 and 2010, infrastructure (construction of roads, railroads, pipelines, hydroelectric dams) and urban expansion (settlement expansion) were each responsible for 10% of all tropical forest loss, while mining accounted for 7% of all tropical deforestation (Hosonuma et al. 2012). During the same time period, timber extraction and logging, accounted for approximately 52% of all tropical forest degradation, making it the main driver of the total forest degradation (Hosonuma et al. 2012).[1]

Deforestation is driven by a mix of direct and indirect drivers. Direct drivers are activities that lead to a change in land use from forest to non-forest: agriculture, mining, large infrastructure projects or unsustainable logging. Indirect drivers are circumstances that influence human activities that lead to land use changes, including population growth, commodity prices, governance and rule of law, as well as the various aspects of economic development (Boucher et al. 2011, Geist and Lambin 2001). Box 1 highlights other ways in which deforestation and drivers may be assessed.

In our analysis, we focus on direct drivers, acknowledging that some of the indirect drivers are discussed under Goal 4 and Goal 10. Unfortunately, determining the contribution of specific economic sectors and activities to deforestation is challenging (Geist and Lambin 2002). Very few countries have disaggregated data that link deforestation spatially to particular drivers. The lack of such data prevents adequate measurement of aggregate deforestation from infrastructure, mining, and logging and makes it difficult to formulate indicators. Consequently, we do not define indicators to track progress toward Goal 3, but rather highlight public and private sector activities that address these drivers and thereby reduce pressure on forests. Public policies and private-sector-led initiatives show action that has been or can be taken to support this goal, though we cannot assess its effectiveness.

NO INDICATORS

In the first part of our analysis, we describe public sector policies that address demand for products linked to deforestation, and illegality and lack of enforcement in forest countries. In the second part, we describe relevant voluntary sustainability initiatives by private actors (see Table 1).

Table 1: Examples of public and private-sector action towards Goal 3

	PART	METHODOLOGY
1.	Policies that address deforestation driven by other economic sectors	Case studies and policy review
2.	Sustainability initiatives by the private sector that address deforestation driven by other economic sectors	Case studies from private sector sustainability initiatives

Box 1: Deforestation and drivers

In addition to direct and indirect drivers, deforestation can be assessed as 'state-enabled' and 'enterprise-driven.' Drivers and actors may also be national or international. Deforestation actors may range from small-land holders to large-scale enterprises (Rudel et al. 2009). In Goal 4 we explore the impacts on deforestation driven by basic needs, more specifically subsistence farming and reliance on fuelwood for energy, which are directly linked with small-land holders.

Deforestation may also be planned and legal, or unplanned and illegal. Planned deforestation is normally outlined in land planning or management documents, and has an established sanctioning system. Unplanned deforestation is generally unsanctioned and it occurs due to socio-economic constraints, corruption and weak or absent law enforcement. It is particularly an issue within the mining and forestry sectors (VCS 2008). The sprawl of unplanned settlements may also result from population growth, new roads and access to the forest, lack of enforcement, and lack of zoning and land use planning.

Main Concepts and Definitions

Other economic sectors	In the context of this Goal, we define 'other economic sectors' to include timber, logging, mining, and infrastructure.

Key Messages

- The most significant non-agricultural drivers of forest loss are infrastructure development, human settlements, and mining.

- Though some interventions can be highlighted, there is no coordinated effort to reduce the forest impact of these sectors.

- Illegality, weak governance and lack of enforcement are important underlying causes for deforestation and degradation caused by the timber, mining and infrastructure sectors. Demand-side measures such as introducing control over timber trade banning the import of illegal wood can play an important role in reducing supply of illegally cut timber. Planning, law enforcement, formalization of illegal activities, protected areas and impact assessments are important tools to address deforestation at the supply side.

- Private initiatives in the logging and timber sector include sustainable certification schemes and individual voluntary sustainability commitments made by companies. For mining, there is currently no certification standard nor any deforestation-related commitments by major companies. Private sector initiatives in infrastructure are not considered since they rely on public planning and policies are covered in public policy interventions.

Data Gaps and Limitations

Data sources that link deforestation to particular economic sectors are largely missing, or in need of improvement to become measurable indicators. Global mapped data showing mining and logging concessions over time (number, type, and area) would allow assessment of deforestation within and around concession areas. More information on mining and infrastructure, companies' forest commitments or related corporate policies would also be helpful in gauging traction and support in these sectors.

Findings

Part 1: Public policy interventions to address economic drivers of deforestation other than agriculture

While most deforestation is driven by the private sector, public policy interventions can play an important role in regulating and otherwise influencing behavior. Here we examine public-led interventions for the three economic sectors we focus on for this Goal: (i) timber and logging; (ii) mining; and (iii) infrastructure. We also present some policies that do not target a specific economic sector, but are rather focused primarily on strengthening the rule of law in the forestry sector.

Timber and logging

Introducing greater control over the timber trade and banning the import of illegally harvested wood can reduce the level of imports associated with deforestation. The United States, the European Union and Australia introduced import bans for illegal timber and timber products in 2008, 2010 and 2012 respectively (Walker et al. 2013). The US Lacey Act, the EU Timber Regulations and the Australian Illegal Logging Prohibition Act require operators to exercise due diligence in not placing illegally harvested timber or timber products on the market. Due diligence requirements differ between the three laws. The US Lacey Act allows obliged companies to freely decide the method of compliance (e.g. third-party verification, internal risk management system). The EU Timber Regulation requires businesses to adopt internal risk assessment and mitigation procedures and maintain information on the traceability of their supply chain. The Australian Illegal Logging Prohibition Bill follows the pattern of the EU Timber Regulation. All three pieces of legislation envisage civil and criminal sanctions as enforcement measures.

Policies like the EU's Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan also focus on reducing deforestation in exporting countries. The FLEGT is currently the largest global initiative to support timber-producing countries and is a key complement to the EU Timber Regulation. The FLEGT provides for the conclusion of Voluntary Partnership Agreements with timber producing countries. These agreements provide for the establishment of governance frameworks that regulate the forms of legal and illegal logging, establish timber tracking and monitoring systems and provide for the issuance of FLEGT licenses to prove that timber has been legally harvested. They also aim to clarify land tenure, and enhance equity in land rights and participatory rights in decision-making. A recent CIFOR study concludes that, since most FLEGT partner countries are also REDD+ countries, domestic FLEGT regimes may effectively operationalize programs on combatting deforestation and forest degradation, such as REDD+ (Luttrell & Fripp 2015). The EU has concluded six bilateral agreements with Southeast Asian and African countries, while nine more are under negotiation (EU FLEGT 2015).

Though there has been substantial progress in some areas, the FLEGT Action Plan has also met with some limitations. According to a draft review of the Plan, key weaknesses include the slow adoption of fully operational FLEGT-licensing systems and the exclusion of manufactured products. Thus, potentially illegal timber derivatives are not monitored under the Voluntary Partnership Agreements or the EU Timber Regulations (Terrea 2015, Tropenbos 2014). Moreover, China (a global hub for the illegal trade in wood-based products) does not participate in FLEGT, which creates significant leakage, given China's central role as a processing hub for products ultimately exported to the EU (Saunders 2013).

In order to prevent tropical forest loss, Governments may also revise their procurement rules. The EU Public Procurement Directive was reformed in 2014 to facilitate Member States in creating demand for

sustainable products, e.g. legal timber.[2] Under the revised rules, public bodies may require technical specifications that relate to the life cycle and the sustainability of the production process. At present, 13 European countries have procurement policies which specify that all timber products bought by government must be legally and/or sustainably produced (Leggett 2013). According to a UN study, 56 countries had adopted laws on green public procurement by 2012 (UNEP 2013).

Mining

Artisanal and industrial mining activities are significant drivers of deforestation. In South America, gold mining resulted in the loss of 1680 km2 of tropical moist forest between 2001 and 2013 (Alvarez-Berrios 2015). Other minerals have significant localized impacts within specific ecoregions or countries: e.g. tin, tantalum and tungsten in the Democratic Republic of Congo; colored gemstones in Madagascar; and diamonds in West Africa (Villegas et al. 2012). Enhanced regulatory frameworks can assert more control over these sectors and, in some cases, reduce their impacts on forests. Examples of such approaches include the following:

- The introduction of measures by the Government of Peru to control gold mining, such as fines for illegal mining, strengthening the mining approval process and improving mining practices (Swenson et al. 2011).
- Integrated land-use planning promotes practices to reconcile mining development and forest conservation. For instance, Cameroon and the Republic of Congo have carried out infrastructure development works associated with the Mbalam-Nabeba iron project through an integrated land use process that takes into account biodiversity and forest cover considerations (Hund et al. 2013).
- Mining may also cease in forest areas as a result of prevailing protected area laws. In Colombia, protected areas enjoy heightened constitutional protection compared to other areas, with a complete ban on mining in place. This model has proved relatively successful in practice, and some indigenous communities have been reported to voluntarily convert their lands into protected areas to stop mining — industrial and artisanal — and other activities from occurring on their lands (Villegas et al. 2012).

Infrastructure

Infrastructure expansion (e.g. road- and railway construction, hydropower plants, energy transmission systems, irrigation and canalization networks) claims significant amount of land, and hence frequently drives deforestation (Rademaekers et. al., 2008). Infrastructure can also act as an indirect driver of deforestation by opening previously inaccessible areas to economic activity. Interventions such as the Environmental Impact Assessment (EIA) and the Strategic Environmental Impact Assessment (SEA) are public policies that can limit the effects of infrastructure on forests. Both policies act as decision-making tools that serve to identify and integrate environmental considerations into projects and programs, respectively, before they are implemented. Hence EIAs and SEAs can help prevent deforestation if forest-related impacts are included in the assessment (OECD 2006).

EIAs are often mandated by donor agencies financing infrastructure projects (Loayza 2012). Adopting EIA requirements may have a substantial impact on countries' national laws. For instance, as of 2008, 24 Sub-Saharan borrower countries had EIA legislation, and the majority of them incorporated the provisions of World Bank operational policies (Freestone 2013).

SEAs assess the environmental impacts of policies, programs and strategies. They are a newer concept than EIAs, and have yet to become commonplace across jurisdictions, though there is gradual uptake of the concept. The World Bank and other donor agencies also play a role here. For instance, the World Bank's advisory service to developing countries helps to propose policy reforms and specific actions to improve the environmental and social performance of sectoral laws. As of 2012, The World Bank had identified 55 SEAs being carried out in 26 countries, which is a sign of a proliferating trend as compared to only 9 existing SEAs in 2007 (Loayza 2012). SEA has been applied specifically to forest law reforms since 2005 - when the Bank supported Kenya to pilot the inclusion of SEA as a policy tool into its new Forest Act (Chandrasekharan & Loayza 2009). The Bank also applied the SEA during the planning of the Nam Theun 2 Hydro-electric Project in Lao PDR in 2005. The SEA helped to integrate cross-sectoral considerations (e.g. forest conservation, mining, sanitation, energy supply) and evaluate alternative scenarios in pursuit of, inter alia, minimizing deforestation (Morgan et al. 2007).

To take the idea of limiting infrastructures' effect on forest a step further, the World Bank has set up environmental, social and legal safeguards to ensuring that operations financed by the World Bank would not cause environmental and social damage (World Bank 2012). World Bank's safeguard policies apply to investment lending which prescribes distinct requirements for environmental and social risk assessment and maps out potential risk reductions plans. For the promotion of projects' environmental soundness, operational principles were developed helping to integrate environmental and social safeguards into the decision making (World Bank 2013). To particularly preserve forests' values and prevent deforestation, the World Bank puts forward operational principles explicitly addressing forests. Among others, key principles stipulate that projects will not receive funding which "*would involve significant conversion or degradation of critical forest areas or related critical natural habitat*" (Ibid.). Likewise, the World Bank does not finance "*natural forest harvesting or plantation development that would involve any conversion or degradation of critical forest areas or related critical natural habitats*" (Ibid.). More detailed information on safeguard principles are provided by World Bank's listing of "Environmental and Social Safeguard Policies" (Ibid.)

Part 2: Private sustainability initiatives

In the following paragraphs we present private initiatives that contribute to halting deforestation derived from other economic sectors. We focus on timber and logging, and mining initiatives. We do not assess private infrastructure initiatives here, since this sector is predominantly domestic and relies on public planning and policies that reduce environmental impacts (e.g., SEA and EIA).

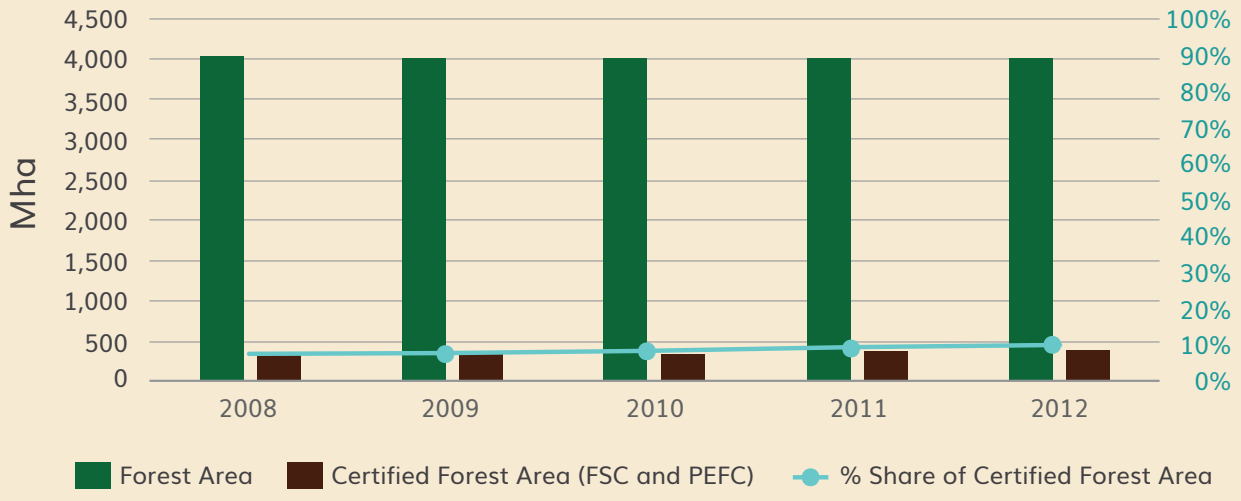
Timber and logging

Similar to agricultural commodities, private sustainability initiatives for the timber sector can be classified in two categories: voluntary certification schemes and voluntary sustainability pledges. The Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC) are the two main forest management certification standards that prohibit the conversion of natural and/or High Conservation Value (HCV) forests. FSC was created in 1993 by a multi-stakeholder group composed of non-governmental organizations and industry, and was the first commodity certification standard (FSC 2015). As of today, FSC has over 800 members in more than 80 countries. PEFC was established in 1999 by private organizations from 11 European countries aiming to promote the sustainable management of forests with a special focus on small forest managers. PEFC is now the largest certification scheme certifying almost two thirds of the world's certified forest land (PEFC 2015). Despite the increase in the number of organizations joining both certification schemes, their global impact remains

limited. Figure 1 provides the share of certified forest land in millions of hectares compared to global forest land. As can be noted, the amount of certified forest land has remained at around 10%, with no major increases since 2008.

Voluntary sustainability commitments by companies on deforestation-free timber and other wood products may increase the demand for certified timber production. As presented in Goal 2, these company commitments may be useful tools to help meet targets linked to deforestation-free supply chains. According to Forest 500, of the 250 major companies evaluated by this initiative —representing a mix of retailers, producers, traders, processors, and manufacturers— 50 companies have been categorized as major global players for reducing timber-related deforestation through their supply chain. To date, 31 of these 'powerbrokers' have made deforestation-related commitments for the production, procurement and use of timber. An example is IKEA, the world's largest consumer of wood (Gorman 2013) that has recently committed to obtain 50% of their total wood volume from sustainable sources (certified wood production and recycling) by 2017 (IKEA 2014). Currently, the company's Sustainability Report shows that 41% of the wood used by IKEA in 2014 comes from sustainable sources (of the 41%, 37.2 % is FSC certified and 62.8% is recycled). In addition, IKEA does not accept wood that has been illegally logged, and annually audits its wood suppliers that handle wood not covered by the FSC Certification and has an internal Code of Conduct with specific criteria for wood suppliers that controls the origin of the material.

Figure 1: Share of certified forest land between 2008 and 2012.



Source: Climate Focus calculations based on FSC and PEFC data.

Mining

There is currently no certification scheme that sets standards for sustainable mining. However, there are some initiatives under development, like the Initiative for Responsible Mining Assurance (IRMA) that intend to reduce environmental and social impacts of mining through the promotion of responsible practices. More specifically, IRMA has rules on: 'mine location' by taking into consideration ecologically and culturally significant areas; 'environmental management' by reducing the environmental impact from habitat loss and pollution during all stages of mine development; and 'workers and affected communities' by consulting previously with indigenous communities while supplying health and safety provisions and sharing benefits more broadly (IRMA 2015). Another initiative is the Alliance for Responsible Mining (ARM 2015). Established in 2004, ARM works for the sustainable development of artisanal and small-scale mining and over the last few years, the organization has worked on developing fair-mined and ecological fair-mined standards for artisanal and small-scale miners. The ARM initiative was inspired by the Oro Verde Program in the Chocó Bioregion of Colombia. The Oro Verde program is a bottom-up certification scheme for mining being implemented with the objective of identifying responsibly mined gold and platinum, while improving the miner's access to global markets (Gomian 2015). The criteria for certification was compiled and developed by the mining communities under the guidance of experts. Almost 700 artisanal miners of the area are now complying with the Oro Verde certification standard and have improved their practices. Since the beginning of the Oro Verde Program, around 4,500 Ha of a highly diverse eco-region have been protected and 1.300 miners that are involved in the project receive better prices for their metals and diversify their productive activities (Gomian 2015).

Few mining companies have made commodity-specific sustainability and/or deforestation commitments. Companies like Vale and Rio Tinto have developed biodiversity, conversion, remediation and offsetting policies,[3] however, we did not identify an independent study evaluating the effectiveness of their environmental initiatives on deforestation.

Technical Annex

Selection of Indicators

There are no selected indicators for this Goal, as there is no sufficient global data that can be used as a proxy for the aims of the Goal. Instead, we have decided to present different public and private policies and initiatives that will inform policy makers in addressing the aims of this Goal.

Methodology

For part 1, we highlighted relevant policies and case studies categorized in the three economic sectors identified as the major drivers of deforestation and forest degradation after agriculture: Timber and logging, mining and infrastructure.

For part 2, the same logic is followed for private sector initiatives to address deforestation in the three sectors. For the timber and logging sector, we calculate the share of certified forest land accounting for the two major forest certification schemes (FSC and PEFC). For mining we present a case study.

Data Sources

We conducted a literature review and did not do an analysis of data for most of the case studies. For the timber and logging private sector case study, data was taken from the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).

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Endnotes

[1] According to Elias, 2011, timber extraction and logging can also be considered as a driver of deforestation. Even when tropical forest loss is highly connected to other drivers (land conversion for agricultural use), the global market for wood and wood products creates pressure on tropical countries to destroy and produce cheap timber and pulp.

[2] Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC.

[3] More information regarding Rio Tinto's and Vale's sustainability policies is available in the companies' home webpages: http://www.riotinto.com/sustainabledevelopment2012/index.html; http://www.vale.com/EN/initiatives/environmental-social/natural-reserve/Pages/default.aspx

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