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

Key Messages

- Protected forests face increased pressure from economic sectors such as mining, oil and gas, and infrastructure as some tropical forest countries expand commercial concessions and weaken forest protection regulations.
- Clear data is lacking on the aggregate impacts of these sectors on forests, limiting the capacity to assess progress on addressing them. However, selected case studies of national policy developments and voluntary initiatives reveal some models for addressing these drivers of deforestation.
- Biodiversity offsets are gaining popularity as a mitigation tool as demonstrated by an increasing number of tropical forest countries adopting regulatory requirements for offsets and the 2017 launch of a global inventory of biodiversity offset policies.
- Voluntary initiatives that report companies' environmental performance and information disclosure policies continue to develop; for example, the Standard for Responsible Mining is being finalized with plans to offer certification in 2019.
- Advances in tools that can overlay spatial datasets portraying the world's protected areas and global forest cover with areas of mining, oil and gas, and infrastructure development may help foster public understanding and debate around these issues.

OVERVIEW OF GOAL AND INDICATORS

Goal 3 aims to reduce deforestation from economic sectors not addressed by Goal 2, such as mining, oil and gas exploration and extraction, and infrastructure development. Forests continue to face risks from resource-based economic growth and growing concessions for mineral and oil and gas extraction.[1]

Economic development as a driver of deforestation

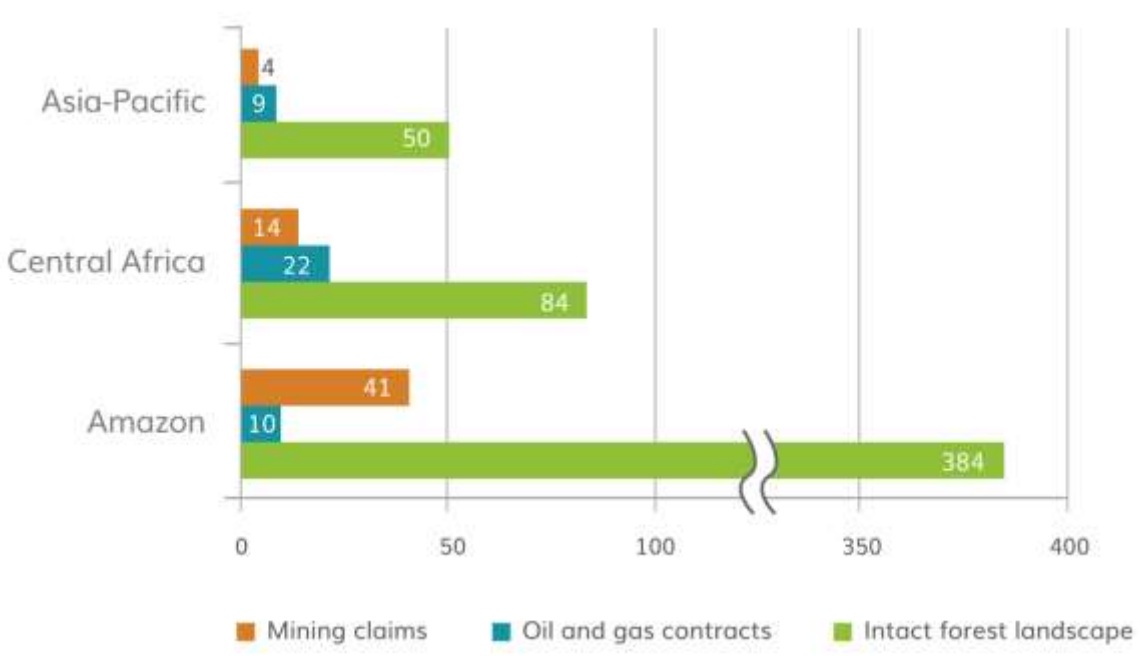
Mining, oil and gas drilling, and infrastructure development are often viewed as essential pre-requisites for economic development[2] and provide significant shares of GDPs[3] in some tropical forest countries, yet they also account for a major share of global forest loss. Worldwide, 10 percent of deforestation is caused by infrastructure developments such as highways and hydropower and 7 percent by the extraction of oil and gas, metals, and other materials.[4] These activities often reinforce each other in synergistic ways by making each other more viable: mines and oil wells require roads and power sources, and roads and power sources open areas to more mining and development. Some examples can be seen in mining in the Amazon,[5] the Congo Basin,[6] and Southeast Asia;[7] oil extraction in Latin America;[8] and infrastructure development in

the Amazon.[9] Coastal and near-shore mining and infrastructure development are also increasingly driving destruction in marine habitats and mangrove forests (e.g., Mexico).[10]

Infrastructure has been characterized as the "driver of drivers" of forest loss. A review of 121 studies on drivers of deforestation from 1996-2013 found that roads were strongly associated with high deforestation rates across the study regions.[11] Investing in access roads and energy connectivity in intact forests enables the spread of extractive industries, agriculture, and human settlement.[12] At the same time, forest fragmentation caused by roads leads directly to forest degradation. Tropical forest biomass was found to be significantly lower up to 1.5 kilometers away from roads than in the forest interior in a 2015 study.[13] In the mining sector, a lack of data risks underestimating impacts.[14], [15] Some studies indicate that the direct impact on forests caused by extraction or site development is relatively small. For example, of the 14.7 million hectares of forests lost in five regions of Indonesia between 2000 and 2010, only 2 percent were lost in mining concession areas compared with 43 percent in areas for non-mining resource extraction like logging and palm oil production.[16] However, forest loss and degradation can occur beyond the mining footprint[17] and even outside concession borders. In Brazil, for example, impacts have been detected as far as 70 kilometers from mining sites.[18]

Close to 97 million hectares or 19 percent of intact forest landscapes[19] in the Amazon, Central Africa, and the Asia Pacific overlap with commercial[20] concessions for oil and gas and mining (Figure 1). Countries with the largest claims – by far – include Brazil (mainly mining), the Democratic Republic of the Congo (mining and oil and gas) and Papua New Guinea (mainly oil and gas).[21], [22]

Figure 1. Overlap of extractive concessions and intact forest landscapes, in million hectares



Source: Compiled by Climate Focus based on Grantham, H. & Tibaldeschi, P. (2018). *Assessing the potential threat of extractive industries to tropical intact forest landscapes.* Oslo: World Wide Fund for Nature-Norway, and the Wildlife Conservation Society.

Reducing deforestation caused by extraction and infrastructure developments

Mitigating negative impacts in the context of nature conservation follows a widely accepted hierarchy of steps called "the mitigation hierarchy."[23], [24]

1. Avoid impacts, for example, by changing location, scale, or technology – this could include a transition to renewables and less land-intensive energy sources, as well as economic diversification.
2. Minimize impacts that cannot be avoided, for example, change location, scale, or technology.
3. Restore or rehabilitate areas to reverse impacts that cannot be avoided or minimized.
4. If none of these alternatives is available, offset any remaining negative impacts so there is no "net loss" and ideally a "net gain."

Avoiding impacts is the most effective and cost-effective way to conserve biodiversity and ecosystem services,[25] yet this first step often fails.[26] Governments can enforce the mitigation hierarchy through policy measures (e.g., land-use planning and restricting mining in designated areas) and due diligence and approval processes (e.g., environmental impact assessments). Evidence shows that the enforcement of forest protection policies, laws, and regulations can help avoid, reduce, mitigate, or compensate forest loss.[27] In addition, governments can support private-sector efforts to reduce deforestation impacts by promoting better practices in collaboration with companies as well as by designing incentives that reward better practices or impose fines for illegal ones. Different government levels or actors often demonstrate conflicting priorities regarding extraction and development in forests. Government agencies such as anticorruption commissions or human rights agencies that are not aligned with specific sectors are critical in enforcing environmental regulations.[28]

When pursuing an extraction or development project, companies can address deforestation risks by assessing and mitigating possible impacts and by exploring opportunities to contribute to forest protection. In addition to complying with legal requirements, private-sector actors may engage in voluntary efforts, such as applying standards and guidelines and participating in collaborative sustainability initiatives. Civil society can help with setting and enforcing standards and holding actors accountable for their actions. They may also have the ability to drive consumer awareness and pressure companies to improve practices and governments to enhance legal frameworks and implement safeguards. Through advocacy and legal action, civil society actors can also collaborate with and support government agencies that seek to promote environmental protection and resist the undermining or weakening of existing environmental protections.[29]

Assessing progress

Aggregate data for a quantitative assessment of progress is lacking, and we remain unable to define criteria and indicators that measure relevant impacts or progress in addressing these drivers. We therefore provide an overview of recent developments in policies and projects related to forest protection, resource extraction, and infrastructure development. Initiatives on broader biodiversity or sustainability efforts are included because forest risks are often addressed as part of these concerns.

FINDINGS

Mixed progress on forest protection in tropical forest countries

Conflicting national and regional developments on forest protection, resource extraction, and infrastructure development over the past year indicate the complicated nature of assessing global progress. While many countries push forward on resource-based economic development plans that threaten forests, some are passing policies that will help to offset that damage, and still others are pushing back against extraction as a development model.

- **Long-term economic development plans in key forest countries continue to rely on mineral resources and infrastructure development.** These plans often rely on policy reforms to ease restrictions on access to and exploitation of protected forests. According to a recent analysis, these policies are often driven by a consensus of government and private-sector elites to support resource- and infrastructure-based economic growth policies (e.g., Indonesia, Brazil).[30]
- **More tropical forest countries are passing policies for biodiversity offsets.** Offsets assume that the negative impacts of infrastructure and extraction can be compensated by generating at least equivalent benefits elsewhere, though evidence is conflicting.[31] Offsets are often used by companies with voluntary targets for "no net loss" or "net gain" of biodiversity, lenders (e.g., the International Finance Corporation), and governments.[32] Most countries with deforestation hotspots have adopted regulatory requirements for biodiversity offsets for certain projects (e.g., Brazil, Indonesia, Colombia, and Papua New Guinea). Several others have provisions to enable and facilitate voluntary offsetting (e.g., Democratic Republic of Congo, Cameroon, and Paraguay). [33]
- **Popular movements in some countries are slowing or halting extraction-related deforestation.** Public support is often linked to other issues such as water pollution and indigenous peoples rights (e.g., mining ban in El Salvador[34], [35] and limits to oil drilling in Ecuador[36]).

Developments in voluntary corporate standards and accountability initiatives

Companies, civil society organizations, and academic institutions are increasingly founding industry-based and multisector sustainability and transparency initiatives. These efforts are premised on the idea that improving corporate sustainability and accountability will benefit all stakeholders while improving standardization and comparability across sectors and companies. However, in practice, the outcomes of these initiatives can be incomplete and hard to interpret, leading to an uncertainty about the impacts on forests.[37]

- **Plans for a Standard for Responsible Mining in 2019.** The Initiative for Responsible Mining Assurance (IRMA) plans to finalize a Standard for Responsible Mining in 2019.[38] The draft standard includes detailed provisions to mitigate and manage biodiversity and ecosystem impacts using the mitigation hierarchy. The initiative plans to provide certification.

- **New Sustainability Reporting Standards.** The Global Reporting Initiative (GRI) has provided voluntary best-practice guidelines[39] for corporations to report on their environmental impacts since 2000. In 2018, GRI transitioned from its previous guidelines to the GRI Sustainability Reporting Standards, which improve applicability and ease of use for companies across sectors. The standards recommend the disclosure of forest-relevant information such as geographic location and size of operation sites, location or proximity to protected areas, direct and indirect impacts on biodiversity (including habitat conversion),[40] as well as prevention and remediation measures to address biodiversity impacts. Of 383 mining organizations with reports in the GRI's Sustainability Disclosure Database as of 2018, 287 reference GRI's guidelines and/or standards in their self-assessments.[41]
- **Plans for certification of steel.** In June 2018, ResponsibleSteel launched its first public consultation period for a new global standard and certification for steel sourcing and production. The standard seeks to formalize a supply-side commitment by steel companies to achieve social and environmental sustainability in sourcing and production.
- **New study on environmental, social and governance risks of raw materials.** The Drive Sustainability initiative is a coalition of automotive companies seeking to promote sustainability in raw materials sourcing across the auto industry. Their Raw Materials Observatory aims to provide a comprehensive overview of the sustainability risks of all raw materials important to the auto industry as well as to identify key areas for action to reduce those risks. In July 2018, the coalition released a study outlining the environmental, social, and governance risks of 37 key raw materials.
- **Sustainable procurement for infrastructure development around the Asian Belt and Road Initiative.** In 2017, Chatham House and Renmin University launched a project to promote sustainable procurement for infrastructure development around the Asian Belt and Road Initiative (BRI).[42] The project highlights deforestation as a key environmental risk in both the construction and operation of infrastructure. A Chatham House report released in May 2018 details how China's banks can influence private and country borrowers to improve the environmental sustainability of their procurement policies for BRI projects.[43]
- **CDP's disclosure system to assess the relationship between mining and forests.** CDP[44] is developing a new questionnaire for the mining sector with a focus on biodiversity issues, which companies will be invited to respond to in 2019. The is expected to provide improved data on the relationship between mining and forests. Major mining companies are already familiar with CDP's global environmental disclosure system. In 2017, 115 metals and mining companies reported on their climate change mitigation and adaptation plans through CDP, while 60 reported on their actions to improve water security. CDP is also adding to its questionnaire for states and regions to reveal how sub-national governments are addressing deforestation risks and impacts resulting from non-agricultural drivers, including mining.

Data developments

Advances in the collection, public accessibility, and usability of data on forests protection, extractive industries, and infrastructure provide new insight into the challenge of reducing forest impacts from non-agricultural sectors. A new data base (see below) allows for global

comparisons of environmental policies, which may empower stakeholders to push for better governance. Meanwhile, multiple map-based data initiatives provide new information and engaging visualizations that may foster public debate more effectively than data presented in narratives or in tables. These initiatives may allow for better understanding of progress toward reducing these sectors' specific impacts on forests.

- **Global inventory of biodiversity offset policies.**[45] In October 2017, IUCN and the Biodiversity Consultancy launched a global database of environmental laws to track the presence of biodiversity offset mechanisms in national policies.[46] Drawing exclusively from publicly available sources, the assessment team categorized each country's biodiversity offset policies from "basic" (no provisions for offsetting) to "most advanced" (mandatory offsetting in at least some instances).[47] The database is intended as a learning platform and a forum to identify ways to strengthen environmental policies and encourage better business practices.
- **New tool for spatial analysis of mining, oil and gas claims.** WWF-SIGHT[48] is a repository of spatial datasets and a powerful tool for spatial analysis of on-the-ground activities related to the World Wide Fund for Nature's (WWF) conservation goals. The site includes a number of maps portraying the world's protected areas and global forest cover, as well as areas covered by mining claims and oil and gas contracts. With data disaggregated by country, county, commodity, and type of protected area, the model shows that a "significant" portion of the world's protected areas overlap with concessions for mining and oil and gas extraction.
- **Database of ecologically sensitive areas.** The World Database of Key Biodiversity Areas[49] is a new tool that mining and oil and gas companies can use to inform their operations in ecologically sensitive areas.[50] It was launched in 2016 as part of the KBA (Key Biodiversity Area) Partnership of a dozen major environmental groups to identify and conserve biodiversity hotspots. KBAs will be added and updated based on the KBA Standard, a set of criteria for selection currently under development.[51] The database includes an interactive map and offers spatial data for download.
- **New interactive tool to show global progress in responsible mining.** Paired with the release of IRMA's Standards for Responsible Mining, the Responsible Mining Map[52] is a public-facing tool for stakeholders to report, assess, and drive progress toward responsible mining practices. Among those encouraged to use the map are representatives of affected communities, nongovernmental organizations, and companies that purchase mined materials, as well as mining companies.[53] While third-party auditing and certification processes are under development, all company data represented on the map will be self-reported.[54]
- **Global road-mapping efforts.** Driven by a coalition of ecologists, planners, geographers, and agricultural specialists, the Global Road Map seeks to inform better infrastructure planning and limit the impact of road construction on the planet's biodiversity, ecosystems, and wilderness areas. The Roadless Initiative, based on OpenStreetMap data, aims to highlight the importance of roadless areas for biodiversity conservation and the need to consider them more explicitly in law.

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[19] Defined as "seamless mosaic of forest and naturally treeless ecosystems within the zone of current forest extent, which exhibit no remotely detected signs of human activity or habitat fragmentation and is large enough to maintain all native biological diversity, including viable populations of wide-ranging species." Source: Intact Forest Landscapes.

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