

Deforestation Risks for Banks

2022

References and Additional Materials

Summary

Deforestation Risks for Banks	1
2022	1
References and Additional Materials	1
Overview	2
Module 1. Introduction to deforestation and business case	2
Section 1: Dependency on nature and nature risks	2
Biodiversity risks to business	2
Impacts and dependencies on nature	2
Natural capital risks and opportunities	2
Section 2a: Deforestation in context	3
Importance of forests and deforestation	3
Forest risk commodities	3
Deforestation risk and banks	4
Regulatory trends	5
Market trends	6
Societal trends	6
Section 2b: Deforestation commitments	6
Forest-related company commitments	6
Section 3: Impacts and risks of agricultural commodities	7
Commodity markets and production Impacts.....	7
Palm oil specific	7
Soybean specific	8
Beef specific.....	8
Cocoa specific	9
Deforestation-free finance.....	10

Overview

The following list of materials provide further information on the material presented in the global training for banks on 'integration of deforestation risk in ESG'. These consist of reports, publications, articles, briefs, guides, videos, projects and tools that can be used to further explore the issues presented, organised following the training course structure.

Module 1. Introduction to deforestation and business case

Section 1: Dependency on nature and nature risks

Biodiversity risks to business

- [The Global Risks Report 2021 \(WEF, 2021\)](#): **Report** that presents the major risks the world will be facing within 2021. The top five risks are environmental.
- [Nature Risk Rising \(WEF, 2020\)](#): The first New Nature Economy (NNE) **report** which makes the case for why the nature crisis is material to business and the economy. It provides an indication to the scale and urgency of nature-related risks and the potential consequences for businesses and the economy.
- [Nature is too big to fail. Biodiversity: the next frontier in financial risk management \(PwC and WWF, 2020\)](#): **Report** that defines biodiversity related financial risks and provides a framework on how to integrate biodiversity losses into the classical risk framework of financial institutions. It suggests recommendations to financial regulators/central banks, financial market players and states/international organisations.
- [These are the 5 biggest global risks in 2020 | World Economic Forum](#): A **video** introducing the top 5 biggest global risks to 2020.

Impacts and dependencies on nature

- [Connecting Finance and Natural Capital – Supplement to the Nature Capital Protocol \(Natural Capital Coalition, 2018\)](#): **Report** that provides a framework for financial institutions (FIs) to assess the natural capital impacts and dependencies of their investments and portfolios. This supplement is based on the structure of the Natural Capital Protocol, a standard decision-making process written for companies, consisting of four steps covering “why”, “what”, “how” and “what’s next”.
- [ENCORE \(Exploring Natural Capital Opportunities, Risks and Exposure\)](#): **Tool** to help users better understand and visualise the impact of environmental change on the economy. The tool guides users in understanding how businesses across all sectors of the economy depend on nature, and how these dependencies might represent a business risk if environmental degradation disrupts them.

Natural capital risks and opportunities

- [Reporting on Nature-related Risks, Impacts and Dependencies – Prepared by UNDP and UNEP-FI for the G20 Sustainable Finance Working Group \(UNDP and UNEP FI, 2021\)](#): **Report** that provides an overview of nature-related risks, opportunities and impacts; the interaction between nature-and-climate risk; and prioritization actions for sectors, finance and a staged approach to enhance nature disclosure and reporting.
- [Integrating Natural Capital in Risks Assessments \(Natural Capital Finance Alliance & PwC, 2018\)](#): **Report** that provides a step-by-step guide to help financial institutions to conduct a rapid natural capital assessment and how to perform a sector/asset to assess the likelihood and likely impact of disruption that businesses in their portfolios face due to environmental change.

- [Doing Business with Nature: Opportunities from Natural Capital \(CISL, 2015\)](#): **Report** that provides a review of the global challenges around water, biodiversity and soil and showcases the extent to which companies are working together to develop new interventions in the face of natural capital degradation.
- [Environmental risk analysis by financial institutions – a review of global practice \(CISL, 2016\)](#): **Report** that provides a global stocktake of the tools and techniques that financial institutions are developing to analyse environmental risks, providing relevant information on environmental risks for financial institutions.
- [Davis, A.P et al., 2019](#). **Scientific publication** that reports a high extinction risk for wild coffee species and implications for coffee sector sustainability.

Section 2a: Deforestation in context

Importance of forests and deforestation

- [The State of the World's Forests, 2020 \(FAO, 2020\)](#): **Report** that examines the contributions of forests, and the people who use and manage them, to the conservation and sustainable use of biodiversity.
- [Climate 1010: Deforestation | National Geographic](#): **Video** that introduces the causes, effects and solutions to deforestation.
- [Agriculture Drove Recent Record-Breaking Tree Cover Loss \(WRI, 2020\)](#): **Blog article** that highlights the global tree cover loss based on recent Global Forest Watch data highlighting the drivers of this loss in different regions of the world.
- [Climate Change and Land \(IPCC, 2019\)](#): **Report** on climate change, desertification, and degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

Forest risk commodities

- [Investor Guide to Deforestation and Climate Change, 2020 \(Ceres, 2020\)](#): **Report** that provides a framework for investors to help them understand and engage on deforestation-driven climate risks across their portfolios.
- [Agricultural Commodity Supply Chains: Trade, Consumption and Deforestation \(Chatham House, 2016\)](#): **Report** that includes global trade data of palm oil, soy, and beef and leather between 2000 and 2014, providing context on the production, consumption and supply chain of these commodities and how they impact deforestation.
- [A “Commodity-first” Approach to Identifying Landscapes for Private Sector Engagement, \(Tropical Rainforest Alliance, 2019\)](#): **Report** that focusses on commodity production and uses recent data on drivers of deforestation to identify landscapes where deforestation is high, driven by largely the expansion of forest-risk commodities.
- [Hosonuma et al., 2021. An assessment of deforestation and forest degradation drivers in developing countries](#). **Scientific publication** that assesses the drivers of deforestation and forest degradation using empirical data across multiple countries to provide regional comparisons. Globally, commercial agriculture is the most important driver of deforestation, followed by subsistence agriculture.
- [Global Forest Watch](#): **Tool** to explore commodity production areas, tree cover loss, land cover loss, land use, climate and biodiversity. Uses satellite imaging to enable users to access near real-time information on where and how forests are changing.

Deforestation risk and banks

- [Increasing transparency of banks: The transition to sustainable lending to the forest risk commodity sector \(CDP, 2020\)](#): **Summary report** that shows how banks play a role in funding deforestation.
[Is your money destroying rainforests or violating rights? \(forestsandfinance, 2020\)](#): **Briefing** that highlights how finance flows into commodities are driving deforestation and land degradation in Southeast Asia, Central and West Africa, and Brazil.
- [Bank and Investor Risk Policies on Soft Commodities: A framework to evaluate deforestation and forest degradation risk in the agricultural value chain \(UNEP, 2015\)](#): **Report** that provides a framework to evaluate deforestation and forest degradation risk in the agricultural value chain.
- [Guide to Banking and Sustainability \(UNEP-FI, 2016\)](#): **Guide** that provides a functional overview of what a sustainable bank looks like internally and externally. Aimed at banking practitioners, it can be used to increase awareness, integration and outreach of sustainable banking to senior management and board members, sustainability teams, employees seeking to understand the relevance of sustainability issues, and employees who are engaging with external shareholders and stakeholders.
- [Banking on the Amazon: How the Finance Sector Can Do More To Avoid Tropical Deforestation \(WWF, 2016\)](#): **Report** that identifies key financial institutions behind the financing of sectors driving forest loss in Amazon biome. The report assesses the extent to which selected financial institutions enable deforestation through their financing activities towards a company.
- [Financial Sector Confronts Deforestation as a Key ESG Risk \(FitchRatings, 2020\)](#): **Report** that highlights investor and lender demands for stricter standards for forest-risk corporates.
- [Bank and Investor Risk Policies on Soft Commodities: A framework to evaluate deforestation and forest degradation risk in the agricultural value chain \(UNEP, 2015\)](#): **Report** which provides a framework to evaluate deforestation and forest degradation risk in the agricultural value chain.
- [Increasing transparency of banks: The transition to sustainable lending to the forest risk commodity sector; identifying key metrics for disclosure of lending to the forest risk commodity sector \(CDP, 2020\)](#): **Summary report** on project to develop forests-related indicators for the financial services sector, focused on palm oil, rubber and timber, as these commodities are driving deforestation in Southeast Asia, which was CDP's initial target region for the project.
- [Overview of Environmental Risk Analysis \(Network for Greening the Financial System Technical Document, 2020\)](#): **Report** which provides important references to the tools and methodologies used by some banks, asset managers and insurance companies for measuring their exposure to environmental risks (encompassing both environment-related and climate-related risks) and for assessing the financial implications of these risks in a forward looking manner, including via stress testing and scenario analysis.
- [Deforestation Risks and Financial Institutions \(Resultante, 2019\)](#): **Report** prepared after a review and analysis of regulation and market practices to mitigate deforestation in Brazil and the role of the financial sector in integrating the issue in risk analysis and in the financial decision-making process.
- [TRASE.finance](#): **Tool** that builds on Trase's supply chain mapping capabilities for key commodities and regions to link the trade of commodities that drive deforestation to financial markets.

- [Engage the Chain](#): **Website** providing briefing documents on commodities, environmental and social issues and an investor guide to deforestation and climate change.
- [Chain Reaction Research](#): **Website** which provides free sustainability risk analysis for financial analysts, credit analysts, commercial bankers, institutional investors, corporations, and other stakeholders. Analysis focusses on tropical deforestation-related commodities, including palm oil, soy, cattle, coffee, cacao, timber, pulp and paper, and other products.

Regulatory trends

- [EU-MERCOSUR \(European Union, 2020\)](#): Website with multiple resources on the EU-Mercosur trade deal between the European Union and the Mercosur States – Argentina, Brazil, Paraguay and Uruguay.
- [Environment Bill, 2019-2021 \(Parliament, 2021\)](#): **Full legal text** of the UK Environmental Bill, where use of forest risk commodities within commercial activities is included.
- [EU taxonomy for sustainable activities \(European Commission, 2020\)](#): **Website** with information on the EU classification system for sustainable activities.
- [Non-financial reporting \(European Commission, 2020\)](#): **Website** with information on the EU rules on non-financial reporting, which requires large companies to publish regular reports on the social and environmental impacts of their activities.
- [Investor Listing Standards Proposal \(Ceres, 2014\)](#): **Report** that provides a proposal and set of investor recommendations on stock exchange listings which focus on corporate sustainability disclosures.
- [Brazil's new Forest Code \(WWF, 2016\)](#): **Guide** for decision makers in supply chains and governments to support implementation of Brazil's Forest Code in relation to agricultural, forest and livestock supply chains. It provides access to the main aspects of the Forest Code and case studies with experiences that may help to define actions
- [Highlights on the new Indonesian Sustainable Palm-Oil Certification Scheme \(Dentons, 2020\)](#): **Article** on the new changes to the regulation, highlighting the important points.
- [Our Collective Action Agenda \(Tropical Rainforest Alliance, 2020\)](#): **Website** on TFA's regulatory framework which aims to catalyse a forest-positive future post 2020 through involvement from the finance sector, producer countries, consumer action and civil society.
- [Financing Deforestation Increasingly Risky Due to Tightening Regulatory Frameworks \(CRR, 2020\)](#): **Report** which analyses interviews and public sources on the integration of sustainability in financial regulation on the international level, as well as in the regulatory frameworks of five countries with tropical forests: Brazil, Colombia, Peru, Indonesia and Malaysia.
- [Consultation of the introduction of due diligence on forest risk commodities \(DEFRA, 2020\)](#): **Summary report** on the UK Government's consultation on reducing illegal deforestation and protect rainforests through UK supply chains.
- [Communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions \(European Commission, 2019\) Stepping up EU Action to Protect and Restore the World's Forests](#): **Communication** on the regulatory and non-regulatory actions the EU has put in place to deal with the challenges of deforestation and forest degradation.

Market trends

- [The Climate-Nature Nexus: Implications for the Financial Sector \(f4b-initiative, 2021\)](#): **Report** which links the nature-related risks and opportunities between the nature and climate nexus, highlighting the means for investment potential of different sectors and solutions and providing recommendations on how the private financial sector can adapt climate approaches to address nature and nature-related risks.
- [The Baking Environment Initiative \(BEI\) and Consumer Goods Forum \(CGF\)'s Soft Commodities' Compact \(CISL, 2020\)](#): **Website** outlining how the Soft Commodities' Compact works. The Soft Commodities Compact is a unique, company-led initiative that works with the banking industry to help transform soft commodity supply chains and help the banks' clients (companies) achieve zero net deforestation by 2020.
- [Tackling Deforestation Through A Jurisdictional Approach \(WWF, 2020\)](#): **Report** which summarises the conversations and expertise of a workshop in Brazil which aimed to "unpack" and analyse five leading jurisdictional initiatives.
- [Frontiers in Finance \(KPMG, 2020\)](#): **Report** which focusses on environmental, social and governmental (ESG) components within the financial services sector. This includes a section on the new ESG reporting framework to assess credit and market risk for companies.
- [Investor Guide to Deforestation and Climate Change \(Engage the Chain, 2020\)](#): **Guide** which includes a framework for investors to understand and engage on deforestation driven climate risks across their portfolios.

Societal trends

- [The deforestation risks lurking in the banking sector \(World Economic Forum, 2018\)](#): **Article** highlighting deforestation as a critical climate risk that is being overlooked by the finance sector.
- [Money to Burn \(Global Witness, 2019\)](#): **Article** revealing the financial flows that are linked to deforestation and exposing a lack of implementation of deforestation policies.
- [Banks Direct \\$154 Billion to Firms Responsible for Deforestation \(Bloomberg Law, 2020\)](#): **Article** highlighting the increase credit provided by banks to commodity companies and the link to deforestation.

Section 2b: Deforestation commitments

Forest-related company commitments

- [Forest 500](#): A **project** of Global Canopy that identifies and ranks the most influential companies, and financial institutions in forest risk commodity supply chains. Forest 500 objectively identifies and ranks these players annually to hold them accountable for their actions.
- [Annual Report 2018, The Countdown to 2020 \(Forest 500\)](#): **Report** that identifies the leaders, both overall and for each commodity assessed, and looks at progress among companies and financial institutions, identifying where common gaps lie.
- [Accountability Framework Initiative](#): **Website** that provides an overview of the Accountability Framework that includes core principles and operational guidelines to establish, implement and monitor ethical commitments of the supply chain in agriculture and forestry. The framework aims to help financial institutions to establish meaningful policies for responsible lending and investment in the food, agribusiness, and forestry sectors and to systematically screen and engage their portfolios to fulfil these policies

- [Deforestation-free supply chains \(CDP, 2014\)](#): **Report** that highlights the business case for disclosing exposure to forest risk commodities by analysing disclosures from 152 global companies.
- [Commitments in Action: Corporate Tells for Financing Forest Conservation and Restoration \(ForestTrends, 2020\)](#): **Report** that analyses companies' exposure, risk, ambition, and actions to address commodity-driven deforestation as a method of identifying appetite for financing forest restoration and conservation.
- [The commodity crunch: value at risk from deforestation \(CDP, 2013\)](#): **Report** that analyses 139 companies risk to deforestation.
- [SupplyChange](#): **Website** of the SupplyChange initiative led by Forest Trends which provides information on the extent and value of commitment-driven commodity production and demand. Commodities include palm oil, soy, timber and pulp, and cattle.
- [Zero Net Deforestation by 2020 \(WWF, 2020\)](#): **Briefing** on WWF's call for zero net deforestation by 2020.
- [Understanding commitments to No Deforestation, No Peat and No Exploitation \(NDPE\) \(Proforest, 2020\)](#): **Briefing** describing the issues which are covered by the NDPE commitments.

Section 3: Impacts and risks of agricultural commodities

Commodity markets and production Impacts

- [OECD-FAO Agricultural Outlook 2020-2029 \(OECD, 2020\)](#): **Report** which provides market projections for national, regional and global supply and demand of major agricultural commodities, biofuel and fish.
- [Resourcetrade.earth](#): **Website** for users to explore the fast-evolving dynamics of international trade in natural resources, the sustainability implications of such trade, and the related interdependencies that emerge between importing and exporting countries and regions.
- [Henders et al., 2015, Trading forests: land-use change and carbon emissions embodies in production and exports of forest-risk commodities](#): **Scientific publication** that quantifies tropical deforestation area and carbon emissions from commodity production (beef, soybeans, palm oil, and wood products) in seven countries with high deforestation rates (Argentina, Bolivia, Brazil, Paraguay, Indonesia, Malaysia, and Papua New Guinea).
- [Pendril et al., 2019, Agricultural and forestry trade drivers large share of tropical deforestation emissions](#): **Scientific publication** that assesses the carbon emissions driven by the international trade of commodities.
- [Securing Forests, Securing Rights. Report of the International Workshop on Deforestation and the Rights of Forest Peoples \(FPP, Pusaka and Pokker, 2014\)](#): **Report** on the social risks associated deforestation for forest-dependent communities.
- [Mattsson et al., 2000. Agricultural land use in life cycle assessment \(LCA\): case studies of three vegetable oil crops](#). **Scientific paper** presenting a method for environmental assessment of agricultural land.

Palm oil specific

- [Vijay et al., 2016. The impacts of oil palm on recent deforestation and biodiversity loss](#): **Scientific publication** that analyses recent expansion of palm oil and models future ones to identify critical areas for biodiversity threatened by oil palm expansion.

[Global Market Report: Palm oil \(IISD, 2019\)](#): **Report** on global palm oil production, the palm oil certification market and the socioenvironmental impacts associated with its production and sustainability challenges.

- [The palm oil global value chain \(CiFor, 2017\)](#): **Report** on the implications of global palm oil production for economic growth and social and environmental sustainability.
- [Innovative replanting financing models for oil palm smallholder farmers in Indonesia \(Tropical Finance Alliance, 2018\)](#): **Report** highlighting the potential for upscaling, improving livelihoods and supporting deforestation-free palm oil supply chains.
- [Sumarga et al., 2014. Mapping ecosystem services for land use planning, the case of Central Kalimantan.](#) **Scientific publication** that examines how ecosystem service maps can be used to support the identification of options for sustainable expansion of palm oil production.
- [Dislich et al., 2017. A review of the ecosystem functions in oil palm plantations, using forests as a reference system.](#) **Scientific publication** that reviews the ecosystem functions of oil palm plantations.
- [The Hidden Commodity: How China's palm oil imports can help halt deforestation \(CDP, 2020\)](#): **Report** which analyses the results of 146 companies that produce, source or use products made with palm oil.
- [Palm oil revenue at risk: failure to meet buyers' procurement policies results in lost revenue \(Chain Reaction Research, 2016\)](#): **Report** on the findings of a Monte Carlo simulation technique to determine 2016 quarterly revenue at risk for three selected palm oil producers.

Soybean specific

- [The Growth of Soy Impacts and Solutions \(WWF, 2014\)](#): **Report** which provides a detail on soy uses, the growing demand for soy, associated impacts with deforestation and soy and, steps towards responsible production of soy.
- [Sustainable Insight: A roadmap to responsible soy \(KPMG, 2013\)](#): **Report** which explores the approaches to increasing certification and reduce risk associated with soy production.
- [Spera et al., 2016. Land-use change affects water recycling in Brazil's last agricultural frontier.](#) **Scientific paper** that presents land use change across the Cerrado based on remote sensing techniques.
- [Lima et al., 2011. Deforestation and the social impacts of soy for biodiesel: perspectives of farmers in the South Brazilian Amazon.](#) **Scientific paper** that presents the social impacts of soy cultivation in Brazil.
- [Sly, 2017. The Argentine portion of the soybean commodity chain.](#) **Scientific paper** that describes the soy supply chain in Argentina.
- [Why is soy a problem | Forest500](#): **Video** explaining the problems associated with soybean production

Beef specific

- [De Sy et al., 2015. Land use patterns and related carbon losses following deforestation in South America:](#) **Scientific publication** that quantifies the drivers of deforestation in South America, with pasture being the dominant driver.
- [Livestock's Lure and Liabilities](#) – **Video** on the challenges associated with producing beef and leather
- [Gerber et al., 2015. Environmental impacts of beef production: Review of challenges and perspectives for durability:](#) **Scientific review paper** that discusses environmental challenges of beef production at global level, recognizing the large diversity of systems

- [Hidden deforestation in the Brazil-China beef and leather trade \(Global Canopy, 2019\)](#): **Brief** on the hidden deforestation risks associated with the beef and leather supply chains within Brazil and China.

Cocoa specific

- [An Investor Brief on Impacts and Drive Business Risks Cocoa \(Engage the Chain, 2020\)](#): **Brief** summarising the main environmental and social factors that affect cocoa global production.
- [Bunn et al., 2017. Global climate change impacts on cocoa. Conference paper](#) that assesses the impact of climate change on cocoa production and implications for productivity and deforestation.
- [Takyi et al., 2019. Sustaining Ghana's cocoa sector through environmentally smart agricultural practices: an assessment of the environmental impacts of cocoa production in Ghana. Scientific paper](#) that assesses the environmental impact of cocoa production in Ghana through conversion of forests.
- [Tetteh et al., 2018. Effect of cocoa farming intensification on biodiversity and ecosystem properties in southern Ghana. Scientific paper](#) that investigated the effect of cocoa farming on biodiversity and ecosystem services under different cocoa management systems
- [Bitty et al., 2015. Cocoa Farming and Primate Extirpation Inside Cote D'ivoire's Protected Areas. Scientific paper](#) that investigates the impact of cocoa production on primate populations inside protected areas.
- [An Investor Brief on Impacts and Drive Business Risks Cocoa \(Engage the Chain, 2020\)](#): **Brief** providing a summary of the main environmental and social factors that affect cocoa global production.
- [Global Market Report: Cocoa \(IISD, 2019\)](#): **Report** on the sustainable production and consumption of cocoa to foster transparency, knowledge and strategic decision making for sustainable development.

Standards and certification

- [The State of Sustainable Markets 2020: Statistics and Emerging Trends \(ITC, 2020\)](#): **Report** which provides insights into certified agriculture and forestry for 14 major sustainability standards for bananas, cocoa, coffee, cotton, oil palm, soybeans, sugarcane, tea and forestry products.
- [Global Roundtable for Sustainable Beef – Website](#) for GRSB that aims to advance, support and communicate continuous improvement in sustainability of the global beef value chain through leadership, science, and multi-stakeholder engagement and collaboration.
- [Roundtable on Sustainable Palm Oil: Website](#) for the RSPO that provides a multi-stakeholder platform and a set of environmental and social criteria which companies must comply with in order to produce Certified Sustainable Palm Oil
- [Roundtable on Responsible Soy: Website](#) for RTRS that provides A global platform for multi-stakeholder dialogue on responsible soy and the development, implementation and verification of a global certification standard.

Deforestation-free finance

- [Biodiversity Target-setting: Guidance for banks \(Version 1: June 2021\) \(PRB, 2021\)](#): **Report** that provides guidance on setting portfolio-level biodiversity targets for banks and specifically includes terrestrial exclusion criteria relevant for deforestation related targets.
- [Principles for Responsible Banking – Framework](#) for ensuring that signatory banks' strategy and practice align with the Sustainable Development Goals and the Paris Climate Agreement.
- [The Soft Commodities Compact](#) – A company led **initiative** which worked with the banking industry to help transform commodity supply chains. Expired in 2020
- [Banking Beyond Deforestation](#) (January 2021): **Publication** that marks the conclusion to the SCC and highlights opportunities for banks to grow the supply of soft commodities that are deforestation-free or forest restorative. Underpinned by a set of five actions, the new report aims to act as a catalyst for banks to respond to the biodiversity and climate crisis.
- [The Land Use Finance Programme](#): **Report** on the LUFP that acts as an umbrella for several complementary finance facilities and projects that scale up and direct private finance to sustainable land use that creates positive environmental and social impacts.
- [Tropical Finance Alliance Collective Action Agenda](#): **Report** of the TFA collective agenda that provides a framework for collective action to accelerate and scale corporate actions to remove deforestation from commodity supply chains.