**POLICY BRIEF**
# Combatting imported deforestation – challenges for science

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# Combatting imported deforestation – challenges for science

This Policy Brief is written by experts of the SCAR Strategic Working Groups (SWGs) ARCH and FOREST, and based on inputs from a virtual expert workshop jointly organised by the two SWGs between 2nd and 3rd February 2022.

The brief primarily targets R&I policymakers and funders in the European Commission and national ministries. The objective of this policy brief is to provide guidance on existing knowledge gaps and how these gaps can be addressed in the design of research programs to combat imported deforestation. It is also intended to provide advice to researchers and their institutions in conducting research in this field.

## Introduction

### Context and issues

In this document, imported deforestation is defined as the loss or degradation of forest in producing countries caused by the European Union's (EU) agricultural imports (agri-food, biofuels, aquaculture and forestry). The EU's import of these so-called forest-risk commodities contribute to about 16% of the global deforestation due to trade, placing Europe in second position after China (WWF, 2021). Globally, forest area continued to decline at a rate of 4.7 million hectares per year over the decade 2010-2020, although at a slower pace than in previous decades (FAO, 2020). Net deforestation is now highest in Africa (–3.9 million ha/year), followed by South America (–2.6 million ha/year). This net decrease in global forest area corresponds to gross deforestation of 10 million hectares per year (over the period 2015-2020), mainly in tropical areas, half of which is offset by an expansion of forest area by 5 million hectares per year, mainly in temperate areas. Commodities put on the European market may not only require additional cropland and trigger deforestation, but may also be responsible for forest degradation, either because these commodities are grown under the cover of a forest that was initially undisturbed (e.g., coffee, cocoa), or because they consist of wood products. Forest degradation impacts forest ecosystems in tropical, temperate, and boreal biomes alike.

The EU is committed to reducing its deforestation footprint (European Commission, 2019). It acknowledges that, due to long-range interdependencies between global economies, decisions within the systems of consumption and trade of food and wood products have an impact on forests in producing countries. The European Commission Green Deal aims at promoting imported products and value chains that do not involve deforestation and forest degradation. Both the EU Biodiversity Strategy for 2030 and the Farm to Fork Strategy further set as an objective to avoid or minimise the placing of products associated with deforestation or forest degradation on the EU market. Following the adoption by the European Parliament in October 2020 of a report describing a legal framework to halt and reverse EU-driven global deforestation (European Parliament, 2020), the EU is currently heading towards a mix of mandatory and voluntary measures to tackle this critical issue (Bager et al. 2021, European Commission 2021).

## Why is science needed?

As imported deforestation involves complex processes, the drivers of deforestation and the interdependencies among nations in the global economy need to be identified in order to be addressed. Coordination and cooperation between importing and producing countries is needed to:

- find solutions towards food systems transformations that do not induce deforestation or forest degradation
- monitor deforestation, included the share of deforestation that is linked to international trade
- measure the impact of market-related measures to combat imported deforestation and assess the extent of deforestation that is displaced outside of a territory by such measures (often referred to as "leakage").

From a scientific perspective, there are knowledge gaps to address in order to define, implement and assess measures that will successfully combat imported deforestation. Interdisciplinary research approaches are required that include different scientific domains such as economics, law, politics, ecology, agronomy, social sciences, remote sensing and geography.

Addressing these questions also requires new ways of conducting research, such as living labs where researchers, local stakeholders, local authorities, and businesses work together to develop new agricultural and forestry models to produce new knowledge, processes and products, which involves the direct participation of researchers and experts from producing countries.


## Research needs and priorities to combat imported deforestation

The knowledge gaps in addressing imported deforestation can be categorised into five areas of work: its scope, its monitoring, policy measures, socio-economic interdependencies, and the global dimension. **It is however important to be aware of the systemic dimension of the problem when working in the different areas.**


### 1. Scope and definitions

Deforestation encompasses a continuum of conversion practices (from degradation of forests to clear-cutting of all trees) that affect a variety of natural ecosystems (from savannahs to dense tropical rain forests) resulting from a change in land use. Depending on the thresholds used to delimit forests from other land types, different perceptions of deforestation may arise. Agreeing on a **common scope and definition of deforestation is not** a prerequisite to combat imported deforestation **at the local scale**. However, if the EU and producing countries have different definitions of deforestation, it will end up with conflicting situations where one party will consider as deforestation what the other party considers as a legal land use change.

Knowledge gaps highlight the need for the establishment of an improved **internationally agreed definition of forests** that can be tuned to ecological biomes, taking into account the variety of natural ecosystems that are impacted by the conversion to cropland[1]. Because forest degradation is often an intermediate step in the trajectory leading to forest loss, it is equally important to **define forest degradation**. Knowledge gaps here regard the ways to synthesise the various dimensions of forests, including quality aspects like biodiversity or fragmentation. Some approaches like the High Carbon Stock

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[1] FAO's current internationally agreed definition applies to all the forests in the world, independently of the eco-region and national circumstances

(HCS) [2] approach have developed practical criteria to address these questions of definition. Yet, they still require more knowledge to tailor these criteria to different biomes.

Deforestation is not only a spatial process but also a temporal one. Every cropland has been converted from a natural ecosystem if one looks back long enough, so it is necessary to set the temporal scope of deforestation by defining a cut-off date based on scientific, historical and sociological data. Knowledge gaps here regard the modelling of short and long-term **consequences of choosing a given cut-off date** on the impact of market-based measures against future deforestation. It is also important to determine how traceability and the separation of deforestation-free from products at risk of deforestation will be facilitated or hindered by the selected cut-off date. The selection of an appropriate cut-off date also matters for incentivizing producers and companies to improve their practices, or for increasing acceptability by countries that are historically not responsible for deforestation. Knowledge gaps also include the juridical and technical possibility to differentiate cut-off dates depending on commodity and sector with the actual objective of limiting potential negative side-effects of a unique cut-off date on deforestation.

## 2. Data and methods for monitoring and traceability

Combatting imported deforestation requires monitoring it, so as to detect new deforestation fronts for commodity production. A strengthened monitoring system will help informed decisions and assess the impacts of measures taken to combat imported deforestation. Monitoring imported deforestation involves more than the monitoring of deforestation alone. It also requires monitoring the flows of commodities from producing countries to consuming countries, as well as the ways commodities become embodied into products that are finally consumed (e.g., imported soy that feeds poultry).

Knowledge gaps exist in the development of **traceability systems** with recognized efficiency and trustworthiness that allow tracing the origin of a consumed commodity back to the farm or a zero-deforestation region. Global statistics already allow to capture the main material flows between countries, but details at the local level are still missing. It is necessary to trace back not only commodities, but also financial investments driving deforestation. Knowledge gaps also concern the connection between remote sensing tools that provide real-time information on deforestation and statistical tools that provide information on material and financial trade flows, such as statistics on duties. The indirect consequences that increased traceability on local, regional and global scales can have on commercial, political and social stakeholders also need to be addressed. Ecosystem accounting, such as the SEEA EA [3], should be used when the system exists within the producing country.

Knowledge gaps are also linked to remote sensing techniques to **monitor forest degradation**, or to **monitor the conversion of natural forests to plantation forests**. Imported deforestation often involves several crops that are cultivated successively or jointly in the same field after the forest clearing. For this reason, matching the forest clearing to a unique crop may be challenging. Another matching challenge exists between trade and deforestation due to the indirect land-use change (ILUC) that can be induced when an increasing demand for a broadly traded commodity displaces the production of other commodities to forests. There is further need for **tools to monitor, and methods to allocate, shifting land use and indirect land use change (ILUC)** to an imported commodity so as to clarify the tricky question of responsibility for deforestation.

[2] https://highcarbonstock.org
[3] https://seea.un.org/ecosystem-accounting

## 3. Setting a policy mix of measures to reduce imported deforestation

A variety of instruments can be used to combat imported deforestation, e.g., regulation, tax incentives, certification, due diligence, eco-friendly product labels and meta-labels, payment for environmental services and compensations, environmental awareness, and education. Each of them targets a specific group of actors, e.g., local small-scale producers, local big landowners, local authorities, import-export companies, agribusiness companies and end consumers, to reduce the risk associated with products. However, a single instrument alone is not likely to tackle the issue of imported deforestation. Instead, a mix of policy measures will be needed, in both producing and importing countries.

Knowledge gaps also regard the **lessons learnt from previous policy measures** to tackle deforestation, such as the EU Timber Regulation, the EU Forest Law Enforcement, Governance and Trade (FLEGT) initiative, bilateral free trade agreements on specific commodities, or the Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism. Lessons may also be learnt from other sectors with respect to effective policy combinations and the facilitation of the compliance with proposed regulation.

Based on these learnings, there are gaps in knowledge around the design of an appropriate **policy mix** that is capable of, for example, coordinating market-based and regulatory policies, aligning private sector activities with state objectives, or integrating the activities of different stakeholders at a landscape level. Knowledge gaps are also about the interplay between different policies, both along and across value chains. For instance, reducing deforestation may increase pressure on agricultural production that could counteract other policies that support conservation by promoting extensive land-use (e.g., organic farming).

## 4. Systems and transformation: reorganising world trade and addressing socio-economic linkages

Imported deforestation addresses a complex network of economic actors that are globally interconnected. This network connects local producers of agricultural commodities to end consumers through trade and agrifood companies. It also connects the markets and economies of the countries that determine the availability of each commodity. Therefore, it is necessary to better **understand how the socio-economic systems work** in order to effectively combat imported deforestation.

There are knowledge gaps regarding the expected **reorganising of world trade** that would result from a decrease in EU imports of products responsible for deforestation, due to global interdependencies and the cascading effect that policies in the EU could have on trade flows between producing countries and other importing countries. They surround the **policy coordination** that would be needed with other major importers of deforestation to ensure that the establishment of deforestation-free production areas does not simply shift the deforestation footprint to other areas and markets. Uncertainties also exist regarding the **consistency** between different EU policy areas (e.g., trade, finance, development and cooperation, agriculture), and the consistency between EU policies and the policies of producing countries.

Further knowledge gaps were also identified in terms of **consumer awareness and behaviour**, not only in importing, but also in producing countries, in order to understand the drivers and causes of imported deforestation and to prevent the emergence of dual markets. They concern the acceptability, sustainability and relevance of **commodity substitutions** by analysing the involved trade-offs. Understanding the willingness of consumers to pay for deforestation-free products also deserves more research efforts.

Regulatory provisions that already exist do have effects on the availability of instruments for countries to combat imported deforestation. Provisions exist locally not only in state laws, but also in customary rules and

local practices that may be significantly detached from the former. Provisions also exist in bilateral free trade agreements and in multilateral agreements such as the rules of the World Trade Organisation (WTO). Knowledge gaps encompass not only the analysis of the impact of existing regulatory provisions, but also the design and use of new concepts, tools and models to ensure the long-term alignment of new measures against deforestation with the trade rules. This would also provide a knowledge base to adapt rules in a fair and non-discriminatory way in order to support the vital necessity of halting deforestation.

## 5. Towards zero-deforestation globally: moving beyond an EU-centric approach

The overarching goal of zero-imported deforestation in the EU is to contribute to the **halting of deforestation globally** and to put food systems worldwide on a more sustainable path, thereby addressing several of the Sustainable Development Goals. However, an EU-centric approach to imported deforestation is likely to shift the problem rather than solve it, or may conflict with the development priorities of producing countries. There is therefore a need to ensure a global endorsement and to integrate the issue of imported deforestation into a wider perspective of land availability for food systems and rural poverty reduction.

Knowledge gaps regarding the **social and economic impacts** in producing countries need to be addressed to ensure their acceptance and commitment to policies set up by countries to combat imported deforestation. These concerns include land tenure, land markets, climate vulnerability, environmental justice, dependence on agrochemicals, low commodity prices, and volatile commodity markets. Further uncertainties lie around the influence that the nature and quality of governance and stability of political regimes has on the development of new beneficial production schemes within the frame of imported deforestation.

Meeting a growing global demand for food may require additional cropland, depending on the developments in average yields, changes in diets, food waste management, and biofuel needs. Halting deforestation at a global level and saving land for conservation cannot be solved without addressing the questions of land availability for sustainable food production and intensification. **Restoring degraded agricultural lands** may be an alternative or complementary measure to sustainable agriculture intensification. Opportunities for land restoration must be better identified. Moreover, the policy integration between different land uses, mainly agriculture, forestry, and conservation, must be better understood.

## Recommendations

Combatting imported deforestation through research requires engagement by various stakeholders. The complexity and dynamics of the issues demand a **transdisciplinary, multi-actor and multi-level approach.**

### Research funding agencies and researchers

Research institutions must shape their culture, organisation and leadership to address the complexity of research in the rapidly changing field of imported deforestation:

- Future research funding should be prioritised towards knowledge gaps identified in this policy brief.
- Research projects should be based on new ways of doing research by using a **multi-actor, participatory approach** in order to integrate science and practice to create solutions and tackle the objective on a multi-level scale. Projects consortia should include **several types of partner organisations.** Research institutions should be encouraged to work together with NGOs, universities, associations, foundations, companies, agricultural producers, forest managers,

governments, development banks, etc. to cover a wide range of perspectives on the issues involved.

- Projects should also be **multinational** and involve the countries most affected by the EU-driven deforestation and new EU Green Deal policies.
- Because of the complexity of the issue and the time needed for transformation, funding agencies should be able to provide means for research programs that are larger in scope and longer in duration than usual to achieve tangible impacts.

Special attention should be given to the following areas of research:

- agreement on an improved internationally accepted definition of forest, as well as definitions of forest degradation and deforestation
- development of improved models for predicting long-term land-use, taking into account changes in diets, yields trends, food waste management, biofuel production and global interdependencies among countries (to integrate the likely leakage effects of measures)
- development of tools and methods for monitoring forest degradation
- development of monitoring and traceability systems of consumed commodities
- Analysis on consumer behaviour and awareness (e.g., acceptability of involved commodities substitutions)
- impact assessment and impact modelling of different policy mixes

## Policy makers at European Commission (EC) and Member State (MS) level

The results of the research activities should form the basis for strategy and policy development to reorganise world trade to combat EU-driven deforestation, which must be coordinated at an international level.

- Integration of new knowledge when revising existing regulations and policy measures
- Combination and integration of different policy instruments, taking into account the impacts of the interplay between policies
- Ensure policy consistency between EU and producing countries
- Ensure policy coordination between EU and other consuming countries

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# Acknowledgements