

## **Building an evidence-base for deforestation-free landscapes: supporting equitable outcomes in and beyond commodity supply-chains (BEDROCK)**

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Our food systems are major drivers of global change and are in urgent need of a sustainability transition. Recognizing this urgency, recent years have seen a groundswell of commitments from companies, financial institutions, and governments to make supply chains for key commodities (such as palm oil, soy, and beef) more sustainable, including by eliminating their link to tropical deforestation. Yet, delivery on these pledges has been extremely poor to date: unsustainable practices persist, and deforestation rates remain stubbornly high. As tropical deforestation constitutes one of the largest drivers of climate change, biodiversity loss, and the degradation of ecosystem services vital to the livelihoods of hundreds of millions of people, achieving deforestation-free agri-food systems is crucial for meeting global sustainability goals.

**The aim of BEDROCK is to build and apply an evaluation framework that can provide a deep system-level understanding of the effectiveness of ongoing supply-chain policies that are aimed at halting tropical deforestation.** What we term *supply-chain policies* include private sector pledges and commitments, as well as mandatory demand-side human rights and environmental due diligence policies in the EU and individual countries. We will identify those responses that are likely to be more effective by addressing two inter-linked objectives: (i) what theories of change, data and methods are needed to create an evaluation framework that can provide a more system-level understanding of the impact of supply-chain interventions, (ii) which are the “best-bet” policy portfolios that are most synergistic in their ability to drive down deforestation while also minimizing the risk of undesirable or unintended consequences.

To deliver upon these objectives, we will develop a conceptual and analytical framework for assessing supply-chain policy responses to deforestation and apply this framework to evaluate policy developments in key commodity-deforestation frontiers. The framework recognizes that sustainable land-use governance must acknowledge multiple perspectives and trade-offs, account for context, and address spillovers and equity concerns.

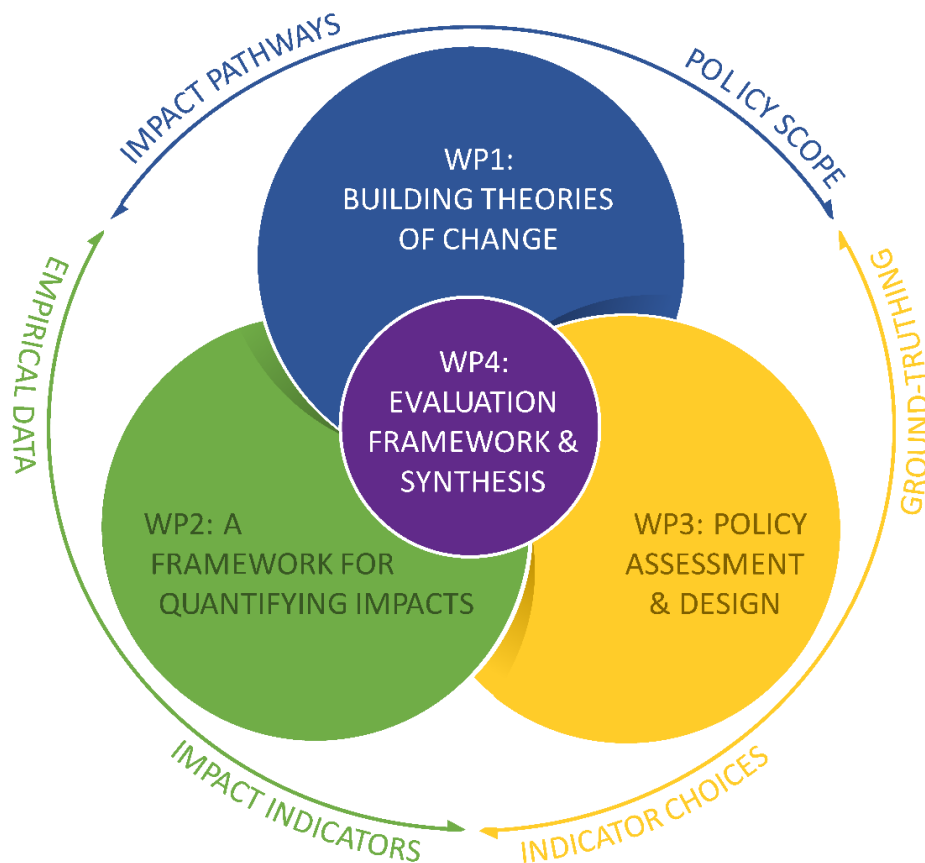
The project consists of four interlinked work packages (WPs) that have been designed to closely integrate stakeholder understanding of the assumptions behind supply-chain interventions, the data and analytical approaches available for assessing effectiveness, and the contextual realities facing some of the most important commodity supply chains linked to deforestation: soy, beef, cocoa and palm oil.

- WP1 will iteratively elicit and develop theories of change for policy responses, drawing upon stakeholders’ implicit or tacit assumptions underpinning specific interventions, as well as relevant theories and empirical evidence. The focus of WP1 is motivated by the fact that theories of change are rarely explicit in policy discussions (or even in research), leading to over-simplifications of causal relationships, and with the potential to seriously undermine policy effectiveness while raising unrealistic expectations.
- WP2 will assess and develop a toolkit of methods and metrics for quantitatively assessing policy impacts, across domains (environmental, economic, and social) and is motivated by the fact that current efforts to evaluate supply-chain interventions are all too frequently hindered by deep-

seated confusion regarding what data and metrics are available and appropriate for the task in hand.

- WP3 will garner stakeholder perspectives on landscape-level issues from producer countries and apply the draft evaluation framework developed in WP1-2. That will be done in three case studies in Indonesia, Cameroon, and Brazil, providing a rich portfolio of different local realities vis-à-vis supply-chain policies.
- WP4 will synthesize the knowledge produced in WPs 1-3, consolidating a comprehensive evaluation framework for measuring supply-chain policies' success (or failure) and providing guidance on which policies are more likely to be most effective in particular settings.

The framework will draw upon recent advances in satellite monitoring, supply-chain traceability and transparency, and policy evaluation. It will also be deeply rooted in a participatory co-development process with key stakeholders in both producer and consumer markets. The findings from in-depth case work in tropical landscapes and the ground-truthing and iterative sense-making of the theories of change, analytical tools, and overarching assessment framework with key stakeholders, will allow us to provide a set of “best-bet” policy portfolios—policies that deliver on commodity production while simultaneously drive down deforestation and support local livelihoods while minimizing the risk of unintended consequences.



*Conceptual representation BEDROCK's four interlocking work packages (WPs).*

The societal impact of this project, and its ability to eventually deliver tangible impacts in the fight against tropical deforestation, rests fundamentally on its transdisciplinary nature. The research consortium brings together experienced researchers with a strong track record across land-use

science, economics, political, natural and sustainability science. The recruitment of three postdoctoral researchers will bring additional competencies and disciplinary perspectives. The highly integrative structure of the project ensures that the different disciplinary contributions will combine to jointly deliver on the project's objectives.

Importantly, BEDROCK has been designed to allow strong co-development by stakeholders to ensure the relevance and uptake of policy insights generated. This includes eliciting the assumptions behind demand-side policies, the co-development and practical testing of our evaluation framework, and drawing broader lessons to guide ongoing policy efforts in the deforestation space.

The engagement of producer country actors will ensure a diversity in perspectives and geographical representation. It builds on already existing collaborations with the partner organizations in the forest frontier landscapes in Indonesia ([Auriga](#)), Cameroon ([SAILD](#)), and Brazil ([Imaflora](#), [FAS](#)), as well as on an extensive network the partners have with private and public sector decision-makers working on deforestation-free supply-chains, not the least in leading donor countries (including Norway, Germany, UK), many of which are included in the Project Advisory Committee. Close interaction with partners, stakeholders and advisers will help ensure that the project provides evidence-based and practically grounded measures that can be actively taken up through established policy programs – including the implementation and review mechanisms of the due diligence legislation currently being negotiated in the European Union.

## THE BEDROCK TEAM

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BEDROCK is a collaboration between *Chalmers University of Technology* (CTH) and *Stockholm Environment Institute* (SEI) in Sweden, *Norwegian University of Life Sciences* (NMBU) in Norway, and *Senckenberg Biodiversity & Climate Research Center* in Germany, and is funded under the *Belmont Forum* collaborative research action on [Systems of Sustainable Consumption & Production](#) (SSCP).



[Martin Persson](#) (CTH) has extensive research experience on deforestation drivers and policy. Martin leads the Consortium, WP4, and be involved in all WPs.



[Arild Angelsen](#) (NMBU) is an economist with extensive research experience on deforestation drivers and policy assessment, particularly of REDD+. Arild leads WP1.



[Thomas Kastner](#) (SGN) is an expert on trade and environment, with a focus on land use, ecosystem change and biodiversity loss. Thomas leads WP2.



[Mairon Bastos Lima](#) (SEI) is an agri-food governance expert with extensive experience in social equity issues and the research coordinator of Trase. Mairon leads WP3 and the Project Advisory Committee.



The project is recruiting three Postdocs with inter-disciplinary research experience but complementary profiles, who will work in each of the WP collaborate closely – with each other and the senior researchers – in the execution of the project. You can find the individual vacancies here: [CTH](#), [NMBU](#), [SGN](#)