



The Green Gigaton Challenge

Bringing REDD+ To Scale

PRIMER



This page left intentionally blank.

Table of Contents

1

Introduction

2

The opportunity to fulfill the potential of REDD+

4

Emerging sources of private-sector demand for REDD+

5

Linking public and private agendas for a REDD+ demand signal at scale

6

Designing a demand signal to unlock REDD+ supply

8

References

Introduction

At London Climate Action Week on Thursday, 19th November, the Emergent Forest Finance Accelerator (Emergent) and the United Nations Collaborative Program on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) launched the **Green Gigaton Challenge: Bringing REDD+ to Scale** in collaboration with the Environmental Defense Fund (EDF), Forest Trends, and the Architecture for REDD+ Transactions (ART).

The Green Gigaton Challenge (GGC) will aim to mobilize funds for transacting at least one (1) gigaton of high-quality jurisdictional REDD+ emission reductions per year by 2025.

The GGC will utilize donor government-funded floor prices for results-based payments, and facilitate and leverage private sector demand

above these floor prices. It will also support forest countries to achieve and go beyond their Nationally Determined Contributions (NDCs) while simultaneously enabling private sector companies to enhance their ambitions.

Emergent will work with private companies and forest countries to structure large-scale transactions of high-quality emission reductions through jurisdictional REDD+ programs, with an initial focus on the ART TREES standard.

UN-REDD will work with forest countries to develop their capacities to produce such credits and work with the private sector to promote purchases of emission reductions.

The Environmental Defense Fund, Forest Trends, and the Architecture for REDD+ Transactions (ART) will contribute their significant technical expertise on REDD+ in support of the initiative.

Rationale for the Green Gigaton Challenge

A massive increase in public and private results-based funding commitments is critical to protecting forests (not to mention other Nature-based Solutions) in forest countries, and thus to hopes of holding global warming below 2°C.

REDD+ programs that reduce and reverse the loss of tropical forests, can contribute trillions of dollars in value by “flattening the curve” of the global economy’s costs of transition to climate stability.

1

Donor governments and multilateral institutions, making payments as a form of output-based aid, are in a position today to leverage materially more private co-funding for REDD+ than has been the case historically. A rapidly growing range of private actors needs access to large-scale, affordable, and near-term mitigation options from carbon credits that provide a more flexible pathway for technology investment and decarbonization. This is especially true for those sectors where emissions are “hard-to-abate.”

Project-based crediting can play an increasingly important role in supporting individual conservation projects. However, it will be critical also to leverage the tools that only governments can access in order to ensure that accounting for all scales of effort are centralized, and illegal activity is addressed through due process. Jurisdictional REDD+ has by far the largest potential to supply offsets with high-environmental integrity at scale, by supporting forest country governments to implement ambitious policies at national, state or province level. New sources of private

funding could vastly increase over the next few years, provided jurisdictional REDD+ demand and supply can demonstrate the ability to scale from current levels.[1]

We are at an inflection point where as yet unfulfilled supply potential could be mobilized by a quantum increase on the demand side. Unlocking the first gigaton of supply is the crucial step and the goal of the Green Gigaton Challenge. Success in delivering one (1) gigaton of emissions reductions would in turn catalyse further even larger-scale private and public funding commitments.

The opportunity to fulfil the potential of REDD+

Nature-based Solutions (NbS) are essential in the near term for the transition to a carbon neutral economy by the middle of this century, offering around 30% of the mitigation needed to meet the Paris goal of stabilizing global warming below 2°C. NbS at the same time can enhance biodiversity, water filtration, flood control, air filtration, and soil quality.[2]

Cost-effective tropical NbS offer globally significant climate mitigation in the coming decades: one major study has estimated 6.56 Gigatons (Gt)/year at a cost of less than 100 US\$ per ton of carbon dioxide equivalent (tCO₂e). Forest protection, restoration, and reforestation could contribute over two-thirds of this NbS mitigation. By far the largest and most cost-effective opportunity is conservation of existing tropical forests.[3]

REDD+ is critical for the international community to drive sufficient finance for conservation of tropical forests.

The Paris Agreement Article 5 has a strong commitment to results-based finance for REDD+. While the details are still being negotiated, Article 6 also provides mechanisms for international cooperation that could provide an additional source of funding for REDD+ credits.

International climate cooperation through carbon markets that include tropical forest protection could result in almost double the emissions reductions as a non-market scenario for implementing NDCs, for the same total cost.[4]

Forest countries will carry much of the burden of implementing NbS. Some have successfully reduced deforestation with domestic policies and have committed to go further as part of their NDCs under the Paris Agreement. International co-funding will be critical to increasing ambition and to accelerating implementation, including development finance, private investment, and public-private finance.



Development finance in the forms of grants and loans for specific programs will play an important role in supporting implementation of REDD+. However, if as one study suggests, the median cost of implementing cost-effective NbS is equivalent to 5.5% of national GDP for tropical countries [3], the bottleneck of due diligence process accompanying input-based aid has little hope of giving forest countries the fiscal resources to meet ambitious targets. Results-based finance will make up the bulk of international funding support, because donors are able to commit more resources to verifiable results when the risk of achieving those results is transferred predominantly to the countries responsible. Another advantage is that forest countries themselves are better able to choose their own pathways to achieving goals, avoiding the conditionality often associated with input-based aid programs.

Fulfilling the potential of REDD+ should therefore be an urgent priority for the international community. While many forest countries have progressed the REDD+ agenda, supported by a small number of bilateral donors and multilateral agencies, REDD+ has not yet delivered the transformational change initially envisioned for it in the Stern Review in 2006 and Eliasch Review in 2008.[5][6]

The central challenge for REDD+ is that it is constrained by a “chicken-and-egg” problem: the vast potential for greenhouse gas mitigation from REDD+ will not materialize in

the absence of massively increased levels of visible demand.

At the same time, on the demand side, many potential providers of REDD+ results-based finance may be unwilling to make large-scale funding commitments in the absence of visible supply, and with insufficient consensus on what constitutes high integrity among accounting methodologies.[7]

Jurisdictional REDD+ results-based payments will only be made if forest countries are able to achieve emission reductions targets at a national or regional scale. Even funding support amounting to hundreds of millions of US dollars is not always sufficient to give forest countries the confidence to embark on ambitious emission reduction programs which would have an impact on public sector borrowing requirements on the order of US\$ billions, and where the outcome is “all or nothing.” if major investment programs fail to deliver sufficient results, the bulk of REDD+ finance will not materialize.

A massive increase in international funding will be required to give forest countries the fiscal resources to implement ambitious policies and programs.

Such an increase would also allow other challenges related to institutional capacity, uncertainty around Paris Agreement rules, and upfront capital investment needs to be overcome much more rapidly.

Emerging sources of private-sector demand for REDD+

Corporate focus on transitioning to a net-zero carbon world is moving very rapidly under pressure from policy, financial regulators, investors, consumers, and market forces. This is evidenced by, for example, the Financial Stability Board's Task Force on Climate-Related Financial Disclosures[8]; recent EU Green Deal proposals to enshrine in law the necessity for all sectors of the economy to transition to net-zero emissions by 2050[9]; and the development of low carbon indices, 2°C aligned Value at Risk analysis and emerging platforms for offsetting the residual carbon intensity of portfolios in the financial markets.

Reaching net zero carbon emissions will ultimately mean that energy and industrial systems fully mitigate their own greenhouse gas emissions without relying permanently on offsets.[10] However, access to lower-cost, near-term mitigation options from REDD+ (taking into account not only implementation and opportunity costs but also a margin of “profit” for forest countries) provides greater flexibility in sectors where emissions are hard to abate for long-term investment or R&D to ensure a dynamically efficient pathway of decarbonization.[11]

Hence, companies are looking for credible and scaled emissions reductions. Jurisdictional REDD+ has the greatest potential to deliver emission reductions at the scale these sectors—and the world—will require over the next decade.[12] Jurisdictional-scale programs also offer the potential for significantly higher assurances of

environmental and social integrity than smaller, stand-alone initiatives. This is because jurisdictional programs, by definition, require accounting for the actions of all the actors across the jurisdiction.[13]

The aviation, carbon-intensive sectors and major technology companies represent the most immediate opportunity for scaling demand for emissions reductions in the short term, due to their existing compliance and voluntary commitments, which together amount to multiple gigatons.

For the agribusiness sector, jurisdictional REDD+ can help companies with zero-deforestation supply-chain commitments by reducing monitoring costs, lowering long-term risks, and promoting social and economic inclusion. In addition to their own efforts to decarbonize their supply chains, some companies could purchase REDD+ credits from the same jurisdictions that they source from, as a supplementary way to accelerate forest protection.

And in the financial sector, retail investors and investment managers could increasingly seek to offset the residual carbon intensity of low carbon and climate transition investment strategies.

The Taskforce on Scaling the Voluntary Carbon Markets was recently set up in response to this enormous potential demand for offsets. It produced an initial consultation document in November 2020.[14]

Linking public and private agendas for a REDD+ demand signal at scale

A strategic goal for carbon-intensive sectors—and for money managers who invest in them—should be to work alongside donor governments and multilateral agencies to kick-start REDD+ credit supply at scale, by sending a strong demand signal. At a macroeconomic level, the success of NbS, and of REDD+ in particular, is necessary to prevent carbon prices from escalating rapidly, thus reducing political ambition when emission reduction policies need to be tightened. Moreover, at the company level, the ability of “hard-to-abate” sectors to meet ambitious net zero carbon targets looks extremely challenging in the absence of a transformational increase on the supply side for carbon credits.

Scenarios that limit warming to below 2°C imply carbon prices increasing throughout the 21st century. Variations in carbon price trajectories in IPCC 2°C scenarios have been found to show a wide range of results (depending on socio-economic factors or modeling frameworks), with short-term prices varying from US\$15 to US\$360 per tCO₂e in 2030, US\$45 to US\$1,000 per tCO₂e in 2050, and \$140 to \$8,300 per tCO₂e in 2100.[15]

REDD+ can open up the opportunity to achieve tighter emissions targets and maintain total emissions over the period 2010-2100 below 1,200 GtCO₂ (consistent with a 2°C budget) while keeping the global CO₂ price below US\$250/t CO₂ by 2050.

However, without the higher end of REDD+ supply potential, any tightening of ambitions would lead to a quick escalation in carbon prices.[16]

Given the above analysis, private actors in carbon-intensive industries should, over time, be able to pay materially higher prices for the robustness, impact, and scalability of jurisdictional REDD+ credits than the floor prices currently offered by donor governments, the World Bank and UN Green Climate Fund of US\$5-US\$10 or the low prices being paid on a non-compliance basis for project-based credits (just over US\$4 per ton on average in 2019 according to Ecosystem Marketplace).[17]

We see a clear alignment of interests on the supply and demand sides to achieve REDD+ scale. There is an overwhelmingly strong environmental and economic case for the international community to support tropical forest countries to end deforestation. REDD+ interventions can deliver strong local benefits to forest countries and forest communities.



Designing a demand signal to unlock REDD+ supply

A broader coalition of donor governments will be needed to provide results-based funding for REDD+ (and to act as payers of last resort at an attractive floor price) in order to overcome the “chicken-and-egg” dilemma and harness the growing opportunity for scaled-up private sector co-funding. To date, the governments of Norway, Germany, and the UK have played an important catalytic role as the primary backers of results-based funding for REDD+, including through the Amazon Fund and REDD Early Movers program.

In addition to the need for more donor funding for results-based finance, larger-scale and predictable funding for jurisdictional REDD+ credits from private sector actors is also necessary. This should be at a sufficiently high price in order to incentivize a broader range of donor governments and multilateral banks to provide additional readiness and implementation funding (e.g., for stages one and two of REDD+). This would accelerate co-operation and clarification of the rules and functional relationship around Articles 5 and 6 of the Paris Agreement (e.g. in relation to preventing double-counting of emissions reductions). It would enable the development of financing instruments to address upfront costs;^[18] help forest countries clarify land tenure and implement policies and measures on the ground; and secure adoption of REDD+ accounting and verification methodologies with high environmental integrity.

In the meantime, ART, through TREES (The REDD+ Environmental Excellence Standard), provides a high integrity standard aligned with the ambition and the environmental and

social safeguards of the Paris Agreement, but not dependent on negotiations between supplier governments and bilateral or multilateral donor agencies, and with clear crediting requirements that create credits that are comparable across different jurisdictions and fungible in different markets.

The GGC is designed to help donor governments and multilateral institutions catalyse large-scale private sector funding commitments—firm and predictable contractual commitments to pay for verified jurisdictional REDD+ credits (either in the form of a floor price or via an Emission Reduction Payment/Purchase Agreement). The GGC will have a strategic focus on forest countries with the strongest capacity in order to maximize the results that are a priority for private actors. (Public funding commitments in the form of floor prices could allow for public funds to be recycled.)

Put options underwritten by public donors and granted to forest countries would provide a minimum guaranteed or floor price, bringing the certainty of a results-based payment while maintaining the option of achieving a higher payment in the future from private buyers and other potential funders. The GGC aims to begin with a floor price of at least US\$10 (twice the price of most transactions to date). Such an approach has just been initiated at the end of 2019 by the government of Norway in a letter of intent with the government of Gabon, in partnership with the Central African Forest Initiative (CAFI), as well as in a joint declaration of intent with Colombia. In September 2019, CAFI agreed to provide a

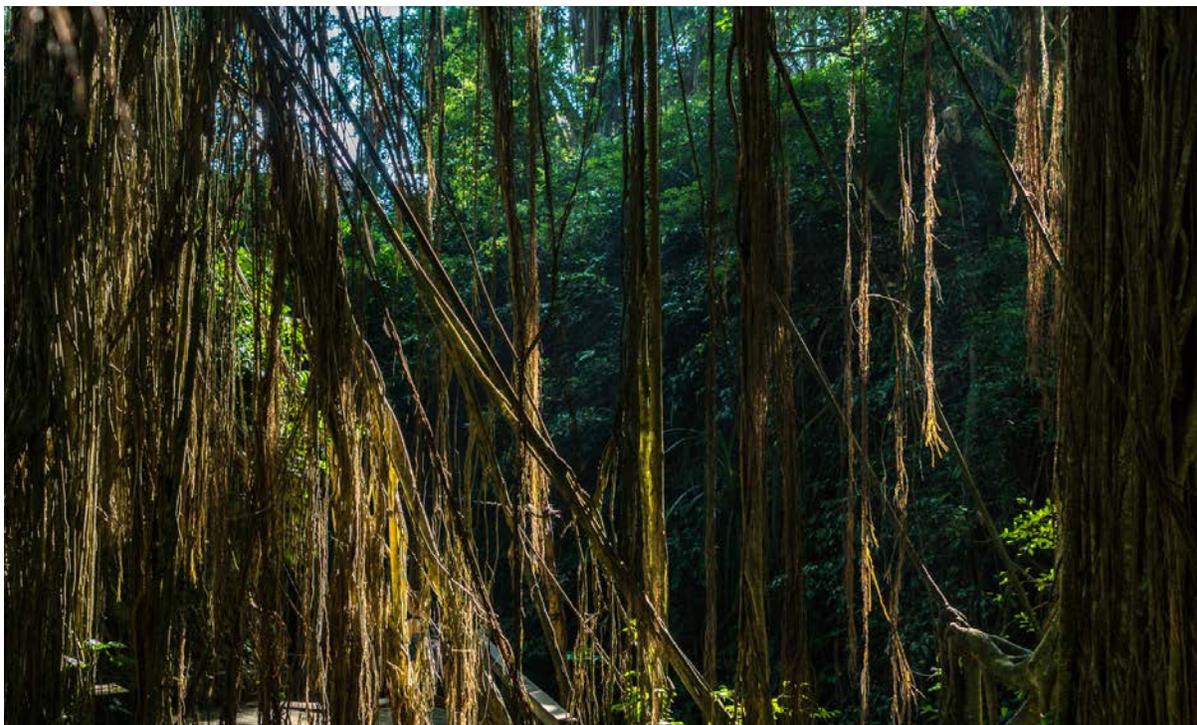
guaranteed floor price for certified emissions reductions from REDD+ over the period 2016-2025, up to a maximum of \$75 and \$150 million, respectively, depending on the verification standard achieved.[19] The government of Norway has also indicated its intent to guarantee \$10 per tCO₂e for certified emission reductions from Colombia up to about \$260 million through 2025. (Colombia, Norway, Germany, and UK 2019).[20]

Private sector participants in the GGC would benefit from being part of a large-scale platform that secured access to more competitive pricing, “seniority” over delivered credits and the ability to buy call options or to prioritize specific jurisdictions from where they source commodities.

Some governments might wish to acquire REDD+ credits directly as part of Article 6 trading to help achieve a portion of their own emission reduction targets, rather than making payments as a form of output-based aid to support forest countries in achieving NDC goals. In this case they might make direct bids (potentially at higher prices) rather than underwrite floor prices.

The partnership of Emergent, UN-REDD, EDF, Forest Trends and ART argue that delivery risk and capacity challenges in forest countries would be enormously reduced when the predictable level of demand for REDD+ credits is sufficiently large to support ambitious forest country programs. Forest countries need a clear signal that international public and private funding will be sufficient to support the very large-scale investment requirements needed to achieve and go beyond NDC goals. Regulators need confidence that REDD+ credits will be of high integrity. Private actors increasingly need the confidence that there will be a very large-scale supply of REDD+ credits. And limiting warming to below 2°C cannot be achieved if REDD+ fails.

Over the coming decade there should be ample opportunity to deliver US\$50-100 billion in combined international public and private support for REDD+. However, jurisdictional REDD+ demand and supply must demonstrate the ability to scale from current levels. Unlocking the first one gigaton of supply is the crucial step and the goal of the Green Gigaton Challenge. 



Suggested Citation

Edwards, Rupert. 2020. The Green Gigaton Challenge: Bringing REDD+ to Scale Primer. Washington, DC: Green Gigaton Challenge. www.greengigaton.com

References

- [1] Edwards, R. 2020. "A Gigaton REDD+ Bid Strategy: Unlocking the potential for REDD+ in supporting the protection of rainforests and other "natural climate solutions" in tropical forest countries." *Forest Trends*. https://www.forest-trends.org/wp-content/uploads/2020/07/doc_5756_rev.pdf
- [2] Griscom, B.W., et al. 2017. Natural Climate Solutions. *PNAS* 44, 11645-11650. doi: 10.1073/pnas.1710465114
- [3] Griscom, B.W., et al. 2020. National mitigation potential from natural climate solutions in the tropics. *Philosophical Transactions of the Royal Society B* 375. doi: 10.1098/rstb.2019.0126
- [4] Piris-Cabezas, P., R. Lubowski, and G. Leslie. 2019. Estimating the Power of International Carbon Markets to Increase Global Climate Ambition. In: The First International Research Conference on Carbon Pricing. World Bank Working Paper Series. World Bank and Carbon Pricing Leadership Coalition, Washington, D.C. <http://hdl.handle.net/10986/32746>.
- [5] Stern N. 2006. *Stern review: the economics of climate change*. Cambridge University Press, Cambridge, United Kingdom. doi: 10.1017/CBO9780511817434.
- [6] Eliasch, J. 2008. *Climate change: financing global forests: the Eliasch Review*. UK Government Office of Climate Change, London. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228833/9780108507632.pdf
- [7] Edwards, R. 2020. "A Gigaton REDD+ Bid Strategy: Unlocking the potential for REDD+ in supporting the protection of rainforests and other "natural climate solutions" in tropical forest countries." *Forest Trends*. https://www.forest-trends.org/wp-content/uploads/2020/07/doc_5756_rev.pdf
- [8] "TCFD Learning Hub." Task Force on Climate-related Financial Disclosures. Accessed July 2020. <https://www.fsb-tcfd.org>.
- [9] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
- [10] Energy Transitions Commission. 2018. *Mission Possible: Reaching Net-Zero Carbon Emissions from Harder to Abate Sectors by Mid-Century*. Energy Transitions Commission. http://www.energy-transitions.org/sites/default/files/ETC_MissionPossible_FullReport.pdf.
- [11] Koch, N., Reuter W.H., Fuss, S., and Grosjean, G. 2017. Permits vs. offsets under investment uncertainty. *Resource and Energy Economics* 49, 33-47. doi: 10.1016/j.reseneeco.2017.03.006.
- [12] Golub, A.A., Fuss, S., Lubowski, R., Hiller, J., Khabarov, N., Koch, N., Krasovskii, A., Kraxner, F., Laing, T., Obersteiner, M., Palmer, C., Piris-Cabezas, P., Reuter, W.H., Szolgayová, J., Taschini, L., and Wehkamp, J. 2018. Escaping the climate policy uncertainty trap: options contracts for REDD+. *Climate Policy* 18, 1227-1234. doi: 10.1080/14693062.2017.1422478.
- [13] See for example Seymour, F. "INSIDER: 4 Reasons Why a Jurisdictional Approach for REDD+ Crediting Is Superior to a Project-Based Approach." World Resources Institute. May 5, 2020. Accessed July 2020.
- [14] <https://www.iif.com/tsvcm/Main-Page/Publications/ID/4061/Private-Sector-Voluntary-Carbon-Markets-Taskforce-Established-to-Help-Meet-Climate-Goals>
- [15] Guivarch, C. and Rogelj, J. 2017. Carbon price variations in 2°C scenarios explored. *Geography* 12,13.
- [16] Fuss, S., Golub, A., Lubowski, R. 2020. The economic value of tropical forests for meeting global climate stabilization goals. Submitted to *Global Sustainability*.
- [17] Zwick, S. "Demand for Voluntary Carbon Offsets Holds Strong as Corporates Stick With Climate Commitments." *Ecosystem Marketplace*. September 23, 2020.; EM Carbon Markets Hub Accessible here: <https://www.ecosystemmarketplace.com/articles/demand-for-voluntary-carbon-offsets-holds-strong-as-corporates-stick-with-climate-commitments/>
- [18] See for example: Eis, J., Dixon, C., Day, E.C., Seroa da Motta, R., Edwards, R., Timothy, G., Wolf, G.V., Sander, K. 2017. *The Potential Role of Enhanced Bond Structures in Forest Climate Finance*. Washington, D.C.: World Bank Group. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/551601508180348166/the-potential-role-of-enhanced-bond-structures-in-forest-climate-%20finance>
- [19] Government of the Gabonese Republic and the Central African Forest Initiative (Gabon and CAFI). 2019. Addendum to Letter of Intent between Gabon and CAFI signed in 2017: Results-Based Payment Partnership (September). Accessed (April 5, 2020) at: <http://mdtf.undp.org/document/download/23569>.
- [20] Governments of Republic of Colombia, Kingdom of Norway, Federal Republic of Germany and United Kingdom of Great Britain and Northern Ireland (Colombia, Norway, Germany and UK). 2019. *Joint Declaration of Intent (JDI) on the cooperation on reducing greenhouse gas emissions from deforestation and forest degradation (REDD+) and on promoting sustainable development in Colombia* (December). Accessed (April 5, 2020) at: <https://www.regjeringen.no/contentassets/c8ce0675a70744a2a96314adbea0a971/joint-ceclaration-of-intent-colombia-gnu-2019.pdf>