-DRAFT WORKING PAPER-

REDD+: Global Architecture, Standards, and Finance[i]

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Key Points

- The concept of REDD+ succeeded in overcoming decades of North-South antagonism over how to reconcile global interest in protecting tropical forests with the sovereignty of nations whose borders contain them.
- Over the last decade, REDD+ has progressed from a simple idea to an elaborate framework of institutions and standards designed to provide incentives for conserving forests while managing various environmental, social, and governance risks. However, the lack of secure, performance-based finance at a scale sufficient to influence the political economy factors that drive deforestation has hindered realization of its promise.
- Large-scale REDD+ finance remains hampered by the slow disbursement of currently available funds, the absence of an overall framework for international mitigation transactions, and continuing controversy over the standards that should govern eligibility for results-based payments.

The Issue

The concept of results-based payments for REDD+ – reducing emissions from deforestation and forest degradation, conservation, sustainable forest management, and enhancing forest carbon stocks – formally entered international climate negotiations in 2007, and was enshrined in the Paris Agreement in 2015. In the interim, institutions for channeling REDD+ finance were established, and several bilateral deals were concluded between donor countries and national and sub-national recipients. The transition from principles (which were operationalized idiosyncratically in those bilateral deals) to standards to govern international REDD+ transactions (which are necessary to liberate large-scale finance from both funds and markets) remains a work in progress.

Why REDD+ is Important to Forests, Climate Change, and Development

Evidence continues to mount that neither the objectives of the Paris Agreement nor the Sustainable Development Goals can be reached without a dramatic reversal in current rates of tropical forest loss.

The deforestation and degradation of tropical forests and peatlands represents a large part of the climate problem, and forest protection and restoration represent an even larger part of potential mitigation solutions. As presented in greater detail in Wolosin and Harris (2018), when carbon sequestration by mature and recovering forests is subtracted from emissions caused by deforestation and forest degradation, the net emissions from forests constitute only about 8 percent of annual global emissions from all sectors. But because deforestation and degradation emissions can be reduced at the same time that carbon removals can be maintained and increased, forests can play a much larger role in reaching the Paris goal of balancing emissions and removals by mid-century.

Griscom et al. (2017) estimate that forests and other "natural climate solutions" constitute some 37 percent of the cost-effective mitigation actions needed by 2030 to keep global warming below 2°C. Yet the role of forests as a safe and natural carbon capture and storage technology is only part of the story. New science suggests that forests also impact the global climate through non-carbon pathways that amplify the impacts of deforestation on global warming by altering atmospheric chemistry and the biophysical cycling of water, making deforested areas hotter and drier.

Forests also play an underappreciated role in contributing to development objectives beyond their roles in maintaining climate stability. As elaborated more fully in Seymour and Busch (2016), goods and services from forests support local incomes and food security, access to clean water and energy, and resilience to extreme weather events. New science is illuminating the role of forests in regulating climate and water cycles at broader scales, with profound implications for maintaining global agricultural productivity (Lawrence and Vandecar 2014; Ellison et al. 2017). For example, scientists have warned that negative synergies among deforestation, climate change, and fire could "tip" large regions of the Amazon from forest to non-forest ecosystems, disrupting the hydrological cycles that deliver rainfall for agriculture and municipal water supplies across much of South America (Lovejoy and Nobre 2018).

A decade ago, the linkage of forests to climate change spurred renewed interest in international cooperation to protect forests, and in 2007, REDD+ was identified as a solution to both tropical deforestation and climate change, and a way to provide other social and environmental benefits (Ayala and La Vina 2014). The governance reforms that are necessary to stop deforestation – such as halting illegal logging and corruption, improving land-use planning, and recognizing the roles of indigenous communities in managing forests – are "no regrets" options consistent with wider sustainable development objectives. The feature that distinguishes REDD+ from previous forest conservation initiatives – results-based finance – provides an alternative to traditional input-based development assistance that is expected to be more effective and efficient, and less prone to corruption (Birdsall and Savedoff 2010). A majority of the few examples of genuine "cash-on-delivery" aid are now REDD+ agreements (Perakis and Savedoff 2015), and will generate lessons of broader applicability for the application of results-based finance in development cooperation.

Successful Negotiations, New Institutions, and Pilot-Scale Finance

In less than a decade, REDD+ evolved from the simple idea of paying developing countries to conserve their forests to a negotiated framework under the United Nations Framework Convention on Climate Change (UNFCCC). In parallel, several new institutions were created to channel funding for REDD+ readiness, implementation, and performance, and the unique feature of REDD+ – international results-based payments – has been piloted in a handful of bilateral transactions. Experience with REDD+ implementation at national and sub-national levels is summarized in Duchelle et al. (2018).

Constructive negotiations

In the mid-1980s, the international community mobilized to address a crisis of deforestation in the tropics, spurred by a sharp increase in forest clearing in the Amazon. United Nations organizations focused on environment, development, and agriculture joined with the World Resources Institute to launch a Tropical Forestry Action Plan, and negotiations toward a global convention on forests were initiated in advance of the 1992 UN Conference on Environment and Development. Within a few years, both efforts had ended in failure and acrimony, in large part due to their inability to reconcile the divergent interests of industrialized and developing countries (Seymour and Busch 2016).

Fifteen years later, the problem of tropical deforestation reemerged on the global stage, this time in the context of the UNFCCC, with reduced forest loss framed as a potential low-cost solution to emissions mitigation. Compensating developing countries for reducing emissions from deforestation was an idea first developed by Brazilian civil society organizations and later championed by a coalition of forest-rich nations. In 2007, the idea formally entered UNFCCC negotiations, and proved one of the forum's most constructive areas of discussion (Ayala and La Vina 2014).

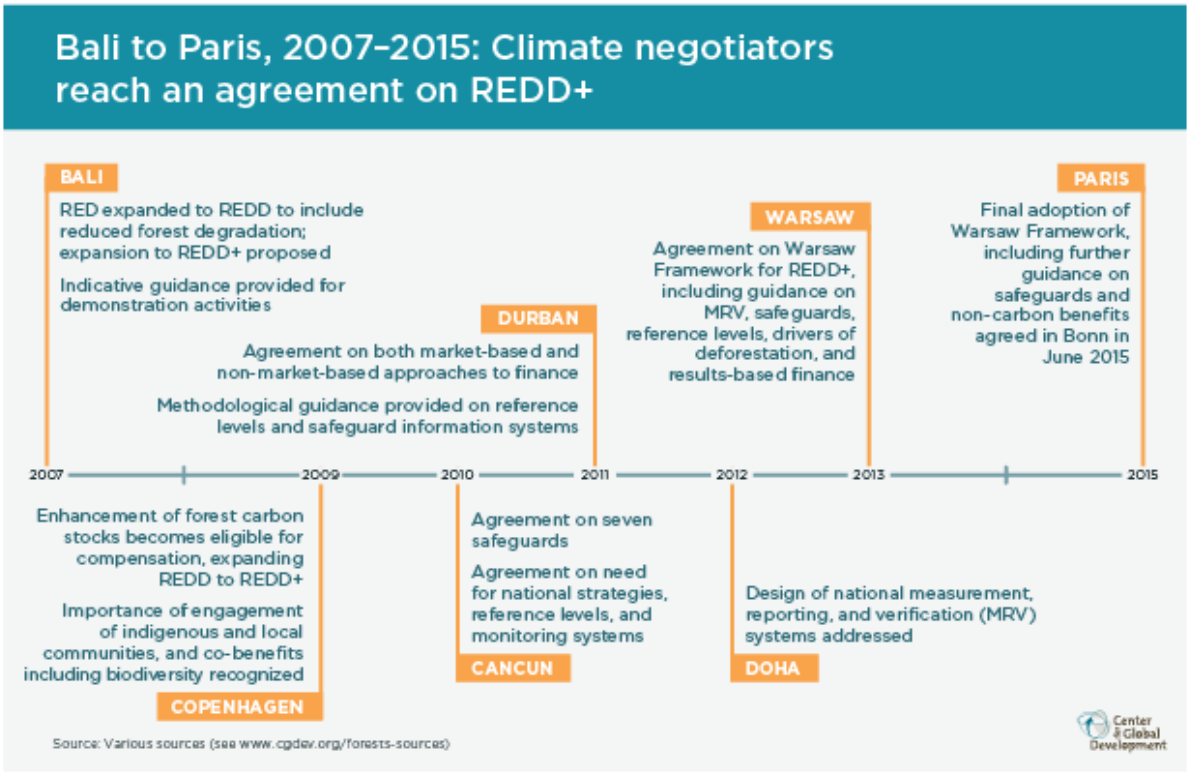
Over the next six years, negotiators serially reached consensus on a number of thorny issues to define a framework of principles to govern what would become known as REDD+, and ensure that its implementation would be effective, efficient, and equitable. The scope of the initial concept was expanded to include reduced degradation, conservation, sustainable forest management, and enhanced forest carbon stocks in addition to avoided deforestation. Parameters to ensure environmental integrity, i.e., that REDD+ would be effective in reducing emissions, included guidance on forest monitoring, measurement, reporting, and verification (MRV) of emission reductions, establishment of reference levels, and a decision that REDD+ accounting would take place at national or sub-national scale to avoid leakage.

To ensure that REDD+ did not result in unintended negative consequences for vulnerable peoples and ecosystems, negotiators agreed on a set of seven safeguards[ii] that reflected effective advocacy by indigenous peoples. And in recognition of capacity gaps and investment needs that could constrain developing countries' eligibility for results-based finance, negotiators agreed that REDD+ would be implemented in three overlapping phases: readiness, implementation, and results-based payments (Cancun Agreements 2010).

How the third phase of REDD+ would be financed was among the most controversial areas for negotiation. Several countries and advocacy groups were strongly opposed to creating markets for forest carbon credits, fearing that industrialized countries would use them to avoid necessary cuts in fossil fuel emissions. Negotiators ultimately agreed that the results-based finance at the heart of REDD+

could come from either markets or public funds, a tacit acknowledgement that the large-scale funding needed for REDD+ was not likely to materialize from public coffers. Figure 1 illustrates the timeline of UNFCCC negotiations on REDD+.

Figure 1:



Institutions and finance for REDD+

In parallel to the negotiations described above, a number of new international institutions were created to channel REDD+ funding and provide support to developing countries initiating national REDD+ programs. Table 1 maps these institutions to the phase of REDD+ that they target, the volume of funds pledged as of 2017, and the number of countries participating.

One of the earliest institutions created to support REDD+ was the Forest Carbon Partnership Facility (FCPF), hosted by the World Bank. As of February 2018, 42 countries preparing for REDD+ have signed agreements worth US$317 million with the FCPF's Readiness Fund, designed to support Phase 1 activities (FCPF 2018). Of those countries, 16 have spent at least half of the grant, and 10 more have signed top up grants worth an additional US$5 million. The UNREDD program, which has commitments of US$319 million, supported 13 countries with national programs for REDD+ readiness as of 2017 (UN-REDD 2017) and helped many of these and other countries complete readiness work[iii]. These capacity building programs have proven effective at substantially increasing national forest monitoring capacity in participating countries (Romijn et al. 2015).

The Forest Investment Program (FIP), one of the Climate Investment Funds managed by multilateral development banks, was designed to support the implementation phase (or Phase 2) of REDD+, and

promote "transformational change" in forest management in participating countries. The FIP has been implementing and/or developing projects in 23 countries with a financing package of US$775 million. The FIP also administers the Designated Grants Mechanism to channel funding directly to national organizations representing indigenous peoples.

To date, the availability of results-based (or Phase 3) finance has been limited to funds committed by the Government of Norway in the context of bilateral (or in some cases trilateral, with Germany) agreements with partner countries, and by the Government of Germany in the context of agreements with sub-national jurisdictions under the REDD Early Movers (REM) program. Although the FCPF Carbon Fund has been operational since May 2011, it has US$740 million in committed funds, and 19 countries moving through its pipeline, as of mid-2018, no country had yet successfully negotiated an Emissions Reduction Payment Agreement. Slow disbursement of available REDD+ funds – even those not linked to payment-for-performance – is a more general problem discussed further below under the section on Challenges.

Table 1: Leading REDD+ Finance Institutions and Funders

Funding Source/Institution	REDD+ Phase(s)	Significant Pledges to Date	# of Countries
UN-REDD	Readiness	$307 million	64
Forest Carbon Partnership Facility			
FCPF Readiness Fund	Readiness	$370 m	44[1]
FCPF Carbon Fund	Results-based payments (RBPs)	$740 m committed	19[2]
GEF	Implementation	$70 m for forest landscape management and restoration	166
FIP	Implementation	$775 m	23
Green Climate Fund			
GCF REDD+ Allocation	Readiness, Implementation, RBPs	$991 m	
GCF Results-Based Pilot	RBPs	$300-500 m of $991 m	NA
BioCarbon Fund – Initiative for Sustainable Forest Landscapes			
ISFL (BioCFplus)	Implementation	$98 m	3[3]
ISFL (BioCF T3)	RBPs	$252 m	0[4]
Germany, Norway, UK (GNU)	Readiness, Implementation, RBPs	committed jointly to $5 billion between 2015-2020[5]	NA
Germany *REDD+ Early Movers*	RBPs	$66 m	3
Norway bilateral agreements[6]	Readiness, Implementation, RBPs	$2.7 billion pledged	11 + Congo Basin
US: Sustainable Landscapes Program	Readiness	$200 m contributed between 2015-2016	27[7]

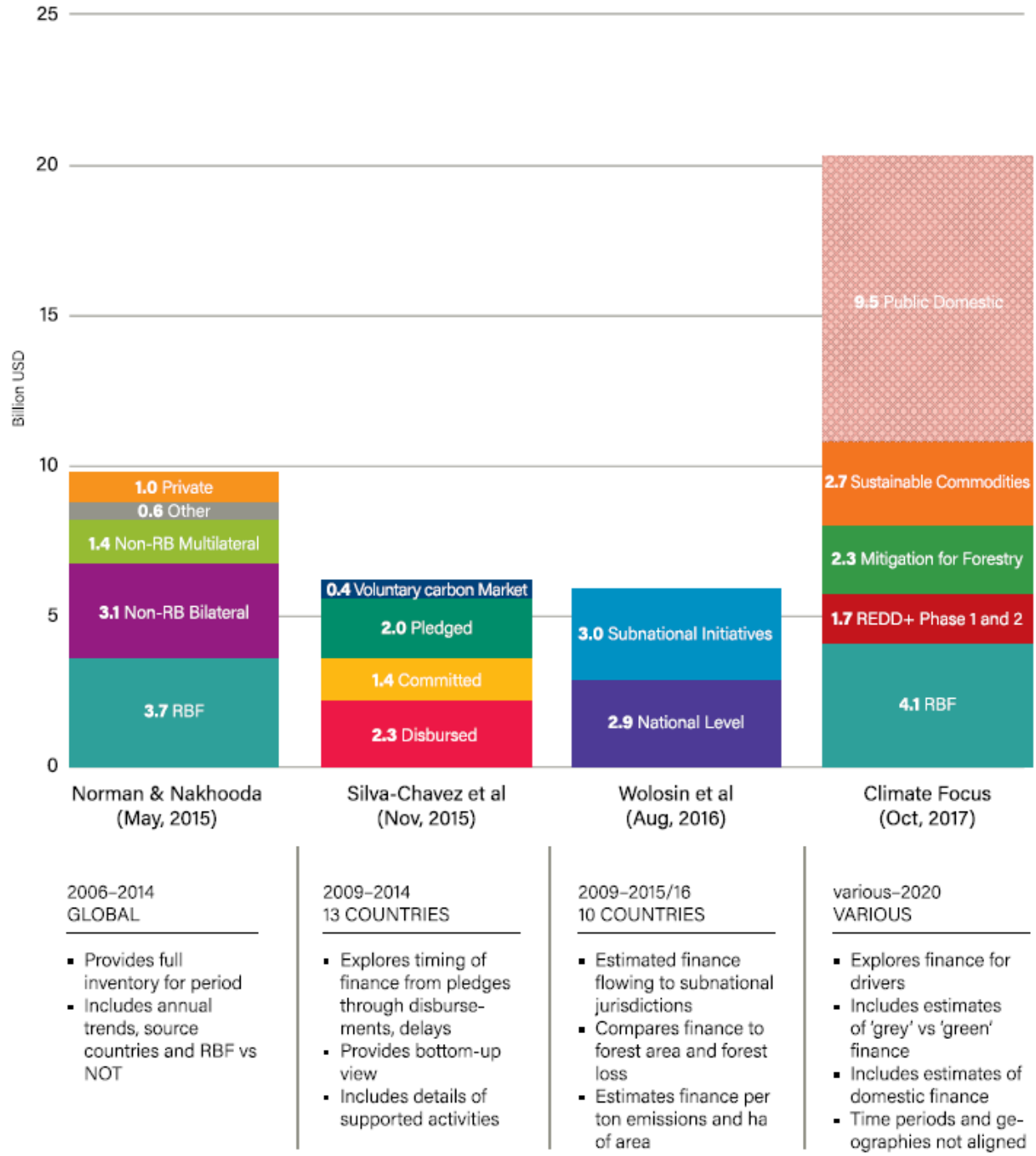
Source: After Lujan and Silva-Chavez 2018

[1] 44 countries have signed Readiness Fund grants
[2] 19 countries are in the Carbon Fund pipeline
[3] Although only 3 countries had been officially included in the ISFL pipeline (Colombia, Ethiopia, and Zambia), there are an additional 2 "aspirational" target countries (Mexico and Indonesia)
[4] No countries have received funding from this tranche, although many are on their way to signing ERPAs
[5] Includes amounts pledged for programs listed as separate rows.
[6] Brazil, Guyana, Indonesia, Peru, Liberia, Colombia, Mexico, Ethiopia, Tanzania, Vietnam, Myanmar, Congo Basic.
[7] Estimated. USAID's Sustainable Landscapes program supports "more than a dozen countries," which are part of 4 initiatives: Silvacarbon (18), Carpe (9), BioREDD+ (NA), and FCMC (NA).

Several patterns have emerged from a number of studies of REDD+ finance over the past few years. Estimates of total global REDD+ finance to date are in the range of US$8-12 billion (Figure 2), or about 1 billion per year. The majority of REDD+ finance pledged to date has been for Readiness and Implementation Phases, with Phase 3 results-based payments less than half the total. The finance pipeline is slow, with just over a third of identified finance pledges to 13 REDD+ countries from 2009-2014 disbursed by the end of the period, and about a third of pledges not yet committed by the funders (Silva-Chavez et al. 2015); the rate has been significantly slower for dedicated multilateral funds (Silva-Chavez et al. 2015, Norman and Nakhooda 2015). About half of international climate finance has flowed to sub-national initiatives so far, with half either targeted to national scale activities or not yet allocated by REDD+ countries to specific geographies (Wolosin et al. 2016).

Forests and REDD+ are receiving only about 2-3 percent of global climate finance (Climate Focus 2017; Buchner et al. 2017). Domestic forest country investments in REDD+ objectives are not consistently estimated, often target multiple objectives, and likely exceed international REDD+ finance (Silva-Chavez et al. 2015, Climate Focus 2017). However, investments in REDD+ and sustainable land use are dwarfed by “grey finance” for the land sector that may be driving deforestation, such as agricultural subsidies (Climate Focus 2017, Buchner et al. 2017).

Figure 2 | Estimates of REDD+ Finance



Implementation of results-based finance

The earliest examples of results-based payments (RBP) for reducing deforestation took place before UNFCCC negotiations on REDD+ were concluded, in the context of bilateral memoranda of understanding between Norway and Brazil (2008), and between Norway and Guyana (2009). (A bilateral agreement was also signed with Indonesia (2010), but as of 2017 Indonesia had not yet generated

results eligible for payment.)[iv] In the absence of official guidance, these agreements pioneered modalities for dealing with issues such as reference levels, MRV, and safeguards. Box 1 describes the experience in Brazil.

Box 1: Results-based payments in Brazil

Brazil's progress in reducing deforestation, success in attracting REDD+ finance, and experience developing domestic institutions for managing results-based payments are especially notable.

The Amazon Fund was established by Presidential Decree in 2008 to accept voluntary REDD+ payments and is managed by the Brazilian Development Bank (BNDES). Under the terms of a Letter of Intent signed with the Government of Norway in 2008, Brazil would be eligible for up to US$1 billion for emission reductions calculated by comparing the annual deforestation rate to the average rate for the previous 10 years (updated every 5 years, to ensure an appropriate level of ambition as a "new normal" of lower rates is established over time), and estimates of forest carbon stock determined by the Brazilian Forest Service.

For the time periods 2006-2010 and 2011-2015 Brazil reported average annual deforestation emission reductions of 594 MtCO2/yr and 630 MtCO2/yr respectively (UNFCCC 2017). Those achievements have resulted in contributions to the Amazon Fund of more than US$1.2 billion through 2017, including the full US$1 billion Norwegian pledge, as well as lesser contributions from the German government and Petrobras (Amazon Fund 2017). Contributions to the fund are being disbursed through grants to projects (96 supported to date) in areas such as public forest management, protected areas, and sustainable economic use of forests, although more recently this funding was used to fill gaps left by budget cuts resulting from Brazil's more general economic crisis (Darby 2017).

The majority of the financial resources for REDD+ activities flowing into Brazil target activities at sub-national levels (Wolosin et al. 2016), although until recently they have primarily been channeled through the federal government or the Amazon Fund. However, the performance of the Brazilian provinces of Acre and Mato Grosso were recognized in agreements with the German government's REDD+ Early Movers program, and in 2017 received R$ 115 million and R$ 178 million respectively. In 2017, the National Commission on REDD+ (CONAREDD+) published a resolution clarifying that both state governments and the federal government were eligible to capture international REDD+ funds, such as those prospectively available under the Green Climate Fund's pilot program in results-based payments.

In order for Acre and Mato Grosso to receive the REM payments, in 2017 Brazil's National Commission on REDD+ (CONAREDD+) switched the incentive system from an *ex-ante* grant system to an *ex-post* rewards system (Lee et al. 2018). The federal government will now receive 40 percent of the emission reductions generated to take national level actions while the remaining 60 percent of the emission reductions are allocated to the nine Amazon Basin states using a formula. By using such a system, the Brazilian government allows states to be rewarded and negotiate externally for RBPs while also ensuring environmental integrity of the system (no leakage and opportunity for double counting). It is up to the states to then decide if they want to further distribute emission reductions to other actors and activities such as REDD+ projects that are located in their jurisdictions, pay them from results they are paid for, and/or use a combination of the methods. However, the transfer of an emission reduction's title for compliance purposes is still not allowed.

Box Sources:

Amazon Fund. 2013. Project Document.
https://www.regjeringen.no/contentassets/2ecbe3693ac04a85bf4d8ddb5d78d858/20130303_amazon_fund_project_document_mma.pdf
Resolution Number 6. 2017. The National Commission for REDD+?
REDD+ Brazil. 2017. Green Climate Fund approves US$500 Million to REDD+ Initiatives in the Amazon Basin.
http://redd.mma.gov.br/en/component/content/article?id=848
Lee, D., P. Llopis, R. Waterworth G. Roberts, and T. Pearson. 2018. Approaches to REDD+ Nesting: Lessons Learned from Country Experiences. Washington, DC: World Bank.

The 2013 Warsaw Framework on REDD+, ultimately incorporated into the Paris Agreement in 2015, provided a set of principles govern implementation of REDD+. It specified four requirements for eligibility for international result-based payments (RBPs), or Phase 3 finance, as follows:

1. A National REDD+ Strategy
2. A National Forest Monitoring Systems(NFMS)/MRV description and Reference Emission Level (FREL)
3. A Safeguard Information System and a safeguards summary submitted to the UNFCCC
4. Verified results.

However, the specific standards against which these requirements should be judged remained open to interpretation. This flexibility is especially problematic with respect to FRELs, which must be sufficiently ambitious to ensure environment integrity.

The FCPF Carbon Fund Methodological Guidance, finalized in 2013, provided the first additional guidance for RBPs in the form of 37 criteria and related indicators. The FCPF's Carbon Fund provides both market and non-market results-based finance. As of January 2018, eight countries' Emission Reduction Program Documents – detailed plans for implementation activities and policy changes to achieve REDD+ in their countries – have met the Carbon Fund's methodological framework requirements, deeming those countries eligible to receive payments for results by late 2018 under the terms of Emission Reduction Payment Agreements in various stages of negotiation, and assuming that accounting for results starts from the date of Program Document approval.

Another important milestone was the decision to pilot REDD+ RBPs agreed to by the Green Climate Fund (GCF) in 2017. The GCF had already approved funding to support REDD+ readiness and implementation activities, but it has now provided a clearer picture of requirements for REDD+ countries to receive RBPs under a US$500 million "Pilot Program for REDD+ Results Based Payments." The pilot program has proposed a fixed price of US$5/ton CO2 for emissions reductions that would be retired (i.e., not entered into market transactions to offset other emissions). The program is intended to align with UNFCCC decisions – although with some additional requirements to meet GCF environmental and social standards and to apply a scorecard to assess proposed FRELs (Leonard 2017).

A significant number of countries are investing in national REDD+ programs, including meeting the four eligibility requirements for RBPs listed by the Warsaw Framework. Brazil was the first to submit all of the required information in 2015, followed by Malaysia and Ecuador in 2016. A total of 34 countries have submitted FREL and NFMS submissions (FCPF 2018).

Challenges Associated with Fund-Based, Transfer-Based, and Market-Based Finance

A major challenge hindering realization of the promise of REDD+ is the lack of secure, performance-based finance at a scale sufficient to influence the political economy factors that drive deforestation. In the early days of negotiations toward what became REDD+, many proponents believed that a comprehensive climate agreement would be achieved in Copenhagen in 2009 that would in turn unleash billions from industrialized countries in search of forest carbon credits to meet emission reduction targets. Climate-related legislation that passed U.S. House of Representatives in 2009 (but died in the Senate the following year) would alone have provided demand for up to 1.5 billion tons of CO_2 offsets from forest-based emissions reductions annually (U.S. Congress 2009).

Although a global climate agreement was finally reached in Paris in 2015, the world is still far from constructing a global carbon market, and REDD+ credits are not yet included in any of the compliance markets for emission reductions that do exist at sub-global scales.[v] As a result, for the last decade finance for all three phases of REDD+ has been largely dependent on the development assistance budgets of a limited number of industrialized countries. The challenges of aid-based funding, slow development of global market-based finance, and exclusion from existing compliance markets are described below.

The "aidification" of current REDD+ finance

The aidification of REDD+ finance – i.e., reliance on development aid as a source of funding and bilateral and multilateral development agencies as intermediaries -- has had a number of implications for REDD+. In the first instance, this source of funding is inherently limited in size (competing with allocations of aid to health, education, and other sectors). Historical levels of aid funding to the forestry sector are several orders of magnitude smaller than the amounts estimated to be necessary for REDD+.

Second, the channeling of funds through aid agencies comes with institutional requirements and norms that are in many ways not fit-for-purpose for REDD+, especially for its feature of results-based finance at jurisdictional scales. Donor agency officials are more used to dealing with project-scale interventions, have low tolerance for risk, and in many cases, are constrained from allocating and holding funds for performance-based finance across fiscal years. The application of cumbersome fiduciary standards and other procedures has slowed disbursement of funds pledged to REDD+ even for readiness and implementation activities (Seymour and Busch 2016). And for access to the agreements for results-based finance, many donors have insisted that countries provide detailed up-front planning documents, and have imposed constraints on how revenues earned from performance will be used (Seymour and Busch 2016).

Third, funding REDD+ with aid money and through aid institutions has reinforced a duality regarding the ultimate objectives. Is the purpose of REDD+ funding to support tropical forest countries in meeting their own domestic development objectives related to forests, or to reduce forest-based emissions, and prepare countries to participate in international transactions to meet global climate goals? While these two sets of objectives are arguably compatible, they are not always the same. For example, development of a national forest monitoring system to support domestic management needs might look very different from one designed to articulate with international systems for carbon accounting and trade. (For more on forest monitoring, see Peterson et al. 2018.)

Slow development of transfer-based finance

The constructive nature of forest-related negotiations under the UNFCCC that outpaced other areas of negotiation had a downside: the first generation of international REDD+ transactions has had to proceed in the absence of clear rules for such transactions more generally. Article 5 of the Paris Agreement (which treats forests) built on the Warsaw Framework for REDD+, the culmination of almost a decade of negotiations. By contrast, Article 6 of the Paris Agreement (which governs international transactions) *initiated* a process of negotiations to determine the rules for international climate transactions more generally (Streck et al. 2017).

While there has been progress on guidance for non-market RBPs as described above, little progress has been made on the guidance for market finance or on what is now being called "transfer-based finance". Transfer-based finance is defined as the transfer or sale of an emission reduction unit, mitigation outcome (or Internationally Transferred Mitigation Outcome, "ITMO," in UNFCCC art 6.2), or any other type of "unit" that can be purchased or sold to meet a compliance system commitment. The UNFCCC is trying to finalize guidance for transfer-based finance as part of negotiations under Article 6.2 in order to finish the Paris Agreement's "rule book" by COP 24.

Linked to Article 6 negotiations are three related challenges: the scale of REDD+ accounting, the risk of double counting of results, and how to ensure that allowing international transactions will encourage ambition. Many stakeholders and analysts still use the term "REDD+" to refer to REDD+ projects and/or a mix of projects at all scales: project, sub-national or provincial or jurisdictional, and national. However, the UNFCCC decision at COP 16 in Cancun defined REDD+ as operating at a "national with sub-national in the interim" scale, considering that REDD+ projects were already being implemented, accessing investment, and selling verified emission reductions certified by various organizations in the voluntary market. The distinction is critical in a number of ways, including who generates REDD+ emission reductions, who pays for them, through what mechanism (Savedoff, 2018), and whether emissions reductions in one place are compensated even if emissions increase elsewhere ("leakage").

Subsequently, the "nesting" of projects into national and sub-national REDD+ program accounting has become a priority to ensure environmental integrity and reach the necessary scale. REDD+ projects can play a very important role in protecting specific ecosystems or areas with an idiosyncratic issue. However, they also need to receive some kind of compensation from within a national accounting framework (or sub-national in the interim) in order to be economically sustainable. The concern is that REDD+ projects will access compliance markets directly without also accounting for those results at the national level – within a Nationally Determined Contribution (NDC) for example – resulting in double counting of the results. This issue is particularly pertinent to ongoing discussions regarding design of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) being developed under the International Civil Aviation Organization (ICAO) (See Box 2).

Box 2: Forest Carbon Offsets Considered for International Aviation Emissions

On the near-term horizon for REDD+ and connected to the UNFCCC's article 6 market negotiations is the International Civil Aviation Organization's process to develop a market based mechanism known as the Carbon Offsetting Reduction Scheme for International Aviation (CORSIA). Airlines needing to meet compliance obligations for CORSIA have potential demand for offsets for its first "pilot" period from 2021-2026 of around 325 million tons. The criteria the offsets will have to meet is expected to be agreed upon in June 2018, and afterward a process to review offset programs will start before the end of the year and potentially be finished in late 2019. It is not known how or which REDD+ programs will be reviewed, but the CORSIA compliance market offers the largest demand side signal in the near term for market-ready REDD+, because airlines will most likely purchase offsets before 2020 to hedge against the future expense.

Source: Environmental Defense Fund. ICAO's Market Based Measure. https://www.edf.org/climate/icaos-market-based-measure

The double counting concern is relevant not only for REDD+ projects, but also for various other angles related to accounting for REDD+ results, and indeed for accounting for emission reductions more generally in any sector. Even if the accounting is done at the national level and all financing flows through the national level, countries themselves could sell emission reductions or ITMOs to external systems such as ICAO and still account for the same result towards their NDC to the goals of the Paris Agreement. Although the REDD+ Lima Info Hub (a registry of results and payments) is meant to resolve that problem, negotiations under Article 6 of the Paris Agreement for 6.2 (ITMOs) and 6.4 (new Sustainable Development Mechanism – the replacement for the Clean Development Mechanism which operated under the Kyoto Protocol) could still allow for double counting or claiming of emission reductions – whether for REDD+ or any other type of offset. There is also concern over how to ensure a country doesn't trade or sell away their emission reductions or ITMOs while failing to meet its own NDC. Finally, there is the accounting question of how to treat potential transfers of emission reductions or ITMOs between sub-national entities – for example, between the Brazilian State of Acre and the U.S. State of California – and ensure sound accounting at the national level.

The question of how to maintain environmental integrity and ensure ambition while allowing international transfers is also not exclusively an issue with REDD+, but it is one that has had to be faced sooner for REDD+. Environmental integrity of a transfer-based system requires that transferred emission reduction units (or mitigation outcomes) be robust, which in turn requires ambitious (or at least realistic) forest reference emission levels (FREL). Some privately certified REDD+ projects had inflated RELs (Seyller et al. 2016). While the Warsaw Framework for REDD+ mandates a third-party *assessment* of a country's FREL, the assessment does not guarantee against an inflated reference level other than exposure to a transparent process. However, the Warsaw Framework does allow for additional guidance in relation to results-based payments. Such new guidance created by a multilateral body could use the assessed FRELs to ensure environmental integrity for emission reductions (or mitigation outcomes) being transferred. Similar to the challenges noted above such as double counting, all other sectors that might create emissions reductions face the same challenge.

Exclusion of REDD+ from existing market-based finance

While the prospect of market-based finance under the ICAO CORSIA currently represents the largest potential source of new REDD+ finance (see Figure 3), REDD+ credits have so far been excluded from existing compliance markets for reducing emissions overall, including the European Union's Emissions Trading System and the State of California's cap-and-trade system (see Box 3).[vi]

Figure 3 | Significant Sources of Results-Based REDD+ Finance

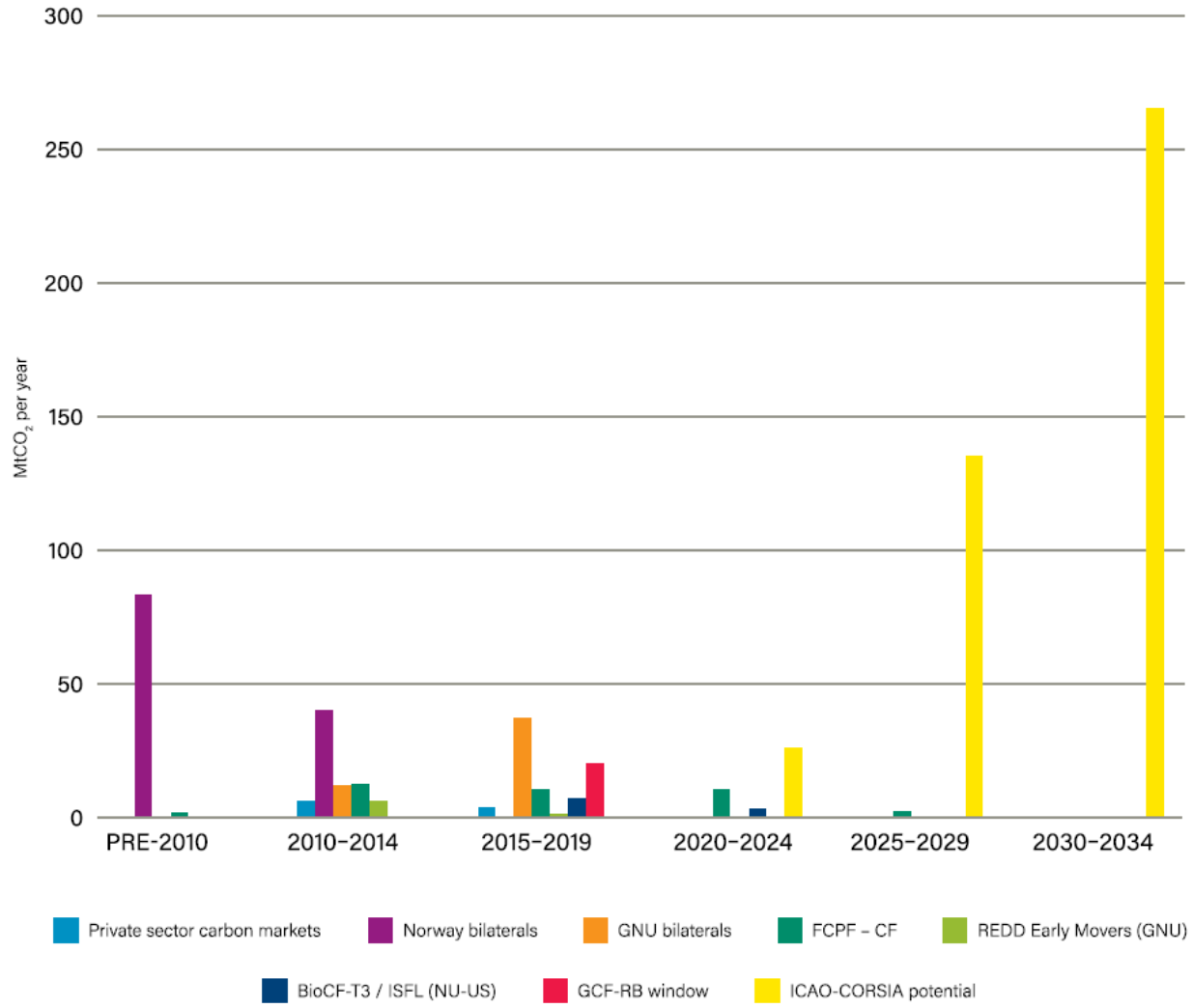


Figure 3 Sources: Hamrick and Gallant (2017); FCPF Carbon Fund FMT Note CFM-2018-2; BioCarbon Fund ISFL Annual Reports (2015-2017); https://www.edf.org/climate/icaos-market-based-measure; Hermansen and Kasa (2014); author compilation. Figure 3 Notes: Private sector forest carbon market is represented by issued credits, and includes developed and developing countries. Finance pledges are converted to tons at $5/ton. Results-based finance was separated from non-results-based finance (RBF) where possible; however, if a breakdown was not available all finance is presumed RBF. Fixed-period pledges appear as their full amount even if performance did not warrant full payment over the original pledge period. Only specific results-based pledges or contributions to results-based mechanisms are included; broad pledges such as the GNU $5 billion USD by 2020 pledge are excluded, as no break-downs are available. ISFL and FCPF-CF contributions are represented in the year they were transferred, not pledged; reasonable assumptions are made about the rate at which outstanding pledges will be paid off. All expected CORSIA demand is represented, even though non-forest credits may also be used. California may provide additional REDD+ demand which is not represented. Domestic market demand and ITMOs may generate significant additional demand volumes.

Most opposition to including forest-based emission reductions in such systems has focused on concerns about environmental integrity (ensuring that credited emission reductions are “real”), and safeguards, especially with respect to impacts on indigenous peoples (described further below) (Seymour and Busch, 2016). Some opponents also question whether REDD+ results should even be allowed into compliance systems covering other sectors such as energy and transport. Their concern is that if biological carbon is allowed to offset fossil carbon, the system will substitute inherently less stable land-based carbon

storage for more stable fossil reserves left underground (see, for example, Kartha and Dooley 2017). However, the IPCC in its' Fifth Assessment Report (AR5) did not differentiate between "biological" and "fossil" carbon and discusses the fungibility of different sources of carbon (IPCC 2014), and some studies make the case that land-based emission reductions are no less permanent than fossil reductions (see, for example, Federici et al. 2017).

Box 3: Forest Carbon Offsets Considered for California's Cap-and-Trade Program

The California Air Resources Board (CARB), which oversees the State's cap-and-trade program, has been carefully studying the inclusion of International Sector-Based Offsets from tropical forests that could come from REDD+ programs being implemented on a jurisdictional scale and meet a set of specific requirements that the state would set. In 2010, California signed an MOU with the states of Chiapas, Mexico and Acre, Brazil to create the REDD Offset Working Group, a technical working group comprised of issue experts in which all three states participated as observers. The recommendations of this group provided an early basis for CARB's technical and legal considerations of a pathway for tropical forest credits.

However, the proposal to include international forest carbon offsets in the program generated significant controversy. National environmental groups such as Friends of the Earth and Greenpeace allied with environmental justice groups in opposition, citing concerns about environmental integrity, potential harm to indigenous communities in developing countries, and allowing companies to continue polluting low-income communities in California. The controversy caused delay in consideration of the program, and loss of momentum.

In the meantime, further consideration has been given to input from public workshops and stakeholder comments over the past several years. CARB is expected to release a package of proposed cap-and-trade regulatory updates in 2018 for public discussion and Board approval, but it is not clear whether a technical standard for tropical forest credits will be included. The cap-and-trade program currently limits offsets to 8 percent of a regulated entity's compliance obligation. Post-2020 this limit drops to 4 percent and rises to 6 percent by 2025. New legal requirements for the post-2020 program also mean that the potential for international offsets would not exceed half of total offset volume so quantities would be limited. Nevertheless, a technical standard for jurisdictional level programs that meet California's requirements could serve as an important model for other compliance markets.

Sources: Leuders et al. (2014);REDD Offsets Working Group report: https://www.arb.ca.gov/cc/capandtrade/sectorbasedoffsets/row-final-recommendations.pdf, and; Air Resources Board's web page on sector based offsets: https://www.arb.ca.gov/cc/capandtrade/sectorbasedoffsets/sectorbasedoffsets.htm

Evidence Gaps and Areas of Controversy

Despite the significant body of academic and grey literature that has been generated on REDD+ over the last ten years, the slow pace of implementation has left a number of areas of controversy unresolved and evidence gaps unfilled.

Are international results-based payments an effective instrument to forest-based emissions?

According to Seymour and Busch (2016), REDD+ remains "a great idea that's hardly been tried". The number of national and sub-national jurisdictions that have secured agreements for significant finance in return for performance remains in the single digits, and lessons from the even smaller number that have received payments are contested. While REDD+ finance for readiness and implementation activities and the prospect of results-based reward have led to important intermediate milestones (Lee and Pistorius 2015), in most countries, the coalitions for reform supported by REDD+ finance have not yet overcome vested interests in deforestation-as-usual (Brockhaus et al. 2016). Trialing international

REDD+ transactions in a larger number of cases, with more significant finance than is currently available, will be necessary before the core hypothesis underlying REDD+ can be considered adequately tested.

Do REDD+ baselines and monitoring systems ensure environmental integrity?

Persistent concerns about including forest carbon credits in international trading systems – dating back to the 2001-2002 debate over the eligibility of "avoided deforestation" for transactions under the Clean Development Mechanism of the Kyoto Protocol -- relate to the ability to monitor forest-based emissions with sufficient accuracy, and set credible baselines (FRELs) against which to measure them. As described in Petersen et al. (2018), forest monitoring technology has advanced tremendously over the last decade, leading to increasingly accurate estimates of changes in tree cover and associated emissions.

Detecting carbon losses from forest degradation, however, remains a challenge. Pearson et al. (2017). found that 25 percent of forest-based greenhouse gas emissions in 74 developing countries were from degradation – significantly more than previously estimated – and in 28 of those countries, emissions from degradation were greater than those from deforestation. More than half of the FRELs submitted by national governments to the UNFCCC have not included data on degradation (Lee and Sanz 2017). More generally, Harris et al. (2018) find that the first generation of FRELs, while all following official guidance, use a range of definitions of "forest", reference periods, and methods, leading to a wide range of uncertainties. And of significance to international GHG accounting and prospective REDD+ transactions, this variability also precludes direct comparability across countries and over time.

Do international REDD+ transactions pose unacceptable risks to indigenous peoples?

One of the most potent arguments constraining the allocation and disbursement of REDD+ results-based payments, and particularly the inclusion of forest carbon credits in market-based mechanisms, has been that REDD+ transactions threaten to make indigenous peoples worse off (Seymour and Busch 2016). "No Rights, No REDD" was a rallying cry for opponents at the UNFCCC climate talks in Bali in 2007, and allegations of harm to indigenous communities linked REDD+ initiatives have surfaced in both advocacy materials and academic articles (Sarmiento and Larson 2017).

Some indigenous communities and federations have cautiously embraced REDD+, and the prospect of receiving direct climate finance related to forests, for example, through the Designated Grants Mechanism of the FIP, and/or used to political space opened by national REDD+ initiatives to advance their agendas (Seymour and Busch, 2016). The Amazon Fund reports that results-based payments from Norway have been used to support the management and establishment of indigenous territories spanning an area of more than 700,000 square kilometers, corresponding to almost to-thirds of the total area of indigenous territories in the Amazon (Angela Albernaz Skaf (BNDES), email to Hege Ragnhildsveit (NICFI), 18 June 2018). Nevertheless, the issue remains controversial.

Many critiques of REDD+ have focused on the failure to address pre-existing rights and tenure issues prior to the initiation of the sort of project-scale interventions characteristic of the immediate post-Bali era (Savedoff 2018). Assessments of the implications of jurisdictional-scale REDD+ implementation (now enshrined in the Warsaw Framework) provide a more nuanced perspective on the potential of REDD+ initiatives *per se* for addressing those issues. Jodoin (2017), in his evaluation of experience in Indonesia

and Tanzania, found that REDD+ initiatives led to advances in procedural rights affecting indigenous peoples (such as Free, Prior, and Informed Consent), although they were less effective in advancing substantive rights, such as those related to tenure. Savedoff (2018) concludes that the *failure* to implement REDD+ and slow deforestation represents a greater threat to indigenous interests in terms of land tenure and social well-being rather than does its implementation.

Conclusions and Next Steps

In the ten years since the concept of providing financial incentives for forest protection entered international climate negotiations, an elaborate global architecture for REDD+ finance and implementation has been put into place. However, the promise of REDD+ remains largely unfulfilled due to a number of inter-related factors.

First, testing the basic proposition of REDD+ – i.e., that the certainty of significant financial reward for reducing forest-based emissions would catalyze a sea change in forest management in developing countries – would require levels of finance far in excess of what is currently offered. However, because that finance has not materialized for more than a handful of countries and sub-national jurisdictions, and even then, often at levels far lower than revenues available from alternative land uses, that fundamental proposition remains largely untested.

Second, the availability of large-scale finance depends on building confidence among those who authorize the allocation and disbursement of public funds, and those who decide whether or not to allow forest carbon credits into compliance-based carbon markets. Disagreements remain over such issues as how to address various accounting issues (such as "nesting", and avoiding double counting), how to resolve challenges related to forest monitoring and baselines, and how best to manage risks facing the rights and well-being of indigenous and other communities. Those disagreements have in turn contributed to the slow pace of experimentation with REDD+ transactions authorized in the Warsaw Framework, and endorsed by the Paris Agreement.

Looking ahead, a number of new REDD+ financing vehicles are on the horizon, including the Green Climate Fund's new results-based finance pilot program, prospective transactions under Article 6 of the Paris Agreement, ICAO's CORSIA, and the prospective inclusion of international forest carbon credits in the State of California's cap-and-trade system. Such results-based climate finance could be complemented by shifting some of the billions in "grey" finance toward better alignment with low-emissions development paths (Climate Focus 2017).

Reaching consensus on the minimum necessary standards for concluding international REDD+ transactions is an urgent priority. Such standards will have to cover technical issues, such as the need for more consistent and comparable systems for forest monitoring and baselines, and political challenges, such as how best to safeguard – and ideally advance – indigenous peoples' rights in the context of such transactions. Such consensus will inevitably have to balance some degree of uncertainty related to the risks of action against the profound risks of inaction.

References

Birdsall, N. and W. Savedoff. 2010. "Cash on Delivery: A New Approach to Foreign Aid. Washington DC: Center for Global Development.

Brockhaus, M., K. Korhonen-Kurki, J. Sehring et al. 2016. "REDD+, transformational change and the promise of performance-based payments: a qualitative comparative analysis. Climate Policy 17:6.

Buchner, B., P. Oliver, X. Wang, C. Carswell, C. Meattle, and F. Mazza. 2017. "Global Landscape of Climate Finance 2017". Climate Policy Initiative.

Cancun Agreements. 2011. "Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010" United Nations Framework Convention on Climate Change. https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf

Climate Focus. 2017. "Progress on the New York Declaration on Forests: Finance and Forests – Goals 8 and 9 Assessment Report". Prepared by Climate Focus in cooperation with the New York Declaration on Forest Assessment Partners with support from the Climate and Land Use Alliance.

Darby, M. March 4, 2017. "Brazil halves environment budget amid rising Amazon deforestation" Climate Change News. http://www.climatechangenews.com/2017/04/03/brazil-halves-environment-budget-amid-rising-amazon-deforestation/

Duchelle, A.E., F. Seymour, et al. 2018. "Redd+: Lessons from National and Subnational Implementation" Working Paper. Washington DC: World Resources Institute.

Ellison, D., C. Morris, B. Locatelli, B., J. Cohen, D. Murdiyarso, D. et al. 2017. "Trees, forests and water: Cool insights for a hot world" *Global Environmental Change,* 43, pp.51-61.

Federici, S., Lee, D. and Herold, M. 2017. "Forest Mitigation: A Permanent Contribution to the Paris Agreement?" Climate and Land Use Alliance, Working Paper.

Forest Carbon Partnership Facility (FCPF). 2018. REDD+ Countries. https://www.forestcarbonpartnership.org/redd-countries-1

Griscom, B., J. Adams, P. Ellis, R. Houghton, G. Lomax et al. 2017. "Natural Climate Solutions" PNAS, 114 (44).

Hamrick, K., and M. Gallant. 2017. "Fertile Ground: State of Forest Carbon Finance 2017." https://www.forest-trends.org/publications/fertile-ground/

Harris, N., C. Davis, L. Goldman, R. Petersen, and S. Gibbes. 2018. "Comparing Global and National Approaches to Estimating Deforestation Rates in REDD+ Countries." Washington, DC: World Resources Institute.

IPCC. 2014. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachuri, and L.A. Meyer (eds.)] IPCC, Geneva Switzerland.

Jodoin, S. 2017. "Forest Preservation in a Changing Climate: REDD+ and Indigenous and Community Rights in Indonesia and Tanzania". Cambridge University Press.

Kartha, S. and K. Dooley. 2016. "The Risks of Relying on Tomorrow's 'Negative Emissions' to Guide Today's Mitigation Action" Stockholm Environment Institute, Working Paper 2016-08.

La Vina, A.G.M. and A. de Leon. 2014. "Two Global Challenges, One Solution: International Cooperation to Combat Climate Change and Tropical Deforestation", Working Paper. Center for Global Development: Washington DC.

Lawrence, D. and K. Vandecar. 2014. "Effects of Tropical Deforestation on Climate and Agriculture" Nature Climate Change 5, 27-36.

Lee, D. and M. Sanz. 2017. "UNFCCC Accounting for Forests: "What's in and What's Out" of NDCs and REDD+" Climate and Land Use Alliance (CLUA) Policy Brief.

Lee, D. and T. Pistorius. 2015. "The Impacts of International REDD+ Finance" Climate and Land Use Alliance.

Leonard, S. July 14, 2017. "Green Climate Fund steps up to reduce deforestation and forest degradation." Forest News available at: https://forestsnews.cifor.org/50548/green-climate-fund-steps-up-to-reduce-deforestation-and-forest-degradation?fnl=en.

Lovejoy, T.E. and C. Nobre. 2018. Amazon Tipping Point. *Science Advances*, *4*(2).

Lujan, B. and G. Silva-Chavez.2018. "Mapping Forest Finance: A Landscape of Available Sources of Finance for REDD+ and Climate Action in Forests" Environmental Defense Fund and Forests Trends.

Norman, M. and S. Nakhooda. 2015. "The State of REDD+ Finance" Center for Global Development, Working Paper 378.

Pearson, T., S. Brown, L. Murray, and G. Sidman. 2017. "Greenhouse gas emissions from tropical deforestation: an underestimated source." Carbon Balance and Management 12:3.

Perakis. R. and W. Savedoff. 2015. "Does Results-Base Aid Change Anything? Pecuniary Interests, Attention, Accountability and Discretion in Four Case Studies" Center for Global Development Policy Paper 052. Washington DC: Center for Global Development.

Petersen, R., C. Davis, M. Herold, and V. De Sy. 2018. "Tropical Forest Monitoring: Exploring the Gaps Between What is Required and What is Possible for REDD+ and Other Initiative" Working Paper. Washington DC: World Resources Institute.

Romijn, E. et al. 2015. "Assessing change in national forest monitoring capacities of 99 tropical countries" Forest Ecology and Management.

Sarmiento Barletti, J.P. and A. Larson. 2017. "Rights abuse allegations in the context of REDD+ readiness and implementation" Infobrief. CIFOR.

Savedoff, W. 2018. "Competing or Complementary Goals? Paying to Protect Forests and Indigenous Rights" Forthcoming.

Seyller, C., S. Desbureaux, S. Ongolo et al. 2016. "The 'Virtual Economy' of REDD+ Projects: Does Private Certification of REDD+ Projects Ensure Their Environmental Integrity?" *International Forestry Review* 18:2.

Seymour, F. and J. Busch. 2016. Why Forests? Why Now?: The Science, Economics, and Politics of Tropical Forests and Climate Change. Washington, DC: Brookings Institution.

Silva-Chavez, G., B. Schaap, and J. Breitfeller. 2015. "REDD+ Finance Flows 2009-2014: Trends and Lessons Learned in REDDX Countries" Washington DC: Forest Trends.

Streck, C., A. Howard, and R. Rajao. 2017. "Options for Enhancing REDD+ Collaboration in the Context of Article 6 of the Paris Agreement" Washington, DC: Meridian Institute.

UNFCCC. 2017. "Second Biennial Update Report of Brazil to the United Nations Framework Convention on Climate Change." Ministry of Foreign Affairs and Ministry of Science, Technology, Innovations and Communications

Wolosin, M., J. Breitfeller, and B. Schaap. 2016. "The Geography of REDD+ Finance: Deforestation, Emissions, and the Targeting of Forest Conservation Finance" Washington DC: Forest Trends.

Wolosin, M. and N. Harris. 2018. "Tropical Forests and Climate Change: The Latest Science" Working Paper. Washington DC: World Resources Institute.

Endnotes

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[ii] The seven safeguards are: 1) That actions complement or are consistent with the objectives of national forest programs and relevant international conventions and agreements; 2)Transparent and effective national forest governance structures; 3) Respect for the knowledge and rights of indigenous peoples and members of local communities; 4) The full and effective participation of relevant stakeholders; 5) Conservation of natural forests and biological diversity; 6) Actions to address the risks of reversals; and 7) Actions to reduce displacement of emissions. http://redd.unfccc.int/fact-sheets/safeguards.html

[iii] From the UN-REDD website: National Programs (NPs) are technical cooperation initiatives provided by the UN-REDD Program at the national level. They are designed to support developing countries' efforts to prepare and implement comprehensive national REDD+ strategies and serve countries' REDD+ readiness needs.

[iv] Norway has also entered into a bilateral RBP agreement with Liberia (2014), and trilateral agreements (including Germany) with Peru (2014) and Colombia (2015). A first payment of US$6 million was disbursed to Colombia in June 2016 (https://www.regjeringen.no/en/topics/climate-and-environment/climate/climate-and-forest-initiative/kos-innsikt/colombia/id2459245/).

[v] The Clean Development Mechanism of the Kyoto Protocol excluded avoided deforestation, but methodologies were approved for afforestation and reforestation (A/R) projects, which generated about 1% of total CDM credits.

[vi] The Kyoto Protocol's Clean Development Mechanism did create a market for Afforestation and Reforestation credits.