



Options for the EU to Generate, Adequate, Predictable and Sustainable Financing for Emission Reductions from REDD+

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Executive Summary

As the global community seeks to adopt a new global climate agreement in Paris in December 2015 the challenge of reducing tropical forest emissions remains as important as ever. A diverse range of options exists for the EU and its member states to generate funds to pay for verified emission reductions from REDD+ (in the following also referred to as REDD+ credits). Options can broadly be divided into those that create demand for REDD+ credits and those that mobilize finance that governments can use for REDD+ payments. Demand as well as finance can come from the private or public sector. They can be mobilized by taking legislative or political action at the level of the EU or at the level of one or several member states.

This paper assesses options for mobilizing demand for REDD+ credits, with a focus on options that move beyond the traditional inclusion of offset credits in the EU Emission Trading System (EU ETS). Options contemplated in the context of the EU ETS are (1) using REDD+ credits in the context of the Market Stability Reserve; and (2) earmarking EU Allowances auction revenues for, among other things, REDD+.

We consider additional EU or member state commitments in the context of the EU Effort-Sharing Decision (ESD). We discuss commitments that relate specifically to REDD+ and those that relate to a combination of domestic action and offset credits. Pledges made by member states could take the form of a political declaration by the next ESD covering 2020–30. The offsetting and flexibility provisions of the current ESD could be strengthened by limiting certain categories of Clean Development Mechanism credits while making REDD+ credits eligible.

REDD+ could also be linked to EU corrective-action regimes. We consider the option of including payments that support REDD+ as penalties for non-compliance with EU regulation outside the EU ETS, or to compensate for non-compliance with other regulations. Member states or private actors could be mandated to purchase a certain number of REDD+ credits if they are found non-compliant with sectoral regulation (e.g. the Illegal Timber Regulation).

Regarding international mechanisms, we propose the inclusion of REDD+ in the emerging carbon market for global aviation emissions. Europe could advocate inclusion of REDD+ in the global market-based measure developed by the International Civil Aviation Organization (ICAO), while making sure ICAO applies the Warsaw Framework for REDD+ agreed under the UNFCCC. A sustainable and high-value supply of REDD+ credits could be achieved by linking the offset provisions to approved programs, such as the Forest Carbon Partnership Facility, the BioCarbon Fund (both administered by the World Bank), Germany's REDD Early Movers program, or the Verified Carbon Standard's Jurisdictional and Nested REDD+ rules.

We also assess options that mobilize public and private finance for REDD+ payments. Earmarked revenue from green taxes, or from the fees and fines from the violation of community of member states legislation could also be pledged toward REDD+ financing goals. A Forest Foundation Fund could be created to mobilize funds for REDD+ results-based payments at the European level, and green bonds could bring down the prices that would have to be paid for REDD+ credits.

Recommendations

Based on a first preliminary assessment of the various options, we consider the following strategies the most promising:

Provided that there is political will, a group of countries could commit by the Paris UNFCCC meeting to supplemental international mitigation action – that is, emissions mitigation outside of their national or regional borders. Such supplemental action could be supported through a mix of private and public financing instruments. It could include pledges to acquire a certain number of REDD+ credits. Such supplemental mitigation action could be included in the EU Effort-Sharing Decision in 2016.

Commitments by member states could be supported by a sustainable REDD+ financing package that mobilizes finance for REDD+ credits and lowers the costs of REDD+ action:

1. A country or group of countries takes on additional international mitigation targets which eventually may be codified in the context of the ESD, but would initially be supplementary (i.e., in addition to national commitments under ESD). The country or countries commit to achieve a certain percentage of this target for emissions mitigation outside their borders with REDD+ payments. **This measure creates demand.**
2. The countries request the European Commission to negotiate bilateral “framework agreements” with forested countries that guarantee high-quality REDD+ credits and potentially lowers the cost of REDD+, such as through a reverse auction mechanism or fixed-price options contract. Alternatively the countries could negotiate bilateral partnership agreements that achieve the same goal. These partnerships could be directed at countries that have put forward the most ambitious nationally determined contributions. **This would provide a mechanism for REDD+ supply and create a race to the top.**
3. The countries decide to allocate a portion of the proceeds from the auctioning of EU emission allowances under the ETS for REDD+ payments. **This measure would create stable and multi-year public sector finance for REDD+ payments.**

4. Participating EU countries allow private sector entities to meet certain environmental obligations outside of the ETS with REDD+ credits. Countries could also apply income earned through dedicated environmental fees or fines toward REDD+.

This measure would mobilize demand for REDD+ credits and finance for REDD+ and would transfer some of the obligations created under Item 1 to the private sector.

5. Countries could work with the European Investment Bank, the World Bank, or their national public finance institutions to define

a REDD+ bond that supports REDD+ investments in a particular country, region, or supply chain. If developed countries use their public finance institutions and back bonds with their credit rating, they can create liquidity and lower borrowing costs, which would mobilize upfront finance for partnering developing countries. In turn, the backing country could negotiate a discount on the payments for REDD+ credits, creating a win-win for both REDD+ and the acquiring country. **This measure would bring down the price for REDD+ emissions reductions acquired by the public sector.**

SUMMARY OF ASSESSED OPTIONS

Option	Description	Assessment
Crediting Options		
EU Emission Trading Scheme (EU ETS)	Demand for REDD+ credits could be stimulated through linking REDD+ with EU ETS compliance, or linking REDD+ with the new EU ETS Market Stability Reserve (MSR).	ETS only a long-term option once oversupply is addressed. MSR link could be pursued now.
EU Effort-Sharing Decision (ESD)	EU member states could pledge an additional target for domestic and international mitigation, and meet some or all of that through REDD+ credits.	Priority action, even if not supported by all member states. Could be supported by a coalition of ambitious states. Back-up to pledge supplementary national/collective targets outside the ESD.
Compensation credits	REDD+ credits could be used in other legal frameworks of the climate and energy package or beyond, for example as a transitional strategy until mandatory standards (on waste, buildings, transport, agriculture, etc.) can be met by industries.	Promising, but needs detailed legal and political assessment of options.
International Civil Aviation Organization (ICAO)	REDD+ credits could be used to offset growth in global aviation emissions under a new market mechanism agreed under ICAO.	Promising, but depends on EU political support and robust methodologies that avoid double counting of emissions and emission reductions.
Finance Options		
EU Allowance (EUA) auction revenues	Encourage member states to commit a significant portion of EU ETS allowance auction revenues (e.g. 30%) to REDD+.	Priority action. Scalable. Political opportunity to lock this in now with low EUA prices.
Public budgets	Mobilize increased public funding as part of national commitments to meet obligations under ESD or supplemental international mitigation commitments.	Could be pursued as a complementary option. Will not deliver sufficient scale by itself.
Green taxes	Encourage a certain portion of revenue from certain taxes (e.g. carbon or fuel taxes) to be set aside for REDD+.	Challenging, but worth exploring.
Proposed Forest Foundation Fund	EU member states could set up a fund whose profits stemming from the difference in the risk and return profile between the money market and the endowment portfolio (net of finance and admin costs) could be spent on REDD+ payments according to pre-defined rules.	Indications that political support may be difficult to obtain, but very scalable if national governments are willing to provide guarantees. Post-Paris priority.
Earmarked contributions to Green Climate Fund	Designate a portion of the contributions to the GCF on securing REDD+ results (possibly to be counted toward an international mitigation commitment).	Could be pursued, but not a major part of the solution.
Green bonds	Bonds dedicated to REDD+ could be backed by EU member states or highly rated international institutions, and help REDD+ countries to mobilize finance. In turn, the backing country could be offered REDD+ credits at a discount.	Post-Paris priority. Will not by itself deliver funding for REDD+ payments, but can mobilize cost-efficient funds for REDD+ policies in developing countries.

1. Introduction

Reducing tropical forest emissions needs to be a critical part of any effective global effort to reduce climate risks.

Gross forest loss makes up some 20% of global emissions today, or about 12% net of forest growth. The goals of the September 2014 New York Declaration on Forests¹ – to halve forest loss by 2020 and end it by 2030, and to restore 350 million hectares by 2030 – could translate into 4.5-8.8 billion metric tons of carbon dioxide (CO₂) emission reductions per year by 2030. Meeting these goals requires a partnership in which tropical forest countries commit to action and embark on reforms; companies take action to clean up their commodity supply chains; and partner countries provide financial, political, and other incentives.

In the New York Declaration on Forests, advanced economies including all G7 countries and the EU committed to support REDD+ by “ensuring that strong, large-scale economic incentives are in place commensurate with the size of the challenge.” They also agreed, among other things, to “reward countries and jurisdictions that, by taking action, reduce forest emissions — particularly through public policies to scale-up payments for verified emission reductions and private sector sourcing of commodities.” Furthermore, Germany, Norway, and the United Kingdom (UK) released a joint statement indicating they “stand ready to scale up results-based finance for large-scale, REDD+ emission reduction programmes, if countries put forward robust proposals. This includes funding for up to 20 new, credible programmes proposed by 2016 through a range of funding mechanisms.” The three countries “will also consider payments for results from additional, credible programmes thereafter, responding to the level of ambition and results by REDD+ countries.”²

At the Lima climate talks in December 2014, 14 tropical forest countries issued the “Lima Challenge,” pledging to “do their fair share” to reduce emissions on their own, but also to quantify before the Paris climate talks later this year how much more they can achieve through international mitigation partnerships.³

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These initiatives represent a renewed interest in creating demand for verified emission reductions from REDD+⁴ ahead of the Paris climate talks. It must be recognized, however, that the political support in advanced economies for results-based REDD+ payments has not met the high expectations of forest countries over the past eight years. Except for multilateral funding of pilots, only Norway and Germany have entered into bilateral results-based finance agreements. Clear regulatory signals that would mobilize public or private demand for verified emission reductions have so far been missing. In short, advanced economies have not created “adequate, predictable, sustainable, and long-term” demand or finance for verified emission reductions from REDD+ (REDD+ credits).

This paper explores technical options for EU member states to generate adequate, predictable, sustainable, and long-term financing for REDD+ payments for emission reductions.

Its objective is to inform EU decision makers, in particular the governments of Germany, Norway, and the UK, about potential strategies for raising demand for REDD+ verified emission reductions, and to facilitate a decision on which options to explore further. The paper offers a shortlisted – but not necessarily exhaustive – set of REDD+ crediting options that create demand for REDD+ verified emission reductions as well as non-crediting options that mobilize finance for results-based REDD+ finance. We discuss options at the international level, those that require legislative changes at the EU level, and those that individual or groups of member states can pursue voluntarily.

The brevity of the paper means that we may not be able to discuss all options in full depth, and while trying to be objective and without bias, there is an unavoidable level of personal judgment and subjectivity. This paper does not discuss the pros and cons of results-based payments for REDD+ compared with other policies or approaches, such as sectoral loans, public private partnerships, demand-side measures, or trade policies. Rather, it assumes that the debate over various policy approaches will continue in the coming years, and that while a combination of funding strategies will be pursued, results-based payments from public or private sources are expected to be one important strategy of advanced economies as they consider how to raise climate ambition further both before and after 2020.

1 See <http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/FORESTS-New-York-Declaration-on-Forests.pdf>.

2 See <https://www.gov.uk/government/news/joint-statement-on-redd>.

3 See <https://www.minambiente.gov.co/index.php/component/content/article/2-noticias/1661-el-desafio-de-lima-un-llamado-para-elevar-el-nivel-de-ambicion>.

4 In this paper, verified emission reductions are avoided emissions as well as sequestered carbon measured in metric tons of CO₂ equivalent. Where we refer to pledges or mandates to acquire such verified emission reductions, we may also refer to REDD+ credits.

2. Options to Create Demand for REDD+ Verified Emission Reductions

In this section, we assess the opportunity to stimulate demand for REDD+ verified emission reductions at the national and EU level, as well as at the international level through the emerging carbon market for the global aviation sector after 2020.

2.1 Including REDD+ in the EU Emissions Trading Scheme

Previously, REDD+ crediting has been discussed in the context of emission trading schemes. Combined with carbon taxes, the total value of carbon pricing mechanisms globally is estimated at USD 50 billion.⁵ In 2014, the world's emissions trading schemes covered about 12% of the annual global greenhouse gas (GHG) emissions.⁶ This share is expected to grow significantly as China and other countries implement their planned carbon pricing schemes. The EU has long experience in generating demand for verified emission reductions as offset credits under the EU Emissions Trading Scheme (EU ETS), though not for REDD+ credits. The exclusion of forestry credits from the EU ETS stems from concerns of the land-use sector, particularly regarding the permanence, the monitoring, and reporting of emission reductions, as well as the large number of offset credits that could potentially feed into the EU ETS.⁷

The EU ETS suffers from a oversupply and low prices. In 2011, carbon markets traded a historical high of EUR 98 billion worth of allocated emission allowances and carbon credits, falling to EUR 40 billion in 2013.⁸ Likewise, the price of EU Allowances (EUAs) has fallen from EUR 13 in 2011 to EUR 6-7 in 2015.⁹ The price of eligible offset credits— certified emission reductions (CERs) from the Clean Development Mechanism (CDM)— has fallen from about USD 20 per CER in 2008 to about USD 0.5 per CER today due to a large, structural oversupply of allowances as well as restrictions on using CERs for compliance in the EU ETS.

Including REDD+ credits in the EU ETS is therefore not a realistic near-term option unless political will is significantly strengthened to tighten up the market. The “back-loading” of allowances and the proposed Market Stability Reserve (MSR)¹⁰ are expected to increase the price of EUAs only gradually, and are unlikely to limit supply sufficiently to justify adding a new significant source of offsets into the system.

While a REDD+ linkage to the ETS does not seem viable in the short term – neither politically nor technically – it could become an option in the future if done right. As explained in Box 1, the technical reasons for excluding REDD+, such as the low cost of REDD+ credits, lack of incentive for domestic action, risk of carbon leakage, and social risks, could potentially be addressed. The remaining fundamental challenge is the imbalance between supply and demand in the ETS. Once that is resolved, REDD+ could be added to the market in a controlled manner while tightening the cap of the EU ETS. For example, the EU could decide to increase the linear reduction factor (lowering the cap), while giving access to an identical number of REDD+ credits. The level of domestic mitigation would remain the same, while the market would finance additional REDD+ action.

Political obstacles remain. By opening the EU ETS to REDD+, the ETS sectors would be allocated an additional burden to reduce emissions in areas outside their operations. This may not be seen as fair vis-à-vis other sectors,¹¹ and may affect the competitiveness of European industries. The EU discussed a tightening of the emissions cap for the ETS sector in the context of a 40% mitigation goal compared with 1990 emissions levels, as proposed by the European Commission.¹² A lowering of the overall emission cap in the context of REDD+ has not even been contemplated.

And technical challenges are unresolved. A mechanism would be needed that allows entities regulated under the EU ETS to procure REDD+ credits. The current design of REDD+ under the UN Framework Conference on Climate Change (UNFCCC) facilitates payments for REDD+ verified emission reductions at the national or jurisdictional level without designing a market mechanism to facilitate the participation of private or public entities in REDD+ transactions. Perhaps most importantly, the decision to allow REDD+ credits into the EU ETS needs to be planned many years in advance to ensure

5 Carbon Pricing Watch, (2015), “Advance brief from the *State and Trends of Carbon Pricing 2015* report, to be released late 2015,” World Bank Group Climate Change and ECOFYS.

6 A. Kossoy, et al., (2014), *State and Trends of Carbon Pricing*, The World Bank, p. 15.

7 European Commission, (2008), “Impact assessment EU ETS,” Commission Staff Working Document, COM(2008) 16 final.

8 A. McCrone, (2014), “Value of the world's carbon markets to rise again in 2014.” *Bloomberg New Energy Finance*.

9 Intercontinental Exchange, EUA Phase 3 Daily Futures, 15 April 2015; see also A. Kossoy, et al., (2014) *State and Trends of Carbon Pricing*, p. 17.

10 Proposal of the EU Commission, Document COM2014 20/2, http://ec.europa.eu/clima/policies/ets/reform/docs/com_2014_20_en.pdf (MSR Proposal).

11 This problem could be solved by giving equal additional mitigation requirements to the ETS and the Effort-Sharing Decision.

12 To achieve the target of a 40% reduction in EU greenhouse gas emissions below 1990 levels by 2030, as set out in its 2030 framework for climate and energy policy, the European Commission proposes an increase in the linear reduction factor to 2.2% per year beginning in 2021, from the current 1.74% reduction factor, http://ec.europa.eu/clima/policies/ets/reform/index_en.htm.

market predictability and avoid carbon leakage. The European Council has decided on the annual EU ETS caps and emissions trajectory until 2030. A decision to significantly tighten these caps while adding REDD+ credits would likely encounter significant opposition by member states and industries.

The EU could address some of these barriers by linking REDD+ to its proposed ETS Market Stability Reserve. The MSR would allow EU regulators to manage the number of allowances in the market as a reaction to price or quantity-based triggers. The MSR is expected to make the ETS more resilient to any potential large-scale future event that may severely disturb the supply/demand balance.¹³ According to the European Commission's proposal, EU tradable allowances would be added to the reserve by deducting them from future auction volumes with the aim of mitigating market instability if the total EUA surplus is higher than the 833 million allowances. Allowances would be released from the reserve and added to future auction volumes provided the total surplus is below 400 million allowances.¹⁴ Alternative proposals would trigger market regulation (release and removal of EUAs from the market) once the EUA price leaves a predefined price collar.¹⁵

The EU could contemplate linking the MSR to REDD+ credits. The current MSR proposal addresses the surplus of allowances by adjusting the supply of allowances to be auctioned. Alternatively, the MSR could be filled with REDD+ credit purchases from approved jurisdictional REDD+ programs. The credits would be auctioned out of the reserve if there is a price or quantity-based trigger. When released to the market, the REDD+ credits would be converted into EUAs. Auction proceeds could be used to replenish the MSR and buy additional REDD+ credits. The amount of the annual contribution to the MSR could be set at 12% of the total number of allowances in circulation, as proposed by the European Commission. Credits could be retired after a while, if prices or quantities do not trigger a release into the market.

Linking the MSR to REDD+ would send an important policy signal to REDD+ partner countries. However, such a link could be contemplated only after the current supply problems have been addressed. It is also important to emphasize that the overall size of the MSR is likely to be small compared to the size of the demand needed for REDD+ credits to create incentives for REDD+ emission reductions in developing countries.

In addition to exploring future linkages to the ETS, EU member states could consider REDD+ crediting options that move beyond the traditional and controversial question of inclusion in the EU ETS.

Box 1: Generation of REDD+ Credits

The current concerns about creating private demand for REDD+ credits, through the EU ETS or by other measures, could be addressed in the following way:

- 1. No offsetting.** The REDD+ credits could be used to meet additional commitments for international mitigation beyond the existing 40% reduction pledge.
- 2. No market flooding.** The EU Commission (or governments) could ensure market stability by regulating the supply of REDD+ credits.
- 3. Technical risks addressed.** Through framework agreements at the jurisdictional or national level, risks around REDD+ projects could be addressed (e.g., leakage, permanence).
- 4. Social and environmental safeguards.** All purchases could be made within government-to-government negotiated frameworks. For example, the EU could determine which countries have met the conditions to access the EU market (e.g., reference levels, safeguards), and enter into framework agreements under which private or public buyers could buy credits.
- 5. Additional revenues.** The public sector could acquire credits from REDD+ partner countries and make them available to regulated entities under the EU ETS, the revenues stemming from the difference in purchase and sale price could be used for the acquisition of additional REDD+ credits.

¹³ MSR Proposal, Section 2, p. 3 (fn 10).

¹⁴ MSR Proposal, Section 3, p. 3, Article 1 of the proposed Decision of the EU Parliament and of the Council (fn 10).

¹⁵ K. Neuhoff, et al, (2015), "Is a Market Stability Reserve likely to improve the functioning of the EU ETS? Evidence from a model comparison exercise," *Climate Strategies*, London.



2.2 National Commitments through the EU Effort-Sharing Decision

To stimulate demand for REDD+ credits, the EU could allow the use of REDD+ credits under its Effort-Sharing Decision (ESD) in combination with a more ambitious emission target by the EU or by individual member states.¹⁶ The 2009 ESD sets national emissions targets for 2020 expressed as percentage changes from 2005 levels for the sectors not covered by the EU Emissions Trading Scheme (about half of EU emissions). The annual targets are formulated as annual emission allocations (AEAs) that follow a straight line between a defined starting point in 2013 and the target for 2020. The transfer of AEAs (e.g. through trading) among member states in accordance with the ESD decision is allowable. By 2020, the national targets will collectively deliver a reduction of around 10% in total EU emissions from the sectors covered compared with 2005 levels.¹⁷

In contrast to the EU ETS, each member state decides how it will meet the annual ESD targets. The ESD addresses member states rather than individual emitters; though, like the EU ETS, the ESD allows for trading of allocations as well as the use of certain international offsets to facilitate compliance. The offsets permitted are similar to those allowed under the EU ETS, notably, certified emission reductions from afforestation and reforestation under the CDM are also permitted. While REDD+ credits are currently not eligible, the ESD called for the European Commission to assess the inclusion of REDD+ into the framework of the ESD in the event of (1) the conclusion of an international agreement on climate change leading to an EU 2020 commitment in excess of 20%, and (2) the development of an internationally recognized REDD+ system.¹⁸ Since the EU did not consider the Copenhagen Accord an agreement that met these criteria, such an assessment, let alone a recommendation or decision, was not made. There is currently no similar mandate for an assessment of post-2020 options.

The ESD needs to be renewed to define national targets for the period 2021-30. Non-ESD sectors hold significant mitigation potential,¹⁹ and new ways of driving domestic action will have to be devised. At the same time, the ESD holds the

potential to mobilize demand for REDD+ credits, provided this does not come at the expense of domestic action. The current ESD grants member states significant flexibility in meeting their allocations: two thirds of the overall targets can come from international offsets and member states are allowed to carry forward their annual allocations as well as trade unused portions of them. The new ESD will have to re-cast some of these options (e.g. carryover rights) and tighten the overall allocations to driving investments into domestic action while channeling finance into credible, international mitigation options.

Considering that the EU so far has only stipulated domestic GHG targets for 2030,²⁰ the role of international offsets remains unclear. The Conclusions of the meeting of the European Council on October 23 and 24, 2014 (EUCO 169/14) confirm that the new ESD will use the “methodology to set the national reduction targets for the non-ETS sectors, with all the elements as applied in the Effort Sharing Decision for 2020, will be continued until 2030.” While the 2030 Climate and Energy Policy Framework sets a 40% domestic reduction goal, the Council decision indicates, there will be continued flexibility for member states to achieve their national as well as collective EU emissions reduction targets.²¹ However, neither the 2030 Framework nor any Council decisions make clear provisions for how flexibility measures could be utilized by member states to cost-effectively reach their targets.

Before 2020, the ESD could increase ambition by allowing a certain portion of the international offset quota to be used by REDD+ credits. A number of modifications and extra commitments could improve the mitigation effectiveness of the ESD. First, additional targets and increased ambition could lead to enhanced domestic and international mitigation. Second, opening the international offset provisions to REDD+ could lead to more credible and politically more desirable international mitigation actions. Third, carryover provisions could be eliminated and trading of allocations between EU member states linked to community-level offset projects defined under Article 24A of the EU ETS Directive 2003/87/EC.

Additional mitigation commitments could relate to REDD+ only or REDD+ in combination with other international offsets and/or domestic actions. The EU, or individual member states, could formulate additional commitments linked to REDD+ mitigation or cover international mitigation generally. Such commitments could be in addition to the existing ESD commitments or could reallocate some of the existing offsetting rights combined with additional domestic or international actions. This option would stimulate demand for REDD+ credits

16 Effort-Sharing Decision, (2009), Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 (“Effort Sharing Decision”).

17 See http://ec.europa.eu/clima/policies/effort/index_en.htm.

18 Effort Sharing Decision, Article 8.

19 European Commission (2009). “Next phase of the European Climate Change Programme : Analysis of Member States actions to implement the Effort Sharing Decision and options for further community-wide measures.” (contract DG ENV C.5/SER/2009/0037); see also Client Earth, (2013), “The future of the Effort Sharing Decision within a post-2020 climate framework,” <http://www.clientearth.org/reports/esd-discussion-paper-13-march-2013.pdf>.

20 INDC of the EU: <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Latvia/1/LV-03-06-EU%20INDC.pdf>

21 European Council Conclusion EUCO 169/14. http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf

Table 1: Possible commitments at the EU and national levels, with options for a role of the private sector

	Nature of Commitment	Potential Role of the Private Sector
Possible EU-level commitments	Additional EU emission reduction target (beyond 40%) that may be partially supported by (REDD+) credits. Target formulated in the context of the new 2020-30 Effort-Sharing Decision (ESD). An amendment of the current ESD could allow the use of approved REDD+ credits in lieu of other international offsets.	Passing on public commitments to private sector entities that could be authorized to: 1) Purchase and use REDD+ credits to (partially) meet additional mitigation requirements in non-EU Emission Trading Scheme (ETS) sectors 2) Use REDD+ credits as “compensation credits.” (see section 2.3)
	Pledge specifically to international mitigation (REDD+ or multi-sectoral) without additional EU-level reductions.	Funds can be mobilized from private sources (e.g. via forest bonds) to enable and finance mitigation action in REDD+ countries.
Possible national-level commitments	Legal commitment included in the 2020–30 ESD, or legally binding target under domestic law.	
	Political commitment to additional emission reduction target in addition to the annual emission allocations under the ESD, which may partially be supported by approved REDD+ credits.	Political commitment by member state(s) could be supported by voluntary agreements with certain industries (e.g. food and agriculture, transport) to support REDD+ through the acquisition of credits.
	Pledge (legally binding or political) specific to international mitigation (REDD+ or multisectoral).	

by EU governments, and could be financed either through public finance (see section 3.1) or be passed on to the private sector through emission reduction targets in non-EU ETS sectors (see section 2.3). It could also be combined with the finance mobilization options discussed in section 3.2.

The additional commitments could be pledged either at the European or the national level. Absent agreement by the EU or action by the European Commission, member states or a group of progressive member states could formulate additional commitments. While additional pledges by member states are always possible and would send powerful political signals before the Paris climate conference, the legal recognition of additional efforts under the ESD would require an EU decision and agreement by all member states. See Table 1 for ESD crediting options.

The sourcing of credible REDD+ credits could be ensured through different strategies:

- Bilateral partnership agreements between the EU and REDD+ countries
- Bilateral agreements between member states and REDD+ countries

- Approved multilateral or bilateral programs

The European Commission can enter into bilateral partnership agreements on behalf of the EU. Both the EU ETS Directive and the ESD provide the possibility of allowing offset credits for compliance generated under bilateral agreements between the EU and partner countries. To date, no bilateral agreements have been concluded and there are few indications that any are under negotiation. The European Commission has stated that the “primary focus of potential bilateral agreements [is to create] demand for credits from new market mechanisms (NMMs) and to pilot the establishment of such NMMs.”²² The EU is pressing for the modalities and procedures of the new mechanism to be established as soon as possible, and is exploring the idea of setting up pilot programs in sectoral crediting.²³ The EU also indicated that it “is very open with regard to the scope of bilateral agreements that might be reached”²⁴ —that it

²² See the Commission’s Frequently Asked Questions on international credits in the EU ETS, http://ec.europa.eu/clima/policies/ets/linking/faq_en.htm.

²³ See http://ec.europa.eu/clima/policies/ets/linking/index_en.htm.

²⁴ See the Commission’s Frequently Asked Questions on international credits in the EU ETS (fn 22).

is open to linking REDD+ to NMMs— and has put forward modalities and procedures for a NMM that arguably permit activities in the land-use sector.²⁵

In the absence of EU action, individual member states could enter into bilateral partnership agreements with REDD+ countries. Additional commitments at the EU level or an amendment of the current ESD may be difficult to negotiate among member states. If such commitments cannot feasibly be achieved across the union, individual countries or a group of member states could step forward to take on a supplementary international mitigation goal beyond their commitments under the ESD and use REDD+ credits toward this additional goal. However, for this to be counted against the EU's climate goal and the ESD, EU action and legislative recognition would be needed. In the absence of a decision at EU level, member states could still propose additional commitments based on a political rather than a legal commitment. Also, a modification to the ESD to allow the use of REDD+ credits instead of CDM credits may be easier to achieve than the recognition of additional mitigation effort. Such revision would also address some of the ESD offsetting “scandals.”²⁶

Instead of negotiating EU or member-state partnership agreements with REDD+ countries, the EU could recognize REDD+ credits generated by approved multilateral or bilateral programs. Programs such as the World-Bank-administered Forest Carbon Partnership Facility and BioCarbon Fund, or the Germany's REDD Early Movers program have put effort into defining credible rules leading to high-quality REDD+ credits. Instead of negotiating new rules, the EU or its member states could agree to meet additional commitments by paying REDD+ credits generated by these programs. The same strategy could eventually apply to the Green Climate Fund.

Technically, these options are easy to implement. However, it depends on the willingness of EU member states to take on additional international mitigation commitments or agree to purchase a set quantity of REDD+ credits. EU action relating to the current ESD may be more difficult to negotiate than increasing the ambition in the context of the 2020–30 ESD. It also seems essential to pair additional offsetting options with commitments to domestic non-ETS offsets. Passing on obligations to the private sector would require community or member-state legislation, which may be difficult to pass. However, in some member states, the private sector may be willing to acquire a limited number of REDD+ credits in the context of voluntary agreements.

²⁵ Submission by Cyprus and the European Commission on behalf of the European Union and its Member States, Draft COP Decision on the modalities and procedures for the NMM, contained in Document FCCC/AWGLCA/2012/MISC.6/Add.6, 26 November 2012.

²⁶ Client Earth, (2013), “The offsetting scandals in the ESD,” Discussion Note, <http://www.clientearth.org/reports/esd-and-international-offsets.pdf>.

2.3 Compensation Credits – Additional REDD+ Demand

Private sector demand for REDD+ emission reductions could also be stimulated via the integration of REDD+ with broader EU climate and energy policies. Permitting private sector actors to acquire REDD+ credits could serve as a strategy for increasing the ambition of EU actors, including spurring additional action in domestic (intra-EU) mitigation efforts in a range of policy frameworks. REDD+ credits could reduce compliance costs where actors are allowed to meet mitigation obligations in a transition period until full compliance is mandatory.

EU member states could review all their climate policies in key non-ETS sectors and assess options for using access to REDD+ credits as a strategy to make stricter regulations acceptable to public entities as well as private companies. This may include cities or local governments, infrastructure or construction companies, the retail sector, or other sectors. To avoid double counting with emissions directly or indirectly covered under the EU ETS, lawmakers should avoid allowing REDD+ credits as offset of regulated emissions but rather encourage additional action, lower compliance costs in a transition period, and mandate private actors to procure REDD+ credits as currency for fees and fines.

REDD+ credits to increase ambition and reduce transition costs could be considered in non-EU ETS sectors before 2030. Methane and landfill emissions represent a striking gap of ambition in the pre-2020 climate package. Similarly most regulations relating to buildings or transport only apply post-2020. Regulations could be tightened, Article 24a offset projects could be made possible, and for a transition period (until the original compliance date), REDD+ credits could be used to offset emissions.

REDD+ credits could also be included in corrective action regimes applicable to member states. Examples of where REDD+ credit purchase could be used as corrective action include:

- **FLEGT (EU Forest Law Enforcement, Governance and Trade).** Member states in violation of the provisions set forth in the Illegal Timber Regulation could be required to purchase REDD+ credits generated by EU Forest Law Enforcement, Governance and Trade (FLEGT) partner countries instead of or in addition to paying pre-set fines. The EU FLEGT Action Plan, and its related Timber Regulation together comprise perhaps the most important EU initiative on international forestry (absent regulations that drive REDD+ demand). The EU is increasingly interested in creating synergies between REDD+

and FLEGT, but it is worth mentioning that neither FLEGT nor the Illegal Timber Regulation foresee direct investments or payments for efforts or results.

- **Cross-compliance.** A REDD+ credit window could be established under the EU agriculture cross-compliance mechanism that ties EU support for farmers to compliance with standards of environmental care, public and plant health, and animal welfare.²⁷ Cross-compliance requirements link direct payments to farmers for their compliance with basic standards concerning the environment, food safety, animal and plant health, and animal welfare, as well as the requirement of maintaining land in good agricultural and environmental condition. Such cross-compliance obligations have the potential to improve the environmental performance of agriculture compared with a situation in which the same level and structure of payments are made without conditions attached. Additional subsidies could be linked to farmers offsetting (non-regulated) greenhouse gas emissions with REDD+ credits.
- **Climate and energy regulations.** The EU could adopt measures that would mandate member states to acquire REDD+ credits where they fail to meet goals established in the context of the EU Climate and Energy Package, which defines binding targets for 2020. The Energy Efficiency Directive establishes goals for energy efficiency in buildings, energy distribution, vehicles, and appliances, among others. Under the Renewable Energy Directive, member states have taken on binding national targets to raise the share of renewable energy in their energy consumption by 2020. The option to purchase REDD+ credits in lieu of compliance would likely raise significant opposition from both civil society and countries favoring EU targets for renewable energy and energy efficiency.

These options, while technically feasible, would require an in-depth legal assessment and review to ensure that they are designed and formulated in accordance with EU law, including the principle of subsidiarity, competition, and state aid rules. These options also require legislative action that requires full member state consent, which may be difficult to obtain, at least where new liabilities are created for member states. Political support may be easier to obtain where payments or the obligation to acquire REDD+ credits are linked to the forest sector and existing EU policies regarding international cooperation for REDD+, in particular FLEGT. Conversely, any option that creates REDD+ demand as an alternative for compliance with other laws, regulations, or mandates would be criticized for lowering domestic ambition in those fields.

2.4 International Option: Offsetting Aviation Emissions

The International Civil Aviation Organization (ICAO) has agreed to establish a global carbon market for aviation that is scheduled for adoption in 2016, and to take effect from 2020. This so-called Global Market-Based Mechanism (MBM) represents a concrete, near-term opportunity to create a sizeable, new, and long-term source of demand for REDD+ credits. In 2013, the ICAO Assembly agreed to set up a MBM that would enable airlines to achieve a goal of carbon-neutral growth from 2020 to 2050.²⁸ It is expected that offsets and allowances from outside the aviation sector will account for a substantial portion of the emission reductions needed to achieve this goal.

The ICAO MBM has the potential to become a significant source of demand for international carbon credits. ICAO estimates that after accounting for in-sector emission reduction options like biofuels, air traffic management, and technical improvements in aircraft efficiency, a carbon neutral growth goal leaves an emissions gap of between 14 Gt and 21 Gt (central estimate: 17 Gt) between 2020 and 2050.²⁹ ICAO has focused on developing a global MBM with links to external offsets precisely because abatement options within the aviation sector are expected to be expensive. With the voluntary supply growing at about 90 Mt a year, Bloomberg New Energy Finance estimates that by 2020 around 360 Mt of voluntary offsets could be available to the aviation sector.³⁰ Although demand may be modest at first, it is projected to reach 300 Mt per year in 2030 and to total 2.0–2.5 Gt in 2020–30. At a USD 5 offset price, this would equate to USD 10–12.5 billion of carbon finance through 2030.

ICAO, as an intergovernmental body, would approve the MBM including key features like allocation and eligibility criteria for offsets and allowances. It is expected that ICAO will rely on accrediting entire offset programs rather than issuing its own offsets or setting up special methodologies. Programs currently under discussion include the CDM, the Verified Carbon Standard (VCS), the rules accepted by the California Air Resources Board (CAR), and the Gold Standard supported by the World Wide Fund for Nature (WWF) and other non-governmental organizations (NGOs).

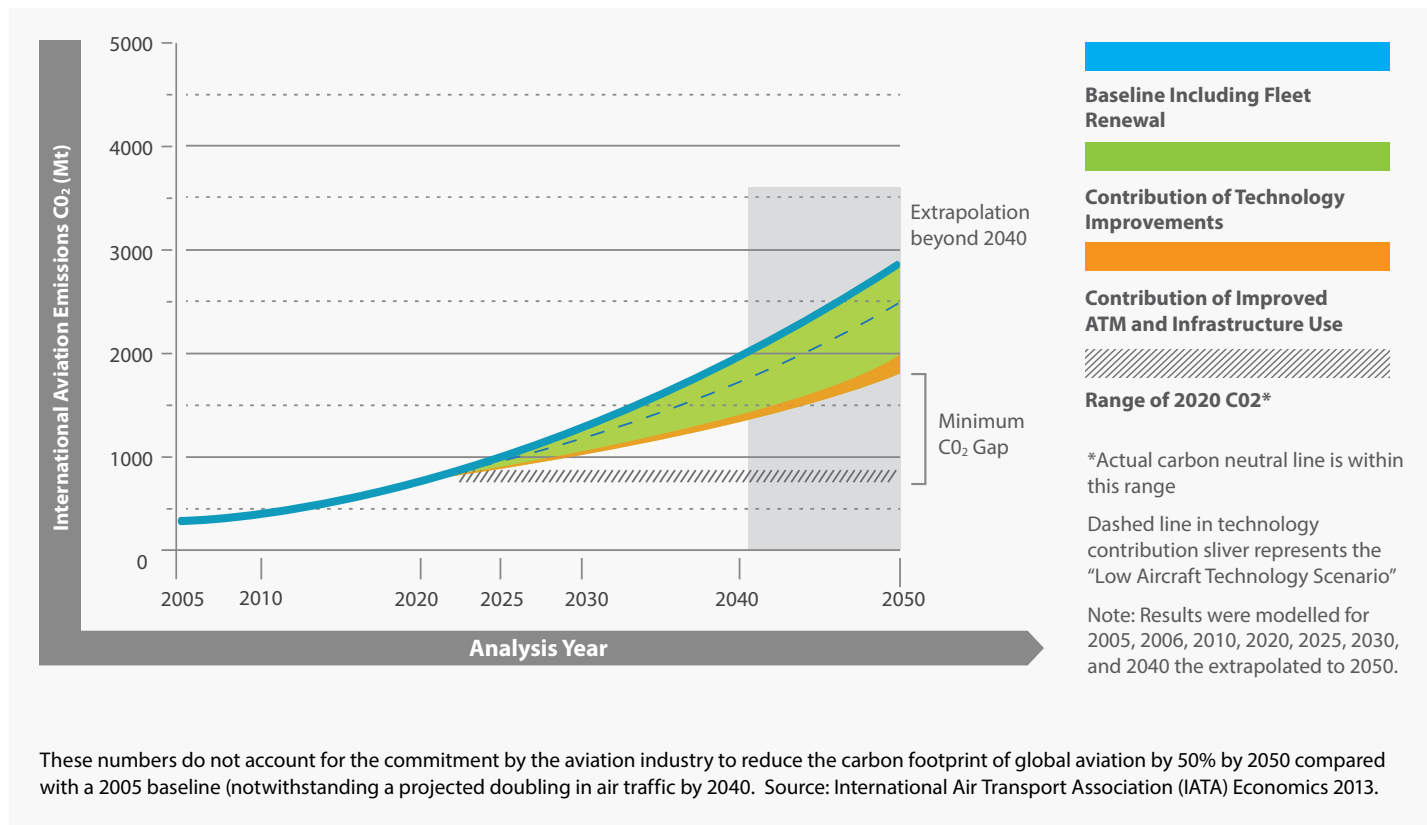
²⁸ 38th Assembly of ICAO, Resolution A38/17-2; and “Report of the executive committee on agenda item 17,” A38-WP/430.

²⁹ ICAO, (2013), “Report of the ninth meeting of the ICAO Committee on Aviation Environmental Protection,” Doc 10012 (CAEP/9); See also D.S. Lee, L.L. Lim, and B. Owen, (2013), “Bridging the aviation CO₂ emissions gap: Why emissions trading is needed,” Dalton Research Institute, Department of Environmental and Geographical Sciences, Manchester Metropolitan University, Manchester, UK. Note that the MBM is currently expected to cover the period 2020–35.

³⁰ ICAO, (2013), “Aviation and Climate Change” Chapter 4: Global Emissions, “Achieving Carbon Neutral Growth from 2020,” *ICAO Environmental Report*, p. 152.

²⁷ Introduced by Council Regulation 73/2009/EC and Commission Regulation 1122/2009.

Figure 1: Projected Emissions Growth from the Global Aviation Sector



If ICAO accredits entire offset programs, the question is which, if any, of these programs currently certifies REDD+ activities and at what level (project or jurisdictional). For jurisdictional REDD+ finance many important elements were put in place via the Warsaw Framework for REDD+. While the Warsaw Framework has broad guidelines for reference levels, some would argue that there is still a risk for countries to put forward inflated reference levels. Multilateral and private programs, as well as supplemental initiatives by the Forest Carbon Partnership Facility's Carbon Fund ("Methodological Framework") and the VCS's new "Jurisdictional and Nested REDD+" methodology,³¹ have developed guidelines and criteria to ensure the environmental and social credibility of REDD+ credits.

Of course, offsets could be supplied by multiple sectors, not just REDD+, though purchase decisions will be in the hands of airlines. It is conceivable that airlines would settle on a REDD+ focused purchasing strategy – particularly with proactive cooperation from REDD+ countries and technical facilitation by developed countries. Countries or other entities that acquire REDD+ credits may define additional criteria for these credits: for

example, they may refer to particular programs (e.g., FCPF, VCS) or require airlines to purchase REDD+ credits that are generated under bilateral partnership agreements.

ICAO would also have to approve REDD+ as an eligible offset mechanism. As noted earlier, there is interest in REDD+ among airlines, some NGOs, and some other ICAO member states like the United States. Interestingly, the primary sources of support and opposition may both rest in Europe. On the one hand, European countries have been strong advocates for results-based payments for REDD+. On the other hand, the EU has reservations about connecting REDD+ to carbon markets and has excluded forestry credits from the EU ETS because of concerns about permanence and measurement.³² An intra-European dialogue would be needed to determine whether such concerns can be overcome given the positive potential to drive REDD+ activities via ICAO demand. Forested-country support for REDD+ in ICAO has not yet been activated and could be significant (and could help address remaining technical issues, including reference levels). Conversely, Brazil might oppose inclusion of REDD+, consistent with its reservations about REDD+ in international carbon markets, and some NGOs might also oppose REDD+ credits in ICAO.

³¹ Warsaw Framework for REDD+ contained in UNFCCC decisions 9-15/CP.19. FCPF Carbon Fund Methodological Framework, 20 December 2013, <https://www.forestcarbonpartnership.org/carbon-fund-methodological-framework>. Jurisdictional and Nested REDD+ (JNR) of the VCS, <http://www.v-c-s.org/JNR>.

³² European Commission, (2008), "Impact assessment EU ETS," Commission Staff Working Document, COM(2008) 16 final.

Important technical issues may also arise from the fact that ICAO is “off balance sheet” for purposes of reporting and accounting of national emissions under the UNFCCC. If airlines use REDD+ credits against their carbon neutral growth goals, the originating REDD+ countries should not claim these emission reductions toward their nationally determined contributions. To avoid double counting, the MBM would have to be backed by a central registry that records all emissions, trades, and offsets. It will be essential to establish standard methodologies and technical guidelines on MRV to be used by all participants.

3. Mobilizing National or International Finance for REDD+

Efforts to create demand for REDD+ credits could be complemented by efforts to create predictable funding streams from both the public and the private sector. The expected lower price for REDD+ credits compared with the average cost of emission reductions in other sectors such as clean energy,³³ combined with the fact that most REDD+ payments are expected to be made against jurisdictional or national baselines, may make financing REDD+ for international partners an attractive international mitigation option. This section explores options for mobilizing finance for such REDD+ payments.

3.1 Mobilizing Public Finance

3.1.1 Auction Revenues

Member states could earmark certain revenues for international climate change and REDD+. While fiscal experts try to avoid earmarking public funds, finance ministers earmark funds under certain circumstances.³⁴ In the UK, for example, the Climate Change Levy initially supported the The Carbon Trust and initiatives that support energy efficiency, and the Renewables Obligation³⁵, under which payments for shortfalls are earmarked to be paid back to suppliers. Germany has set a Federal Special Fund for climate finance replenished by the proceeds from auctioning EUAs (see Box 2).

Box 2: Earmarking Climate Finance in National Budgets: Germany

The largest share of German climate finance relies on budgetary allocations. However, over the last few years, a certain percentage of finance has been generated by auctioning EU Allowances. With the portion of EUAs that will be auctioned increasing, an equally increasing percentage of German international climate finance will be contributed by “new and additional” funding sources. These new funds are administered by a Federal Special Fund (Sondervermögen des Bundes) the German budget established by law and ring-fenced and protected from budgetary re-allocation to other line items. This special fund, called the Energy and Climate Fund (Energie und Klimafonds - EKF), has been set up under public law to finance national and international programs in energy efficiency, renewable energy, and climate change. Initially, the EKF was to be funded exclusively by private sources: the auctioning of EUAs, and payments by the German nuclear industry. With the decision to phase out all nuclear power in Germany in 2011, the initial funding structure was modified and the fund was temporarily co-financed by the general budget. In effect, public funds compensated the budgeted contribution of the nuclear power industry.

33 See A. Dahl-Jørgensen, (2015), “Billion-ton solution – Europe’s chance to lead on climate action through international mitigation partnerships,” <http://www.climateadvisers.com/the-billion-ton-solution/>.

34 For some examples, see: B. Müller, (2015), “The Paris predictability problem: What to do about the climate finance problem for the 2020 climate agreement?” Oxford Climate Policy, Ecpi think piece – review draft 12, May 2015.

35 See <https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro>.

Revenues from auctions of EU Allowances under the EU ETS could generate significant finance for REDD+. As the price of EUAs is expected to gradually rise toward 2020 and beyond as reforms to the ETS kick in. Then auctions can potentially once again make up a very significant funding source. A back-of-the-envelope estimate (which should be further refined with market estimates) indicates a potential of EUR 4-5 billion per year in 2020-30, enough to potentially secure 0.8-1.0 billion REDD+ credits per year at EUR 5 per ton.³⁶ Given the number of uncertainties and assumptions, the actual number could be significantly lower or higher.

Previous attempts to raise finance at the EU level have failed for political reasons. The European Commission previously proposed to earmark proceeds from auctioned EUAs at the EU level. A 2008 decision states:

"Member States will determine, in accordance with their respective constitutional and budgetary requirements, the use of revenues generated from the auctioning of allowances in the EU emissions trading system. [The European Council] [...] takes note of their willingness to use at least half of this amount for actions to reduce greenhouse gas emissions..."³⁷

A 2014 progress report released by the Commission observed that 84% of EUA auction revenue was spent on low-carbon development – significantly more than the 50% recommended by the EU ETS Directive.³⁸ This illustrates a potential political willingness to earmark EUA revenues.³⁹ So far, however, only a small portion of the auction revenues has gone to international climate finance. Nonetheless, member states could be encouraged – or ideally over time required – to earmark a significant portion of their auctioning revenues to international mitigation including REDD+.

³⁶ Assuming an average 1.65 billion EUAs per year (1.8 billion in 2020 and 1.5 billion in 2030), of which about 50% gets auctioned at an average price of EUR 20–25 per ton in 2020–30 gives EUR 17–21 billion per year in auction revenues across the EU. Assuming that of this, if EU as a whole spends 25% (with the most committed member states spending more) on REDD+, it results in EUR 4.1–5.2 billion per year for REDD+. Assuming the EU could negotiate a price of EUR 5 per ton from REDD+ countries, this would result in 0.8–1.0 billion tons per year. (Carbon price estimate based on EUR 23 per ton estimate by Thomson Reuters: <http://blog.financial.thomsonreuters.com/eu-carbon-price-average-e23t-2021-2030-thomson-reuters-assess-future/>)

³⁷ EU Council, (2008), European Council statement on the use of ETS revenues. [12 December 08, 17215/08, the elements of the final compromise regarding the energy and climate change package, as agreed by the European Council at its meeting on 11 and 12 December 2008 (see 17271/08), to which paragraph 20 of the European Council conclusions refers.].

³⁸ ETS-Directive 2009/29/EC, Article 10 states: "Member States shall determine the use of revenues generated from the auctioning of allowances. At least 50 % of the revenues generated from the auctioning of allowances ... should be used for one or more of the following: ... (c) measures to avoid deforestation"

³⁹ European Commission, "EU gears up for 2030 with more emissions reductions," Press Release, 28 October 2014.

A dedicated EU-wide fund could be established, with member states pledging a significant portion of their auction revenues to the fund, which would procure and retire REDD+ credits to meet an international mitigation commitment. Considering the insecurities of the actual EUA price and auctioning revenue (also dependent on back-loading and the MSR), member states auctioning revenues earmarked for international climate finance and REDD+ may fall into a lower and upper bound, which would give both EU and REDD+ countries some security in funding.

Even without formal decisions, a coalition of member states could agree politically to dedicate a significant share of their national auction revenues to REDD+.

Since auction revenues are currently managed by member states, this offers a promising potential for a coalition of countries to mobilize large finance without the need for consensus or legal decisions at the EU level. These revenues could be used for governments to meet either formal national pledges under the Effort-Sharing Decision or supplementary national commitments (i.e., beyond their ESD commitments).

As with all public finance, strong political commitment would be needed to ring-fence auction revenues for international mitigation and REDD+.

Experience has shown that national treasuries have preferred to finance domestic climate action rather than international mitigation. In a period of austerity, earmarking funds for REDD+ may be more challenging than ever. Competition for funds is significant. However, auction revenues are low today because of the current low price of EUAs. These revenues are expected to increase over time as the ETS oversupply decreases. A political decision this year to earmark future auction revenues could therefore presumably be politically less challenging than winning a political battle five years from now when auction revenues have picked up.

3.1.2 Green Taxes

International taxation. Various sources of public finance have been proposed over the years to support REDD+ payments and other international climate collaboration. At the international level, studies have explored sources such as a tax on CO₂ emissions in developed countries, a small currency transaction tax on trading in major currencies (dollar, euro, yen, and pound sterling), earmarking a portion of the proposed EU financial transaction tax, allocations of International Monetary Fund special drawing rights (SDRs), and a levy on global maritime or aviation emissions. None

of these mechanisms has materialized.⁴⁰ With an emerging climate regime focused on voluntary nationally determined contributions, an international agreement on international finance sources appears even less likely than in previous years. In short, while many (but far from all) proposals for international levies would be technically feasible, most seem politically unrealistic.⁴¹

Member state taxation. Carbon taxes and levies represent another potential source of revenue that could be earmarked for REDD+. Such taxes and levies exist in Denmark, Finland, France, Norway, Sweden, Ireland, Switzerland, and the UK, and a tax has been proposed in Italy.⁴² In most cases, revenue is directed to government budgets, though in certain cases a portion is directed to green energy programs. While it is likely that over the next decade additional green taxes will be adopted, it is unlikely that the proceeds of such taxes will be earmarked to REDD+.

3.1.3 Additional Budgetary Allocations

EU member states may decide to make REDD+ specific budgetary commitments pursuant to their Paris commitments. While international legal agreements have consistently failed to impose or even define taxes, governments have scaled up climate finance from public budgets in recent years pursuant to finance commitments under the Copenhagen Accord and other public pledges. Public “fast start finance” for 2010-12, the commitment to jointly mobilize USD 100 billion from public and private sources by 2020, and the establishment of the Green Climate Fund have created momentum and encouraged pledges by individual member states. REDD+ has been part of this momentum, including USD 4 billion worth of REDD+ financing pledges by donors during and after Copenhagen.

An international mitigation commitment could increase the political support for public finance for REDD+ in some countries. Meeting national climate pledges announced to the international community is generally a higher priority than providing climate finance, and could mobilize new budget lines. For example, several European countries set up national purchasing programs for certified emissions reductions under the CDM to meet their national commitments under the ESD and the Kyoto Protocol, outside of their official development assistance (ODA) budgets.

While public finance can make an important supplementary contribution, it is unlikely to be adequate, predictable, sustainable, and long-term. This is especially true if it is based on annual appropriations. From a technical standpoint, public finance is relatively straightforward. Yet, experience with using ODA budgets for REDD+ has demonstrated some peculiar challenges. For example, donor bureaucracies find it challenging to withhold funds in the absence of results, or to make forward pledges from future budgets for future results. However, aside from additional mitigation commitments, REDD+ finance from public budgets may be the most likely short-term source of funds for REDD+.

Earmarking funding to the Green Climate Fund. There is currently an ongoing debate on how the Green Climate Fund (GCF) funding can be used for results-based REDD+ payments. Clearly, the GCF is not opening a new source of funding, rather it defines a new disbursement channel. Given the international pressure to support the GCF, many developed countries have pledged to channel a significant share of their public climate finance through it. Therefore, any funding that can be steered toward REDD+ payments, would increase the overall funding of REDD+. Countries could advocate that a share of the GCF goes to REDD+ finance and note that a large share of the REDD+ finance is results-based.

Hypothecating reduced high-carbon subsidies for REDD+.

It is well known that fossil fuel subsidies far outstrip climate finance globally. The G20 agreed to phase out harmful fossil fuel subsidies in 2009 but has struggled to make progress. However, a range of countries including India, Indonesia, and Malaysia are now taking advantage of low oil prices to ratchet down subsidies and there is pressure on the G20 to make a new, more concrete commitment in 2015 (e.g. eliminating fossil fuel subsidies entirely by 2025). While the elimination of subsidies benefits climate finance by adjusting the relative price signal, the G20 could agree to spend some of the freed up government resources on international climate finance.

3.2 Mobilizing Private Finance

3.2.1 Forest Foundation Fund

Developed country treasuries could also guarantee funds borrowed at very low interest rates in their respective liquid money markets to create an endowment fund (the Forest Foundation Fund).⁴³ This method is similar to the guarantee national governments routinely provide for domestic bank

⁴⁰ United Nations. *World Economic and Social Survey 2012: In Search of New Development Finance*.

⁴¹ United Nations. *World Economic Situation and Prospects 2015*.

⁴² Reuters, “Italy to introduce carbon tax to fund green energy,” 17 April 2012, at <http://www.reuters.com/article/2012/04/17/italy-carbontax-idUSL6E8FHALR20120417>.

⁴³ The former treasurer of the World Bank, Kenneth Lay, has proposed this innovative solution to raising finance for REDD+ payments. The idea was presented to the Center for Global Development’s Working Group on Performance-Based Payments to Reduce Deforestation, and was scheduled to be presented at the group’s London meeting on 29 April, 2015.

deposits. The money could be pooled in a global endowment fund managed by a professional fund manager and invested in a standard portfolio of assets similar to other endowments. The profits from the difference in risk and return profile between the money market and the endowment portfolio (net of finance and admin costs) could be spent on REDD+ payments according to pre-defined rules.

This option is potentially very scalable, provided governments are willing to issue the guarantee. The proposal formulated by Kenneth Lay, former World Bank treasurer, is for an endowment of USD 100 billion, based on recent historical data that include the financial crisis. It would be estimated to generate a net return of USD 5.25 billion per year, or, at a cost of USD 5 per ton, a demand for 1 billion tons of REDD+ emissions reductions per year.

Technically there seems to be no major obstacles to this proposal. In fact, it has major advantages compared with other approaches that rely on private sector demand or financing from national agencies. It could set prices at efficient levels and create a transparent, rule-based and predictable payment structure for verified emission reductions. It would provide relatively predictable demand. Annual fluctuations in returns could be evened out across years. The proposal does not require EU decisions but would need a critical mass of large, creditworthy governments behind it.

Politically, however, this proposal seems less realistic, at least in the near term. It remains to be seen whether finance ministries, central banks, or bank regulators would agree to use their national creditworthiness to guarantee loans to the proposed Forest Foundation Fund. There would be a long list of similar demands for other good uses of such credit: broader climate finance, development finance, and even domestic finance; for those reasons, finance ministries tend to be extremely conservative when it comes to such proposals. It would also require approval by parliaments in some countries. Most likely, a Forest Foundation Fund would need political leadership from the heads of state and such support may be difficult to obtain before the Paris conference.

3.2.2 Frontloading Revenues through REDD+ Bonds

Bonds can help mobilize funds to reduce deforestation; however, they will not mobilize funds for results-based payment. While bonds per se do not mobilize funds for results-based payments for REDD+, they can play an important role in a series of policy and financial instruments that support payments for REDD+ credits.

Bonds are a form of loan that provides the issuer with external funds for long-term investment. They are fixed-income, liquid, financial instruments that provide upfront capital to the bond issuer in return for the promise to pay back the investor the value of the bond (the principle) plus periodic interest (coupons). Green bonds were created to expand the climate investor base by accessing the USD 80 trillion bond market and raise funds for climate-friendly and other environmental projects worldwide. Green bonds constitute a rapidly increasing segment of the bonds market at USD 35 billion, triple the amount issued in 2013. Seventy five percent of these bonds are government-backed, mostly by large state-backed rail companies (e.g. China Railway Corp.) and AAA rated multilateral banks.⁴⁴

The majority of the green bonds issued are either linked to green assets or to revenue streams. Asset-linked bonds are bonds that are often structured to limit recourse to a specific project's assets and balance sheet.⁴⁵ Use-of-proceeds bonds are bonds that are backed by revenue streams from the issuer, which could be taxes, fees, or carbon payments. Highly rated financial institutions can also offer bonds with standard full-recourse to the issuer, with the proceeds earmarked for climate-relevant projects that create positive environmental returns.

There is very limited experience with green bonds in the land-use sector. USD 4.2 billion of the bonds market relates to agriculture and forestry, and 95% of that market stems from sustainable paper and pulp manufacturers and sustainable forest management.⁴⁶ Most of these bonds come from small offerings or from restricted currencies and do not qualify as large institutional investors.

The public sector can take measures to increase investments in green bonds, particularly land-use related bonds. Through technical support programs and cornerstone investments, public entities can increase the volume and acceptance of climate-friendly financial products. They can also increase returns of such products through credit enhancement (e.g. investment programs dedicated to REDD+-relevant projects and programs), policy insurance, the pooling (securitization) of green investments and assets, and the formulation of investment and disclosure guidelines. Public financial institutions have important roles to play in the implementation of these measures. They often correct for the lack of market-based finance by providing the missing financial services.⁴⁷

44 Climate Bonds Initiative, (2014), "Bonds and climate change: The state of the market in 2014," <http://www.climatebonds.net/files/post/files/cb-hsbc-15july2014-a3-final.pdf>

45 Under a securitized model, the investment can also be linked to a pool of projects or assets. Securitization refers to creation of a financial instrument by combining assets with different risk profiles, followed by repacking and marketing the instruments in tiers that reflect the different risk levels.

46 Climate Bonds Initiative, (2014).

47 EU Commission, (2015), "Shifting private finance towards climate-friendly investments," CLIMA.A.2./ETU/2013/0035.

EU member states could support developing countries that seek to issue bonds to mobilize upfront finance for REDD+ strategy implementation in two ways.⁴⁸ First, they can facilitate such bonds by supporting the bond issuance itself, for example by using their AAA credit rating (or that of a multilateral bank like the European Investment Bank or the World Bank) to lower the risk of the bond and the cost of capital for the forest country. Second, by offering forward contracts for carbon payments, a forest country has a bankable future cash flow that can be used to repay the bond, equally lowering the coupon (interest rate) on its bonds.

The bond issuance would attract private capital at a comparatively low cost of capital from institutional investors.

The finance would then be invested in sustainable agriculture, forestry, and forest conservation. Such bonds could be structured as use-of-proceeds bonds and be secured by purchase commitments by developed-country governments that would commit to buy a certain quantity of verified emission reductions generated by the developing-country government (the bond issuer). The price paid for the emission reductions could be fixed, indexed, or indexed with a floor. The risk of whether emission reductions will be generated continues to rest with the issuer (the REDD+ country government); however, if emission reductions are verified, the proceeds from the sale of emission reductions can support the repayments (coupons) of the bond.

EU member states could further strengthen and support bonds issued by developing countries through risk-reducing activities that lift investment ratings to levels that are attractive to investors. This could include purchase agreements, guarantees, credit enhancement, subsidies, and tax incentives. Such bonds have been proposed by the Prince's Rainforest Project as part of an "emergency package for tropical forests,"⁴⁹ and more recently by Forest Trends.⁵⁰ Such bonds would fall under "use-of-proceeds bonds" as payments from developed nations would serve to secure the bonds. While the funds that could be mobilized would be linked to results-based payments, bonds would not help mobilize funding to make these payments. Instead, they present an opportunity for regions in tropical rainforest countries that have made progress in reducing their rates of deforestation to lock in that progress now rather than risk backsliding.⁵¹

EU member states could also partner with national or international public financial institutions to raise funds for investments in particular projects, regions, or countries. They could structure bonds and provide credit enhancement.

48 R. Edwards, D. Tepper, and S. Lowery, (2014), "Jurisdictional REDD+ bonds: Leveraging private finance for forest protection, development, and sustainable agriculture supply chains," Forest Trends.

49 The Prince's Rainforest Project, (2009), "An emergency package for tropical forests," http://princes.3cdn.net/f29d276ce664b2db67_y6m6vtxpe.pdf.

50 R. Edwards, et al., (2014).

51 Ibid.

The World Bank already issues full-recourse bonds in favor of projects that meet the Bank's eligibility criteria for low-carbon and climate-resilient development, including afforestation, reforestation, and avoided deforestation projects. Similarly, the European Investment Bank has successfully launched green bonds. The majority of funds mobilized via green bonds currently target energy and urban investments. However, EU and other governments could work with public financial institutions to develop bonds that focus on particular regions, commodities, or deforestation drivers. They could, for example, set up a fund dedicated to pasture restoration in Latin America or greening the palm oil supply chain. There are currently few dedicated financial products that combine sectoral focus and expertise with a focus on impact and emission reductions.

EU member states and public financial institutions can structure tradable and liquid bonds that finance projects that reduce deforestation in REDD+ countries. Such bond issuance can be linked to a discount in results-based payments at the national level. EU countries that structure finance to support REDD+ investments could combine the backing of bonds with REDD+ credit off-take commitments for emission reductions. Since bonds help mobilize upfront finance, forest countries may agree to provide verified emission reductions at a discount to bondholders. EU member states could also combine investments in REDD+ projects with measures that create demand for REDD+ credits as discussed in section 2.

Climate bonds for REDD+ have, at least in theory, the potential to raise significant finance. In 2014, the Climate Bonds Initiative estimated the universe of climate-themed bonds outstanding to be USD 502.6 billion and growing—up from its estimate of USD 346 billion in March 2013.⁵² How much of this funding is accessible for forest and land-use bonds is uncertain. To access larger sums of capital provided by institutional investors the share of indexed bonds would have to increase. A standardized reporting format for use of proceeds would also help.

The ability of a bond to raise money at reasonable costs depends on the quality of the issuer. Debt issued by highly rated governments or multilateral development banks is regarded as safe. The debt of poorer developing countries often carries substantial risk as the default risk is higher. Not only developing country bonds, but also corporate bonds, are normally required to offer higher yields to compensate for the higher default risk. Use-of-proceed REDD+ bonds will almost certainly be classified as very risky assets, while credit enhancement measures of highly rated governments or bonds issued directly by public financial institutions backed by these governments would be considered safe and could become an important tool to reduce the costs of implementing REDD+.

52 Climate Bonds Initiative, (2014).

4. Conclusions and Recommendations

There is no magic solution to generating adequate, predictable, and sustainable long-term financing for REDD+.

The most promising strategy for the EU or its member states is to commit to supplemental mitigation action, which can be supported through a mix of private and public financing instruments. Simply put, it starts with political will. With political will, there are a number of technically feasible options. We therefore recommend a staggered approach that starts with political decisions in 2015 and 2016, followed by further refinements of policy options between 2016 and 2020.

The primary strategy for EU member states could be to convince reluctant countries that the full commitment for international mitigation (on top of the EU's 40% domestic cuts) will be divided among the most ambitious member states, for example, those of the Green Growth Coalition.

This should be possible without prejudging the discussion on future effort sharing, given that an international pledge will be separate from and additional to a domestic mitigation pledge. Yet some countries may resist this, fearing future pressure to make deeper domestic cuts as a consequence. Even though the 14 European Green Growth Coalition countries have expressed their willingness to "consider raising the ambition of the GHG reduction target at the level of EU action, including through the use of international carbon market mechanisms,"⁵³ agreement

⁵³ See <https://www.gov.uk/government/news/green-growth-group-ministers-statement-on-2030-energy-climate-policy-framework>

on a more ambitious climate agreement among all EU member states will be challenging. Negotiations to agree on a post-2020 effort sharing, that is, how to divide up the EU's commitments in sectors outside the ETS among its member states, are not expected to be finalized until 2016. This creates a significant challenge for ambitious countries to increase collective EU ambition before the Paris meeting.

In the absence of or in anticipation of EU legislative action through the Effort Sharing Decision in 2016, a coalition of countries could make a political commitment in Paris.

The group of ambitious member states could make a collective pledge for international mitigation (measured in tons or percentages), with the view to including it in the ESD in 2016. This pledge can be made without prior EU agreement or assurances that such inclusion will happen. This political commitment could be included in the ESD as an additional international commitment in 2016. For the remaining period until 2020, countries could address criticism regarding the offset provisions of the ESD by re-allocating a certain share of eligible CDM offsets to those of credible, approved REDD+ programs. Table 2 proposes how EU commitments and national pledges could be staged.

Any type of commitment or pledge would have to be financed, regardless of whether the commitment is expressed as EU or national, and whether it is voluntary or legally binding. Such financing could come from private or public sources, described elsewhere in this paper. If all EU member states agree to include REDD+ in ESD, initial conversations about future linkages to the EU ETS Market Stability Reserve should be expanded.

Table 2: How Potential EU and National Pledges Could Be Staged

	Step 1 (2015)	Step 2 (2016)	Step 3 (2016-20)	Step 4 (2016-20)
Level	Paris Pledge	Commitment (2016)	Public vs Private Finance (2016-20)	Funding Sources (2016-20)
EU	Political, anchored in fall 2015 EU Council Decision	1) Formal, part of Effort-Sharing Decision (ESD); or/and 2) Formal, part of EU Emissions Trading Scheme (ETS) or linked to Market Stability Reserve (MSR)	Public	<ul style="list-style-type: none"> • EU Allowances (EUA) Auctions • National / EU budgets • Green taxes (national/EU) • Forest Foundation Fund
			Private	<ul style="list-style-type: none"> • Market Stability Reserve from REDD+ credits • Compensation credits • REDD+ credits in non-EU ETS sectors
One or more member states	Political pledge	1) ESD 2) Voluntary commitments to supplement ESD	Public	<ul style="list-style-type: none"> • EUA Auctions • National budgets • National green taxes • Proposed Forest Foundation Fund
			Private	<ul style="list-style-type: none"> • Compensation credits for fees/fines at the national level • Voluntary credit programs

Table 3. Pros and Cons of Various Financing Options for REDD+

Option	Advantage	Limitations
REDD + access to EU Emission Trading Scheme	Could generate large-scale demand	Technically and politically unrealistic as long as oversupply persists
Link to ETS Market Stability Reserve	Source of demand	Unpredictable volumes Competes with auction revenues
Effort-Sharing Decision (commitments)	Creates large-scale public demand for REDD+	Fails to mobilize funds directly except through public finance
Bilateral partnerships	Increased public demand for REDD+ credits	Partnerships fail to mobilize funds directly (beyond public pledges)
Compensation credits	Stimulation of private demand for REDD+ credits	Criteria for compensation credits will have to be formulated Politically challenging to weaken compliance with other regulations
International Civil Aviation Organization Offset Scheme	Private demand for REDD+ credits Requires no EU funding (beyond EU airlines which are already paying)	Political resistance within the EU would need to be resolved
EU Allowances auction revenues	Mobilization of large-scale finance for REDD+ payments	Competition for funds
REDD+ bonds	Mobilization of advance finance for REDD+ countries	Does not raise finance
Proposed Forest Foundation Fund	Mobilization of large and predictable finance for REDD+	Politically challenging to obtain guarantees

For each type of international mitigation or REDD+ commitment, a combination of various options could be used to meet the additional target at manageable costs. Some options would require legal action at the EU level; others could be implemented by member states without EU action. Options exist for one or more member states or a group of member states to move ahead, pioneer certain solutions, and show national, regional, and international leadership.

Our analysis shows that there is likely no option that solves all financing problems, and that a combination of measures will be needed. The discussed options address different barriers that alone will not create stable emissions reductions demand or finance for REDD+. When packaged, however, the different options can create demand as well as finance for REDD+. Table 3 summarizes the barriers and advantages of the most promising options.

The proposed additional commitments and targets may provide important momentum in the context of international climate negotiations, as they may serve as corresponding commitments to REDD+ countries that have (Mexico and Morocco)⁵⁴ or are expected to communicate both

⁵⁴ See the UNFCCC webpage that summarizes the intended national contributions of UNFCCC parties: <http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx>.

unconditional and conditional mitigation targets.⁵⁵ Mitigation commitments paired with financing pledges will presumably be a core part of the negotiated deal in Paris. As part of a trust-building exercise for Paris, the Green Growth Coalition countries, the EU, G7, or another group of countries could announce new climate finance initiatives covering REDD+.

Building momentum for including REDD+ in ICAO in 2015 could provide additional confidence to forested countries at a crucial moment in the broader climate negotiations. It would demonstrate that the Warsaw Framework was not just a theoretical construct. Regardless of whether results-based payments against national reference levels form an important part of the post-2020 regime, enshrining this in a multilateral market mechanism for a global sector like aviation would represent a significant win for the REDD+ community. Most important, the scale of the opportunity – between 4.5 and 8.8 Gt through 2030 – could drive tens of billions of dollars to forest preservation activities in coming decades.

⁵⁵ This is expected to include at least the 14 Lima Challenge countries plus the countries – including Brazil and Indonesia – that have submitted reference levels to the UNFCCC.



OPTIONS FOR THE EU TO GENERATE ADEQUATE, PREDICTABLE, SUSTAINABLE LONG-TERM FINANCING FOR REDD+PAYMENTS FOR VERIFIED EMISSION REDUCTIONS

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