REPORT OF THE INFORMAL WORKING GROUP ON INTERIM FINANCE FOR REDD+ (IWG-IFR)

OCTOBER 27, 2009

DISCUSSION DOCUMENT

THIS REPORT IS INTENDED TO INFORM AND BE INFORMED BY THE INTERNATIONAL CLIMATE CHANGE NEGOTIATIONS UNDER THE UNFCCC, AND IN NO WAY TO PRE-EMPT THOSE NEGOTIATIONS. IT DOES NOT FORMALLY REPRESENT THE VIEWS OF THE MEMBER COUNTRIES OF THE WORKING GROUP, NOR OF THE WORKING GROUP SECRETARIAT.

ABBREVIATIONS

AAUs	Assigned Amount Units
BAU	Business as Usual
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COP	Conference of the Parties to the UNFCCC
CDM	Clean Development Mechanism
ETS	Emission Trading Scheme
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility of the World Bank
FIP	Forest Investment Program
GHG	Greenhouse Gas
ha	Hectare
HFLD	High-Forest-Low-Deforestation countries
IPCC	Intergovernmental Panel on Climate Change
IWG-IFR	Informal Working Group for Interim Finance for REDD
MRV	Monitoring, Reporting, and Verification
NGO	Nongovernmental Organization
ppm	Parts per million
REDD+	Reducing Emissions from Deforestation and Forest Degradation (REDD), as well as sustainable management of forests, forest conservation and the enhancement of forest carbon stocks ('+')
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

PREAMBLE

At the invitation of His Royal Highness the Prince of Wales, world leaders met in London on April 1, 2009.[1] On this occasion they acknowledged the great importance of tropical forests in addressing climate change and providing broader benefits for the world, emphasised the urgency of greatly scaling up funding for this purpose, and on that basis established the Informal Working Group – Interim Finance for REDD (IWG-IFR)[2], which has been responsible for producing this report. The work of the IWG-IFR builds on the principles set out in the 2008 Poznan Statement[3] on the importance of achieving progress on Reducing Emissions from Deforestation and Forest Degradation, and was recognized and supported in the G8 Summit declaration on forests and land degradation on July 8, 2009.[4] At the UN Secretary-General's high-level REDD+ event on the margins of the 64th General Assembly of the United Nations in New York City on September 23rd 2009, several heads of state made favourable references to the group's efforts and analysis.

The Terms of Reference (Appendix A) for this group underlines that the IWG-IFR should not pre-empt, but rather 'inform and be informed by' the ongoing negotiations on REDD+ under the United Nations Framework Convention on Climate Change (UNFCCC).

1 Minister of External Relations of Brazil Ambassador Celso Amorim, Prime Minister of Japan Taro Aso, President of the European Commission Jose Manuel Barroso, Prime Minister of Italy Silvio Berlusconi, US Secretary of State Hillary Clinton, Canadian Minister of Finance James Flaherty, Prime Minister of Guyana Samuel Hinds, Secretary-General United Nations Ban Ki-Moon, Chairman of Lloyds of London and representative of ClimateWise Lord Levene of Portsoken, Chancellor of Germany Dr Angela Merkel, Gabon Minister of Defence Ali Bongo Ondimba, Prime Minister of Australia Kevin Rudd, President of France Nicolas Sarkozy, Prime Minister of Norway Jens Stoltenberg, Prince Saud Al'Faisal of Saudi Arabia, President of Indonesia Dr H Susilo Bambang Yudhoyono, World Bank President Robert Zoellick.

2 The IWG IFR member countries are Argentina, Australia, Brazil, Cameroon, Canada, Colombia, Democratic Republic of Congo , Costa Rica, Denmark, Ecuador, European Commission, France, Gabon, Germany, Ghana, Guatemala, Guyana, Indonesia, Italy, Japan, Madagascar, Malaysia, Mexico, Netherlands, New Zealand, Norway, Panama, Papua New Guinea, Peru, Suriname, Sweden, Thailand, Uganda, UK, and USA.

3 Supporting the statement in Poznan were Australia, Belgium, Brazil, Cameroon, Costa Rica, D.R.Congo, the EU Commission, France, Germany, Ghana, Guatemala, Guyana, Indonesia, Japan, Madagascar, Netherlands, Norway, Panama, Peru, PNG, Singapore, Suriname, Thailand, Uganda and United Kingdom. Italy and Ecuador have signed subsequently.

4 See http://www.g8italia2009.it/static/G8_Allegato/G8_Declaration_08_07_09_final,0.pdf. The declaration supports the development of initiatives and measures to promote REDD and recognizes the crucial role of early action initiatives to tackle drivers of deforestation.

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SUMMARY

The struggle against climate change is one of the defining challenges of our time. To achieve the ultimate goal of the United Nations Framework Convention on Climate Change (UNFCCC) and avoid dangerous interference with the climate system, global emissions must peak in the near future and be followed by sustained, deep cuts, as provided by the assessments of the IPCC.

Efforts towards Reducing Emissions from Deforestation and Forest Degradation, enhancement of carbon stocks, conservation, and sustainable management of forests in developing countries (REDD+) will be crucial. Today, economic undervaluation of standing forests drives deforestation and forest degradation. For REDD+ to succeed, therefore, the economic incentive structure must be changed. Concerted global, national and local action will be critical to achieve this.

The UNFCCC constitutes the global framework for countries' efforts against climate change, and should provide the long-term basis for a REDD+ partnership through an agreement on REDD+. The results of the upcoming COP 15 in December should be the starting point for further global action on REDD+. Potential 'interim action' on REDD+ should complement and inform and not pre-empt the Copenhagen agreement and the UNFCCC process.

The importance and urgency of extensive action on REDD+ can hardly be overstated. According to the Food and Agricultural Organization of the United Nations, some 13 million hectares of forest – an area the size of England – are destroyed annually. With land-use change, this causes about 17 per cent of global greenhouse gas emissions as estimated by the IPCC. Stopping deforestation, and promoting afforestation and reforestation, may on some analyses provide up to thirty per cent of the cost-effective global mitigation potential.

Without REDD+, the goal of limiting the rise in global temperatures to 2°C above preindustrial levels will be much harder, and substantially more expensive, to achieve. With REDD+, we may significantly reduce, remove and avoid global emissions at a reasonable cost, while also taking due account of the rights and livelihoods of indigenous peoples and local communities, protecting biodiversity, rainfall patterns and soil quality, and helping developing forest countries adapt to climate change.

Important voluntary efforts are already being made by developing forest countries on REDD+, unilaterally and in partnership with each other, with developed countries, and with multilateral institutions. These efforts should be scaled up,

supported and advanced to accelerate significant short- and long-term reductions in greenhouse gas emissions.

Results-based incentives could greatly enhance the effectiveness of these partnership efforts, complemented by grants for building enabling capabilities. The incentive structure or structures should be simple and flexible. A central element would be a reliable framework for demonstrating the environmental integrity and transparency of forest related emission reductions, removal enhancement and the conservation of existing stocks. A robust and predictable system for mobilizing financial resources from various sources, led by developed countries, would also be needed to stimulate and pay for early action at scale.

Enhanced REDD+ partnerships should accommodate developing forest countries through a phased approach, reflecting their different circumstances. All developing forest countries, whether they currently have high or low deforestation rates, should be incentivized to participate to maximize the impact and to minimize the risk of leakage (i.e., so that emissions avoided in one country do not simply reappear in another). In the first phase developing forest countries would receive grants to develop a REDD+ strategy. In the second phase, the REDD+ strategy *implementation* phase, grant support would be provided to build capacity, while large-scale payments would be provided for demonstrated results in reducing emissions relative to an agreed reference level, as estimated by proxies for greenhouse gas emissions. In the third phase, countries would receive payments for verified emission reductions and removals, as measured by compliance grade and transparent measurements of environmental integrity, and for the conservation of existing stocks.

At its core, the phased approach would provide an economic incentive structure that alters the economic balance currently favoring deforestation and forest degradation and disfavoring reforestation and conservation efforts. It would also accommodate ambitious nationally owned and developed REDD+ strategies.

Supporting the incentive system, opportunities could also be sought for public and private finance and investment to work together to finance actions addressing the drivers of deforestation. This could take the form of credit enhancement, debt/nature swaps, and the use of bonds and other innovative instruments to complement public financing. Although the bulk of the payments envisaged in the interim REDD+ partnership will be based on results, there will be a need for up-front financing to start the virtuous circle of REDD+ payments being re-invested in the REDD+ strategy leading to yet higher REDD+ payments.. This report estimates that if financing of €15-25 billion were made available for the 2010-15 period for results based incentives and capability building, complementing other

REDD+ efforts, a 25 per cent reduction in annual global deforestation rates may be achievable by 2015. These costs are made up of €13-23 billion for payments for emission reductions (of which €3 billion would go towards reduced peat-related emissions) and €2 billion to invest in preparatory activities. The financing need is highly sensitive to the agreed level of payments to developing forest countries per tonne of reduced or avoided emissions. Efforts on this scale could if effective reduce annual deforestation by about3 million hectares per year, for an accumulated total emission reduction of 7 Gt CO_2e for the period (including reductions of peat-related emissions).[5] They could also generate economic benefits for developing countries, including their indigenous peoples and local communities, conserve bio-diversity, protect water supplies, and provide the longer-term UNFCCC REDD+ process with vital information and experience.

Immediate action on REDD+ is a crucial part of the climate change solution. A global partnership for the interim period could have the following key features:

- It should build on principles agreed under the UNFCCC, and be integrated into or incorporated by the UNFCCC agreement on REDD+ when and as appropriate, by determination of the COP.

- It should be fair, simple, and environmentally effective. There could be appropriate incentives for developing forest countries each step of the way, increasing with results achieved and including incentives to improve the environmental integrity and transparency of results over time. When meeting the relevant requirements, including agreement by the parties involved in the transaction, there could be linkage to carbon markets, either domestic, or, if appropriate under UNFCCC guidance, international markets.

- Its keystone could be a results based incentive structure to alter the economic logic to favour REDD+. Most payments could be based on achieved reductions of emissions relative to an agreed reference level. As monitoring capacity develops, one option would be to calculate emission reductions on the basis of proxy indicators and simple formulas, in line with IPCC guidance. Some support to the development of REDD+ strategies and the building of key capabilities is already being provided to developing forest countries. The full range of developing forest countries should be covered. In addition to those voluntary resources contributed by

[5] Of the €13-23 billion, about €3 billion would go towards reduced emissions from degradation and burning of tropical peatlands. Of the resulting 7Gt in emission reductions, about 5.5Gt would come from REDD+ while the remaining 1.5Gt from peat-related emission reductions.

developing forested countries, developed countries could commit to financing for this arrangement through sufficient, sustainable, and predictable contributions.

- While many countries may find the *post facto* incentive payments sufficient to finance their REDD+ efforts, others will need up-front support for REDD+ strategy implementation going beyond REDD+ 'readiness' activities. One option to address this would be to provide some of the anticipated results-based payments in advance and then adjusting payments – up or down – once the actual results are known.

- National leadership and political will are preconditions for successful implementation of a REDD+ strategy. All partnerships should be designed to achieve genuine results in an economically, politically, socially, and environmentally sustainable way. They should ensure that financial flows are deployed in a transparent manner towards REDD+ and other low carbon development objectives. Ambitious national REDD+ strategies should be developed in a participative and transparent process, and in particular take due account of the rights and interests of indigenous peoples and local communities. REDD+ activities should safeguard the conservation of biological diversity and support sustainable economic development.

- Cooperation and coordination should be strengthened to make approaches and standards more consistent across bilateral and multilateral REDD+ efforts and to streamline processes. This could be supported by a light-touch function that lays out a set of globally shared standards and coordinates efforts. This function might also support implementation, create guidelines for ensuring the environmental integrity of results, fiduciary transparency, and appropriate social and environmental safeguards. Advantage could be taken of existing partnerships – including South-South cooperation – as well as established arrangements such as the Forest Carbon Partnership Facility, the UN-REDD Programme, the Global Environment Facility, the ITTO, the facilities offered by the Regional Development Banks, and the Forest Investment Program. Crucial gaps in the existing institutional landscape would need to be filled. Institutional arrangements need to be coherent to increase efficiency and reduce costs. Procedures and institutions should be designed for forward compatibility with a UNFCCC mechanism.

- Developed and developing countries need to work together to address all significant causes of REDD+, by for example taking measures to tackle the

trade of illegally logged timber and developing supportive markets for legal and sustainable forest products.

- Recognition of financial contributions in the interim period as well as any inclusion of credit for early action by the UNFCCC would support immediate action. Any such arrangement will be determined by the Parties within the UNFCCC negotiations.

Immediate action on REDD+ could contribute tremendously to countries' joint efforts to address climate change. The key elements of a simple, effective, efficient, and equitable mechanism could be set up by the end of the first quarter of 2010, based on the agreed outcome of COP 15 in Copenhagen. The IWG-IFR might, if deemed useful by countries in the light of results at Copenhagen, reconvene in early 2010 to consider further steps to facilitate immediate action on REDD+.

1. INTRODUCTION

Addressing climate change is one of the defining challenges of our time. Through the United Nations Framework Convention on Climate Change (UNFCCC), countries are working to avoid 'dangerous anthropogenic interference with the climate system', and to do so within the context of sustainable socio-economic development. At the 15th Conference of the Parties (COP 15) of the UNFCCC in Copenhagen in December 2009, countries will negotiate a new, global climate change agreement to help bring the world closer to this goal.

UNFCCC negotiations are comprehensive and complex, and an internationally agreed outcome at COP 15 could take time to implement. Meanwhile, climate change is happening, and immediate action is vital in all sectors of the world economy to address its causes – by improving energy efficiency, increasing the supply of clean energy, and raising the carbon efficiency of the agricultural and forestry sectors. Every year of delay will 'cost' an irreversible 3-5 ppm increase in the greenhouse gas stabilization concentration that can be achieved. [6] Immediate action on all significant, cost-effective mitigation levers is therefore crucial.

This document proposes the establishment of a global interim REDD+[7] arrangement that unites developed and developing countries' efforts around a common goal of reducing deforestation and degradation by 25 per cent by 2015. Its keystone would be the establishment of a results-based incentive structure that rewards countries for reducing emissions from deforestation and forest degradation relative to an agreed national reference level. The arrangement would establish a commitment from developed countries to pay participating developing forest countries[8] for reducing forest-based emissions, and on a commitment from forest countries to place their development paths on a low carbon trajectory and accelerate their progress.[9] Financial flows might occur in the context of bilateral

6 The IPCC's estimate of 2005 CO_2e concentrations is 455 ppm. However, if the effect of aerosols is taken into account, the effective concentration is approximately 375 ppm. With concentrations rising by approximately 5 ppm per year – 2-3 ppm flow per year, adjusted to 5 ppm for the emissions from the high-carbon infrastructure put in place until 2009 – the estimate for 2009 is 395 ppm.

7 REDD+ is here defined as in the Bali Action Plan (2/CP.13) to include 'Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.' (Available at http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf)

8 Taken here to mean all developing forest countries, including tropical, subtropical, and temperate forest countries.

9 This would build on the existing commitment under the Bali Action Plan (available at http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf)

or multilateral deals, and a set of standards is proposed to ensure quality and a minimum level of consistency across deals. The arrangement could be supported by a light-touch institutional structure, building largely on existing institutions, that lays out a set of global shared standards and coordinates efforts. It may also support implementationand provide guidelines to ensure the environmental integrity of results, fiduciary transparency, and appropriate social and environmental safeguards. All elements of the arrangement should be designed for forward-compatibility with a UNFCCC mechanism.

The REDD+ Context

Without REDD+, the goal of limiting the rise in global temperatures to 2°C above preindustrial levels will be much harder, and substantially more expensive, to achieve. Every year, more than 13 million hectares of the world's forests are lost. Greenhouse gas emissions from deforestation, forest degradation and the associated land-use change are greater than the total emissions from the European Union; they are also more than all the cars, trucks, planes and ships in the world combined.

The damage caused by deforestation is not limited to greenhouse gas emissions, but also includes a range of other social, economic and environmental impacts. Forests support the livelihoods of large numbers of indigenous peoples and local communities, and provide essential ecosystem services to the world – by influencing weather patterns, protecting water supplies, maintaining air, water and soil quality, providing a habitat for animal species, and securing enormous biodiversity.[10] Forests also make it easier to adapt to climate change.

Many developing forest countries want to play their part in international efforts to address climate change and preserve the other benefits forests provide, by protecting their forests and slowing rates of deforestation and degradation. Possibly as much as one third of the cost-effective opportunities for reducing global emissions in the short term may be found in the forestry sector of developing countries. Yet deforestation continues – and the main reason for this is that deforestation provides near-term economic benefits. Put simply, forests are currently worth substantially more dead than alive.

Correcting this market failure is the key to starting to address deforestation. It will take financial resources on a systemic, international scale to create the right economic incentives for governments, businesses, and individuals in developing forest countries to protect standing forests, grow new ones where appropriate to

[10] See Appendix B for valuation of non-climate services of forests.

safeguard biodiversity and limit or reduce emissions from deforestation and forest degradation. At the same time, the world must systematically address all the main drivers of deforestation and forest degradation.

The international community is working through the UNFCCC to provide the medium- and long-term framework to create these incentives. Such an arrangement should constitute the nexus of global REDD+ efforts. The nature of that agreement and the speed of implementation, however, are unknown. After Copenhagen, Parties to the COP will be in a better position to assess whether what is agreed within the UNFCCC should be supplemented by an interim REDD+ arrangement, operating in accordance with all principles and guidelines agreed under the UNFCCC, or whether urgent action is actually facilitated within the UNFCCC arrangement.

This document is not based on any particular assumption about when a UNFCCC REDD+ mechanism could be operational. Rather, it explores how and to what extent measurable reductions in deforestation and degradation can be achieved in the short and medium term, within or if appropriate even before the UNFCCC REDD+ mechanism is fully operational. In determining how to do this, the document highlights several case studies – from Brazil, Costa Rica and Guyana – which show that significant progress is possible, as articulated by those countries and many others forest countries (Appendix F).

Based on working group analysis and discussions, and on the consideration of other published work, it is proposed that the world can achieve a 25 per cent reduction in deforestation and forest degradation by 2015. To achieve this objective developed and developing countries must expeditiously establish a deep, collaborative, long-term partnership on REDD+. Such a partnership is essential to strengthen the trust that will allow developing countries to embark on the very serious development choice that REDD+ represents with the assurance that developed countries will support them. It would also assure developed countries of the transparency of REDD+ results and demonstrate environmental, financial, political and social integrity.

The keystone of such a partnership would be an incentive structure that turns around the economic and political logic that currently drives deforestation and forest degradation. Section 2 of this paper outlines how this structure might operate. Section 3 explores how a 25 per cent reduction in deforestation and degradation might be funded. Section 4 sets out the components that will be needed on top of the incentive structure in the re-orientation of forest country economies and the creation of sustainable alternative livelihoods. Section 5 outlines the core institutional functions necessary for urgent action on REDD+ to

be as equitable, effective, and efficient as possible, and section 6 outlines a proposed way forward.

This paper describes some key elements of how urgent action could be taken on REDD+. It is hoped that its content will inform negotiations up to and at Copenhagen. If countries conclude after Copenhagen that supplementary action is needed in addition to what is agreed there, they could set up interim REDD+ arrangements to catalyze a genuine global partnership on REDD+.

Why take action now?

There are several good reasons why an interim solution is needed: (i) *REDD+ is a vanishing opportunity*: In the time it is likely to take before all details on REDD+ can be fleshed out, a simplified interim REDD+ at scale represents the largest mitigation potential of any sector. Every month more than 1 million hectares of tropical forests are irreversibly lost, resulting in the release of more greenhouse gases than the monthly emissions of the entire European Union; (ii) *scaling-up REDD+ takes time*: addressing deforestation on a national level requires significant structural changes, and the development of a fully functional international REDD+ scheme under UNFCCC could require several years; (iii) *early action is a catalyst*: taking immediate action can deliver significant emission reductions within a few years, and will accelerate the introduction of a full REDD+ scheme under UNFCCC by providing valuable lessons at local, national and international levels; (iv) *it is doable*: there is sufficient knowledge and consensus on the principles of an interim solution that no fundamental hurdles stand in the way of interim action becoming operational quickly – assuming there is the political will to do so; and (v) *developing forest countries are willing to act now*: the developing forest countries in the Informal Working Group hold approximately two thirds of all tropical forests.

They have all shown their willingness to act now to save the world's forests, and this is an opportunity that must be grasped.

2. AN INCENTIVE STRUCTURE FOR REDD+

Correcting a market failure

Deforestation and forest degradation occur mainly because the environmental benefits of forests are not rewarded by the markets and the emissions from

deforestation and forest degradation are not penalized as a cost. Due to this serious market failure, trees remain worth substantially more dead than alive. It is essential to alter at a systemic level the economic incentive structure of the forest sector in developing forest countries.

The keystone of the proposed REDD+ partnership and of any early action on REDD+ should be the establishment of a results-based incentive structure that pays developing forest countries for reducing their emissions from deforestation and degradation relative to an agreed national reference level.

If this market failure is not addressed at a systemic level, piecemeal interventions at a project level are doomed to inadequacy at best, and irrelevancy at worst. With proper incentives in place, on the other hand, private investment will be able to flow to finance sustainable development activities in a profitable way.

The immediate challenge is to encourage developing forest countries and their developed country partners to intensify efforts to secure significant emission reductions. The proposed incentive structure would align the interests of developing forest countries with the global need to secure forest-based emission reductions, if necessary even before the UNFCCC process has developed an incentive structure that does so.

To be effective, the incentive structure must meet two criteria: (i) it must have close to global coverage – an incentive that is attractive for one country but not others is likely to lead to international leakage (simply displacing emitting activities to another country) and hence represent an ineffective use of scarce finances; (ii) the frameworks to address deforestation and degradation in developing forest countries must be nationally coherent – finance that is made available primarily on a project basis may cause domestic leakage and similarly lead to ineffective use of public and private capital.

From the perspective of developing forest countries, the seriousness of the choices confronting their leaders – and the economic and political risks involved – should not be underestimated. They require predictable frameworks of support over a fairly long period to be willing to take that risk, and to be able to convince domestic audiences that it is indeed a worthwhile choice. The payments for forest climate services (i.e., the results achieved in their REDD+ efforts) need to be sufficient, predictable, sustainable and results-based.

At the same time, developed countries are hesitant to generate payments at the scale required because of uncertainties over whether the results will be achieved in a sustainable way, will be measurable and verifiable, and will demonstrate environmental, political, and social integrity. To address these concerns in a

satisfactory manner, a large number of technical and institutional issues need to be fully resolved, which could take several years. For example, exact data on the carbon content of forests or peatlands are not yet widely accessible and there are fears that international standards to protect the rights and interests of indigenous peoples and local communities may be compromised by premature payments for forest carbon.

Furthermore, developed country governments face challenges in articulating to their citizens why they would be facilitating large-scale financial transfers to developing forest countries during difficult economic times, and so need confidence that the money transferred will be invested to support sustainable, low carbon development and growth. Therefore, the way in which payments for forest climate services are administered needs to acknowledge the technical uncertainties and political realities that are of concern in developed countries.

These challenges are not insurmountable, and countries can create momentum around those parts of the solution that can be implemented now. Interim action can provide that momentum, and build the trust and foundation of a true global partnership on REDD+, which tackles the drivers of deforestation and forest degradation in a collaborative manner, gives due attention to the rights and interests of indigenous peoples and local communities, and begins the journey of transforming the economics of land use and forestry in developing countries.

A phased approach

Developing forest countries with different national circumstances will need different amounts of support and time before they can achieve emission reductions. The incentive system therefore needs to be part of a wider, flexible and phased approach.

The concept of a phased approach to REDD+ is under discussion in the UNFCCC negotiations, and the interim REDD+ partnership must adapt to an eventual UNFCCC definition of phases. The following proposal is, however, in broad alignment with existing proposals for support for REDD+ from several countries and organizations, and suggests a three-phased process from a developing forest country perspective:

- Phase 1: Developing a REDD+ strategy supported by grants
- Phase 2: Implementing a REDD+ strategy, supported by (a) grants or other financial support for capability building, and enabling policies and measures and (b) payments for emission reductions measured by proxies.

- Phase 3: Continued implementation of REDD+ strategy in the context of low-carbon development, payments for verified emission reductions and removals.

Each phase is described in more detail below. It is important to note that the interim period is only likely to cover phases 1 and 2with phase 2 component (b) representing the keystone of the interim REDD+ financing proposal.

For each phase, incentives would increase, because both the finances needed for the necessary activities and the ensuing incentive payments for emission reductions (i.e., payment per tonne) would rise. There would thus be a built-in incentive for countries to increase their efforts and improve their monitoring systems, both desirable features of a well-functioning mechanism.

A number of developing forest countries have already demonstrated their willingness to act in innovative ways that are compatible with the approach of the interim REDD+ partnership. Appendix F summarizes the experiences of Brazil, Costa Rica, and Guyana. These can provide vital lessons for the interim REDD+ partnership – for other developing forest countries, their developed country partners, and international institutions.

Phase 1 – Developing a REDD+ Strategy

Main activities: Phase 1 concentrates on the preparation of a national REDD+ strategy. Some developing forest countries may choose to seek international technical and financial assistance in this process. A good REDD+ strategy will:

- Have strong ownership at the highest levels of government.
- Be developed through a comprehensive, transparent and inclusive multi-stakeholder consultation process, emphasizing in particular the effective participation of indigenous peoples and local communities.
- Identify the drivers of deforestation and forest degradation and where relevant peat-related emissions; select strategies for dealing with these drivers, estimate the relative costs and benefits of REDD+ actions; assess potential social and environmental harm and identify ways of mitigating such risks; establish a REDD+ implementation framework; and provide a strategy to develop systems to ensure the required transparency and environmental integrity of results, based on IPCC methodological guidance and UNFCCC review procedures, including the estimation of a national reference scenario for emissions in the absence of REDD+ actions.

- Demonstrate or start developing the institutional capability to give assurances that international funds to support REDD+ can be invested in accordance with the national REDD+ strategy in the context of a low carbon development, complying with basic standards for transparency, human rights[11], fiduciary oversight, and social and environmental good practice.

- Highlight, where appropriate, demonstration activities, policies, and measures that are clear 'no-regret' moves.

Main source of financing: Phase 1 efforts are already underway in several developing forest countries. Some are self-financed whereas others are financed mainly based on expressions of interest to the Forest Carbon Partnership Facility (FCPF) and the UN-REDD programme and bilateral programs.

Eligibility: Specific eligibility requirements for accessing all phases of REDD+ support will need to be determined by the UNFCCC. Whilst this is being developed, it is reasonable to assume that all developing forest countries that have shown a national commitment to developing a REDD+ strategy should be able to access funds for this purpose during the interim period, which will require increased capital to be made available to the relevant institutions (see section 3 on Financing).

Timing: Several developing forest countries have begun the process of designing REDD+ strategies, and are thus *de facto* already in phase 1. It should be expected that a number of developing forest countries will remain in this phase for several years, and financing for this phase should thus continue to be available as long as there is demand for it.

Phase 2 – REDD+ Strategy Implementation

During phase 2, the REDD+ partnership would incentivize progress through two different but equally important components: a capacity-building component and the above-mentioned incentive system that directly rewards achieved emission reductions, although assessed through 'proxies'. The two components vary mainly in the way they are financed, while both focus on the various elements of REDD+ strategy implementation.

Component (a) – Building Capacity: Policy and Participation Enablers

[11] Countries, individuals and communities should have access to international and domestic law if necessary to resolve conflicts that may arise as a result of REDD+ activities.

Main activities: As developing forest countries start implementing their REDD+ strategy, they will need to strengthen their institutions and key capabilities, and in parallel start to implement concrete policies, measures and actions. For example, this could include:

- the development of relevant legal frameworks and law enforcement capabilities,
- efforts to improve forest governance, including resolving uncertainties around land tenure where necessary,
- sector-specific policies and direct measures to address the drivers of deforestation (see examples below under component (b)),
- further development of required institutions and capabilities to demonstrate the integrity of emission reductions.

This list is by no means exhaustive, and the precise composition of measures would clearly be decided by developing forest countries based on their national circumstances.

Main source of financing: For countries that seek assistance, a narrowly defined set of so-called participation and policy enablers (i.e., the capabilities that are essential for participation in the mechanism – see section 3 on the cost of interim REDD+ for elaboration) could be financed through grants.

Component (b) – Payments for Emission Reductions Measured by Proxies

Main activities: Component (b) of phase 2 represents the keystone of the interim REDD+ partnership. This component is designed to finance the emission reduction results of policies, measures, and activities. The specific portfolio will vary country-by-country in accordance with their own priorities, but examples include further investment in alternative livelihoods in forest-dependent communities, improving land tenure security, restructuring industries which threaten forested areas, supporting sustainable management of forests, sustainable infrastructure planning, and demarcating and titling of land.

Main source of funding: Under component (b) of phase 2, developed countries would pay participating developing forest countries based on the achievement of emission reductions, as assessed through simple-to-measure proxy indicators. The term ‘proxy’ refers to the use of simplified but conservative input assumptions used to calculate changes in emissions (e.g., reduction in area deforested or degraded annually relative to an agreed reference level), ensuring beyond any

reasonable doubt that actual emission reductions are higher than those accounted and paid for.

Large-scale payments would be provided in proportion with demonstrated results in reducing emissions relative to an agreed reference level, as estimated by proxies for greenhouse gas emissions. The methods for establishing reference levels (whether to base them on a formula, and what parameters to use) will need to be established by the participants in the interim REDD+ partnership. They will have to rely where possible on UNFCCC decisions and IPCC guidance and, where appropriate, use expert and professional institutions to verify and independently review progress.

There are a number of options for reference level formulas that could be applied in the interim period. The approach should be chosen by participating countries prior to or immediately after the establishment of the interim REDD+ partnership. They should draw on UNFCCC guidance (including its principles), which covers issues such as international effectiveness, additionality, own action and renegotiation of reference levels as deforestation is reduced.

Independently of the chosen methodology, a number of parameters will need to be agreed – either at national (bilateral) or international levels – to make a proxy-based incentive structure work. These may include selecting the appropriate proxy for calculating emission reductions or removals (for deforestation this could mean selecting a reference carbon density for the relevant area), the incentive level for each tonne of carbon emissions avoided or removed, selecting the reference periods against which to measure emission reductions, and, under many formula-based approaches to reference-setting, selecting a global reference deforestation rate.

A simple approach to emission estimates is to use reduction in deforestation area as a proxy for emission reduction. Default values for forest carbon density per hectare can then be used to convert reduction in deforestation areas to reduction in emissions. These values could initially be either obtained from the IPCC Emission Factor Database or from country-specific data sources where available. The use of default values can cause an error range in carbon estimates - as much as +/- 70 per cent using IPCC Tier 1 default values. To insure environmental integrity and keep the emission estimates conservative, a discount factor could then be applied to published average values. Applying conservative default values, such as the 100 tC/ha used by the Amazon fund, would enable results-based REDD+ partnerships to get started and at the same time provide the incentive for developing forest countries to obtain country-specific carbon stock data at finer scales without delay (in order to reduce the implicit discount applied by using

conservative default values) and to develop and implement robust monitoring, reporting and verification (MRV) systems in a timely and efficient manner.

If a formula-based approach is used to set reference levels, moreover, the environmental integrity of interim REDD+ will be higher if the formula is attractive for a maximum of developing forest countries in all stages of the "forest transition curve" – i.e., not only for countries with high rates of historical deforestation but also for countries that have so far preserved most of their forest area.

Basis for financing: Component (b) results will be paid for ex-post for verified emissions reductions or removals relative to an agreed reference level, l measured through increasingly advanced systems to demonstrate the environmental integrity of results, probably starting with a proxy-based default value and moving through IPCC's three "tiers" of increasing certainty of measurements for higher payments. Eligibility: To enter into phase 2 and receive support under component (a), a country would need to: demonstrate robust plans to address the key drivers of deforestation and degradation; demonstrate that the REDD+ strategy was developed through an inclusive and transparent multi-stakeholder consultation process and involve national stakeholders in the ongoing implementation of the national REDD+ strategy; demonstrate the existence of forest monitoring capability of sufficient quality for proxy based measurements that also safeguards the conservation of biological diversity and adhere to a set of internationally accepted safeguards for the handling of funds and application of internationally agreed social and environmental measures. To receive payments under component (b), a country would also need to demonstrate performance against agreed reference levels.

Timing: Some countries already meet or are very close to being ready for component (a) support under Phase 2; for others this will take time. Qualification for component (b) is likely to require the development of monitoring and measuring capacity beyond what is currently available for most countries, and therefore, building this capacity should be a priority activity for an interim finance partnership.

Phase 3 – Payments for verified emission reductions and removals

Main activities: In phase 3, the implementation of the national REDD+ strategy will be continued in the context of a low carbon development .

Basis for financing: Phase 3 payments will be made solely ex-post for verified emission reductions or removals relative to a set reference level, measured

through advanced MRV systems, based on IPCC methodological guidance, and within an acceptable range of uncertainty. Because of the high quality of MRV systems, there will be low or no discounts for uncertainty of measurements, although possible uncertainties resulting from international leakage or permanence issues may have to be taken into account. Phase 3 will initially require increasing amounts of funding, as emission reduction volumes and price per unit increase. Whether this finance be raised through linkage with compliance carbon markets or through a fund structure is subject to negotiation under the UNFCCC. In the longer term the level of international financing needed will depend on the reference level setting methodology, level of self-financing (if appropriate under the UNFCCC) and amount of mitigation achieved.

It currently seems unlikely that phase 3 will be relevant for the immediate REDD+ efforts described in this paper. The estimates of financing needs for results-based payments in this report are all based on the type of payments envisaged in phase 2 component b).

Need for up-front financing

Since the bulk of the payments envisaged in the interim REDD+ partnership will be based on results, there may be a need for up-front financing to start the virtuous circle of REDD+ payments being re-invested in the REDD+ strategy leading to yet higher REDD+ payments. Increased investment funding available early on might also mean higher and earlier total emission reductions, which should be facilitated by the partnership.[12]

There are two other ways the interim REDD+ partnership can channel up-front finance:

1) By receiving a share of the results-based proxy payments under phase 2 up-front, to be subtracted from the ex-post REDD+ payments of that period.

2) By attracting loans on the basis of expected future REDD+ revenues in capital markets or from MDBs and RDBs.

[12] It should be noted that some actions are likely to be highly effective without a significant need for finance, such as better law enforcement, moratorium on conversion for logging, agriculture and mining etc. Brazil – while partly funded from own budgets – has shown that dramatic cuts in deforestation can be achieved with relatively limited funding. Nonetheless, *incentivizing such actions and sustaining* such gains will require resources and external funding.

Early action under the UNFCCC

Phase 2 activities will require substantial efforts from developing forest countries as well as substantial financial support from developed countries. Both financing and participation will be more likely and substantive if appropriate incentives for early action are included in the COP 15 agreement. Developed countries are already starting to provide funding for REDD+, but still at an insufficient level compared to the identified needs. Developed countries could be likely to contribute more interim finance for REDD+ sooner if they were expecting their financial contribution to be recognized towards their future financial commitments under the convention. For developing countries, recognition for early action could potentially mean that the emission reductions conservatively estimated through simple carbon density formulas discounted for uncertainty can later be recognized, in part or in full and if technically feasible, once the right MRV systems are in place.[13] Any decision on recognition of early action will be taken by the COP of the UNFCCC.

3. FINANCING

Cost of REDD+ in the interim period[14]

Addressing deforestation and forest degradation through interim REDD+ will require substantial financial flows to developing forest countries in addition to developing countries' own efforts. As outlined above, two broad categories of international financing will be needed:

1) Financial support including grants for budgeted activities including capacity building and enabling policies (phase 1 and phase 2, component (a)).

2) REDD+ payments for emission reductions and/or removals to incentivize economic choices and sustainable development consistent with forest conservation and growth (phase 2, component (b), and phase 3).

In addition to these two types of financing, and directly related to a functioning incentive structure, debt capital from public, private and bi- and multilateral

[13] The ability to verify emission reductions retroactively with higher measurement standards will be limited by the ability to build historical time series of land cover and carbon density from field measurements and remote sensing data.

[14] See Appendix C for a detailed discussion of the methodology used for estimating financing needs.

development banks will be needed for investments in, for example, sustainable production in the forest and agricultural sectors to support forest-based mitigation and ensure long-term sustainability through low carbon economic development. These needs are further discussed in Chapter 4.

Interim financing should be understood as the financing needed in the near term before a full-fledged REDD+ mechanism under the UNFCCC is operational, whether that will also be under the UNFCCC or as a separate initiative. Since the timing of this is uncertain, this report has calculated the financing needs for the period 2010-15 *for the sake of illustration only.* No presumption is implied as to the operational date of a UNFCCC REDD+ mechanism.

Financial support

During phases 1 and 2 (component a), financial support including grants is needed to build capacity in three major areas:

1) *Initial readiness* – includes the design of REDD+ strategies through transparent, inclusive, multi-stakeholder processes and the establishment of an embryonic infrastructure to demonstrate the environmental integrity of emission reductions, as well as pilot projects where appropriate.

2) *Participation enablers* – includes the building of the systems required to monitor performance, the building of the financial systems to receive and transfer REDD+ payments, and setting up the basic infrastructure to implement REDD+ policies.

3) *Policy enablers* – the reforms necessary to support REDD+ policies and measures, e.g., policy reforms in areas such as land tenure and land use planning.

We estimate the total *initial readiness* costs to be of the order of €200-250 million over the period 2010-15, covering the establishment of basic REDD+ plans and readiness capacity in 43 countries[15] by 2015.[16] Although these items make up a very small portion of the overall funding need, they exceed the current capitalization of the FCPF Readiness Fund and the UN-REDD programme (which

[15] Making up over 90 per cent of emissions from deforestation, and 1.5 billion ha of forest, selection based on emission estimates from Houghton (pers. comm.) and forest area. Based on estimates from FAO FRA2005.

[16] Based on UNFCCC estimates for MRV costs, published FCPF R-Plans, and Chatham House Report estimates for other costs. Range of estimates adjusted on a per country basis using World Bank Governance Indicators, existing payment system capacity and existing remote sensing capability.

together have so far generated slightly less than $200 million), implying that additional funds will be required.

We estimate the total cost of the *participation enablers* to be in the same range of €200-250 million in 2010-15, with the implementation of MRV systems and establishment of capacity to process payments accounting for most of the costs. While important in the early years, this sum is also small in the bigger picture of REDD+ financing needs for the next five years.

Policy enablers could, based on national circumstances, include building land use planning processes and support services necessary to implement the REDD+ strategy (e.g., hiring and training agricultural and forestry professionals to help make agricultural and forest management practices more sustainable). They could also include reorganizing and strengthening the institutions that currently deal with forest governance and agricultural policies, the judiciary, and the treasury so that they have the capacity to support effective REDD+ policies, and reforming the land tenure system, especially in forested and adjacent areas.

In many, though not all countries, at least some of these actions will be necessary before substantial and measurable results can be achieved on REDD+. Based on our polling of experts, we estimate the total cost of these actions to be in the order of €1.0-2.0 billion between 2010 and 2015. The annual need is expected to peak at approximately €0.3-0.6 billion per year in 2012 before ramping down by 2015.[17]

The cost estimates described above do not make explicit assumptions about self-financing, but rather gross funding needed. Any elf-financing is therefore included. Considering that the total cost estimate is relatively small, however, even large variation in the self-financed portion is not likely to significantly impact the total capitalization needs of an interim finance program. Moreover, the countries, which have the most need for capacity building (LDCs), are also the countries likely to afford domestic action the least.

Emission reductions payments

During phase 2 the financing need shifts from financial support for budgeted activities to payments based on emission reductions performance. Grant support would be tied to progress in reaching agreed benchmarks for policies and

[17] Among these costs, land tenure reform accounts for 30 per cent of the total, institutional reform, land use planning and support services for 15 per cent each, and treasury and judicial reform for about 7 per cent each, with the remaining items accounting for the last 15 per cent.

measures (component a). Once countries start achieving results in emission reductions and have established the initial capacity to demonstrate the integrity of these results, proxy payments for emission reductions take over (component b), and REDD+ revenues can increasingly pay for the investments needed to achieve additional REDD+ revenues. As described above, a set of simple-to-measure proxy indicators may be used to calculate emission reductions payments in phase 2 (component b).

The financing need for performance payments from now until 2015 will rely on the success of the proposed partnership – the more emission reductions, the higher the payments. This should not be seen as an uncertainty, but rather as a true *win-win opportunity*. Regardless of the actual level of performance, the world obtains cost-effective emission reductions at scale, while developing forest countries get access to substantial amounts of funding that can be profitably used to invest in low carbon growth and development and the opportunity to reduce emissions even more in the future under a UNFCCC agreement.

Several sources, including the European Commission,[18] as well as the Eliasch Review published by the UK Office of Climate Change, have proposed a goal of reducing gross deforestation by 50 per cent from its historic levels by 2020.[19] Arguably, this can be translated into an interim goal of 25 per cent reduction by 2015. Such a goal would imply emission reductions from deforestation of about 1.5 Gt CO_2e per year in 2015,[20] and cumulative reduction of about 5.5 Gt CO_2e for the period 2010-15. If emissions from tropical peatlands were reduced at the same rate, the total cumulative reduction in emission would be 7 Gt CO_2e.

As described in the previous section, this will mean generating payments for individual countries success in reducing emissions, as calculated by using proxies for emission reductions. This will require a number of decisions on how exactly

[18] 'Addressing the challenges of deforestation and forest degradation to tackle climate change and biodiversity loss', European Commission, Oct 2008.

[19] Other analyses show that an even higher reduction is technically possible, see for example *Pathways to a Low-Carbon Economy: Version 2 of the Global Greenhouse Gas Abatement Cost Curve.* McKinsey & Company, 2009.

[20] Based on estimates of average 2000-05 annual emissions from Joseph G. Canadell et al., Contributions to accelerating atmospheric CO_2 growth from economic activity, carbon intensity, and efficiency of natural sinks, Proceedings of the National Academy of Sciences of the United States of America (PNAS), 104: 18866-18870, 2007, divided among countries by R. A. Houghton, personal communication. These emission estimates are in the middle of the range reported by the IPCC in Chapter 9 table 9.2 (land based observations) of *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.*

proxies are computed, the amount to be paid per unit of 'proxy' emission reduction, the set of reference levels, and so on.

Many of these details will only be determined when countries prepare their REDD+ strategies (for example national-level data on deforestation rates). However, if funding is to be raised for the period 2010-2015, it is necessary to gauge the range of funding that might be required simultaneously to (i) generate a willingness to participate on the part of forest countries through predictable payments at a reasonable price; (ii) generate a willingness to pay on the part of developed countries that need to know they will secure real emission reductions at a reasonable and affordable cost, without setting precedents that payments will go on in perpetuity.

Appendix C outlines how the costs for a 25 per cent reduction were calculated to determine a realistic range for achieving this goal. The costing model uses five key parameters:

- **A reduction in deforestation levels by 25 per cent by 2015 compared with the 2000-05 average**, but including estimated progress made by Brazil prior to 2010. See Appendix C.15 for more details.

- **A reference level method,** which combines payments for reducing deforestation and for protecting standing stock.

- **A global average deforestation rate** of 0.6 per cent based on the set of tropical and developing countries used in the OSIRIS model [21].

- **An average carbon density for wet and dry tropical forests** of 100 and50 tonnes carbon per hectareto be used in the payment formula, conservatively discounted of both IPCC default values and FAO estimates.

- **A global average interim incentive payment of €4 per tonne CO_2 based on analysis of global opportunity costs as well as the price currently used for the Amazon fund.** This assumption is proposed as an indicative global *average* incentive across all forest countries. Brazil alone is expected to provide roughly two-thirds of all reduction in deforestation in the period (as illustrated in Appendix C.14). Yet, important variations exist across regions for the opportunity cost of deforestation activities, and different incentive levels will likely be negotiated in other countries. Opportunity cost – the income foregone by the alternative high-carbon

[21] Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS), Busch, J. B. et al.

activity – represents a good *indication* of the funding to be required to alter land use decisions, but it has many shortcomings.[22] First, there may be substantial *transaction costs* that would come on top of opportunity cost. On the other hand, average or marginal *private* opportunity cost does not necessarily reflect the incentive required *to the country* to reach the emission reductions target. For instance, in some countries significant results could be achieved through improved law enforcement, which could be achieved with relatively low investment, much lower than would be needed for REDD+ to compete with illegal activities. The negotiated incentive will need to be informed by national REDD strategies as they are developed, and will depend on the specific deforestation drivers being addressed. That said, in most countries an incentive of the order of magnitude €4 per tonne covers the opportunity cost of a substantial portion of current deforestation. Even in Indonesia, where opportunity costs are generally high, recent research indicates that about 30% per cent of total reduction potential from avoided deforestation is at an opportunity cost below €4 per tonne.[23] A global average deforestation rate is used here to establish a 'proxy' for the total incentive estimate used herein by including countries at all stages of forest transition in order to reduce the possibility of international displacement. However, as has been demonstrated by Guyana, it is anticipated that forest countries will more accurately estimate needed incentives during the ongoing 'readiness' process.

Based on these assumptions defining the base case, and with a linear progression towards a 25 per cent reduction by 2015, the interim partnership would need approximately €15 billion in performance payments in addition to the approximately €2 billion in readiness budgetary costs (Exhibit 1). If reductions of greenhouse emissions from the degradation and burning of tropical peatlands were also included in the partnership under similar assumptions (reduction of emissions by 25 per cent by 2015, use of proxy-based performance payments and a similar discount for uncertainty), an additional €3 billion would be required by 2015, yielding an additional 1.5 Gt CO_2e of mitigation 2010-15.[24]

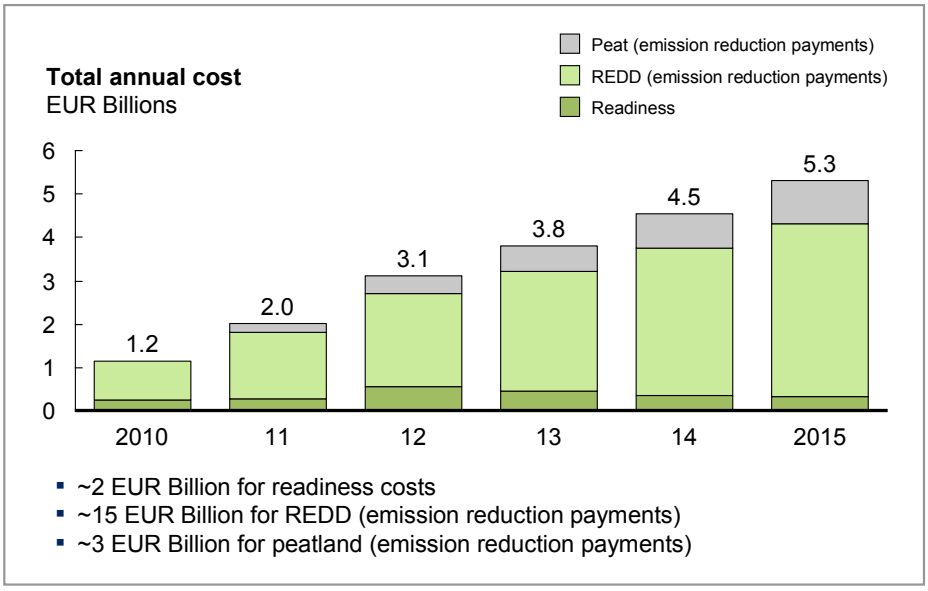
[22] For a good conceptual overview of the various costs of REDD, see Pagiola and Bosquet (2009), *Estimating the Costs of REDD at the Country Level,* September 22, 2009, available at http://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/REDD-Costs-22.pdf

[23] Indonesia's Greenhouse Gas Abatement Cost Curve by Dewan Nasional Perubahan Iklim, Indonesia

[24] Based on a linear reduction of peatland emissions from 2 Gt CO_2e per year in 2010 to 1.5 Gt CO_2e per year in 2015, a 50 per cent conservative reduction of carbon accounting, and a payment of €4 per tonne, Total size of peatland emission is based on estimates from the IPCC AR4 WG3.

Exhibit 1

Interim finance required to achieve 25% reduction by 2015



SOURCE: IWG-IFR secretariat; FAO FRA 2005

As Appendix C.18 highlights, keeping the incentive payment per tonne constant and applying different formulations for the other four parameters means that payments could be as low as €11 billion or as high as €15 billion. In addition, varying the incentive payments, as described in Appendix C. 19, indicates a range of plausible payments ranging from €11-€22 billion. Therefore, the exact financing needs for a 25 per cent reduction can only be determined as the interim REDD+ partnership is being implemented. That said, a range of about €15-€25 billion approximately defines the solution space for readiness funding and emission-reduction payments for REDD+ necessary to achieve a cumulative reduction of about 5.5 Gt CO2e from REDD+ and 1.5 Gt CO2e from peat-related emission reductions for the period 2010-15, with annual emission reductions from deforestation reaching 1.5 Gt CO2e by 2015.

This is broadly consistent with results emerging from work undertaken for the UK Government to model the cost of REDD+ using a top down approach. This analysis suggests a total cost range, including both capacity building and results based payments, of between €9 - € 13 billion yielding a reduction of around 1 Gt

CO_2e by 2015 (about 4 GT CO_2e cumulatively). Adjusting for the greater reduction targets and other assumptions set out in this report brings the two modeling approaches into reasonable alignment.

Even at the lower end, these indicative scales of funding would make it economically attractive for forest countries to start re-orienting their economies, although it would not address all forest-based mitigation options.

Most studies assume that the cost of REDD+ remain constant or even rise over time. However, these studies do not reflect the possible benefits of alternative activities – real alternatives to the extractive use of forests, which tackle the underlying drivers of deforestation - and which can be economically productive and generate jobs and income over the longer term for forest nations. Therefore, domestic-led investment strategies to invest and reinvest in these alternatives now will encourage a shift to low carbon economic trajectories in forest countries. This will help to secure the long-term sustainability of the REDD+ system within the UNFCCC framework, and ensure that further abatement beyond the interim period does not entail an unrealistic financing burden.

Funding

The availability of reliable and predictable short-, medium- and long-term financing is the critical motivation for developing forest countries to embark on a low carbon development path. This will primarily come from REDD arrangement under the UNFCCC. Whether part of 'Early Action' under the Convention or as a separate voluntary track, interim finance for REDD+ can provide the incentive to move faster while the details of the UNFCCC mechanism are being established, and can also lead to higher emission reduction volumes and incentive payments for countries once they have access to the full-scale UNFCCC incentive system. While there are several options to support international forest-based mitigation, not all of them are equally suitable, or equally important, for interim REDD+ financing, e.g. because of the time taken to establish them.

Funding sources

Sufficient, sustainable, predictable and results-based funding will be critical for the success of any REDD+ partnership[25]. Many developing forest countries have themselves committed valuable resources towards REDD+ actions over many years. Substantial amounts of ODA have also been pledged to the forest sector over several decades, albeit with very limited results in reducing deforestation.

[25] See Appendix D for details on potential funding sources.

More recently, developed and developing countries have committed resources specifically towards REDD+. Several bilateral initiatives are emerging, although these flows are difficult to compare due to varying scope and timing of the pledges. Through contributions to FCPF, FIP, the UN REDD programme, the CBFF and ITTO REDDES, some $800 million has been pledged through multilateral channels to the early phases of REDD+.[26] Due to the timing of the contributions, more funding is still needed even for the early phases of REDD+, and the pledged sums are clearly insufficient to fund the incentive structure required to scale up REDD+ actions in phase 2 component (b). Moreover, the mechanisms in question are not designed to be results-based in the sense being discussed in this report – with the exception of the FCPF Carbon Fund, which is still in an embryonic phase..

Several additional sources of finance have been proposed to support interim REDD+. These include various forms of public finance, such as a) domestic self-financed actions; b) direct government-to-government transfers or transactions; c) the use of national or international dedicated taxes or levies, such as taxes on fuels or commodities; d) the use of national or international sources of funds linked to carbon markets, such as dedicated proceeds from the auction of emission allowances in a cap-and-trade system (e.g., as AAUs, EUAs, or potential future US allowances). There are also private sources of funds, such as a) funding towards 'compliance' in the form of partially or fully fungible carbon credits for national or regional emissions trading schemes or through a dedicated REDD+ fund mechanism; and b) funding from private sources such as voluntary carbon markets and philanthropy.

In the timeframe relevant for interim finance, national or international taxes or levies, and funds linked to carbon markets would not be applicable, while development country self-finance will not be sufficient. Therefore, government to government transfers or transactions, supplemented by private voluntary payments may be the most suitable funding sources..

The structure of commitments provided by developed countries through national public finance should be decided by the governments of these countries, who have the opportunity to choose between several different options. Annual direct funding

[26] The main multilateral channels include the FCPF Readiness Fund ($130m), the FCPF Carbon Fund ($70m), FIP (tentatively $350m), the UN REDD Programme ($52m), the CBFF ($195m), and ITTO REDDES ($4m). Bilateral flows are more difficult to compare due to varying scope and timing. The main bilateral programmes – not subtracting the contributions through multilateral initiatives listed above – include: Norway $500m per year (assuming 6 NOK/$), Australia $160m over several years (assuming AUD/USD of 0.8), Germany $700m per year (assuming $/€ of 1.4) for biodiversity, and Japan, which has committed $10bn over 5 years to addressing climate change including REDD+.

from national budgets may be the preferred option for most governments. One alternative option that has been proposed is raising funds collectively through rainforest bonds. Issuing rainforest bonds, however, does not solve the fundamental issue of providing funding, and developed countries already have access to the debt market by issuing sovereign bonds. A collective, dedicated bond issuance would, however, have the advantage of increased predictability for developing forest countries, and might as such be considered a useful option. It would also require that developed countries be willing to give up flexibility over future income streams.

The main drawbacks of these instruments – from a collective perspective – are the additional transaction cost and administrative burden and the time delay they entail, compared to un-intermediated direct payments.. The World Bank has prepared an initial review of bonds and other finance instruments, and its initial analysis is provided in Appendix E. Developed countries interested in exploring these instruments are invited to contact the World Bank, which has offered to look into them in more detail if demand exists.

Generating dedicated public funding from the auction of allowances in domestic or international carbon markets is another option. Under the current formulation of the U.S. cap-and-trade regulation, as approved by the U.S. House of Representatives (ACES - American Clean Energy and Energy Security Act, H.R. 2454)[27], allowances would be set aside to prevent tropical deforestation (starting in 2012, estimated value of €3-5 billion in 2015). If a similar scheme were to be implemented for AAUs, auctions could yield €4-18 billion in 2015 (assuming 2-5 per cent of the auctioned allowances are set aside to support REDD+), of which a proportion would need to be allocated to adaptation funding. Another option is proceeds from government-to-government trades, as foreseen by the EU Council of Ministers. The size and timing of these revenues, however, are still highly uncertain.

Developed countries might become more willing to contribute if the parties of the UNFCCC made a clear commitment to recognize early action in financing against future commitments. Provisions for 'credits for early action' are being discussed under the UNFCCC and will be determined by the COP. Agreement on this would probably contribute significantly to motivating early REDD+ action and funding.

[27] It should be noted that while the ACES bill passed the U.S. House of Representatives, the bill is not yet enacted into law. For that to happen, there needs to be a separate bill approved by the U.S. Senate, and then a merged bill must be approved by both the House and the Senate before being signed by the President. As of late October, the Boxer-Kerry bill has been introduced but not yet voted on in the Senate.

Access to carbon markets provides a potential additional source of revenue. The ACES bill allows for the issuing of offsets against international deforestation, possibly as soon as 2012, up to a theoretical maximum amount of 1.5 Gt CO_2e.[28] The potential near-term emergence of carbon markets that accept REDD+ offsets could draw in interim finance from investors willing to provide finance now against expected future REDD+ revenues.[29] This source of funding will probably remain limited in the interim period until rules are established under UNFCCC. So far, only highly-liquid compliance markets, such as the EU Emissions Trading Scheme (under which REDD credits are not currently eligible), have created such a demand, and even in very mature commodity markets with well developed future markets, like the crude oil market, only a small portion of the traded contracts are for futures for delivery beyond 24 months.[30]

For any set of options chosen, the essential point is that national public financing commitments are needed quickly and at the scale required to substantiate the new incentive structure. How countries would choose to raise this finance would clearly be up to them, and would differ from country to country. The essential point is that no interim arrangement would have the option of raising resources automatically at the international level as the UNFCCC might be able to at some point in the future, but would have to rely on the domestic decisions of its participant members. This holds for 'innovative approaches' such as early carbon market access or rainforest bonds as well as for direct government transfers.

The crucial element in *financing* the interim, then, is not the instruments deployed, but the establishment of commitments by developed countries financially to reward a given amount of mitigation.

4. SUPPORTING COMPONENTS

The growing global demand for timber, food, energy, and other goods is an important and increasing cause of deforestation and forest degradation. Slowing deforestation is likely, over time, to change the shape of the market for these goods: If it drives up the price for commercial products, this could create incentives for continued deforestation. Furthermore, given current trends in

[28] The bill allows for up to 1 Gt of international offsets, which can be increased to up to 1.5 Gt if the supply of domestic offsets falls short of the 1 Gt allowed.

[29] E.g., through REDD+ futures, contracts for the future delivery of REDD+ offsets at a set price, or call options, the right but not the obligation to buy the asset in the future at an agreed price

[30] For example, only about 20 per cent of the contracts for oil futures on the NYMEX commodity exchange are for delivery beyond the following 24 months.

population and economic growth, the demand for these products will increase further. To counterbalance these developments, both the supply and demand for sustainably produced agricultural commodities and timber need to be nurtured.

Moreover, if the global incentive system to support low deforestation development is coupled with shifts towards broader low-carbon development in developing forest countries, this can deliver further emission reductions beyond those already achieved in the forestry sector. In addition to the incentive system described above, three main components are needed to support the re-orientation of these economies, and ensure the long-term sustainability of alternative livelihoods. The first component is access to the relevant knowledge, including technical support in developing REDD+ strategies and broader low-carbon development strategies. The second component is access to sufficient investment capital for the development of sustainable agricultural and forest industries, and the use of innovative financial instruments for that purpose. The third component is measures to promote sustainability in the global agricultural and forest sectors.

Knowledge sharing and technical support

A successful REDD+ strategy needs to be embedded in a country's development strategy – a complex endeavour that will require an integrated policy approach, coordination between the various government agencies and levels of government, broad ownership among public and private stakeholders, and periodic reassessments of policies and measures. While each country's circumstances are unique, the initial phases of interim finance should include a process to collect and disseminate best practices to support countries in the design and implementation of REDD+ strategies. This has already started taking place both through the FCPF and UN REDD programme and through bilateral initiatives, and large scale, transformational country-level interventions are planned through the FIP. All of these initiatives could evolve and improve further based on experiences so far and the evolution of the support requirements of developing countries. The immediate focus of the proposed interim REDD+ partnership would provide the implementing agencies with the funding needed to deliver and expand on the initiated readiness support efforts.

Developing forest countries may also need support to undertake critical analytical work in the preparation for REDD+, including identifying and assessing the causes of deforestation and degradation, assessing their potential environmental and social impacts, and identifying investment gaps in MRV capacity. Several of these support areas can to some extent be replicated or adapted to other countries and regions, with great scope for cost savings and best practice knowledge sharing

through South-South partnerships. Where appropriate, regional initiatives should have access to support, e.g., in processing satellite data or in establishing networks for building capacity to generate the required scale.

Lessons could also be shared on country-specific processes to identify best practices and share experiences. Emerging international multi-stakeholder platforms under the REDD+ planning process can contribute to equitable participation and representation, and, importantly, also ensure more effective and more efficient interventions. They promote better understanding and communication as to the role of each stakeholder group and can therefore help avoid or reduce potential conflicts.

The knowledge sharing and technical support will continue as countries advance through the phases of REDD+. Once strategies are in place, support would shift to actual implementation, such as the development of monitoring techniques, including the sharing of satellite data and interpretation protocols, and the sharing of protocols and reference data for ground measurement of forest carbon. Furthermore, the introduction of low-GHG emission land use activities would need support, such as restoring the agricultural productivity of degraded land, restoring degraded forests, introducing techniques for sustainable management of forests, and coordinating infrastructure and conservation planning.

It will also be important to reconsider precisely how international support for REDD+ efforts is delivered. In particular, the collaboration and cooperation of supporting agencies as well as bilateral support and civil society support will need to be re-examined. Interim efforts should strive to establish one integrated focal point in the government of in each REDD+ country to coordinate REDD+ support, and to propose the kind of support they would benefit from by international partners and from which agency, in what form and through what financing channel they would like it to be delivered. Working out how such cooperation takes place will be a crucial element of successful REDD+, including a possible interim REDD+ arrangement.

Access to investment capital

Readiness and early incentive payments can support the development of domestic financial systems by channeling funds to domestic institutions. Many developing forest countries may choose to seek extra investment capital to focus on broader low-carbon economic development and REDD+ investment strategies. These strategies will be driven by developing forest countries, and they may decide to obtain loan financing or other finance instruments such as credit enhancement, default and currency risk mitigation, that are available through multilateral and

regional development banks (MDBs and RDBs, respectively) on better terms than they would receive in international capital markets. The benefit of doing this is that it could enable access to the international capital markets on the terms available to MDBs and RDBs, who remain among the world's most efficient borrowers. As such they represent a very significant asset in a world of finite financial resources. Developing forest countries may also wish to work with these institutions to make cheaper capital available to private investors for investments in activities that take pressure away from natural forests, improved pasture management and reforestation.

For this borrowing to make sense, however, developing forest countries must be reassured that the incentive payments will be there to help pay back the loans. The FIP has been designed to trial the delivery of this kind of investment finance in a limited number of countries. It plans to finance large-scale investments and leverage additional financial resources, including from the private sector, in forest mitigation efforts and investments outside the forest sector needed to reduce the pressure on forests. Through the MDBs and RDBs, the FIP will provide both grant and highly concessional loan finance for both public and private investments.

Coordination between government intervention and inward private investment in developing countries could help facilitate the provision of financing needed to implement REDD+ measures at sufficient scale, and to pave the way for later access to larger incentive payments for emission reductions, potentially including from carbon markets. Over time, this can – given the existence of macro-economic incentive systems that changes the economic calculus currently favoring deforestation and forest degradation – provide the foundation for self-sustaining REDD+ activities, and support the development of alternative livelihoods. It may also help to start laying the foundations for action to tackle medium to high cost deforestation and degradation activities and reduce the risk of continually escalating global costs.

Currently, perceived investment risks discourage related investments in some developing countries. Wherever addressing these issues appears convincingly useful to tackle deforestation and degradation, REDD+ strategies and capacity building could stimulate private sector investment by mitigating some of the investment risks associated with REDD+ actions. They could do this through a number of financial services including risk guarantees and loan finance. Such financial services could be delivered through bilateral, regional and multilateral development banks, working in partnership with local financial institutions. In this way, targeted investment can have a leveraging effect, facilitating private investment flows into REDD+ efforts, especially if early access to the carbon market, perhaps on conservative assumptions, can deliver additional returns.

Sustainability measures

Developing appropriate policies for all relevant sectors and encouraging sustainably produced forest and agricultural products will be essential to ensuring that reductions are sustained and permanent. These measures should be tailored to address the specific nature of the commodity and its market.

The transfer to sustainable production of forest and agricultural commodities can be facilitated by various actions in consumer and manufacturer nations:

- Developing and enforcing strict regulation to eliminate the trade of illegally-sourced commodities, particularly illegally-harvested timber. Illegal logging is an important cause of deforestation in many countries, a distorting factor in forest product markets, and a strong challenge to the development of strong and transparent forest governance.[31] The combined annual cost of illegal logging and uncollected taxes and royalties on legally-sanctioned timber harvesting is estimated to be $15 billion globally,[32] substantially larger than the current official development assistance to the sustainable management of forests. Legislation in consumer countries that addresses trade in illegal timber and is consistent with WTO rules is a necessary complement to the incentives for avoided deforestation. The US Lacey Act and the EU's Forest Law Enforcement, Governance and Trade Regulation are important contributions, and it would be desirable from a REDD+-standpoint to study the trade implications and effectiveness of these activities and explore the extent to which they could be replicated.

- Supporting the development and harmonization of sustainability criteria for international supply chains of agricultural commodities, bioenergy, and timber. Some developed countries have introduced public procurement policies that favor legal and sustainable forest and agricultural products with a view to developing supportive markets for them by sending a clear signal from demand side.

[31] See Environmental Investigation Agency (2009) *Demanding deforestation*. EIA, Washington DC, and 'Strengthening Forest Law Enforcement and Governance Addressing a Systemic Constraint to Sustainable Development' The World Bank - Report No. 36638-GLB August 2006.

[32] See Seneca Creek Associates and Wood Resources International. 'Illegal' Logging and Global Wood Markets: The Competitive Impacts on the U.S. Wood Products Industry – 2004; World Bank. Sustaining Forests: A Development Strategy. 2004.

- Reviewing the impact of policies and subsides related to agriculture and bioenergy in consumer nations in supporting inefficient and detrimental land-use practices in deforesting countries.

5. INSTITUTIONAL FUNCTIONS

Implementing REDD+ in an effective and credible manner – ensuring environmental integrity of results, fiduciary transparency, and appropriate social and environmental safeguards – will require a set of rules and institutions to coordinate efforts, support implementation, verify performance, and resolve potential conflicts.

The discussion on institutional set-up for climate change in general and REDD+ in particular is ongoing and lively. Several options are being discussed, including having REDD+ as part of National Appropriate Mitigation Actions (NAMAs), or setting up a separate mechanism for REDD+. Regardless of the set-up, it would be highly desirable could interim provisions for REDD+, as well as institutions to deliver it, be agreed at Copenhagen. No effort should be spared to make the UNFCCC mechanism successful.

However, if those efforts are not fully concluded at COP 15 and there is no firm guidance from the UNFCCC on which to base the institutional aspects of an interim REDD+ scheme, certain arrangements could usefully be made to facilitate large-scale interim action. These arrangements should be informed by the UNFCCC negotiations, should not prejudice their outcome, and should be forward-compatible with the future UNFCCC system.

The question of which essential institutional functions would still need to be filled would lie at the core of any institutional design process for REDD+. The section below focuses on the current institutional status of international REDD+ efforts, describes a set of institutional functions that could usefully be filled to ensure the smooth operation of any REDD+ mechanism, points out the gaps between them, and make some suggestions as to how any institutional gaps left after Copenhagen could be filled in as light-touch and simple a way as possible.

Current institutional status of international REDD+ efforts

Both at local and international levels, many funds and institutions are operating today in parallel – some emanating from bilateral, others from multilateral, arrangements. These include the FCPF, the UN REDD Programme, the Brazilian Amazon Fund, and the Congo Basin Forest Fund. Other institutions like the International Tropical Timber Organization and the United Nations' Forum on

Forests are also arenas for forest related dialogue and collaboration. Others are being established, such as the Forest Investment Program and the Guyana REDD+ Investment Fund.

These funds are all making valuable contributions, and could usefully be drawn on and further improved in order to intensify the global efforts. Whether and in what form they will contribute under the UNFCCC REDD+ mechanism is clearly an issue to be determined by the COP. However, should an interim arrangement on REDD+ appear necessary after Copenhagen, the philosophy could be to supplement existing international and local institutions to the extent necessary to ensure interim coordination and quality standards across various REDD+ initiatives. Any guidance given through the UNFCCC should be the basis for an interim arrangement.

One key insight on the current institutional structure is that it is mainly designed to facilitate technical administrative support on a relatively small scale for capability building, policy reforms and to certain extent investments. While the FCPF Carbon Fund does provide a multilateral institutional basis for running a genuinely results based incentive structure, it is yet to be tested. This capability will clearly have to be strengthened and scaled up, either as part of the FCPF or under another arrangement.

Possible functions for REDD+[33]

The following functions might usefully be filled for any REDD+ Partnership to work smoothly:

- *Overall policy coordination on interim REDD+*: Monitor the implementation of interim REDD+ at the global level to help ensure joint approaches to the environmental, financial, and social integrity of REDD+ activities. This function could also provide the forum where the second and third supportive components – maximizing the potential to leverage private capital and innovative financial instruments for REDD+ purposes and coordinating efforts to address the drivers of deforestation and forest degradation within and outside the forest sectors – could undergo top level coordination.

[33] For a good overview of institutional options for REDD+ in the short, medium and long-run, see *REDD+ Institutional Options Assessment,* a study by the Meridian Institute launched at the recent climate talks in Bangkok on October 6, 2009 (available at http://www.redd-oar.org/IOA.html)

- *Assessment:* Options should be explored for temporarily housing this function within an existing institution, unless the UNFCCC mandates an appropriate institution to take over these tasks.

- *Provision of technical support and best practice sharing*, as discussed in section 4.
  - *Assessment*: Both the UN REDD Programme and the FCPF – and their respective implementing agencies – fulfil this role today for phase 1 activities, and may also offer support in implementing the REDD+ strategies in phase 2, as will in due course the FIP. Other organizations also help with expertise in specific areas. Improvements in coordination, specialisation, and cooperation are needed, however.

- *Financial functions,* including coordinating, raising, collecting and allocating grants and performance payments, lending for investments, disbursement of grants or payments, and auditing.
  - *Assessment*: Both the UN REDD Programme and the FCPF as well as bilateral channels fulfil most of these roles today for phase 1 activities, but there is a gap for phase 2, and especially for component (b). National funds and special vehicles could be deployed (such as the Brazilian Development Bank (BNDES) for the Amazon Fund). External auditors could be used as needed. Multilateral (e.g., IBRD and IDA),[34] regional and bilateral development banks could provide more traditional loan financing as required for phase 2 REDD+ strategy implementation and for investments to address the high-cost drivers of deforestation. The Forest Investment Program (FIP) is being set up to finance phase 2 activities. The FIP will provide larger-scale up-front financing to a limited number of countries to support implementation of the REDD+ strategies that emerge from inclusive national planning processes. This will include investments in institutional capacity, forest governance and knowledge sharing. Currently the FIP design does not specify a mechanism to base support on results in a manner comparable to that described here in component (b). One could, however, envisage some FIP funding being advanced on

[34] The International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) ofthe World Bank.

results-based payments under component (b) – to be deducted from the results-based payment ex-post.

- *Registry functions, matching and recording of grant funding, performance payments, and emission reductions achieved.* A key principle could be that countries should be paid neither more nor less than their due given their results and the agreed framework. To facilitate such an outcome, a function facilitating the matching of funding and emission reductions would be necessary.
    - *Assessment*: This function is not currently filled, and would require independence and neutrality to be credible. It could, however, be a minimal 'clearing house' secretariat, keeping track of decisions taken through the certification and verification functions. Options for expanding the role of existing institutions could be explored before new institutions or mechanisms are established
- *Certification of eligibility for* the phases of interim REDD+.
    - *Assessment*: The UNFCCC REDD+ arrangement could establish criteria for financing under each phase, if a phased approach is agreed. In the interim period, where bilateral partnerships are likely to play a key role, developed and developing countries - collaborating on specific initiatives – would likely have to make this judgement, based to the extent possible on guidance from the negotiations.
- *Technical advice.* There are a number of issues on which decisions must be taken politically, but where sound, independent, facts-based technical advice is required to facilitate political level decision making. Even in the interim, there will be a need to set and agree reference levels against which proxy emission reductions are counted, for protocols for demonstrating the environmental integrity of results, and for expert technical advice.
    - *Assessment*: These functions are not filled today. However, the approach used for developed countries offers guidance. Moreover, UNFCCC decisions already provide guidance for demonstration activities that may be updated for a REDD+ Mechanism. Setting up this structure is a core function of the UNFCCC. Any interim arrangements should conform as closely as possible to the above-mentioned guidance.

- *Certification of reference levels.* Once agreement is reached in the negotiations on how to set reference levels, a neutral and credible entity would need to advise whether reference levels developed by individual forest countries conform to these standards.
    - *Assessment*: This function is not filled today, except on a case-by-case basis for voluntary agreements. The UNFCCC will need to set the guidelines and establish or mandate bodies to implement them. If this does not happen, some agreement on interim principles for reference level setting would be needed, as well as procedures and roles for certifying each proposed reference level. Alternatively, this could be done as today through a negotiated outcome between forest and developed country, with forward-compatibility with whatever is later agreed under the UNFCCC.
- *Verification of results* according to agreed standards and following existing precedent.
    - *Assessment*: This function is not covered today for developing forest countries. The UNFCCC has called for 'independent review'. Verification of the environmental integrity of results could potentially be carried out in a similar fashion, using technical experts to inform decision-making, mirroring the process currently applied for developed countries. If the verification process is decentralised, some kind of accreditation of verifiers would be needed. In either case, independence and a scientific, facts-based approach in all forums would be crucial features of this process.

Possible Institutional Arrangements for Interim REDD+

Gaps remain in the international institutional REDD+ set-up, and these will ultimately only be filled through decisions of the Parties to the UNFCCC. If interim arrangements are deemed necessary by countries after COP 15, it appears that the capacity exists to fill most of them temporarily through creative use of existing institutions. The crucial point would be to remain light-touch, and avoid setting up new structures that would anyway be superseded by the UNFCCC structure once that was established. If clear guidance is given from the COP, then obviously the below will have to be revised on that basis.

How in practice to flesh out a light-touch institutional structure for interim REDD+ – based on guidance from COP 15 and these deliberations – would be a major task, to be undertaken immediately after Copenhagen in preparation for possible further efforts of the IWG-IFR.

6. THE WAY FORWARD

This report advocates that immediate action be taken to reduce deforestation and forest degradation in order to combat climate change. Simple, effective, efficient, and equitable interim REDD+ arrangements could be set up already in 2010, taking due account of the results of COP 15, to function only until an operational UNFCCC mechanism is in place.

The main features of such an arrangement are outlined in this report. After Copenhagen further work could be done, both on fleshing out the details of interim REDD+ arrangements, and on creating broader political alignment and securing the necessary commitments. The IWG-IFR, having broad participation from most major developed and developing forest countries, and being open to participation from other parties, could usefully serve as the framework for such an effort for a limited period until the coordinating function could be taken over by a body as agreed by countries.

If, on the basis of the results of COP 15, countries consider it appropriate, efforts under the IWG IFR could continue, including the following:

- Making a systematic effort, in a spirit of partnership, to secure commitments on emissions reductions relative to agreed reference levels (developing countries) and funding (developed countries). Depending on progress in the negotiations, final (though still voluntary) commitments would probably need to be made within the framework of the interim arrangement in order to ensure sufficient predictability.
- Initiating efforts to set up the supporting components of REDD+, including an assessment in depth of the potential to draw on private capital and a proposal for the institution of the required innovative financial instruments, an assessment of the major potential improvements in technical and administrative support and best practice sharing, and a proposal for the coordination of efforts to address the drivers of deforestation and forest degradation.
- Taking the steps needed to determine how the necessary institutional functions for an interim REDD+ arrangement could be filled.

- Inviting other interested countries to contribute to the partnership and securing relevant commitments from them.
- Producing a draft 'partnership document' for an interim REDD+ arrangement.

Under such a scenario the IWG-IFR could reconvene at the beginning of 2010 to consider how best to set up interim REDD+ arrangements. The work could be based on the results of COP 15, the insights in this paper, feedback received, and the results of the above-mentioned workstreams. To be as effective as possible, interim REDD+ arrangements should be launched by the end of the first quarter of 2010.

GLOSSARY

Additionality
Measurable, long-term greenhouse gas (GHG) emission reductions and/or removal enhancements that would not have occurred in the absence of a particular project, policy, or activity.

Afforestation
Direct human-induced conversion of land not forested for a period of at least 50 years to forested land through planting, seeding, and/or the human-induced promotion of natural seed sources.

Business as Usual (BAU) baseline
A BAU baseline represents a projection of what would happen without an intervention, and in this instance serves as a benchmark to measure the impact of REDD+ actions.

Budgetary Cost
Expected actual costs incurred by countries investing in capacity building policies and measures related to REDD+. Calculated based on actual costs incurred historically for similar activities, adjusted where possible for country specific situations.

Cap-and-trade
An emission trading system wherein an international or national regulator establishes an overall cap on emissions, issues emission units or rights, and allows the transfer and acquisition of such rights.

Compliance-grade MRV
A monitoring, reporting and verification (MRV) process that ensures reliable climate benefit associated with real and measurable emission reductions and enhancement of removals (quantified in tonnes of CO_2e) that are compliant with the standards required by the UNFCCC.

Deforestation
Direct human-induced conversion of forested land to non-forested land.

Degradation
Changes within the forest that negatively affect the structure or function of the forest and thereby lower its capacity to supply products and/or services. With

respect to REDD+, degradation refers specifically to a reduction in carbon density.

Forest Carbon Partnership Facility (FCPF)
The FCPF, hosted by the World Bank, was created to assist developing countries in their efforts to reduce emissions from deforestation and land degradation. Objectives include capacity building for REDD+ activities in developing countries and the testing of a programme of performance-based incentive payments in some pilot countries.

Forest Investment Program (FIP)
The FIP, hosted by the World Bank, is a partnership of multilateral development banks to support developing countries' REDD+ efforts, providing up-front bridge financing for readiness reforms and public and private investments identified through national REDD+ readiness strategy building efforts. The FIP will finance efforts to address the underlying causes of deforestation and forest degradation and to overcome barriers that have hindered past efforts to do so.

Leakage
GHG emissions displacement that occurs when interventions to reduce emissions in one geographical area (sub-national or national) cause an increase in emissions in another area through the relocation of activities.

Opportunity Cost
The cost incurred by countries changing existing activities in order to reduce deforestation and incentivize the protection of standing forest (e.g., forgone profit from not issuing timber harvesting concessions). Used primarily to calculate costs of emission reductions beyond interim period.

Mitigation
In the context of climate change, a human intervention to reduce the sources or increase the sequestration of greenhouse gases.

Reference levels
A reference level defines the level of deforestation or forest degradation that performance is measured against. Reference levels can be based on historical or projected deforestation/forest degradation rates, both on the national and on global level.

Reforestation

Direct human-induced conversion of non-forested land to forested land through planting, seeding, and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land.

UN-REDD programme

A Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries, the UN-REDD Programme brings together the Food and Agriculture Organization (FAO), the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP) in the development of a multi-donor trust fund (established July 2008) that allows donors to pool resources and provides funding to, in particular, REDD+-readiness activities.

Verification

Independent third-party assessment of actual emission reductions.

APPENDIX A – TERMS OF REFERENCE

Terms of Reference
for Informal Working Group
on Interim Finance for REDD

Version 4 (final), August 6, 2009

This 'Terms of Reference' sets out the framework for the efforts of the Informal Working Group on Interim Finance for REDD (IWG-IFR).

Background

At the climate talks in Poznan in December 2008, countries[35] made a collective statement on the importance of achieving progress on Reducing Emissions from Deforestation and Degradation (REDD). The statement supported four principles for REDD[36]:

- Financial flows to support REDD efforts must be adequate, predictable, sustainable, and results based, with developed countries contributing significantly.
- National REDD strategies, ownership and commitment to REDD in developing countries are preconditions for success, and should constitute the cornerstone of our efforts.
- Transparent, collaborative, balanced and inclusive international arrangements for supporting REDD efforts should be developed.
- A reliable framework for measuring, reporting and verification is crucial to the integrity and credibility of REDD efforts in general and REDD in the outcome agreed in Copenhagen in particular.

[35] Supporting the statement in Poznan were Australia, Belgium, Brazil, Cameroon, Costa Rica, D.R.Congo, the EU Commission, France, Germany, Ghana, Guatemala, Guyana, Indonesia, Japan, Madagascar, Netherlands, Norway, Panama, Peru, PNG, Singapore, Suriname, Thailand, Uganda and United Kingdom. Italy and Ecuador have signed subsequently.

[36] REDD shall in this document be understood broadly to include all elements mentioned in the Bali Action Plan, section 1 (b) (iii), which calls for "'Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries"'.

On 1st April 2009 His Royal Highness the Prince of Wales through the Prince's Rainforests Project convened a meeting of world leaders in London on the challenges of tropical deforestation. These leaders recognized the importance of significant and rapidly increased early action on REDD and REDD financing. On this basis, they recommended that an informal working group of interested countries be established to explore how to fill this need, and to build the greatest possible consensus regarding its proposals. The working group should be complimentary to, inform, and be informed by – but should in no way pre-empt – the UNFCCC climate change negotiations.

Objectives and Purpose

1. The IWG IFR is an informal forum for technical level discussion with the objective of making recommendations regarding:

1.1. The evolution of financial needs over the short, medium and long term of rainforest nations seeking to embark on significantly scaled up national REDD strategy development and implementation;

1.2. Interim financial mechanisms designed to cover those needs until financial flows can be generated through the UNFCCC, and the contribution that may be required from the public and private sector to implement such interim mechanisms, taking into account currently available financial flows;

1.3. The potential architecture for delivering interim finance for REDD, including deliberations on the potential role of existing initiatives including the World Bank hosted Forest Carbon Partnership Facility and Forest Investment Program, the UN REDD Program and other multilateral, domestic and bilateral initiatives;

1.4. The relationship between interim REDD funding and financing options under the UNFCCC. Adherence of the interim mechanisms to the principles of UNFCCC REDD efforts must be established. An option for adjusting IWG-IFR conclusions after Copenhagen for this end should be retained,

1.5. Other relevant issues should be considered as they related to interim finance for REDD, potentially including but not necessarily limited to:

- demonstrating environmental integrity and transparency of results;

- eligibility and program design requirements;
- inclusive and transparent multi-stakeholder REDD strategy and implementation processes within countries and respecting country ownership; and
- strategies to increase the understanding of the importance of reducing rates of deforestation as part of a global long-term effort to effectively face climate change.

2. The IWG IFR will have the following key outputs:

2.1. If possible a supportive statement on the need for interim financing for REDD at the G 8 summit in Italy in July 2009.

2.2. A draft report by mid-medio July 2009.

2.3. A final report including recommendations and a summary for consideration by Heads of Delegation at the UN General Assembly and the World Bank Annual Meeting.

3. The IFG-IFR could be dissolved by mid- October 2009, but may reconvene after Copenhagen to propose adjustments as required.

Administrative arrangements

4. The Working Group should operate in an open, inclusive, and transparent manner. All interested countries should be able to participate. All interested countries should be able to participate. Relevant international and regional organizations should be invited, as appropriate, though they would not be signatories to public outputs.

5. To ensure timely progress, three administrative arrangements should be established:

5.1. A small, representative core group of countries, with equal representation of donor and tropical forest countries to engage with participant countries, drive the process forward and chair group meetings.

5.2. A Secretariat, hosted by Norway. The Secretariat will have responsibility for logistical arrangements, coordinating underpinning work, funding

developing country travel and other administrative expenses, and circulating relevant documentation.

5.3. A number of technical advisors with solid expertise in private and public finance, tropical forests as well as climate change will be contributing advice as requested to the IWG-IFR. The advisors will be nominated by countries, and the Secretariat will from these nominations propose to the IWG how a broadly representative and diverse set of experts could be requested to contribute.

6. The IWG IFR should aim to work mainly in a virtual manner. Communication should be largely via email exchange and participants will be invited to submit written comments on recommendations made by the Group. Meetings should be kept to a minimum. A work program is proposed under section 8 below.

7. The IWG IFR would decide by consensus on its recommendations. The core group of countries described under section 5.1 would be responsible for drafting statements and/or reports based on discussions in the group, and countries would be free to contribute and endorse.

Work Programme

8. The IWG IFR should work quickly with a time table as follows:

8.1. May: IWG plenary inception meeting in Oslo, Norway.

8.2. Late June: IWG meeting to discuss first set of analyses in Paris, France.

8.3. July: Potential statement of support for interim financing for REDD from G8 Summit in L'Aquila, Italy.

8.4. Early September: IWG meeting to discuss draft conclusions, location TBD.

8.5. September: Final report presented at the United Nations' General Assembly in New York City.

8.6. October: Final report presented at the World Bank Annual Meeting in Istanbul, Turkey.

APPENDIX B - CO-BENEFITS OF REDD

Research on the economic valuation of ecosystems shows that REDD can generate substantial benefits for developing forest countries and for the world in addition to global climate service.

In particular, deforestation and forest degradation also impacts air quality, soil quality, water quality and biodiversity both at the local and at the global level. The COPI report[37], which analyses the cost of policy inaction towards meeting the 2010 biodiversity target set by the so-called Potsdam Initiative – Biological Diversity 2010, finds that roughly 35 per cent of all ecosystem value arises from other services than climate regulation (Exhibit B.1 and B.2). This value can be maintained through REDD. Moreover, further economic value can be ascribed to ecosystems as the non-use value (e.g., existence, option and bequest value) of biodiversity. Finally, it has also been suggested, that old-growth forest sinks about 3 tCO_2/ha/yr, or roughly 5 Gt/year globally (Exhibit B.3).

[37] *'The Cost of Policy Inaction (COPI): The case of not meeting the 2010 biodiversity target'* study for the European Commission, DG Environment under contract: ENV.G.1/ETU/2007/0044 (Official Journal reference: 2007/S 95-116033).

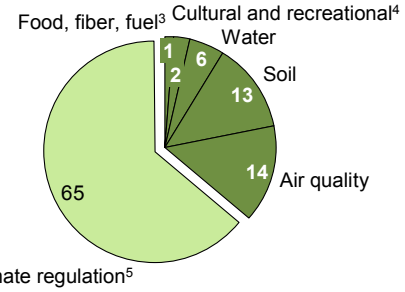
Exhibit B.1

Ecosystems provide other benefits besides carbon storage

Cumulative annual loss of value of ecosystem services in 2050[1]

COPI estimates of ecosystem services loss by type of service across all terrestrial ecosystems[2]
Percent

100% = 14 EUR trillion



- 35% of total value lost is from services other than climate regulation (i.e., carbon storage)
- Loss of ecosystem services from tropical forest biomes is estimated at 25% of total loss, or 3.5 EUR trillion
- There is additional value tied to biodiversity linked to utility or utilization of the biodiversity or its products/services

1 Assuming ecosystem losses at 2000 rates
2 Land based ecosystems: Natural areas, bare natural, forest managed, extensive agriculture, intensive agriculture, woody biofuels and cultivated grazing
3 Excluding medicinal/biochemical values
4 Excluding additional value of biodiversity not tied to utilization
5 Climate regulation loss is valued using a price/tC of 25-180 EUR in 2050

SOURCE: COPI report

Exhibit B.2

Overview of ecosystem services[1] included in the COPI report

	Ecosystem services included in analysis…	… and excluded
Provisioning services	• Food, fiber, fuel • Loss estimated at 400 EUR/ha/yr	• Biochemicals, natural medicines, pharmaceuticals – stock estimated at 1-265 EUR/ha • Ornamental resources • Fresh water
Regulating services	• Air quality maintenance • Soil quality maintenance • Climate regulation, i.e. carbon storage • Water regulation • Water purification and waste management	• Temperature regulation, precipitation • Erosion control • Technology development from nature • Regulation of human diseases • Biological control and pollination • Natural hazards control/mitigation
Cultural and recreational	• Cultural diversity, spiritual and religious values etc. • Recreation and eco-tourism	• Living comfort due to environmental amenities

Calculations of carbon sequestration (tC/ha)
- Price/tC ranges from 6-23 EUR in 2007 and 25-180 EUR in 2050
- Prices are calculated using CASES[2], which estimates damage and avoidance costs
- Lower estimates based on Marginal Damage Cost and high estimates based on Marginal Avoidance Cost

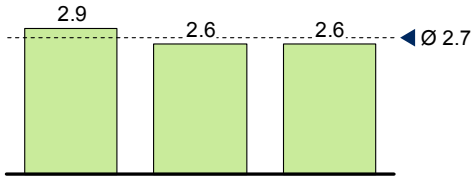
1 Not including additional value of biodiversity
2 Cost Assessment for Sustainable Energy Systems

SOURCE: COPI report

Exhibit B. 3

In addition to the carbon stock lost, each ha of deforested area represents a loss of carbon sink estimated at ~3 tCO_2/yr

Annual sink in old-growth tropical forests
tCO_2/ha



- Inventory plots show that carbon storage in old-growth tropical forests has increased over the recent decades
- Each year the world's old-growth tropical forests sink ~5 Gt of CO_2
- Each hectare of deforested area represents a loss of carbon sink of ~80 tCO_2 over a 30-year period

SOURCE: *Increasing carbon storage in intact African tropical forests.* Nature 457/19, February 2009 4

APPENDIX C – ESTIMATES OF INTERIM FINANCE NEED

Overview of costing estimates and approach used

The cost analysis of interim finance need has been structured into four separate elements (Exhibit C.1). The first three elements, corresponding to phase 1 and phase 2 component (a) in the main report, were estimated based on expected budgetary costs from existing estimates, mainly the Eliasch Review, and refined on a per country level to reduce uncertainty (Exhibits C.3-C.10). The fourth element, phase 2 component (b) in the main report, is the total cost of performance payments for reduced emission proxies estimated based on reasonable design parameters for the incentive structure combined with two options on expected performance (Exhibits C.11-C.22).

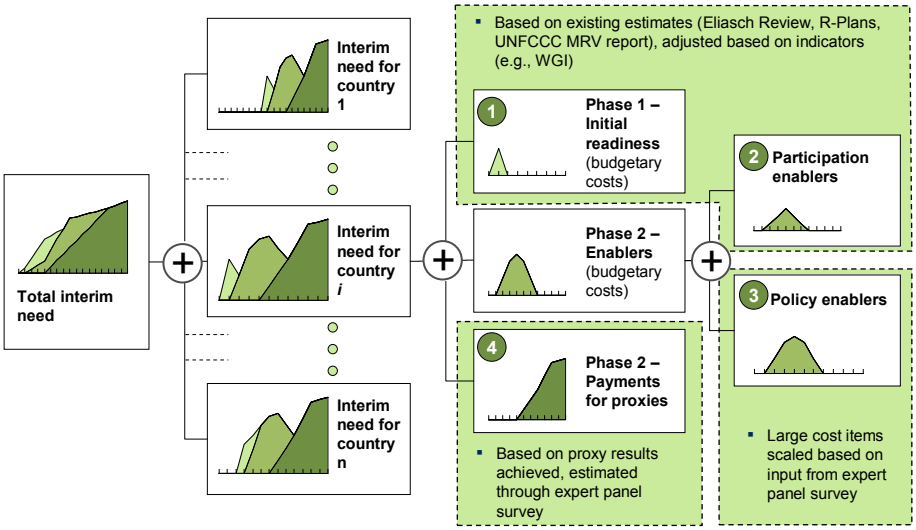
Our analysis suggests the following estimates for each element in the base case:

- Phase 1 – Budgetary costs: Initial readiness: €200-250 million
- Phase 2 – Budgetary costs: Participation enablers: €200-250 million
- Phase 2 – Budgetary costs: Policy enablers: €1,000-2,000 million
- Phase 2 – Emission reduction payments: €15 billion for REDD and €3 billion for peat

Exhibit C.1

Analysis of interim finance need consists of four separate elements

CONCEPTUAL



SOURCE: IWG-IFR secretariat

Methodology and estimates of budgetary costs for capacity building

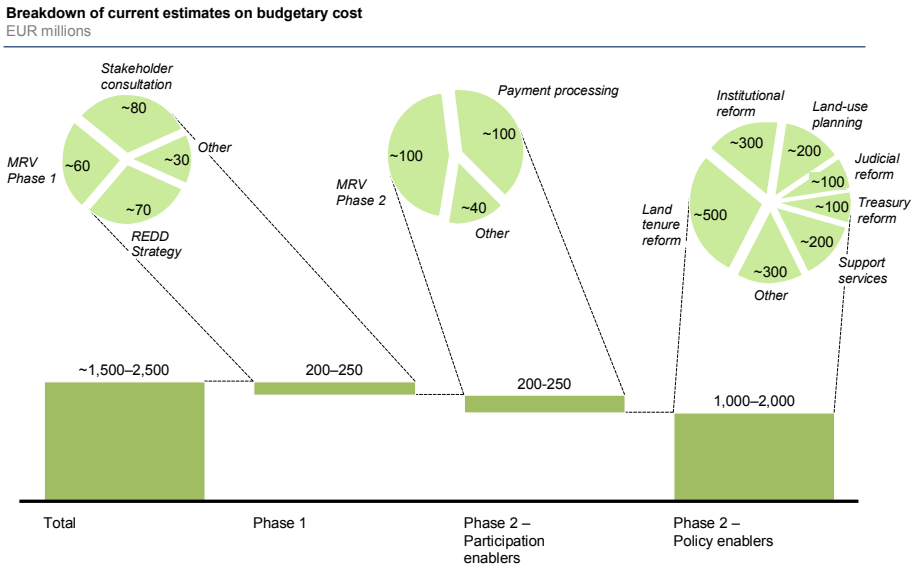
Countries need financial support for budgeted activities to build capacity in three major areas: initial readiness, participation enablers, and policy enablers.

We estimate *initial readiness* costs to be in the order of €200-250 million in 2010-2015, covering the establishment of a REDD+ strategy and initial capacity in monitoring and REDD+ infrastructure. Additionally, we estimate the total cost of *participation enablers* to be in the order of €200-250 million in 2010-15, largely covering further development of monitoring, reporting and verification systems, and payment process capabilities. The financing need for *policy enablers* we estimate to be in the order of €1,000-2,000 million in 2010-15, including land use planning, capacity building for support services, forestry and agricultural institutional reform, judicial and treasury reform, and land tenure reform (Exhibit C.2).

The approach used to generate these estimates builds largely on existing work by the Eliasch Review. Individual cost items have been scaled up or down on a per country basis to increase the granularity of our assessment and decrease the range of uncertainty (Exhibits C.3-C.4).

Exhibit C.2[38]

1 2 3 Estimate of the budgetary cost component of interim finance needs



SOURCE: IWG-IFR secretariat; Delphi expert panel; Eliasch Review; Chatham House background report

38 Estimates of financing needs for consultation are based on Eliasch review and R-Plan estimates, and average to about €2 million per country. Some have indicated this may be too low in many countries, though even doubling them would only add € 80 millions in total, which is not substantial for the overall financing need

Exhibit C.3

1 2 3 Details of budgetary costing approach (1/2)

	Description
Summary of approach	▪ Analysis based on existing cost estimates, with additional analysis focused on largest and most uncertain items in previous work (e.g., 50% of cost and uncertainty in 4 items in Chatham House report used in the Eliasch Review) ▪ Existing cost estimates scaled up or down based on country-specific indicators on a "high, medium, low" basis, on the assumption countries will either need significant new capacity (approximately twice average cost), some new capacity (at average cost) or little new capacity (~25% of average) ▪ Duration, sequencing, and dependencies of costed activities are based on expert interviews and R-plans where possible (e.g., Phase 1), while individual country start dates are based on survey of key experts (Delphi panel) ▪ As countries develop sufficient MRV capabilities for proxies, funding will shift to proxy payments, and for purposes of cost estimation budgetary payments will end after a fixed period

SOURCE: IWG-IFR secretariat

Exhibit C.4

1 2 3 Details of budgetary costing approach (2/2)

	Description
Types of costs included	▪ Participation enablers, including: payment infrastructure for receiving and transferring payments, monitoring, reporting and verification (MRV) capacity building and operation, basic REDD infrastructure (e.g., REDD oversight committee, accounting functions) ▪ Policy enablers for REDD, including: land tenure law reform and land tenure system capacity building, institutional capacity building, land-use planning, treasury reform, judiciary reform, support services capacity development, and other smaller costs (e.g., enforcement of forest laws, independent monitoring, forest law reform, standards and guidelines, tax reform, NGO capacity building
Data sources	▪ **Initial cost estimates** – Eliasch Review, Chatham House report, 2008 – UNFCCC, Report on MRV costs (UNFCC/TP/2009/1), 2009 – Forest Carbon Partnership Facility, R-Plans, 2009 – LTS International, MRV Cost assessment, 2008 ▪ **Country specific indicators** – World Bank, World Governance Indicators – World Bank, Doing Business Indicators – World Bank, Payment Systems Worldwide, 2008 – World Bank, Agriculture for Development, 2008 – United Nations Human Development Index, Education rankings – United Nations, "Sixth Survey on Crime Trends…", 2000 – Heritage Foundation, Property Rights Freedom Ranking, 2009

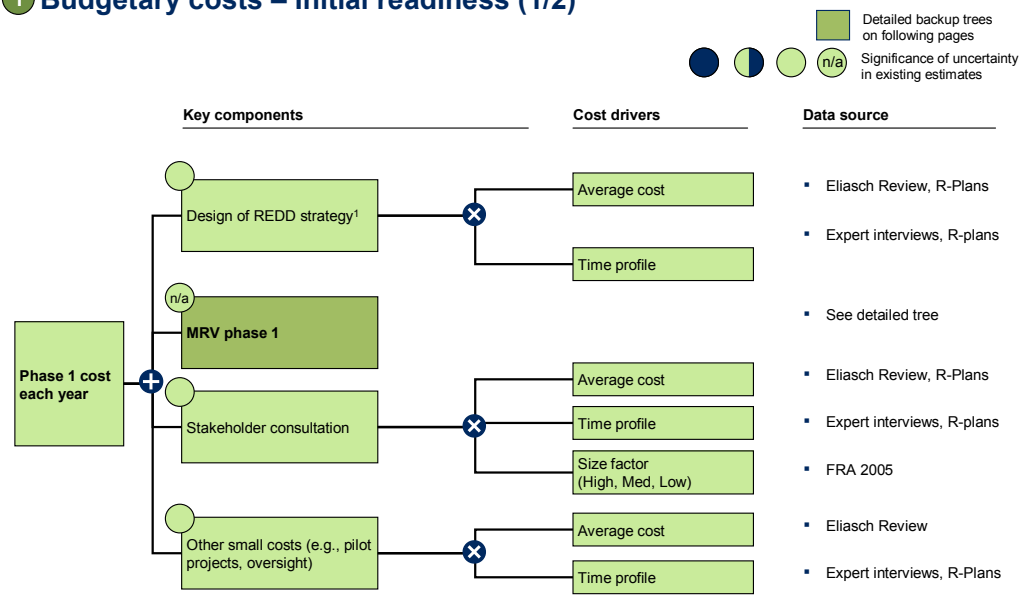
SOURCE: IWG-IFR secretariat

Two methodologies were used to generate scaling factors to adjust cost estimates country by country. In the first case, relatively smaller costs, including initial readiness and participation enablers, scaling was done using an analytical approach to decompose the costs into their main drivers country by country (Exhibits C.5-C.8). In the second case, the larger costs of policy enablers, which are more uncertain and heavily debated, were scaled based on input from the Delphi expert panel survey (Exhibits C.9-C.10).

All budgetary costs were calculated for a set of 43 countries (Exhibit C.25). For the purposes of estimating a reasonable upper range, all countries, even those predicted (in the Delphi survey) to achieve minimal emission reductions before 2015, are assumed to require some funding for capacity building. Of the 43 countries included in the calculations, 36 of them are currently participating in FCPF or UN-REDD and have therefore indicated they will pursue funding for capacity building.

Exhibit C.5

1 Budgetary costs – Initial readiness (1/2)

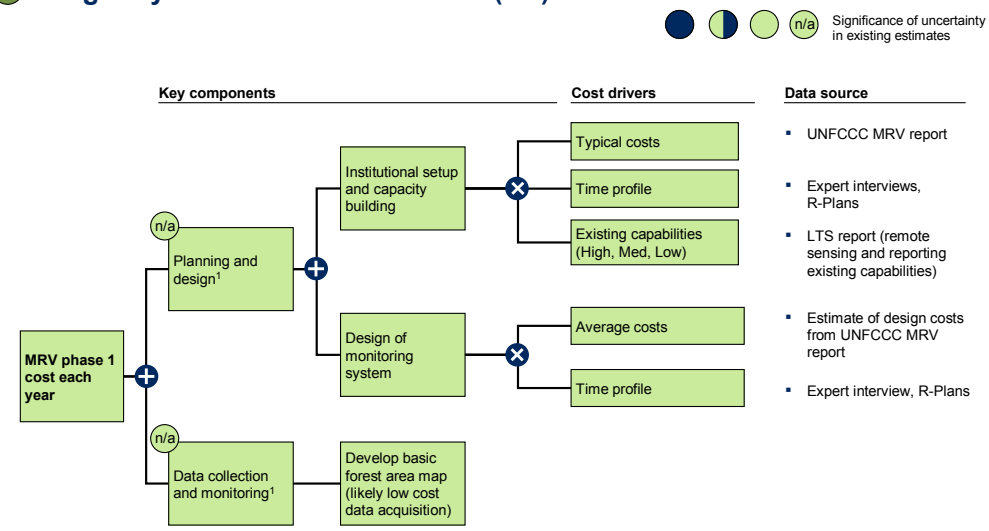


1 Cost of strategy design in full, beyond design work done in R-Plan

SOURCE: IWG-IFR secretariat

Exhibit C.6

1 Budgetary costs – Initial readiness (2/2)

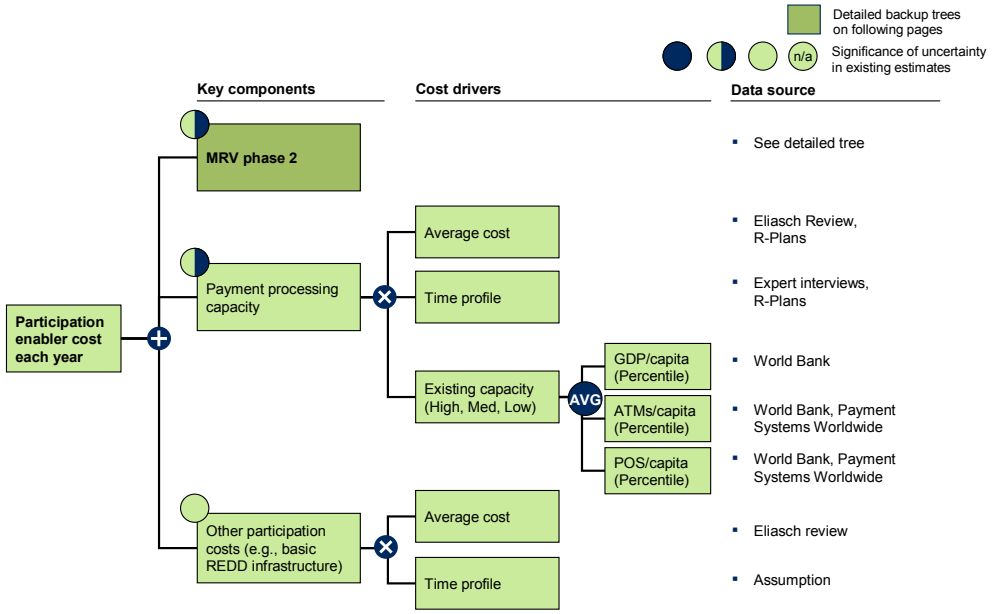


1 Breakdown of MRV components, as described by UNFCCC report on MRV systems and capacity building

SOURCE: IWG-IFR secretariat

Exhibit C.7

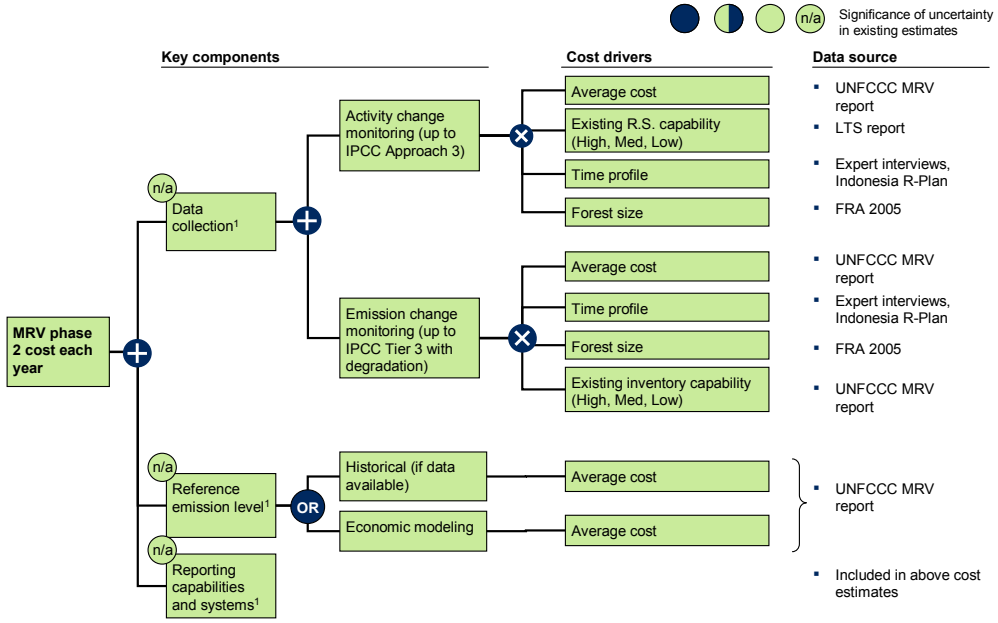
2 Budgetary costs – Participation enablers (1/2)



SOURCE: Eliasch Review; IWG-IFR secretariat

Exhibit C.8

2 Budgetary costs – Participation enablers (2/2)



1 Breakdown of MRV components, as described by UNFCCC report on MRV systems and capacity building

SOURCE: IWG-IFR secretariat

Exhibit C.9

3 Use of Delphi expert panel for estimating policy enabler costs

What is the Delphi method?

- A polling technique for making quantitative forecasts
- Draws on a panel of experts with diverse incomplete knowledge
- Reflects predictions and explanations of others back to panelists
- Used when quantitative prediction is needed and uncertainty is high

What is being asked?

- Estimation of relative level of budgetary costs by country for six largest policy enablers:
  - Land tenure reform
  - Institutional reform
  - Support services
  - Land use planning
  - Judicial reform
  - Treasury reform
- Used to adjust existing estimates of policy enabler cost, on a country by country level

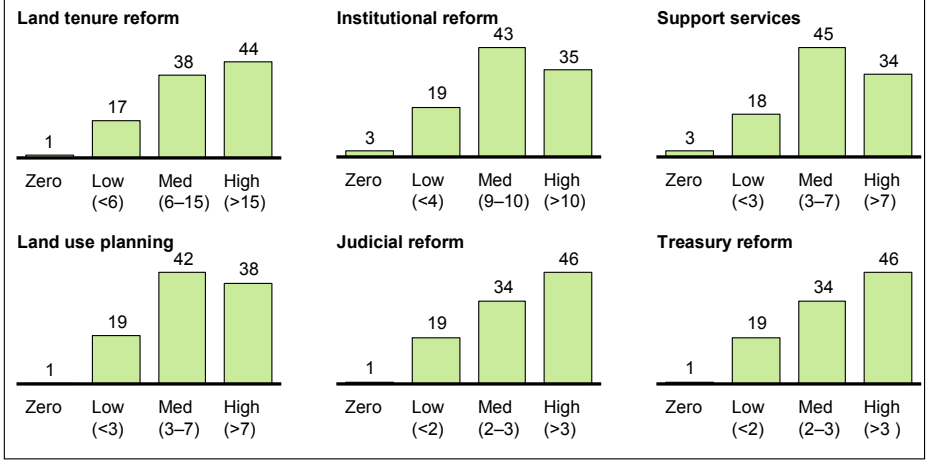
SOURCE: IWG-IFR secretariat

Exhibit C.10

3 Budgetary costs –Policy enablers – Delphi panel results

Question asked: What is the probability that the cost of the below reforms in each country indicated will be (as compared to other countries) high, medium, low or zero, given each country's current level of development and effort required to begin implementation REDD policies and measure?

Average distribution of expected cost across countries surveyed
Percent probability, Cost range (EUR Millions)



SOURCE: Delphi expert panel

Proxy-based costing

The largest portion of the total interim finance need, €18 billion out of the €20 billion in the base case, is driven by payments for emission reduction proxies.

The high degree of uncertainty in estimating future performance, combined with uncertainty on how the incentive mechanism will be designed, means that cost estimates in this section are only designed to illustrate what reasonable costs could be. Nonetheless, to provide insight into the likely magnitude of cost, a series of drivers influencing proxy payments have been examined (Exhibits C.11-C.19) and values for each have been used to generate estimates for the report.

Reference levels

One of the most important and complex drivers, is the selection of a reference level methodology. There are a wide range of options, four of which have been compared for this report (Exhibit C.11). The methodology proposed by Mollicone et al. has been selected for analysis in the report, as it combines payments for reduced deforestation with standing stock, rewards all early action, and has been proposed by recognized experts in the field.

Exhibit C.11

4 There are a number of recognized reference line options which are consistent with requirements for interim period

Used for cost estimates

	Explanation	Rewards all early action	Rewards standing stock	Provides country level certainty	Allows different weightings for reductions vs. maintaining low	Sum of reference lines at or below historical level
Historical only	Payments only for reduction against historical	✓	✗	✓	✓	✓
Combined incentive	Payments only below combined baseline Baseline calculated as weighted average of historical and global	✗	✓	✓	✓	✓
Stock-flow method	Payment for achieved reduction in emissions Portion withheld from each country, distributed based on forest stock	✓	✓	✗	✗	✓
Mollicone et al.	Countries **above** global rate / 2 ▪ Full progress vs. historical Countries **below** global rate /2 ▪ Get amount below global rate / 2	✓	✓	✓	✓	✗

SOURCE: IWG-IFR Secretariat; Mollicone et al ("An incentive mechanism for reducing emissions from conversion of intact and non-intact forests"); Busch, J., B. et al. "Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS)"

Global deforestation rate

Many of the reference level options, including the one selected in the report, require a global average deforestation rate. A number of options exist for calculating this value, depending on the breath of countries included. The analysis in the report uses a global rate of approximately 0.6 per cent, which is based on a set of tropical and developing countries and has been used publicly in previously analysis[39] (Exhibit C.12).

A global average deforestation rate is used here to establish a 'proxy' for the total incentive estimate used herein by including countries at all stages of forest transition in order to reduce the possibility of international displacement. However, as has been demonstrated by Guyana, it is anticipated that forest countries will more accurately estimate needed incentives during the ongoing 'readiness' process.

Exhibit C.12

4 There are a number of options for calculating a global deforestation rate

Used for cost estimates

	Data source	Deforested area (Mha)	Forest area (Mha)	Percent	Comments
Potentially participating REDD countries[1]	▪ FAO 2000 - 2005	▪ All positive deforestation (~10 Mha)	▪ All forest area (1,505 Mha)	▪ ~0.7	▪ Dependent on which countries participate
Tropical + Developing	▪ FAO 2000 - 2005	▪ All positive deforestation (12.1 Mha)	▪ All forest area (2,038 Mha)	▪ ~0.6	▪ Put forth as a default value in OSIRIS model
Global	▪ FAO 2000 - 2005	▪ All positive deforestation (12.9 Mha) ▪ All deforestation (7.3 Mha - net)	▪ All forest area (3,952 Mha) ▪ All forest area (3,952 Mha)	▪ ~0.3 ▪ ~0.2	▪ Same method as OSIRIS, but globally ▪ Includes adding forest in developed (e.g., Spain, US, Italy) and developing (e.g. China, India) world

1 43 countries included in cost analysis, selected from those participating in UN-REDD, FCPF or the countries which make up ~90% of emissions from deforestation

SOURCE: IWG-IFR Secretariat; Busch, J., B. et. Al. "Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS)"; FAO FRA 2005

Carbon density

The proposed interim mechanism will make use of a discounted, proxy, carbon density value. For the purposes of the analysis in the report, reasonable starting values have been proposed for wet and dry tropical forests of 100 and 50 tonnes of

[39] Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS), Busch, J. B. et al.

carbon per hectare. These values are conservatively discounted from both IPCC default values and FAO estimates (Exhibit C.13).

Exhibit C.13

4C For the purpose of estimating costs, two placeholder values have been selected for wet and dry tropical forests

Used for cost estimates

Carbon density
tC / Ha

	Placeholder value used in calculations	FAO 2000-05 above ground carbon[1]	FAO 2000-05 above and below ground carbon[1]	IPCC good practice guidelines
Wet tropical	▪ 100	▪ ~100	▪ ~130	▪ ~150 (Tropical rain forest)
Dry tropical	▪ 50	▪ ~50	▪ ~65	▪ ~65 (Tropical dry forest)

1 FAO densities are based on total tonnes carbon in forests divided by forest area. Wet and dry categories are based on a categorization of the 43 REDD countries included in cost analysis

SOURCE: IWG-IFR Secretariat; FAO FRA 2005; 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Busch, J., B. et. Al. "Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS)"

Incentive

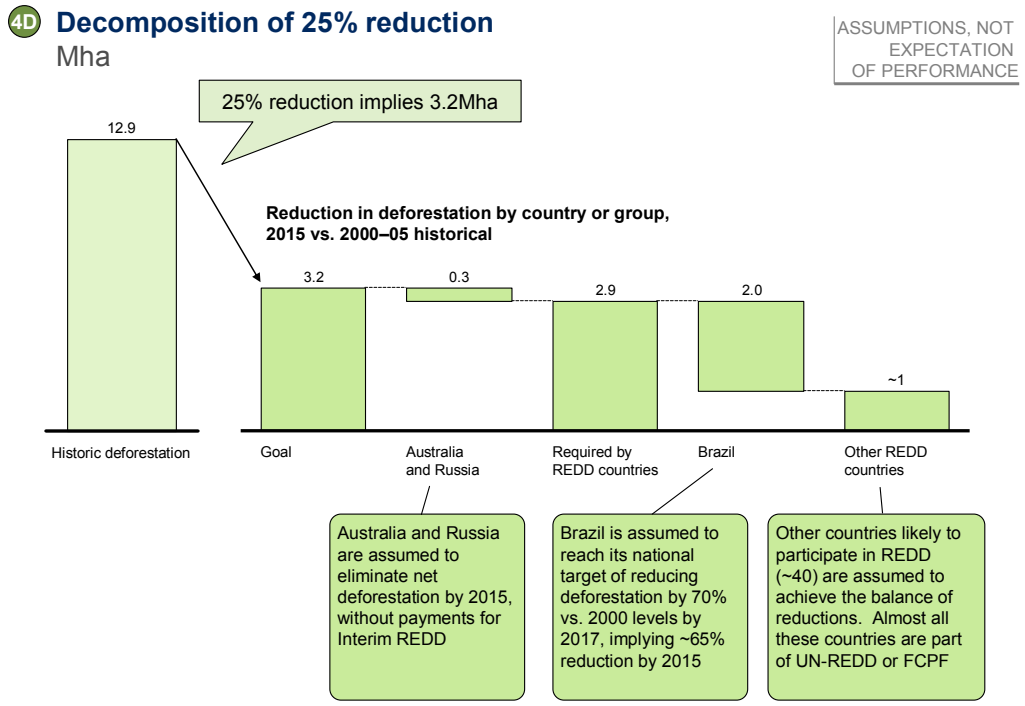
The report does not propose a recommendation on carbon price, as the exact value will be set either globally or bilaterally. However, based on the proposal by the Amazon Fund in Brazil, an incentive payment of €4 per tonne is used for analysis in the base case.

Performance on avoided deforestation

The analysis in the report is based on a global target of reducing deforestation by 50 per cent by 2020, implying a 25 per cent reduction by 2015 compared with 2000-05 historical averages (Exhibit C.14). The achievement of the target includes estimated progress made by Brazil before 2010 (Exhibit C.15). Brazil is on track to reduce deforestation rates by 40% from historical level of 3.1 Mha annually (2000-2005 average). This implies a 2009 deforestation rate of 1.8 Mha. For interim calculations, a baseline of 2.5 Mha is used, building on the Amazon Fund approach of updating the baseline every five years using a 10-year average.

As Brazil's goal is to reduce deforestation by 70% from its historical level by 2017, a reduction goal of 65% is used for 2015. Thus, the country-by-country reductions are set at stated national targets where available (Brazil) or assumed to meet the balance of the global 25 per cent target (Exhibit C.16).

Exhibit C.14

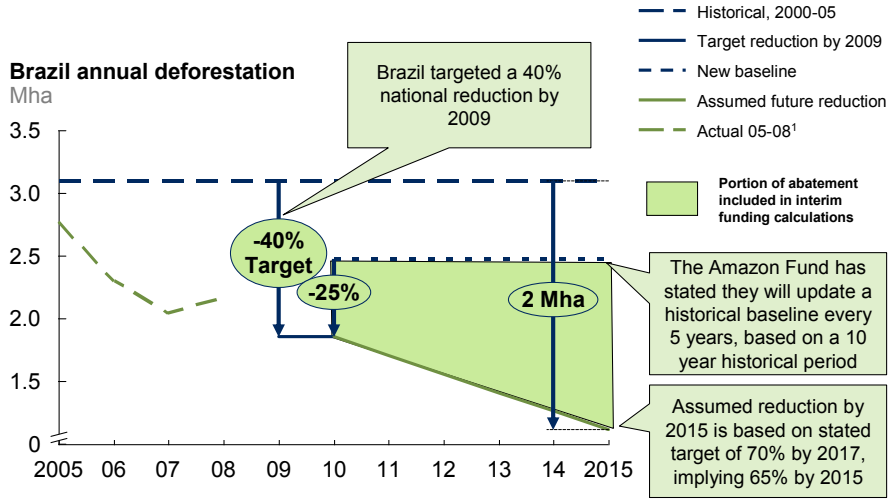


SOURCE: FAO FRA 2005; Brazil National Climate Plan (http://www.mma.gov.br/estruturas/imprensa/_arquivos/96_11122008040728.pdf)

Exhibit C.15

4D Brazil is on track to achieve 40% reduction target by 2009, suggesting a new baseline of 2.5 Mha for Interim calculations, and a starting reduction of 25% in 2010

ASSUMPTIONS, NOT EXPECTATION OF PERFORMANCE



1 Assuming 0.9 Mha deforestation outside of the legal Amazon based on gap between official Amazon deforestation and FAO total Brazil deforestation for 2000 - 2005

SOURCE: FAO FRA 2005; Brazilian National Institute for Space Research estimation of Amazon deforestation (http://www.obt.inpe.br/prodes/prodes_1988_2008.htm)

Exhibit C.16

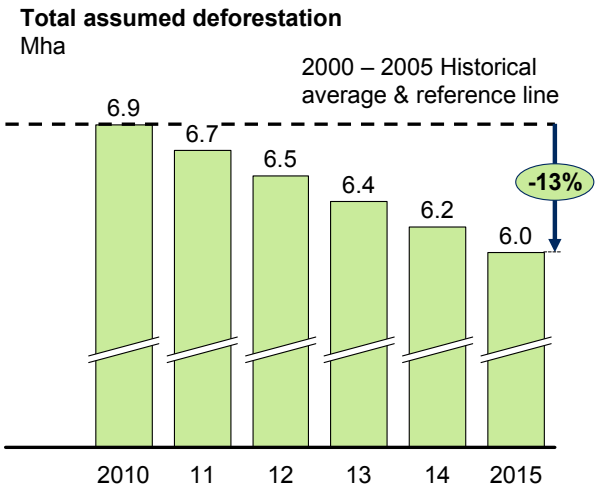
4D All other REDD countries are assumed to collectively provide balance of reduction, ramping up linearly from zero in 2010 to maximum in 2015

ASSUMPTIONS, NOT EXPECTATION OF PERFORMANCE

42 other REDD countries[1] included in calculations, totalling ~1,000 Mha/yr of forest and 6.9 Mha/yr of historical deforestation

Group must contribute ~1 Mha towards overall goal of 25% or 3.2 Mha/yr by 2015

Reduction ramps up from nothing in 2010 to ~13% below historical in 2015



1 Countries included in cost analysis selected from those participating in UN-REDD, FCPF or the countries which make up ~90% of emissions from deforestation

SOURCE: FAO FRA 2005; IWG-IFR Secretariat

Calculating payment costs

Based on the selection of parameters described above, total performance payments for REDD have been estimated for the interim period. An illustration of the calculation methodology for four sample country types is shown in Exhibit C.17, and total cost calculations for each reference level option and two global deforestation rates are compared in Exibit C.18. Exhibit C.19, compares total cost calculations for each reference level option with two levels of incentive payment assumptions: An incentive payment of €4 per tonne throughout (the base case), and an incentive payment of €4 per tonne in Brazil and €9 per tonne[40] in the rest of the developing forest countries.

In addition to performance payments for REDD, the report includes an estimate of payments for reductions of greenhouse emissions from the degradation and burning of tropical peatlands. These are calculated as follows:

- Total historical emissions of 2 Gt CO_2e, based on estimates from the IPCC AR4 WG3
- Reduction in emissions of 25 per cent by 2015, ramping up linearly from zero in 2010
- A 50 per cent discount applied to carbon density to account for greater uncertainty
- An incentive payment of €4 per tonne

The resulting payments ramp up from zero in 2010 to approximately €1.5 billion in 2015 and a total of approximately €3 billion over the period.

[40] Based on the average opportunity cost of forestry-based abatement in the Global GHG Abatement Cost Curve. *Pathways to a Low-Carbon Economy: Version 2 of the Global Greenhouse Gas Abatement Cost Curve.* McKinsey & Company, 2009.

Exhibit C.17

4 Illustration of a country level calculations for the Mollicone methodology

EXAMPLE TO ILLUSTRATE RANGE OF COSTS BY COUNTRY

Example Country	Example Forest area (Mha)	Historical def. rate (Percent)	Historical def. area (Mha / yr)	Reference def. area (Mha / yr)	Assumed future def. area (Mha/yr)	Funding received (EUR Millions / yr)
#1 – Above global rate	50	2	1	1	0.75	367
#2 - Near global rate	200	0.6	1.2	1.2	0.9	440
#3 – Between 50-100% of global rate	100	0.4	0.4	0.4	0.3	147
#4 – Below 50% of global rate	20	0	0	0.06	0	85

–

X CO2/Ha X price, =

Using example global rate of 0.6%, countries either get their historical deforestation or half of their forest area * 0.6%

25% reduction of historical for illustration

Using 367 tCO_2 per hectare and €4 per tCO_2

SOURCE: IWG-IFR Secratariat

Exhibit C.18

4 Illustration of range of reference line / global rate parameters and associated total performance payments

Used for cost estimates

Total cost of performance payments 2010 – 2015[1]
EUR Billions

	Global deforestation at ~0.3%[2]	Global deforestation at ~0.6%[3]
Historical only	12	12
Combined incentive	6	15
Stock flow, withholding	11	11
Mollicone et al.	13	15

1 Uses ramp up and distribution of total reduction in deforestation as described on previous exhibits
2 Based on FAO, all countries, all positive deforestation
3 Based on ~80 tropical / developing countries in OSIRIS

SOURCE: IWG-IFR Secretariat ; Busch, J., B. et al. "Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS)";

Exhibit C.19

4 Sensitivity analysis of the incentive payments

Used for cost estimates

Total cost of performance payments 2010 – 2015[1]
EUR Billions

	Incentive of EUR 4/tCO_2e all countries[2]	Incentive of EUR 4/tCO_2e in Brazil, EUR 9/tCO_2e all other countries[2]
Historical only	12	17
Combined incentive	15	21
Stock flow, withholding	11	17
Mollicone et al.	15	22

1 Uses ramp up and distribution of total reduction in deforestation as described on previous exhibits
2 Assuming global deforestation rate of 0.6%

SOURCE: IWG-IFR Secretariat ; Busch, J., B. et al. "Open Source Impacts of REDD Incentives Spreadsheet (OSIRIS)";

Delphi expert survey on reduced deforestation and HFLDs

To provide an alternative perspective on expected reductions, a survey was conducted among a group of experts using the Delphi method (Exhibits C.20-C.21). The results generated a range of expected outcomes for reduced deforestation (Exhibit C.21) and participation from HFLDs (Exhibit C.22), which was translated into cost estimates using the same parameters described above (Exhibit C.23).

The results for reduced deforestation suggest that achieving the 25 per cent reduction target (approximately 3 Mha by 2015) is an ambitious goal but well within the range of potential outcomes (Exhibit C. 24).

Exhibit C.20

4E Explanation of Delphi expert panel as an alternative option to the goal based 25% reduction method

What is the Delphi method?

- A polling technique for making quantitative forecasts
- Draws on a panel of experts with diverse incomplete knowledge
- Reflects predictions and explanations of others back to panelists
- Used when quantitative prediction is needed and uncertainty is high

What was asked?

1. Estimation of verifiable reduction in deforestation in high deforesting countries in 2012 and 2015
2. Estimation of participation by low deforesting countries in 2012 and 2015

SOURCE: IWG-IFR secretariat

Exhibit C.21

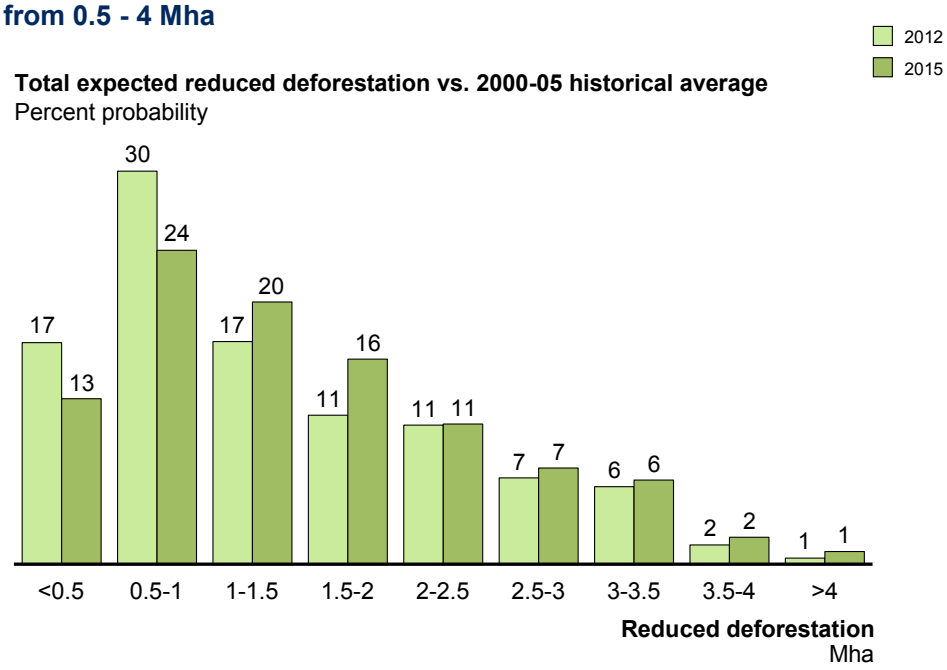
3 4 Scope of experts involved in the Delphi panel

Invited	Participated, first round	Participated, second round
▪ 30 experts were invited to participate in the survey, including people from: – Brazil – United Kingdom – United States – Cameroon – Chile – Egypt – Canada – France – Germany – Indonesia – Kenya – The Netherlands – Switzerland – India – Other / Unknown	▪ 9 experts responded in the first round, including people from: – Netherlands – Switzerland – Japan – Indonesia – United States – Other	▪ 5 experts responded in the second round, including people from: – Switzerland – Japan – Indonesia – United States – Other

SOURCE: IWG-IFR secretariat

Exhibit C.22

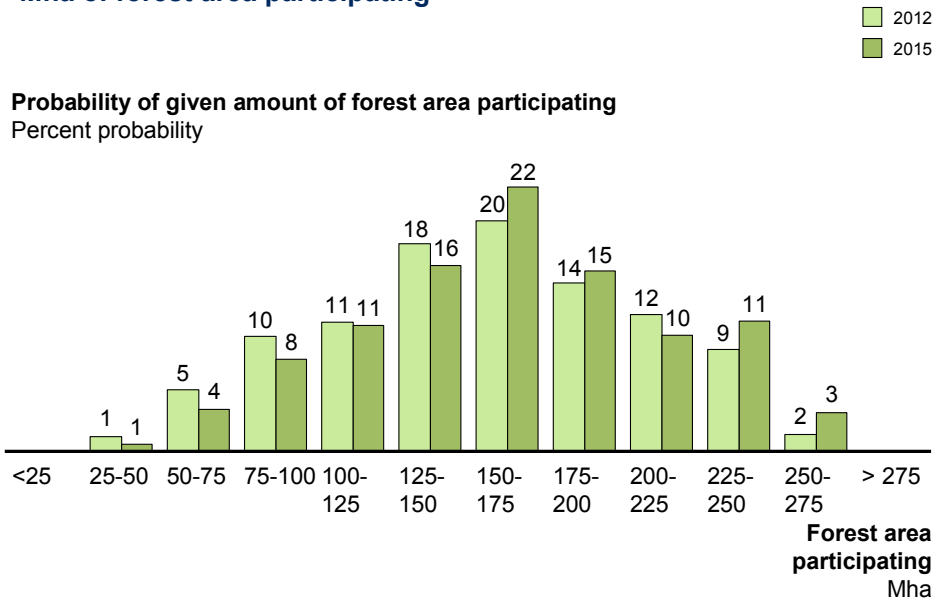
4 Delphi range of expected reduction in deforestation is from 0.5 - 4 Mha



SOURCE: Delphi expert panel

Exhibit C.23

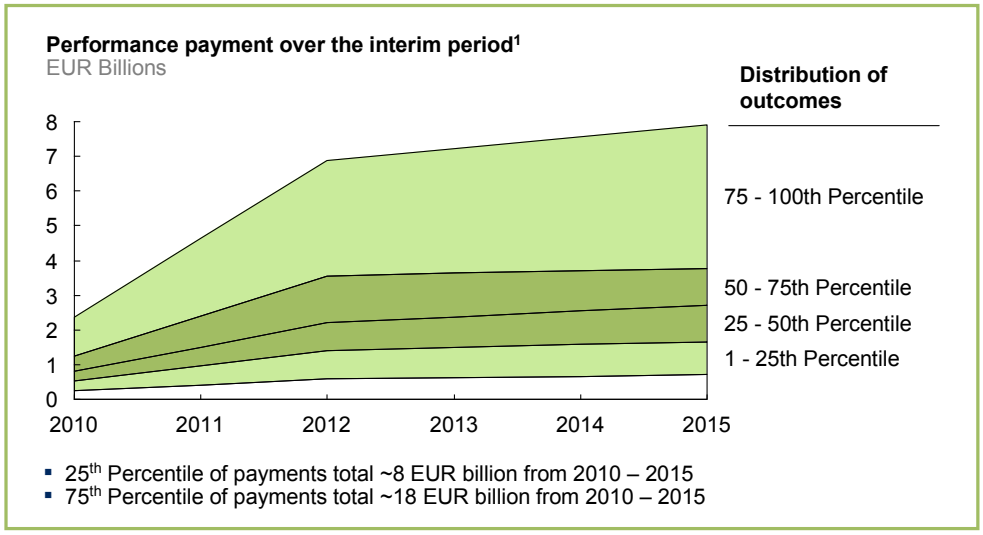
4 Delphi range of participation from HFLDs is from 25 – 275 Mha of forest area participating



SOURCE: Delphi expert panel

Exhibit C.24

4E Cost estimates using the same parameters, but with Delphi results show a range of costs likely between 8 – 18 EUR billion



1 Payments are calculated using the same parameters as in the 25% reduction case (Mollicone reference line method and ~0.6 global deforestation rate). Delphi method provides data points for 2012 and 2015, payments are linearly extrapolation from 2010 to 2012, and 2012 to 2015

SOURCE: Delphi expert panel, IWG-IFR secretariat

Exhibit C.25

1 2 3 4 43 countries were included in funding analysis, based on participation in FCPF, UN-REDD and LULUCF emissions

Country	Program participating	Country	Program participating
Brazil	n/a	Guatemala	FCPF
Indonesia	FCPF, UN-REDD	Central African Republic	FCPF
Myanmar	n/a	Honduras	FCPF
Dem. Republic of Congo	FCPF, UN-REDD	Kenya	FCPF
Malaysia	n/a	Laos	FCPF
Venezuela	n/a	Liberia	FCPF
Mexico	FCPF	Madagascar	FCPF
Guyana	FCPF	Mozambique	FCPF
Tanzania	FCPF, UN-REDD	Nepal	FCPF
Cambodia	FCPF	Nicaragua	FCPF
Cameroon	FCPF	Congo	FCPF
Suriname	FCPF	Papua New Guinea	FCPF, UN-REDD
Argentina	FCPF	Paraguay	FCPF, UN-REDD
Gabon	FCPF	Chile	FCPF
Costa Rica	FCPF	Colombia	FCPF
El Salvador	FCPF	Thailand	FCPF
Equatorial Guinea	FCPF	Uganda	FCPF
Ethiopia	FCPF	Vietnam	FCPF, UN-REDD
Panama	FCPF, UN-REDD	Zambia	UN-REDD
Ghana	FCPF	Peru	FCPF
	FCPF	Ecuador	n/a
		Philippines	n/a
		Bolivia	FCPF, UN-REDD

SOURCE: IWG-IFR secretariat, Forest Carbon Partnership Facility, UN-REDD

APPENDIX D - FUNDING SOURCES

Funding sources suitable for REDD need to fulfil four criteria, namely to be sizable, timely, predictable, and flexible (Exhibit D.1).

National direct funding and private contributions are the only funding sources likely to provide funding flows in 2010, whereas national direct funding, proceedings from AAU and US allowance auctions as well as international offsets from the US market could be sizable in 2015 (€3-5, €4-18, and €5-20 billion respectively) (Exhibit D.2-D. 7).[41]

However, except from direct funding from developing countries, those sources suffer from poor predictability and are not timely. Thus the only source most likely to fulfil all criteria of being sizable, timely, predicable and flexible is national direct funding (Exhibit D.8)

Ways to overcome the timing and predictability issue and to bring forward funding flows include bonds, derivatives and loans (Exhibit D.9). International offsets in the US market could at the very earliest potentially start flowing in 2012. Early optimistic estimates of futures for REDD-based international offset on the US compliance carbon market, however, range only from €0.3-1.4 billion in 2010 (Exhibit D.10)

[41] For a recent assessment of the proposal to auction AAUs, see *Norway's Proposal to Auction Assigned Amount Units: Implementation Options,* Center for Clean Air Policy, September 11, 2009

Exhibit D.1

Interim finance sources should meet four basic criteria

Criteria	Explanation
Adequate size	• Financing source must be able to generate the size of funding needed and to accommodate for increasing needs driving by successful ramp-up • Small sources require a system to match them with subsets of the financing need
Timeliness	• Funds need to be made available in a matter of months to support scale-up of the current REDD-readiness efforts, and to cover the interim period
Predictability	• Developing countries need confidence in future payments to invest scarce leadership resources in building REDD capacity now, i.e., sources with low volatility and risk are preferred • In addition to a viable solution at COP 15, predictability is also critical in the interim period
Flexibility	• The source must be suitable for providing financing on early pay-for-policy as well as later pay-for-performance basis

SOURCE: Eliash review; REDD-OAR; IWG-IFR secretariat

Exhibit D.2

Potential size of options for REDD funding sources

ESTIMATES

EUR billions

	Source	Potential size 2010	Potential size 2015	Assumptions
National direct funding	Direct funding from Annex 1 countries	2–3	?	▪ Funding countries agree to meet full interim finance needs
International taxes or levies	Fuel levies	0	5–10	▪ EUR 10/tonne CO_2e levy on shipping and aviation emissions with 50% of proceedings for REDD
	Commodity levies	0	3–5	▪ 0.5–1% of agricultural trade – may be sizable, but faces significant implementation barriers
	CDM tax	0	0–5	▪ Levy of 2–5% on total payments by developing countries
Market-linked sources	EU allowance auctions	0	1–3	▪ 1–2 Gt at EUR 30/t and 2-5% of auction proceedings
	US allowance auctions	0	3–5	▪ 5 Gt at EUR 10–20/t and 5% of auction proceedings
	AAU allowance auctions	0	4–18	▪ 18 Gt in 2015 at EUR 10–20/t and 2–5% of auction proceedings
Compliance carbon markets	International offsets in US market	0	5–20	▪ 0.5–1 Gt at EUR 10–20/t (excl. strategic reserve)
	Offsets under UNFCCC	0	?	▪ TBD
Private contribution	Philanthropy	~0.3	~0.5	▪ 0.5-1% of projected total levels spent on REDD (15% currently spent on overall environmental issues)
	Fundraising	<1	<1	▪ 2–5 million contributors paying EUR 25–45
	Voluntary carbon markets	1	1–2	▪ 10–20% of projected market at EUR 4–8/t

SOURCE: PRP; REDD-OAR; Project Catalyst; OECD; FAO; IWG-IFR secretariat

Exhibit D.3

The Waxman-Markey bill could create transfers of resources from the US to developing countries, mainly driven by international offsets

High
Low

PRELIMINARY

W-M provisions leading to resource transfers to developing countries

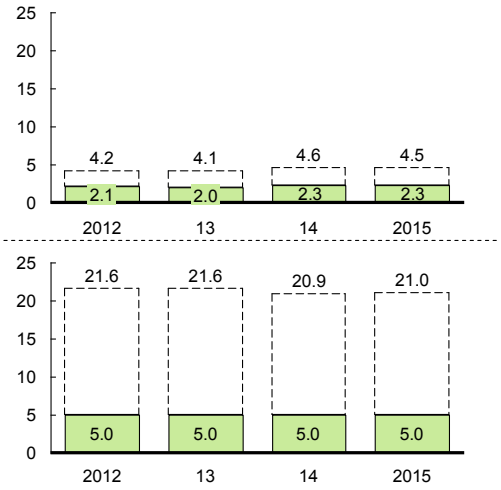
International forestry

- 5% (dropping to 3% in 2026) of allowances to be used by EPA and State Department to secure agreements to reduce tropical deforestation

International offsets

- 0.5-1.5[1] Gt CO_2e of abatement can be achieved through international offsets

Total flow of funds from US to developing countries
USD billions



1 With limited domestic offset potential, up to 1.5 Gt can be achieved through international offsets

SOURCE: Project catalyst

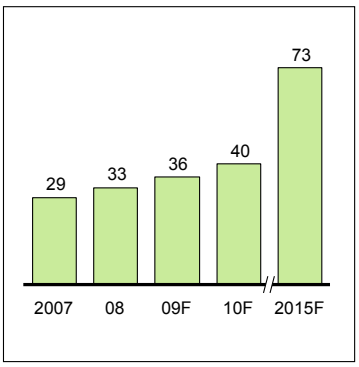
Exhibit D.4

Potential philanthropic funding for REDD is estimated at EUR ~0.3 billion in 2010 and EUR ~0.5 billion in 2015

ESTIMATES

EUR billions

Total philanthropy [1,2]



Estimated size of potential philanthropic funding for REDD

Environmental issues currently receive 15% of funding; not all of this would go to REDD

	2010 EUR billions	**2015** EUR billions
High estimate Assuming 1.0% of total philanthropy goes to REDD	• ~0.4	• ~0.7
Low estimate Assuming 0.5% of total philanthropy goes to REDD	• ~0.2	• ~0.4

1 Total calculated based on US philanthropy value, which makes up 80% of the global total
2 Numbers from 2008 onwards are forecasted using annual growth rates of 12%, 4% and 17% respectively for sources making up the philanthropic market – foundations, corporations and high-net-worth individuals

SOURCE: Changing our world, Hudson Index of Global Philanthropy 2008, IWG-IFR secretariat

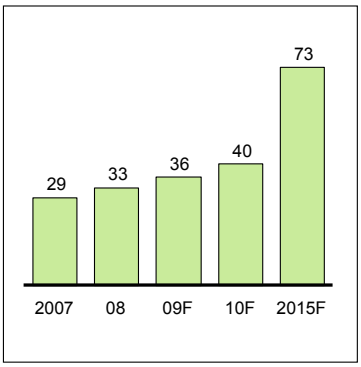
Exhibit D.5

Potential philanthropic funding for REDD is estimated at EUR 1-2 billion in 2010 and EUR 2-4 billion in 2015

EUR billions

ESTIMATES

Total philanthropy [1,2]



Estimated size of potential philanthropic funding for REDD

Environmental issues currently receive 15% of funding; not all of this would go to REDD

	2010 EUR billions	**2015** EUR billions
High estimate Assuming 5% of total philanthropy goes to REDD	• ~2	• ~4
Low estimate Assuming 2% of total philanthropy goes to REDD	• ~1	• ~2

1 Total calculated based on US philanthropy value, which makes up 80% of the global total
2 Numbers from 2008 onwards are forecasted using annual growth rates of 12%, 4% and 17% respectively for sources making up the philanthropic market – foundations, corporations and high-net-worth individuals

SOURCE: Changing our world, Hudson Index of Global Philanthropy 2008, IWG-IFR secretariat

Exhibit D.6

Large international voluntary organizations raise between 52-220 million annually

ESTIMATES

	World Wide Fund for Nature	**Amnesty International**
Description	• World's largest independent conservation organization • Charity with approximately 60% of funding from voluntary donations by private individuals	• International non-governmental organization • Charity with approximately 100% of funding from voluntary donations[1]
Income from contributions[2] EUR millions	~220	~52
Number of supporters[2] Millions	~5	~2
Average contributions per supporter[2] EUR	~45	~25

1 Not specified whether from private individuals or others, e.g. corporations
2 2007 figures

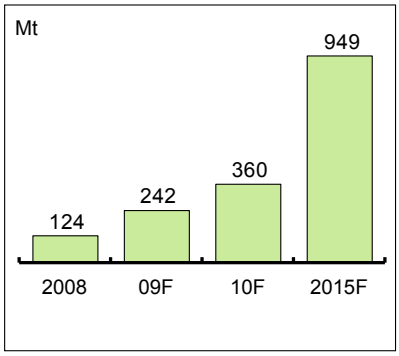
SOURCE: Organizations' web sites and annual reports; IWG-IFR secretariat

Exhibit D.7

The potential funds for REDD from voluntary carbon markets are estimated at EUR 0.1-0.6 billion in 2010 and EUR 0.4-1.5 billion in 2015

EUR billions — ESTIMATES

Estimated size of voluntary carbon market[1]



Estimated size of REDD funding from voluntary carbon markets

	2010 estimates EUR billions	2015 estimates EUR billions
High estimate Assuming 20% of the voluntary market at EUR 4/t CO_2e[2]	• ~0.6	• ~1.5
Low estimate Assuming 10% of the voluntary market[3] at EUR 8/t CO_2e	• ~0.1	• ~0.4

1 Current annual growth rate of voluntary carbon market is 95% (2007-2008)
2 Price of carbon in Voluntary Carbon Index was EUR 4-8/t CO_2e in 2008-2009
3 REDD's current share of the voluntary carbon market is 10%

SOURCE: State of the Voluntary Carbon Markets 2009; IWG-IFR secretariat

Exhibit D.8

Issues associated with potential interim finance sources

✓ Adequate
? TBD
✘ Inadequate

	Predictability	Timing	Flexibility
National direct funding	▪ High if contributions are recognized vs. future UNFCCC commitments ▪ Low if entirely "voluntary"	▪ Potential to ramp up quickly as less international coordination is required	▪ Scope for individually tailored agreements
International taxes or levies	▪ Many competing needs (e.g., technology, adaptation)	▪ Requires global agreement and alignment on implantation and allocation	▪ No immediate barriers
Market-linked sources	▪ Tied to market prices ▪ A fixed price would make flows highly reliable	▪ Uncertainty around launch time and scale of markets	▪ No immediate barriers
Compliance carbon markets	▪ Will depend on how REDD offsets are integrated to offset markets. Could potentially create a limitation to availability ▪ Price uncertainty	▪ **Uncertainty around launch time and scale of carbon markets**	▪ Risk of compliance issues, e.g., MRV not in place
Private contributions	▪ Volatility of future payment streams likely high due to risk of competing areas of private contribution, contributors changing preferences, etc.	▪ Potential to ramp up quickly as less international coordination is required	▪ No immediate barriers

SOURCE: IWG-IFR secretariat

Exhibit D.9

What issues do financial instruments solve?

	Description	Potential fit for interim funding
No instrument - direct contribution	• Funding sources contributing directly to abatement sources	• Adequate timing
Bond	• Offer investors fixed rate of return in addition to repayment of principal on maturity • Fixed income securities, such as 'Rainforest Bonds' proposed by the Prince's Rainforests Project • Bonds issued by, e.g., Annex 1 governments or the World Bank[1]	• Overcomes the timing issue without shifting the ultimate funding burden
Derivatives of carbon credits	• Contracts to engage in the future trade of credits derived from REDD actions – e.g. fixed costs purchasing or selling agreements, issued by either forest nations or developed countries	• Overcomes the timing issue without shifting the ultimate funding burden
Loans	• Favorable loans at discounted rates to forest nations, backed by developed nations, to cover the financing needs of REDD mitigation policies and actions	• Overcomes the timing issue but shifts part of the funding burden to the developing nations

1 The team will be working with the WB to further elaborate the bond solution

SOURCE: IWG-IFR secretariat

Exhibit D.10

Even very optimistic estimates of futures for REDD-based international offset on the US compliance carbon market are only up to EUR 0.3-1.4 billion in 2010

PRELIMINARY

At-scale REDD annual offset volumes Gt	X	Proportion of volume traded as futures[1] Percent	X	Estimated futures price[2] EUR/t	=	Estimated potential EUR billions
0.5-1		20 %		3-7		0.3-1.4
REDD offset volumes 50-100% of all international offsets and assuming domestic offset potential is not limited		Liquidity of the forward strip in a well developed futures market		Conservative discount rate for cost of carrying futures		

1 NYMEX open interest between August 11 and December 2017 vc. August 09 to July 2010 on physical light sweet crude oil session of June 25 2009
2 Assuming a price of 10-20 EUR/t with a discount rate of 25% over a period of 5 years

SOURCE: NYMEX, IWG-IFR secretariat

APPENDIX E – OPTIONS FOR NEAR-TERM FINANCING FOR REDD

 **THE WORLD BANK**

Options for Near-Term Financing for Reducing Emissions from Deforestation and Forest Degradation (REDD)

REDD Funding needs will increase over time and vary in nature. In the short term, interim funding is needed for readiness (phase one) and capacity reforms and investment (phase two). Over time, substantial, and substantially increasing funds will be needed. In addition, a critically important characteristic is the certainty/predictability of continued funding.

To meet these different needs, multiple funding sources should be explored. To provide the substantial and sustainable funding that will be needed *in the long term*, the most obvious sources include loan, grant and guarantee financing from multilateral development institutions, bilateral donors, and carbon auctions/sales.

In the near term, if direct funding cannot be obtained, then it may be possible to use anticipated longer term flows or assets. Four types of such 'frontloaded' funding could be explored

(1) **REDD-specific bonds of existing multilateral development banks.** For example, the World Bank could issue REDD bonds against long-term assets specifically granted to the Bank for this purpose. This approach would rely on existing institutions with existing capacity to borrow at low rates from the capital markets. Although it would take some time to arrange for the grant of long-term assets from donors, once established/funded this would also be a flexible way to obtain funding when needed. At the same time, MDB policies and requirements—such as financing only to member governments—would need to be met as funds are disbursed.

(2) **An international finance facility-REDD**. A specific IFF could be established, with its own regulatory status and rating, and again using long-term assets grant for the purpose of funding it. This approach would also frontload funds as needed—indeed would make sense only where there is a clear need for frontloaded funding—and would provide flexibility around the use of proceeds. However, establishing an IFF is not a small task, and entails

additional complexity and transaction costs compared to other options. In addition to costs related to market access, significant costs will be incurred to establish and run the new entity with its own legal framework, governance and process for the use of funds. An IFF, like REDD bonds, could benefit from specific investor interest.

(3) **Niche market/private investment structures**. One example would be a structure allowing the use of forest revenues (including carbon) generated from REDD programs to pay the returns on REDD bonds issued by an MDB. This approach could be tailored to support specific programs, to limit risk to bondholders (for example by guaranteeing principal). This could provide an attractive investment for socially conscious investors, using existing MDB issuance capacity, at the same time channeling investment funds through private sector financial institutions. Investment details and structure may be difficult to establish; this is an approach that would need to be piloted to explore feasibility.

(4) **Revenue enhancement/risk mitigation**. A fund could be established to lower the risk
to bondholders or local and international private sector investors interested in financing REDD programs. The fund could, for example, provide revenue enhancement in the short to medium term for long-term REDD investments; guarantee a certain level of return on financing structures such as the example in (3) above; buy down the interest rate on REDD program loans.

APPENDIX F – CASE STUDIES

Guyana

Country Background

Over 80 per cent of Guyana's territory consists of tropical rainforest that is still largely untouched. However, despite long-standing policies to prevent deforestation, pressures on the forest continue to build. According to Guyana's Government, these include (i) improved infrastructure integration with Northern Brazil (Guyana's capital includes the closest port to much of Northern Brazil, and a bridge to join the two countries has recently been completed); (ii) an increasingly market-friendly business environment that is more attractive for private capital than in the past (and is attracting applications from large-scale agricultural investors seeking access to forested land); (iii) increasing citizen expectations for social and economic services which could be partly met by utilising Guyana's forest for timber extraction, post-harvest agriculture, and extraction of the significant mineral deposits that exist below its surface.

REDD+

The Government has said that the key to balancing economic development with long-term forest protection in low-deforesting countries is to create a national and international policy environment that enables forest climate and bio-diversity resources to be valued at a price that can (i) 'out-compete' the drivers of deforestation and (ii) support the process of moving existing national development strategies onto 'low-deforestation, low-carbon, climate-resilient trajectories'.

In the absence of such a price in the immediate future, the Government has called for 'immediate, interim funding to begin to protect the world's rainforest', followed by a gradual transition from this interim funding to a market-based REDD+ mechanism, and then ultimate integration of REDD+ into a comprehensive global climate regime.

Interim Funding

Based on the proposals in the IWG-IFR report, if Guyana's deforestation rates stayed close to zero, Guyana would initially receive interim payments of:

((0.5) [alpha] * 0.0060[42] [global deforestation rate] * 15,000,000 [forest area] * €4[proxy price per tonne] * 100 [tC/ha] * 3.67[conversion to CO2e]) + 0 [reductions against historic reference level] = €66 million per annum.

If Guyana then succeeded in putting in place compliance-grade MRV, the payments would increase in recognition of the increased quality of the emission reductions provided. For the sake of illustration, if MRV systems proved that Guyana had 150 tC/ha, the payments would increase to €99 million per year.

While payments at this scale would not address all the long-term drivers of deforestation, they would enable up-front transformative investment in low carbon development during the period 2010-2015, and support preparations for integration into a longer term climate regime.

Investing Interim REDD in Low-Carbon Economic Development

In June 2009, Guyana published the initial draft of its Low Carbon Development Strategy (LCDS) which updates components of the country's National Development Strategy (NDS) to set out how forest payments would be integrated into the national economy.

The Guyana REDD Investment Fund (GRIF)) would administer forest payments and during the period 2010-2020 and invest forest payments in the priority areas set out in the LCDS to:

- Avoid emissions from the forestry sector of 1.5 Gt of CO_2e by 2020 that would have otherwise stemmed from an economically rational development path.
- Enable economic growth at or in excess of projected Latin American growth rates up to 2020, while simultaneously eliminating approximately 30 per cent of Guyana's non-forestry emissions through the use of clean energy.
- Create alternative livelihoods and new employment for indigenous peoples and local communities.
- Leverage private capital into priority low carbon economic sectors.

[42] The Government of Guyana has queried the global deforestation rate used in the IWG-IFR report, stating that 0.59 per cent per cent is a more accurate figure.

- Invest in priority climate adaptation infrastructure to reduce the 10 per cent of Guyana's current GDP which is estimated to be lost each year as a result of flooding (although the full investment needed will be in excess of US$1 billion).

At the time of writing, the draft is being updated following a national, multi-stakeholder consultative process, with indigenous communities being given the choice of 'opting in' to the LCDS, in accordance with the principles of free, prior and informed consent. The LCDS will be upgraded in October 2009, to reflect the outcomes of the national consultation and the IWG-IFR process, and a detailed five-year low carbon investment programme will be published for the period 2010-2015. The LCDS will be further upgraded once the outcomes of COP-15 are known.

Costa Rica

Costa Rica: a success story in early actions that demonstrates that REDD+ is an option

After having experienced one of the highest rates of deforestation in the world during the 1970s and 1980s, with forest cover reaching its minimum in 1987 (near 21 per cent of national territory from a 95 per cent originally), Costa Rica reached a critical stage that was challenging the development path of the country. A common view shared by the Government, private sector, the civil society and academic and research institutions led to the design and implementation of a national strategy aimed at stopping and reversing current deforestation trends while at the same time generating economic opportunities to continue supporting well-being improvement objectives. Today, the forest cover is over 51 per cent of the territory: a dramatic forest cover recuperation in just 22 years.

A set of policy measures were taken, including the abolition of forest-land use change, strengthening the protected areas system in order to protect remaining forests and a set of financial instruments to promote the reduction of emissions from deforestation and forest degradation, as well as the enhancement of forest carbon stocks through conservation, sustainable management of forests and incremental change of forest cover.

The different measures were implemented progressively and finally developed into the creation of the Payments for Environmental Services (PES) System. This is one of the major policy actions that were taken. It is constantly improved, and

its design has to a certain extent responded to the outcomes of the Rio Summit. The conservation of public lands and the creation of the National System for Conservation Areas (SINAC) have strengthened the REDD+ system.

The PES consists of a compensation payment made to landowners who contractually commit to conserve and improve the forested areas in their farms, in order to keep these lands providing environmental services such as water, soil and biodiversity protection, landscape beauty maintenance and carbon capture and storage. It also includes natural regeneration and reforestation of cleared areas, including forestry activities within agricultural and cattle ranching areas.

The objective of the overall national policy and of the PES system is not only to conserve carbon stocks but to enhance the provision of ecosystem services and community development in an integrated manner where co-benefits are at least of equal importance. All activities to be implemented and allowed in the protected lands are clearly identified in a management plan that becomes part of the contractual conditions. Payments are made on an annual basis and contracts extend from five up to 20 years, depending on the activities to be implemented. The overall system is implemented by the National Forestry Financing Fund (FONAFIFO) working in close coordination with the National Forestry Administration as well as the National System for Conservation Areas (SINAC), in order to guarantee consistency with national conservation of ecosystem services goals. The main pillars of the PES system are: a) legal framework, b) Institutional capacities implemented, c) monitoring system, d) funding predictability and d) participation of stakeholders.

Criteria for the selection of the forested farms to be included into the programme includes its bio-geographic and carbon stock importance, its richness in terms of ecosystem services delivered, its relevance to the ongoing policies for biodiversity conservation and contribution to poverty alleviation in the less advantaged regions in the country. Indigenous peoples´ lands and small landowners are considered as a priority for investments, as well as communal property.

Regular monitoring actions are performed by a mix of activities including: a) the forestry engineer providing the technical assistance to the landowner, who is liable in case differences are found among the contractual conditions and actual activities been developed in the land under contract, b) regular monitoring field visits performed by FONAFIFO´s officers, c) regular control activities implemented by the National Forestry Administration and the National System of

Conservation Areas, d) Forest Audits performed by independent bodies under contract by FONAFIFO and e) using satellite images.

Main funding sources for the system are a tax on fuels, a portion of the water-use tariffs, international loans obtained from the World Bank (US$ 50 million) and international donations (GEF). Available funding has allowed the country to conserve approximately 40 per cent of the total demand or forests lands available outside protected areas and under private property. In other words, the PES programme requires at least an additional 60 per cent level of funding in order to be able to guarantee the conservation of forested lands in private hands outside protected areas, which is equivalent to approximately $30 to 35 million per year. These lands include both primary and secondary forests.

The REDD+ system developed in Costa Rica clearly shows that the country has actively and consistently implemented a successful nationwide permanent effort to tackle deforestation, degradation, conservation, sustainable management of forests and enhancement of carbon stocks. A set of actions that where designed as the early efforts to contribute to climate change mitigation deriving from the early stages of the CDM design were not implemented because of the failure of this mechanism to include forest conservation as an offsetting activity. This is now under discussion as part of the concept of REDD+ within the UNFCCC negotiations. The long-term conservation of already protected carbon stocks as well as the broadening of the coverage to include the full stocking potential is clearly an immediate strategy to be implemented with support from the international community to contribute to current requirements of climate change mitigation. Political, institutional and methodological conditions are already in place in the country to quickly advance towards this objective while improvements can be also implemented in terms of meeting MRV requirements according to the IPCC guidelines.

The REDD+ system developed in Costa Rica, based on co-benefits, requires new international complementary support mechanisms in order to secure its sustainability and its future.

Brazil

Brazil Case Example: The Amazon Fund

The Amazon Fund is a private fund, created by the government of Brazil to finance actions from government and non-government organizations to combat deforestation and promote conservation and sustainable use in the Amazon. It fits

within the larger context of the goal of Brazil's National Plan on Climate Change, to reduce deforestation by 80 per cent by 2020 compared to 1996-2005 levels. The fund is performance-based: the amount of fund-raising in a particular year will depend on the level of emissions reduced from deforestation in that year, compared to a reference level.

The fund's target is to raise about $21 billion by 2021 from individuals, companies, or institutional donors, including foreign governments, interested in contributing to the reduction of carbon emissions from deforestation. Donors receive a diploma reflecting their contribution to the reduction of carbon emissions from deforestation in the Amazon. However, they will not be eligible for any type of ownership or carbon credit.

The Amazon Fund is managed by the Brazilian Development Bank (BNDES), and criteria for approval of projects are defined by a steering committee with representatives from federal and state governments, NGOs, social movements, indigenous peoples, science, and industry.