Defining climate-related forest activities, finance and expenditure in national budgetary systems

Charlene Watson

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Promoting Effective Climate Finance: ODI is building an evidence base on climate finance delivery and management through a number of country case-studies. How climate finance is accessed, managed and then spent in ways that effectively reduce vulnerability, promote development and gender equity, and reduce greenhouse gases represents a major challenge for national governments as well as the international community. The tracking of this finance, at both the international and national level, faces the problem that climate-related actions are difficult to identify with precision, and this lack of clarity leads to uncertainty over estimates of spending. This series of papers explores the concept of 'climate finance' and proposes pragmatic ways forward that will strengthen the policy debate.

Acknowledgements

This report benefited greatly from review by Leo Peskett, Neil Bird and Tom Mitchell. The author retains responsibility for all conclusions and any errors of interpretation.

ODI gratefully acknowledges the support of DFID in the production of this report.

Design: www.stevendickie.com/design

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This material has been funded by UK aid from the UK Government, however the views expressed do not necessarily reflect the UK Government's official policies.

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Contents

Acronyms

CAFOG	Categorisations of the functions of government
CBO	Community-based organisation
CFU	Climate Funds Update
CRS	Creditor Reporting System
DAC	Development Assistance Committee
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Programme
GHG	Greenhouse gases
IPCC	Intergovernmental Panel on Climate Change
MRV	Monitoring, reporting and verification
NGO	Non-governmental organisation
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
REDD+	Reduced emissions from deforestation and degradation, forest conservation, sustainable management of forests and the enhancement of forest carbon stocks
RIL	Reduced impact logging
R-PIN	Readiness Plan Idea Note
R-PP	Readiness Preparation Proposal
TIMO	Timber Investment Management Organisation
UNFCCC	United Nations Framework Convention on Climate Change

Summary

The identification and tracking of climate-related forest expenditure in national budgetary systems has the potential to aid policy development, planning and financial resource management. Increasing both transparency and accountability of these flows will allow for monitoring and evaluation of spending, help determine if national policy targets are being met and if resources are being spent properly. The pragmatic categorisation of national budgetary system expenditure on climate-related forest activities is a necessary step to building a more comprehensive national response to climate change.

Identifying what counts and how to count climate-related forest expenditure is complex. The multitude of policies and sectors impacting on forests, the overlapping nature of the production of environmental goods and services, and the varying definitions of forests and the forestry sector, are all hurdles that must be overcome in selecting an appropriate definition of climate-related forest activities. Existing definitional approaches have been designed with differing functions, and no single categorisation can be directly applied to assess climate-related forestry expenditure in national budgetary systems.

This paper consolidates the issues and existing approaches to defining climate-related forest activities and finance. Integrating the multiple approaches, six categories of climate-related forest activities are identified. A step-wise tool is then proposed that allows the identification of budgetary expenditure within these categories. The scope of the tool is narrow, focussing only on the forest sector and on climate change mitigation. It does not capture the broader sectors of the economy that impact on forest extent and quality, or the role that forests play in climate change adaptation. The tool can be regarded as a starting point that further research and the application of case studies can refine.

1. Problem statement

Finance for reduced emissions from deforestation and degradation, forest conservation, sustainable management of forests and the enhancement of forest carbon stocks (hereafter referred to as REDD+), is a relatively new source of finance for many developing countries. REDD+ could deliver substantial global climate change mitigation benefits. As initially conceived, the global public good of climate change mitigation would be delivered in return for results-based financial transfers to forested nations. Thus, payments would be conditional on the delivery of emission reductions. The details of an operational international REDD+ mechanism are yet to be agreed under the United Nations Framework Convention on Climate Change (UNFCCC). A number of models to finance REDD+ have emerged and their diversity is supported under existing UNFCCC negotiations[1]. While the concept of REDD+ has evolved, since taking root at the 11th Conference of the Parties to the UNFCCC in Montreal[2], securing an understanding of the activities that contribute to REDD+ has not yet been comprehensively addressed. The definitional complexities of climate-related forest activities make it difficult to establish the levels of expenditure directed at them. A lack of understanding of what climate-related forest activities are, and what can be classified as climate-related forest expenditure in national budgetary systems, are also hurdles to the planning and implementation of such climate change mitigation activities within forested countries.

A pragmatic categorisation of climate-related forest expenditure is required to track, monitor and evaluate financial flows for improved management, greater transparency and accountability. Within national budgetary systems this would allow the identification of national efforts towards climate change mitigation, help assess if national climate change policy targets are being met, and lead to more appropriate mobilisation of domestic resources towards climate change mitigation in the forestry sector. There is also international consensus under the UNFCCC for the strengthening of monitoring, reporting and verification (MRV) of climate finance[3], while national budgetary systems will be an important MRV channel. Distilling the major definitional difficulties, as well as bringing together evidence of REDD+ activities already underway and efforts to track climate-related forest finance, is necessary to provide pragmatic guidance on how national public expenditure on climate-related forest activities could be quantified.

2. Forest policy and management: contributions to climate change mitigation

Forests are intimately linked to the global carbon balance. They are sources of carbon through processes of decay, combustion and respiration. They are also sinks of carbon through the process of growth. All forest management practices that impact on the extent and structure of forests will have consequences for the conservation, release or sequestration of carbon dioxide and other greenhouse gases (GHGs)[4].

1. At COP 16 negotiating text reflected that results-based finance for REDD+ would arise from public and private, bilateral and multilateral and would include alternative sources of finance (UNFCCC 2011, Decision 2/CP.17, paragraph 65). See also O'Sullivan et al. 2010 for a discussion of market-based approaches to REDD+ and Parker and Cranford 2012 for non-market options for financing REDD+.
2. The 2005 submission to include reducing emissions from deforestation in developing countries is available at: http://unfccc.int/resource/docs/2005/cop11/eng/misc01.pdf. Official expressions of support were from: Bolivia, Central African Republic, Chile, Congo, Costa Rica, Democratic Republic of the Congo, Dominican Republic and Nicaragua
3. Paragraph 4 of the Copenhagen Accord notes that efforts on mitigation and finance should be 'comparable, transparent and accurate' and the Bali Action Plan of 2007 affirms the need to monitor report and verify financial support for the nationally appropriate mitigation action, as well as the implementation of those actions.
4. Forest management regimes influence methane (CH4) and nitrous oxide (N2O) emissions in addition to carbon dioxide. Methane emissions result from burning and decomposition of organic matter in oxygen-free environments, such as waterlogged soils. Nitrous oxide is emitted during burning, decomposition of organic matter, soil organic matter mineralisation and land fertilisation by nitrogen fertilisers.

More socially oriented forest management goals, such as sustainable forest management, community forest management and poverty alleviation, became prevalent in developing countries in the 1980s. Forest conservation for the protection and provision of ecosystem services has also risen on government agendas. While protected areas remain a popular forest conservation strategy, as do interventions promoting sustainable forest management, there has been a shift towards more market-based mechanisms for forest conservation. In particular, it is the public good of climate change mitigation that has propelled forest conservation into the limelight over the last decade.

Climate change mitigation in forestry largely involves sequestering carbon in trees through growth, or keeping carbon in trees through avoiding deforestation and forest degradation. Forest plantations, sustainable forest management and forest conservation are not novel policy objectives. Substantial experience indicates that an enabling forest policy environment is required to achieve these objectives, including: defined property rights, strong public and private sector institutions, greater sector integration, understanding the political economy, a steady stream of financing, better information and awareness, and full stakeholder participation (Brown et al., 2002). In theory, international climate finance for a fully operational REDD+ mechanism would have greater conditionality on outputs than forest management and policies of the past[5]. Debate remains as to whether results-based payments will be conditional on only emission reductions generated, or on the policies, actions and measures that countries must put in place to deliver emission reductions. Whatever the outcome, an enabling environment will require countries to improve forest inventories and develop their systems for MRV of climate-related forest activities.

3. Definitional difficulties of climate-related forest expenditure

To date, there is no single definition of climate-related forest expenditure operating. This is due to a number of complexities in defining climate-related forest activities, finance and national level public expenditure, which arise from five major sources:

1. **Additionality**
   A multitude of policies and forest management regimes influence the extent and quality of forests, thus delivering climate change benefits and/or disadvantages. Existing activities in the forest sector contribute to mitigation even without explicit climate change objectives. Afforestation, reforestation and plantations, for example, often form part of national plans to meet populations' fuel and timber needs, and protected area systems often work towards enhanced forest and ecosystem management. In these cases, carbon sequestration or avoided carbon emissions are incidental. While these activities would fall into a system of national accounting of GHG emissions and uptake of GHG, they pose a difficulty for evaluating national expenditure on climate change mitigation, as they are not activities that are additional to the status-quo. If they would have been undertaken anyway, there are no incremental carbon benefits, and therefore, no incremental impact on climate change mitigation[6]. This issue of additionality creates complexity in whether to classify national expenditure as climate-related if the benefits are a by-product of existing policies.

2. **Disaggregation**
   Many environmental goods and services of forests are produced together. For example, reforestation programmes can help meet livelihood energy needs, diversify livelihood sources, reduce soil erosion and sequester carbon. In this way, reforestation provides environmental services of watershed protection, soil conservation and climate change mitigation. Such 'win-win' situations are popular and often adopted in project goals. However, multiple objectives and joint production proves problematic for the monitoring and measuring of national expenditure for climate-related forest activities. It becomes difficult to attribute a portion of expenditure to each project objective, particularly where jointly produced, and if national budgetary systems expenditure is attributed to multiple policy objectives, aggregation is not possible and double counting of expenditure is possible.

3. **Disadvantages**
   Policies within the forest sector can act in opposition to climate change mitigation objectives. A timber concession can provide jobs and economic growth, but its management may result in losses of environmental services and the release of carbon stocks into the atmosphere. If the forested area was instead assigned as a protected area, the environmental services, including carbon storage would be maintained. Gross accounting of expenditure for policies that directly act to mitigate climate change might be more straightforward to quantify. However, consideration of the indirect and adverse impact of policies in the forest sector necessitate net accounting of expenditure in the longer term, to generate an economy-wide shift to low carbon growth and development.

   While other sectors where climate change mitigation strategies are pursued may face opposition between policy objectives, forestry has the added complexity that these conflicts will persist over time. In the year following

5. Noting that current REDD+ finance is often directed to preparation for a fully operational REDD+ mechanism, so called REDD+ readiness, and much of this is grant and concessional loan finance that holds lower results-based conditionality (Climate Funds Update 2012).
6. See also discussions on additionality within the Kyoto Protocol Clean Development Mechanism, for example: http://www.wiso.boku.ac.at/uploads/media/03_Streck_Key_Technical_Issues_CDM_Forestry_Projects_2006.pdf

expenditure on avoided deforestation, forests could well be cut down to realise alternative values. This speaks to the issue of the permanence of emission reductions, or their persistence over time. The contribution of expenditure to climate change mitigation will rely not on single-year spend, but on a multi-year commitment to a particular activity which is not captured by a look at a single year of forest expenditure.

4. **Multiple sources**
   Other sectors of the economy can have substantial impacts on forest resources and on the forest carbon balance. These include fiscal policies, trade barriers, agricultural policies, poverty alleviation and land tenure reform policies. These all alter the economic motivation for the management and conservation of forests (Table 1). Furthermore, several ministries and agencies within a country hold environmental remits or influence on forest resources. Kenya and Rwanda, for example, have dedicated ministries for forestry. In Ethiopia, Honduras and Vietnam, forestry falls under the remit of ministries dealing with agriculture, food and rural development. In Mali and Tanzania, forestry falls under environment and natural resource management ministries (Fowler et al., 2011). Climate-related forest expenditure might, therefore, extend over many government ministries and sectors. The emergence of new finance streams for climate finance and REDD+, that will vary from being fully linked, to independent of national budgetary systems, may complicate accounting further, both in terms of completeness and data availability and collation.

5. **Forest and forest sector definitions**
   A final issue is the lack of a single global standardised definition of a forest. Countries have defined forests on legal, administrative or cultural reasons, by land use, canopy cover or by biomass content (Neef et al., 2006). Under the UNFCCC, in the Marrakech accords of 2001[7], flexibility in the definition of a 'forest' is given to ensure relevance to the forest ecosystems of the country. Designated National Authorities are able to choose a forest definition based on threshold values: it must be a minimum land area between 0.05 and 1 hectare, with tree crown cover of more than 10-30%, with trees that have potential to meet a minimum height of 2-5 metres at maturity in situ. However, variation in definition between countries leads to ambiguities as to what afforestation, reforestation, avoided deforestation, and other forest activities are.

   Similarly, definitions of the forest sector differ between countries. Fowler et al. (2011) note that most definitions of the forestry sector include productive forestry, forest conservation and spending on trees through the core forest departments and environment agencies that manage forests. However, expenditure of public enterprises, state-owned enterprises and public corporations may well be categorised as national expenditure on forests. Finance in forest funds can be considered non-fungible or independent sources of funding, but conversely may be considered within the forest sector by some countries. In general, a country's definition of the forest sector often falls outside the accepted standards of the Categorisation of the Functions of Government (COFOG) relating to forestry (Box 1). Differing definitions of forests and the forest sector between countries lead to a lack of comparability. Even if definitions change within countries, over time it could impact on what expenditure is accounted for, or not, in climate-related 'forest' expenditure.

Table 1: Potential Cross-Sectoral Policy Conflicts

Land Use and Land Tenure Policies	Policies that influence land use and tenure are of critical importance as the land resource base is the common denominator of all sectoral policies dealing with natural resources and rural development.
Macroeconomic Policies	Inefficient macroeconomic policies can lead to loss of native forests by reducing alternative job opportunities, encouraging land conversion and lowering the priority of national conservation of forests.
Industrial and Fiscal Policies	Designed to pull economies out of recession and alleviate international debt, short-term industrial and fiscal policies can increase demand for forest products, stimulate production, foster deforestation, overharvesting and unsustainable use of resources.
Irrigation and Power Generation Policies	When under additional pressures of poverty and unemployment, priority is often given to fast-yielding economic development through irrigation and power generation practices that come at the expense of forests.
Public Administration Policies	Especially for natural resource and public land policy, insufficient political attention in forestry results in weak forestry institutions that are unable to maintain dialogue with other land-use sectors.
Welfare and Poverty Alleviation Policies	Especially at the rural level, population management, crop and livestock, rural development and tourism and energy policies can focus on short-term gains and divert attention away from sustainable forest use.

Source: de Montalembert 1995.

7. FCCC/CP/2001/13/Add1

Box 1. Categorisation of the Functions of Government (COFOG) relating to forestry

COFOG was developed by the OECD and adopted by the United Nations Statistics Division to allow for the classification of government expenditure data from the System of National accounts, by the purpose for which the funds are used. There are ten first-level function divisions and nine second-level groups which are split into classes. Forestry is in Division 4: Economic Affairs. Within this division, the explanatory notes identify the following forest activities as comprising the forest sector:

- Administration of forestry affairs and services; conservation, extension and rationalised exploitation of forest reserves; supervision and regulation of forest operations and issuance of tree-felling licences;
- Operation or support of reforestation work, pest and disease control, forest fire-fighting and fire-prevention services, and extension services to forest operators;
- Production and dissemination of general information, technical documentation and statistics on forestry affairs and services;
- Grants, loans or subsidies to support commercial forest activities;
- Administration and operation of government agencies engaged in applied research and experimental development related to agriculture, forestry, fishing and hunting;
- Grants, loans or subsidies to support applied research and experimental development related to agriculture, forestry, fishing and hunting undertaken by non-government bodies such as research institutes and universities.

Source: http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=4

Table 2: Climate-related forestry activities defined by the IPCC

Activity	Definition
Avoid Emissions	
Reducing Deforestation	Reducing the direct human-induced conversion of forested land to non-forested land
Reduced Impact Logging	RIL are carefully planned and controlled timber harvesting practices that are intended to reduce impacts on forest stands and soils
Forest Management Project Activities	A system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological (including biological diversity), economic and social functions of the forest in a sustainable manner. Forest management practices that increase overall GHG removals and reduce GHG emissions by means of various management activities depend on the characteristics of the project site and management goals, for example, practices that reduce emissions from disturbances through insect and fire prevention or control, or enhance carbon storage by planting improved or different species of planting stock
Bio-Energy Production	Displacing fossil fuel use, either through product substitution or use of biomass from forests, forms part of bio-energy production
Sequester Carbon	
Afforestation	Direct human-induced conversion of land that has not been 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
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
Agro-Forestry	Planting and maintaining tree species on agricultural land, activities include boundary planting, windbreak planting, hedgerow intercropping and home gardens

Source: Definition adapted from IPCC 2000, 2003, 2006

4. Defining climate-related forest activities and finance

4.1 Approaches to defining climate-related forest activities

Approaches to the categorisation of climate-related forest activities have evolved predominantly for the purposes of accounting for emission reductions. Categories of activities often focus on climate change mitigation. The Intergovernmental Panel on Climate Change (IPCC) is a leading scientific body on the assessment of climate change. The IPCC has provided substantial information and good practice guidance on Land Use, Land Use Change and Forestry (IPCC, 2000, 2003, 2006). It identifies and defines seven activities by which forests contribute to climate change mitigation, either through avoidance of emissions or sequestration of carbon (Table 2).

The IPCC activity definitions are detailed, although debates on accounting of emission reductions remain around issues such as how a country defines a 'forest' and how to separate human-induced from non-human-induced changes (UNDP, 2009). IPCC guidance is useful for identifying project level and discrete forest management activities that lead to climate change mitigation, as well as being used in a number of carbon accounting tools[8]. This is because, while the IPCC does not undertake research, it reviews and assesses existing research, such that its publications encompass the best available knowledge. Designed with emission reductions accounting in mind, the IPCC activity list does not consider the activities that are required to build an enabling environment for REDD+.

In contrast, the dedicated multilateral initiatives that currently support REDD+ have a strong focus on readiness activities that build an enabling environment for results-based REDD+, and pilot activities delivering emission reductions. The objectives and activities of the Forest Carbon Partnership Facility (FCPF), the Forest Investment Programme (FIP) and the UN-REDD Programme (UN-REDD) focus on developing national strategies and preparation for MRV of emission reductions, as well as building institutional capacity to achieve this.

Direct finance for emission reductions from the FCPF contains a more diverse suite of activities than the IPCC activity definitions. The FCPF documents outlining the Carbon Mechanism design[9], note that it will support emission reductions generated from:

- **Forest management activities**, such as improved forest fire prevention, in addition to reduced impact logging and reforestation.
- **General economic policies and regulations**, such as the implementation of green taxes to deter forest losses and degradation, the removal of subsidies that encourage deforestation, the introduction of environmental criteria in rural credit and loan systems, and certification to foster forest protection and law enforcement.
- **Forest policies and regulations**, such as taxation to enable rent capture of improved forest royalties and stumpage fees, subsidies of alternative forest uses and forest conservation, certification introduction or expansion and financial support for it, concession regimes, land tenure and rights, forest law, governance and enforcement to prevent and prosecute illegal harvesting and exporting of timber and to improve incentive structures of forest service officials, zoning for more rational use and conservation of forests, protected area approaches and payments for environmental services.
- **Rural development programmes**, such as community development, rural electrification and community forestry.

Under the dedicated multilateral initiatives for REDD+, countries are required to prepare proposals for financial support. As a first step for accessing finance from the FCPF Readiness Mechanism, countries are required to submit a Readiness Plan Idea Note (R-PIN) describing the situation, challenges and work areas for REDD+ to be pursued. These R-PINs are reviewed by a Technical Advisory Panel to become a REDD Country Participant, whereby a country elaborates the R-PIN in a Readiness Preparation Proposal (R-PP) which includes a national reference scenario, plans to formulate a REDD+ strategy and a monitoring system, and outlines the activities for which financial support is required. This, in turn, will lead to an R-Package that goes beyond proposals to outline implementation that delivers readiness in more detail.

The documents submitted to FCPF, and other similar documents for the dedicated multilateral REDD+ initiatives, are well aligned with the objectives, and thus have strong emphasis on the need to build an enabling environment for REDD+ activities, stakeholder engagement and consultation, and link with poverty and development goals within the country. This is not surprising given that they are requests for finance. Documents, however, make little reference to how the REDD+ strategy and implementation of activities will be part of, or separate from, the national budget. While countries are not required to provide such detail in R-PINS and R-PPs, early consideration of the programming of REDD+ finance could foster coordination with the planning and strategy of other climate finance streams.

4.2 International approaches to define climate-related forest finance

Efforts to define climate-related forest finance have largely followed the objective to track and monitor finance by governments, multi-lateral development banks and civil society organisations. Consensus on what counts as climate finance is elusive, with the 'new and additional' financial resources to meet the 'incremental costs' of climate

8. The Bilan Carbone methodology developed by the French Agency of Environment and Energy Management (ADEME) to assess GHG emissions from business and territories, for example, draws on methods and emission factors reported by the IPCC. See http://www.ademe.fr/bilan-carbone/
9. Information from the FCPF Information Memorandum, 2008 available at: http://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/FCPF_Info_Memo_06-13-08.pdf. The FCPF has a readiness fund and a carbon fund, the latter supporting results-based activities.

change required under the principles of the UNFCCC, open to varying practical interpretations[10]. A broad and encompassing definition might refer to the finance required, raised and disbursed to enable climate change mitigation and adaption in developing countries. REDD+ finance, to date, has largely arisen from international public finance sources as Official Development Assistance (ODA). The Climate Funds Update (CFU)[11] reports on seven international climate funds delivering dedicated finance for REDD+, with pledges amounting to more than US$3 billion, with close to US$300 million disbursed. The CFU financial data is actively sought, but classification of climate finance to mitigation in general, mitigation through forests, or adaptation, relies on the self-reporting of objectives by funds rather than consideration of the activities they support. In contrast, the Voluntary REDD+ Database of the REDD+ Partnership[12] relies on financial data being volunteered by both donors and recipients. The process, however, still relies on accurate self-reporting, even though respondents are asked to report against a defined list of 13 REDD+ activities[13]. Such self-reporting of REDD+ activities may be problematic where activity definitions have not reached consensus and are therefore, subjective, or may not be consistently applied between countries or activities.

The OECD Development Assistance Committee (DAC) Creditor Reporting System (CRS) is considered the foremost source of data on bilateral and multilateral aid commitments. It uses a marker system where the objective of aid finance is identified as 'principle', 'significant' or 'not targeted' for a list of 188 markers. The appropriate sector that the finance falls under is also recorded. For example, water and sanitation, transport, energy, agriculture, forestry and industry, are all relevant sectors for climate change markers. The DAC CRS markers, therefore, generate a database of bilateral aid finance that shows "where aid goes, what purpose it serves and what policies it aims to implement on a comparable basis"[14]. Markers exist for both climate change mitigation and adaption, with the latter added only in December 2009. The CRS has only a brief definition of the activities that could be included within climate-related forest finance (Table 3). These activities are highly subjective, meaning that the approach would cause problems if comparisons were to be made across sources of aid or across countries. As projects can be classified under more than one marker (aid finance can be tagged with both climate change adaptation and mitigation as a 'significant' objective) the CRS also suffers from aggregation problems. This definitional complexity exists not just between climate change mitigation and adaptation, but also between markers for climate change mitigation and those for environmental protection – environmental policy and administrative management, biosphere protection, biodiversity, site preservation, flood control preservation, environmental education/training, and environmental research – where many overlap with climate-related forest activities. There is, therefore, a risk of double counting of finance and potentially misleading aggregation of total aid finance figures.

Table 3: OECD DAC CRS Criteria for climate change mitigation and adaptation spending as it relates to forestry

Mitigation	
An activity should be classified as climate change mitigation related if it contributes to the objectives of stabilisation of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration.	
Sector	**Example activities**
Forestry	Displacing fossil fuel use, either through product substitution or use of biomass from forests, forms part of bio-energy production.
Adaptation	
An activity should be classified as adaptation-related if it intends to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience.	
Sector	**Example activities**
Forestry	Promoting a diverse mix of forest management practices and species to provide a buffer against uncertainties of climate change.

Source: Handbook on the OECD-DAC climate markers (OECD, 2011)

10. For more information on the definitional debate for climate finance see Buchner et al., 2011.
11. The Climate Funds Update is a joint initiative between ODI and the Heinrich Böll Foundation initiative to improve the transparency of global climate finance (see www.climatefundsupdate.org).
12. The REDD+ Partnership is an interim platform for its partner countries to scale up actions and finance for REDD+ in partner countries. The Partnership aims to improve the efficiency, effectiveness, transparency and coordination of REDD+ initiatives and related financial instruments, to facilitate among other things knowledge transfer, capacity enhancement, mitigation actions and technology development and transfer. See http://reddpluspartnership.org/en/
13. The REDD+ activities identified by the Voluntary REDD+ Partnership in their questionnaire are: REDD+ strategy and other policy preparations, reference scenario development, stakeholder consultations and engagement, demonstration activities, sectoral transformation (agriculture, forestry, finance), monitoring system, monitoring and evaluation, multiple benefits, governance, capacity building and local awareness, performance-based payments for emissions reduction, research and other.
14. User's guide to the CRS Aid Activities database is available at: http://www.oecd.org/document/50/0,3343,en_2649_34447_14987506_1_1_1_1,00.html

5. Identifying climate related forest expenditure within national budgetary systems

5.1 Justification/objective

To date there has been only limited consideration of forest sector finance, reviews of public expenditure on forests, and therefore, evaluation of national forest expenditure. This is problematic as a country's objectives for REDD+ and other policy priorities relating to climate change mitigation and adaptation need to be integrated into the national budgeting process. Not only does this allow climate finance flows to be tracked and evaluated, but it helps in policy planning and engenders ownership of the REDD+ process.

5.2 A pragmatic step-wise approach

Given the definitional complexities of defining climate-related national expenditure on forests, outlined in section three, the challenge is to arrive at a pragmatic approach. The following step-wise tool is designed with a specific objective in mind: **it identifies climate-related forest activities and estimates direct national budgetary systems expenditure for climate change mitigation in forests**.

To apply this tool it is necessary to have an understanding of how the national budget is classified, and to have access to national budget documentation. This tool is based on the ability to identify climate-related forestry expenditure for mitigation through budget line items. It therefore requires that national budgets have a functional classification, and not only economic or administrative line item codes.

Eleven steps are outlined to achieve the objective of the tool, taking into account the definitional hurdles outlined in Section 2. These are followed by a section outlining limitations which should be clearly recognised in any application of the tool. It should be recognised that, in its current format, it is not a tool for the evaluation of climate-related forest expenditure, for example cost effectiveness, impact or cost efficiency. It is also not a public expenditure review which reviews financial management systems for national public finance expenditure, but over time, the tool can be adapted and evolved to better meet the needs of other analyses.

Selecting the scope for analysis

The first task is to identify the scope of the analysis with regard to spatial and time boundaries. Resource constraints should be taken into account:

Step 1. Identify the appropriate **scale** of analysis – expenditure in national budgetary systems can be assessed at a national level, but additional regional analysis may be more appropriate in some instances. In countries where forest management is highly decentralised, regions may well bypass central budget allocations. Regions may also be able to generate revenues and spend them locally. Thus, consideration must be given to the scale of the analysis in order to capture relevant expenditure.

Step 2. Identify the appropriate **time frame** of analysis – reviews of expenditure can suffer from lack of data and incomplete records. Multi-year reviews are common. The advantage of a multi-year analysis is that some indication of the change in spending, over time, is identified.

Select defining categories for climate-related forest activities

The second task is setting the parameters of the analysis, or the defining categories for climate-related forest activities. The selection of criteria narrows the expenditure assessment to manageable parameters:

Step 3. Forests and the forest sector should be defined by those undertaking the analysis and made explicit, with justification. This will allow for subsequent comparable analysis.

Step 4. The most **relevant ministries** appropriate for the forestry sector should be identified.

Step 5. A list and categorisation of **climate-related forest activities** should be agreed upon by the relevant government authorities, with a view to best serve the study objectives. Table 4 provides categories of activities that draw from the preceding analysis of REDD+ activities, and finance which can be used for this step. It presents six categories of activities and identifies sub-categories of activities that would fall within them.

The objectives of the study are likely to influence the categorisation of climate-related forest activities. For example, if the study is to be applied across countries, a single and comparable set of activity definitions could be selected, however, if the study is to be undertaken within a country, and perhaps repeated over time, the categorisation of activities selected might be altered from Table 4 to reflect country context and REDD+ policy progression where appropriate. When agreeing on activity categories, care should be taken to ensure that managing the outcome is feasible.

Select accounting criteria

The third task is the selection of the accounting criteria:

Step 6. Where possible, data should be gathered on **actual expenditure** rather than final approved budget, bearing in mind, this can be complicated. With multi-year analysis it may be necessary to make

use of available data, whether it is actual expenditure or approved expenditure, but whichever approach is adopted, consistency should be strived for.

Step 7. Funds are spent on recurrent costs or development. Recurrent costs include salaries, operations and maintenance, or minor equipment purchases, whereas development expenditures include capital investment such as infrastructure construction, roads or buildings, and are generally time-limited. Both **capital and recurrent** expenditure should be included.

Step 8. Many countries have financing mechanisms for forestry which generate revenues that go back into budgetary systems. These include subsidies, or other fiscal incentives such as tax incentives to expand forest plantations, to support forest sector development, concession fees, direct sales of forest products, seeds, stumpage fees, tourism fees, fines and penalties for law enforcement. Recycled **forest revenues** should be included in the expenditure analysis, being aware that doing so might complicate comparison to the total budget of a country, if one is made.

Undertake the analysis

Budgetary systems expenditure should be assessed in alignment with the selection parameters in Steps 1-8. There are three possible options: binomial, proportional and multiple coding, each with differing reporting outputs:

Step 9. The **relevant budget lines are identified** for climate-related forest expenditure under the selected categories of the activities in Table 4 (or adjustment thereof by those undertaking the review as per Step 6). The subcategories in Table 4 can be used to aid categorisation, but budget lines are coded only for major categories, i.e. they do not need to be coded for sub-categories of activities.

As efforts to maximise the climate change mitigation benefits of forests have largely involved the scaling up of well-known forest management techniques, the categorisation of the budget line is not straightforward. The specific objective of climate change mitigation must be present in the budget line rationale. Category 4 on '*Implementing and improving systems and institutions for climate-related forest activities*' may prove most susceptible to overlap between mainstream forest policy and activities that are not designed with climate change mitigation in mind. Where budget lines contain broad, but relevant, activities, there is a high probability of overlap between activity categories for a single budget line. Where it is not possible to determine a single 'main' category, or to apportion finance to objectives, budget lines can be coded for multiple activity categories (see Step 10). Whichever approach is adopted, it is important to be consistent in the analysis.

Step 10. Once identified, these **budget lines are coded** for climate-related forest expenditure according to the following options. More than one option can be applied in the analysis of the budget, each approach having differences in the results reported (see next step):

a. **BINOMIAL CODING** – If the core objective of the expenditure refers principally to climate change mitigation, it is a direct response of the government. The scoring is binomial, so either 1 (yes) or 0 (no), and only one category can be chosen. The total budget expenditure under this line is therefore considered climate-related forest expenditure.

b. **PROPORTIONAL CODING** – Of the identified expenditure, a decision is made on the proportion of the expenditure in the budget line that is climate-related. For example, if climate change mitigation is one of three equal objectives, a third of the expenditure might be identified as climate-related forest expenditure. This proportion can also be allocated across the categories of activities identified in Step 6, as long as the components do not exceed the total expenditure, thus adding up to 100%.

c. **MULTIPLE CODING** – Where the activity contributes to multiple categories of climate-related forest expenditure, the objectives are tagged as either: high, moderate, low or unrelated. Therefore, multiple categories can be assigned to a single budget line.

Step 11. Report results:

d. **BINOMIAL CODING OUTPUT** – using this option, the budget lines that are coded as climate-related forest expenditure can be summed for each category of activity, and in total. While this may underestimate the expenditure of projects with multiple objectives or climate benefits that are not core objectives, this method does allow for aggregation across the budget.

e. **PROPORTIONAL CODING OUPUT**– this option also allows aggregation of expenditure across the budget, as well as across categories of activities. It is likely to be more conservative than binomial coding, although more subjective due to the need for expert judgement in the determination of proportions.

f. **MULTIPLE CODING OUTPUT** – applying multiple codes to expenditure, no aggregation is possible as this would lead to double counting and a sum greater than the entire expenditure. However, application of the tags is useful to identify the number of expenditure items that have climate-related forest activities as either high or moderate objectives, and therefore creates a useful baseline of activities that can be compared over time.

Table 4: Activity categories for the identification of climate-related forest activities in national budgetary systems

1. Knowledge and awareness building for climate-related forest activities

Activities that contribute to the dissemination and exchange of knowledge and awareness between a range of forest stakeholders, from forest dwellers to government officials, and private sector actors, which can extend across political boundaries and concern forest and climate change links, as well as further climate-related forest activities.

Examples:

- One-off information exchanges between actors, regions and countries ranging from one-on-one meetings to workshops, conferences, radio and other media broadcasts relating to the role of forests in climate-change mitigation.
- On-going engagement in discussions and negotiations around the international climate-change policy architecture.
- Ongoing programmes that raise knowledge and awareness of climate-related forest activities to the population at large, e.g. through schools and on-the-ground extension activities to rural and urban households.
- Training courses and workshops in climate-related forest activities.

2. Planning and strategy for climate-related forest activities

Activities that create a conceptual framework to prepare a country for climate-related forest activities that impact on the greenhouse gas balance. These are predominantly through national government processes, but could also include sub-national planning and strategy.

Examples:

- The development of a REDD+ strategy, from its inception to final draft at national or sub-national level, within which there are provisional assessments through expert interviews of the drivers of deforestation, assessment of the rights of indigenous peoples and forest dwellers, relevant international conventions and biological diversity, as well as how these are respected in a national strategy and how implementation of the strategy could be managed.
- Undertaking stakeholder consultation and participation to include the voice of forest dwellers and indigenous peoples in climate-related forest policy plans and strategy.
- The formulation and creation of REDD+ working groups and/or similar bodies that have a distinct remit to deal with climate-related forest activities.

3. Research and development on climate-related forest activities

Activities generating knowledge and deepening the understanding of climate-related forest processes, and which spur innovation in climate-related forest activities as well as evaluating ongoing activities.

Examples:

- Detailed data collection and analysis of the drivers of land use and land-use change to develop reference scenarios from which to establish reduced deforestation, to determine carbon stocks, sequestration rates and other relevant emission factors for forest carbon accounting and reference level estimation.
- Analysis of supply chains and product consumption that drive deforestation both directly and indirectly across national and international borders.
- Improvement and innovation in Geographical Information Systems and the collection and analysis of aerial or satellite imagery for forest carbon inventories and reference level estimation.
- Piloting programmes for performance-based payments for REDD+ and/or systems of safeguards and monitoring, reporting and verification systems and evaluation of these activities.
- Universities, NGOs and other bodies undertaking research into forest dynamics and characteristics – including biodiversity and socio-economic conditions – as they relate to a changing climate and the development of new policy ideas.

Table 4: Continued

4. Implementing and improving systems and institutions for climate-related forest activities

Activities that implement plans and strategies to prepare a country for climate-related forest activities to impact on the GHG balance. They largely focus around policy, institutional and legal reforms that improve forest governance (the principles of which are transparency, participation, accountability, coordination and capacity) and alter overall incentives for forest use.	Examples: • Forest land tenure reform and the clarification of land, forest, tree and carbon rights, with the objective to contribute to climate change mitigation goals. • Improvements in patrolling and law enforcement processes on forested areas, that impact on climate change mitigation. • Land use planning and the coordination of the forest sector with other relevant sectors such as agriculture, infrastructure and mining. • Forest management policies which alter economic incentives for forest use, such as payments for environmental service schemes, commercialisation of forest products and certification. • Revision of policies for sourcing investment, and new policies that impact on sourcing and consumption of products that indirectly or directly drive deforestation. • Implementation of systems for ongoing forest inventory and monitoring, reporting and verification of climate-related forest activities. • Implementing new systems for generating, managing and administering climate-related forest finance through budgetary processes, trust funds or new mechanisms.

5. Impacting the balance of greenhouse gases through climate-related forest activities

Activities that impact the balance of greenhouse gases through emission reductions and/or carbon sequestration through changes in forest management and implementation of new activities.	Examples: • Changes in existing forest management regimes for stated climate benefit such as the implementation of reduced impact logging, agro-forestry and more sustainable forest management, such as maximum sustainable yields or improved fire management. • Implementation of new activities for climate benefit such as dedicated afforestation or reforestation programmes, rehabilitation and restoration to forested land, the protection of areas of forest that were under threat of deforestation, or bio-energy promotion to reduce pressure on forests.

6. Monitoring, reporting and verifying climate-related forest activities

Activities necessary to record and methodologically report on a variety of climate-related forest activities, particularly those relating to activities that impact on the balance of greenhouse gases.	Examples: • Collation, analysis and presentation of data required under plans for monitoring and reporting of climate-related forest activities inclusive of carbon benefits, social benefits and biodiversity benefits. • Third-party verification of reports of climate-related forest activities as per planning and strategies agreed on by stakeholders.

5.3 Acknowledging the limitations of the approach

The approach outlined in Section 5.2 is not without limitations. These limitations have implications for the identification of expenditure and for the way the expenditure data can be used. They must be fully understood when this methodology is applied and, over time, efforts can be made to reduce these limitations and advance the tool.

Limitations of the tool in identifying climate-related forest expenditure

- **Narrow focus**
  Although the cross-sector influence on forest resources within a country is acknowledged, the tool considers only the national budgetary systems expenditure that flows through the forest sector, as defined by the country in question. Further investigation of the agriculture, energy and transport sector could better identify this climate-related forest spend. Broadening this tool to include wider sectors, might require greater consideration of whether budgetary expenditure has positive or negative impacts for climate change mitigation (see Section 3). It might be developed such that climate-related forest expenditure, which acts in opposition to creating climate change mitigation, might be subtracted to generate a net result of expenditure for climate change mitigation, rather than a gross one as in the tool above.

  Similarly, while this paper retains a focus on forests' role in climate change mitigation, it is acknowledged that the role of forests in human adaptation to a changing climate has gained prominence (see Graham 2011). The maintenance of forest functions can enable adaptation to climate change through strengthening the adaptive capacity of forest-dependent communities and building coping strategies, diversifying forest management-related employment opportunities and livelihoods, and through adaptive land use planning and management (FAO, 2010). Forests, too, will need to adapt to a changing climate. Efforts need to be made to enhance landscape connectivity, reduce forest fragmentation and establish forest corridors along climate gradients, as well as reducing the pressures and threats of degradation and destruction of forests, if forests are to persist in a changing climate (Locatelli et al., 2011). The activities supported by multi-lateral REDD+ initiatives suggest that resilience in forest communities and indigenous peoples will be achieved[15]. Climate change adaptation may, therefore, arise as a co-benefit of building REDD+ readiness and forest mitigation activities.

- **Impact of alternative finance sources and technical assistance**
  This step-wise approach focuses on public expenditure and the national budget, with expenditure resulting from national budget sources, forest sector revenues and external sources programmed through the national budget. There are many sources of finance in the forestry sector that are not considered here, and many are mixed with each other through various combinations and joint financing arrangements (Tomaselli 2006; Table 5). Private finance and off-budget international public finance are not included, although off-budget finance is likely to interact with national expenditure, for example, through leveraging additional finance. The tool does not capture technical assistance provided in-kind, and therefore off-budget, which can contribute significantly to the forestry sector, and particularly in building an enabling environment for REDD+.

Challenges beyond the scope of the tool

- **Comparability across countries**
  Comparability across countries will depend on the scope parameters, defining criteria and accounting criteria selected by the practitioner. If these are consistent over studies then cross-country data may reveal useful comparisons. However, caution should be taken in cross-country comparisons, given that the structure of the forestry sector between countries is rarely the same.

- **Causality**
  There is a diversity of finance in the forest sector and many budget expenditures will be supported by external initiatives, particularly for REDD+. Many of these include capacity building and the creation of an enabling environment. With many initiatives having similar objectives, there are questions of causality, and the attribution of the outcome to one particular finance source. This tool stops short of looking at the impact of the expenditure, but questions of causality and impact will play a role when assessing effectiveness of expenditure.

- **Permanence of the benefits of expenditure**
  The above tool does not take into account the permanence of climate benefits predicted by the expenditure. While this is more relevant when assessing the impact of expenditure, it is also important to note that sufficient recurrent funds are needed for many forestry projects. For example, if plantations are neglected, they are not managed properly, and proposed climate benefits attributed to the expenditure in the objectives may not be realised. Permanence, therefore, has implications for the

15. The FCPF, for example, supports activities of rural development in the Carbon Finance Mechanism including community development, rural electrification and community forestry. The FIP supports activities outside of the forest sector including alternative livelihood and poverty reduction.

Table 5: Sources of Forest Finance

Mitigation			
Source of funding	Beneficiary/recipient		
	Public sector	Private sector	
		Commercial	Non-commercial
Domestic	• Government departments • Government agencies (national and decentralised) • Research institutions (sectoral forest institutes and general universities)	• Forest companies • Sectoral investors • Timber Investment Management Organisation • General direct investors • Large-scale landowners	• Subsistence farmers • Rural communities (including indigenous communities) • CBOs or affiliate community networks • NGOs (mostly implicit investments in-kind)
Foreign	• Bilateral donors • Multilateral donors • Research institutions	• International forestry companies • Sectoral investors • Specialist direct investors (e.g. revolving environmental funds) General direct investors • Institutional equity investors (e.g. banks, pension funds, insurance companies)	• Foundations • Specialist concessionaire funds (e.g. sinking environmental funds) • Philanthropists, benefactors, international NGOs

Source: Tomaselli, 2006

overall effectiveness of the expenditure in delivering climate-related benefits.

- **The political economy**
  An additional issue that is outside the scope of this paper is the political economy of the definition of climate-related finance in national budgets. With rapidly evolving objectives and policy for REDD+, there may be value in keeping definitions of climate-related forest activities loose. With definitions influencing deforestation baselines, and therefore emission reductions, there may be incentives to change definitions. The tool does not consider how the identification approach might change incentives for rebranding projects, or manipulation of objectives with no actual change in activities, purely so that climate-change becomes a core objective. Where the risks of such incentives, or even perverse incentives, are high, more consideration should be given to determining the core objectives of national budget lines.

6. Conclusions

The consolidation of several previous attempts to define climate-related forest expenditure into the activity-based approach described in this paper allows such expenditure to be analysed in national budgetary systems. Application of this tool is the next step for informing policy development, planning and resource management in countries where both new climate-related forest policy objectives and new sources of climate finance are emerging. Such an approach has broad application and could be applied to track climate-related forest expenditure in both developing and developed countries, promoting mutual responsibility and accountability of the global response to climate change within the forest sector. As a first effort at the pragmatic identification of climate-related forest expenditure, the tool can be expected to evolve over time to match the experience, capacity and national needs of such an analysis.

Bibliography

Bird, N., Beloe, T., Hedger, M., Lee, J., O'Donnell, M. and Steele, P. (2011) *Climate Public Expenditure and Institutional Review: A methodology to review climate policy, institutions and expenditure*. An ODI and CDDE methodological note.

Bird, N., Billett, S., Colon, C. (2011) *Direct Access to Climate Finance: experiences and lessons learned*. A joint UNDP/ ODI Discussion Paper.

Buchner, B., Falconer, A., Herve-Mignucci, M., Trabacchi, C. and Brinkman, M. (2011) *The Landscape of Climate Finance*. Climate Policy Initiative, San Francisco.

Climate Funds Update (2012) An ODI and Heinrich Böll Foundation joint initiative for tracking climate finance. Available at: www.climatefundsupdate.org

Cranford, M. and Parker, C. (2012) *Advance REDD+ Finance*. Prepared for the REDD+ Partnership meeting. Available at: http://www.theredddesk.org/sites/default/files/resources/pdf/2012/advanced_redd_finance_1.01_1.pdf

de Montalembert, M.R. (1995) *Cross-sectoral Linkages and the Influence of External Policies on Forest Development*, Unasylva, 46, 25-37.

FAO (2010) Managing Forests for Climate Change. FAO, Rome.

Fowler, M., Abbott, P., Akroyd, S., Channon, J. and Dodd, S. (2011) *Forest Sector Public Expenditure Reviews: Review and guidance note*. Program on Forests (PROFOR), Washington DC.

Graham, K. (2011) *REDD+ and adaptation: will REDD+ contribute to adaptive capacity at the local level?* REDDnet, London.

IPCC (2000) *Land Use, Land-Use Change, and Forestry (LULUCF)*. Special report of the Intergovernmental Panel on Climate Change (IPCC). Cambridge University Press, Cambridge.

IPCC (2003) Good practice guidance for land use, land-use change and forestry.

IPCC (2006) Guidelines for National Greenhouse Gas Inventories. Japan: National Greenhouse Gas Inventories Programme, IGES.

Locatelli, B., Evans, V., Wardell, A., Andrade, A. and Vignola, R. (2011) Forests and Climate Change in Latin America: Linking Adaptation and Mitigation. *Forests*, 2, 431-450.

Neef, T., von Luepke, H., Schoene, D. (2006) *Choosing a forest definition for the Clean Development Mechanism*. Forests and Climate Change Working Paper 4, FAO, Rome.

OECD (2011) *Handbook on the OECD-DEC climate markers*. OECD, Paris.

O'Sullivan, R., Streck, C., Pearson, T., Brown, S. and Gilbert, A. (2010) *Engaging the Private Sector in the Potential Generation of Carbon Credits from REDD+: An Analysis of Issues*. Report to the UK Department for International Development (DFID). Climate Focus. Available at: www.climatefocus.com/documents/engaging_the_private_sector

Tomaselli, I. (2006) *Brief study on funding and finance for forestry and forest-based sector.* Prepared for the United Nations Forum on Forests (UNFF). Curitiba, Brazil.

UNDP (2009) Forestry Carbon Accounting, Overview and Principles. UNDP-UNEP CDM Capacity Development Project for Eastern & Southern Africa. Addis Ababa, Ethiopia.

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