

Can standards for voluntary carbon offsets ensure development benefits?

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Increasing concerns about climate change are fuelling growth in the market for carbon offsets. Carbon offsets are purchased by individuals and organisations from schemes that claim to reduce greenhouse gas (GHG) concentrations in the atmosphere. The trading of carbon offsets can occur through two types of mechanisms – either through the Clean Development Mechanism (CDM), which is regulated by the Kyoto Protocol and follow a set of standard procedures, or through voluntary markets where both procedures and projects vary. Some projects in the voluntary markets aim purely at offsetting GHG emissions while others are also involved in the delivery of associated ‘co-benefits’ such as biodiversity conservation or sustainable development. Concerns about the quality and impact of the different carbon offsetting options on offer are increasing and, in 2007, this prompted a UK Government Consultation on establishing a voluntary code of best practice in the carbon offset market. This paper explores how emerging



Forestry offsets: can standards help small producers benefit from carbon forestry?

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standards covering the voluntary carbon markets can address multiple aims of carbon offsetting and sustainable development and how they might be best designed to bring benefits for developing countries.

Forest Policy and Environment Programme

FPEP conducts independent policy-oriented research on tropical forestry issues, seeking to inform policy change in ways which improve the livelihoods of the forest-dependent poor, whilst also securing the long-term future of forest resources.

Policy conclusions

1. Clear standards for carbon offset projects can increase confidence in the carbon markets, assist buyers to decide which offsetting products to buy and help guarantee development benefits.
2. Standards should be designed to match the different objectives of the various schemes and developers need to recognise that different players in the market may have different motivations.
3. Offsetting greenhouse gas emissions requires new and innovative processes and technologies. There are therefore good reasons for proceeding cautiously with the design of standards so as not to impede market growth, which could result in slower progress towards reducing GHG concentrations in the atmosphere and reduce the potential for positive development benefits.
4. If standards are to help schemes ensure development benefits as well as the reduction of GHG concentrations there is a need for a clear understanding of what development aims they are trying to achieve. Development benefits can occur at a number of levels, and schemes need to distinguish between those that guarantee that a project ‘does no harm’, those that secure positive benefits for participants within the scheme, those that help in enabling access of small-scale producers to the scheme and those that ensure wider development benefits to the country.
5. Modelling new standards schemes on the CDM rules is not necessarily the best way forward from the perspective of small-scale producers. The stringency of standards in the CDM is high, but the implementation costs and procedures may be a significant barrier to participation of small-scale producers.

Introduction

A carbon offset credit is a tradable unit with an attached monetary value that can be bought and sold in carbon markets. Credits are generated through projects that reduce the level of greenhouse gases in the atmosphere (of which carbon dioxide is just one), which are widely agreed to be one of the key contributors towards climate change. These projects might involve installing renewable energy technologies (e.g. solar power), implementing energy efficiency measures (e.g. by capturing and using heat from electricity generation for other purposes) or removing carbon dioxide from the atmosphere through carbon sequestration (e.g. by enhancing tree cover). Each offset credit is usually taken to be equivalent to a tonne of carbon dioxide.

The aggregated global carbon markets were valued at \$10 billion in 2005 (Ambrosi and Capoor 2006) and they are growing rapidly. There are two mechanisms for trading carbon offsets from projects aiming to reduce emissions:

- The CDM, regulated under the Kyoto Protocol, which sets binding emissions targets for developed signatory countries
- Voluntary markets, where trading takes place outside Kyoto Protocol mechanisms. Voluntary carbon markets are fragmented and comprise many separate trading mechanisms. This paper focuses for the most part on carbon ‘retailers’ who sell carbon offset services to individuals or organisations, as much of the debate about standards surrounds their activities.

There are over 1800 CDM projects in the pipeline (CD4CDM 2007). Given that all CDM projects and many voluntary projects are implemented in developing countries, the associated financial flows represent a new, and largely untapped, revenue source for enhancing livelihoods.

The CDM sets out its own standard procedures – developed during negotiations over the Kyoto Protocol – for assuring the quality of projects and which clearly define the main elements of the seven-stage project cycle from concept to implementation phase. CDM standard procedures include requirements for key documents (such as a letter of approval from the host country government for the project to go ahead) and standard processes used in the establishment of projects (such as third party verifiers accredited by the CDM Executive Board and a formal process of approval for project methodologies). The Project Design Document requires that environmental and social impacts of projects are assessed and that any remedial measures are described. The decision as to whether a project activity contributes to sustainable development is left to the host country in the interests of maintaining sovereignty.

Procedures in the voluntary markets are more variable and there is no central regulatory

mechanism. There are over 50 different providers developing, and investing in, different types of offset projects. They use separate trading mechanisms and have their own procedures for assuring the quality of the projects that generate offset credits. As a result there is a huge variation in the quality of offsets provided, both in terms of their potential to decrease GHGs in the atmosphere, and of their environmental and social impacts on the ground. From a GHG perspective it is essential that a carbon offset will reduce GHG levels in ‘addition’ to a reduction which would have occurred in the absence of the scheme and that the reduction is ‘permanent’. Procedures to assess these factors vary among projects and offset providers.

Social and environmental impact assessment procedures also vary widely and are generally poorly documented. Some projects have been criticised for their negative social impacts including such factors as the loss of access to land and loss of employment from displaced activities, which can result from a lack of flexibility in project contracts to reflect the needs of small-scale producers (Lang 2006; May et al 2004). The Gold and the Climate, Community and Biodiversity (CCB) standards have detailed social impact indicators covering a range of issues, including employment, local capacity and legal status. The CCB standard also considers off-site community impacts, ongoing community impact monitoring and the use of best practices in community involvement.

Differences between offset projects in the voluntary markets are exacerbated by the fact that providers have different motivations. At one extreme there are market actors whose main concern is in delivering carbon credits that represent real reductions of GHG levels in the atmosphere, from which they can generate profit through trading in carbon markets. At the other are those who require, in addition to the basic aim of reducing GHGs, that projects deliver ‘co-benefits’ such as poverty reduction and biodiversity conservation. Any standards scheme covering the voluntary carbon markets would therefore have to satisfy these multiple interests.

The role of standards in the carbon market

The variation in offset schemes has led to calls for monitoring and some regulation. These calls have come not only from NGOs concerned about the effect of projects on carbon emissions or environmental and social impacts, but also from private sector investors, who are concerned about reducing project risk. Both have led to an interest in establishing standards against which projects can be assessed.

Standards in this sector face significant challenges compared to standards for other commodities, not least because the ‘product’ being

traded (GHGs) is invisible. The complex science of the carbon cycle results in a highly technical market. There is also a lack of existing institutions used to dealing with the specific supply chain.

There are a number of independent standards covering the carbon markets. Some apply to the regulated carbon market, some to the voluntary markets and some can be used for projects in either of markets. These include ISO14064; the GHG Protocol; the draft Voluntary Carbon Standard (VCS); the Gold Standard; the Climate, Community and Biodiversity (CCB) standard; the Climate Neutral Network; the Green-e Program; and the CDM. Five of these are compared in Table 1 overleaf. The main differences between these standards relate to a number of issues:

Primary objectives: Some standards focus on the accurate accounting and reporting of carbon emissions while others focus on ensuring that projects deliver additional sustainable development.

Structure and assessment process: It is difficult to make meaningful comparisons about structure as 'standards' vary between guidelines, protocols and checklists. Some, such as the GHG Protocol standard, set out detailed guidance on processes that should be followed for accounting, auditing and verifying emissions. Others, such as the Gold Standard and CCB standard define checklists specifically for assessing sustainable development impacts of projects and require that projects satisfy a minimum number of criteria to meet the standard. The standards are designed to be used in addition to the basic processes defined in the CDM and therefore generate 'premium' carbon offset credits. The VCS also outlines a checklist of ten broad threshold criteria for establishing project quality. Within this are references to the use of the GHG Protocol for calculating emissions and ISO14064 standard for auditing processes.

The VCS has also established an accredited registry for tracking credits and avoiding double counting. This combination of different elements makes it similar to the CDM which consists of a seven-stage project cycle, detailed guidelines for certain stages, the establishment of a tracking system for credits and the accreditation of verifiers.

Scope: Some standards only cover projects in certain sectors and some are specifically aimed at projects in the voluntary markets. The CCB standard, for example only covers land use and forestry based projects and the Gold Standard only covers renewable energy or energy efficiency projects. Only the Voluntary Carbon Standard and the Gold VER Standard are explicitly designed to cover voluntary projects.

The creation of more universal standards for

voluntary carbon offset projects could help to:

- Increase efficiency and volume of the carbon market as credits become more comparable and investors have more confidence in the quality of offsets they can invest in.
- Enhance the quality of projects in term of accuracy of their claims to have reduced emissions and the impact they have on the ground

There is an argument that too much standardisation in the voluntary market will restrict innovation. This is a particular concern in the forestry sector, as it is already subject to a plethora of standards, and adding to them may decrease investor interest. It may also decrease the competitiveness of forestry in relation to other offsetting options such as increasing energy efficiency in industrial processes. There may, however, be some advantages in having multiple standards, as competition between different providers can increase rigour whilst keeping costs low.

How do existing schemes approach 'sustainable development'?

A fundamental question in this debate is whether standards should merely guarantee that projects 'do no harm' by minimizing negative impacts or that they should go further to ensure that projects deliver positive development benefits. It is questionable whether delivering such benefits should fall within the remit of carbon offset standards, as they play no role in reducing GHGs. Adding to the number of objectives could possibly decrease the effectiveness of the standard in meeting this primary aim, especially if budgets are limited. An alternative argument is that widening the scope of the schemes represents an opportunity to use carbon market revenues to support additional



Some offset providers support substitution of diesel water pumps with manual water pumps.

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Table 1: A comparison of the main elements of five independent carbon offset standards.

	Objective & development	Scope	Assessment process	How sustainable development is assessed
Gold VER Standard (Gold Standard for voluntary projects)	<p>Sustainable development & environmental integrity.</p> <p>Multi-stakeholder led by and involving mainly international NGOs. Field tested</p>	Voluntary market: renewable energy & end use energy efficiency improvement	Projects scored according to sustainable development. High scores carry a premium. 3rd party verification required & CDM accredited verifiers are recommended. Targeted random sampling and annual independent auditing of sample of projects.	Through indicators of: local/regional/global sustainability; social sustainability & development; environmental impact assessment. 2 stakeholder consultations required
CCB Standard	<p>Minimize climate change, support sustainable development & conserve biodiversity</p> <p>Multi-stakeholder process involving mainly NGOs and research institutes. Field tested.</p>	CDM: land-use, land-use change & forestry projects (LULUCF). Also used as a benchmark for voluntary market projects	Project documentation assessed against 15 essential & 8 optional indicators. Then ranked as 'approved', 'silver' or 'gold'. 3 rd party verification required & CDM accredited verifiers are recommended.	Focuses on local/regional sustainability. Each indicator requires detailed assessment (through suggested methodologies) & documentation.
Voluntary Carbon Standard (draft 2)	<p>Emission reductions</p> <p>Multi-stakeholder process led by international organizations working with the private sector. Has had 2 editions & consultations.</p>	Voluntary market: energy efficiency projects; does not include LULUCF yet but under consideration	Ten threshold criteria to be met. GHG Protocol & ISO Standards used for auditing, verification & certification. It also sets out a 5 step process for credit registration a registry for tracking credits. 3 rd party verification required. Recommends same accredited verifiers as CDM.	Verification entity verifies that project is in compliance with all relevant local & national legislation, highlights negative impacts & verifies that the project itself is not increasing emissions.
GHG Protocol	<p>Emission reduction</p> <p>Multi-stakeholder partnership involving business, NGOs, governments & academics. Field tested.</p>	Mandatory emission targets, voluntary programs, company targets. All projects including LULUCF.	Framework of guidance & standards for reporting & accounting for emissions. Discusses need for verification of information reporting. Some guidance for 3rd party verification.	Standardized approaches & principles for accounting, quantification and the preparation of an inventory of GHG emissions. Does not cover sustainable development.
CDM Projects	<p>Emission reduction & contributing to sustainable development in developing countries</p> <p>Developed through negotiations over the Kyoto Protocol</p>	CDM projects: renewable energy, energy efficiency & afforestation/ reforestation projects	Not a standard in itself, but the 7 stage project cycle sets out standardised components for any project which are approved by the CDM Executive Board. Requires 2 different 3 rd party verifiers to validate & certify projects. For small-scale projects the same entity can be used for both steps.	Contribution to sustainable development assessed according to their host country indicators. The process may involve check lists, multi-criteria frameworks, & weighting & point scoring systems. A description of environmental impacts & documentation on stakeholder comments is required.

objectives. The CCB and Gold Standard schemes are two schemes which sell 'premium credits' at higher prices for guaranteed sustainable development 'co-benefits'.

The potential of offset schemes to deliver positive development benefits can be assessed from a number of angles:

- The local impacts of the project, such as the potential for income generation, the restrictions that it might impose on future change of land use and possible conflicts that might arise.
- The ability of small-scale producers to engage in such schemes. Barriers include the costs of complying and the technical skills needed. In the CDM market, for example, high registration costs and stringent verification procedures are reducing the mechanism's potential to deliver projects in the least developed countries (UNDP 2006).
- The wider 'add on' benefits to the producer country - for example, through developing technical capacity in local institutions which would then enable their expertise to be applied to other projects (Peskest et al. 2006).

Voluntary offsetting schemes vary significantly in their approach to sustainable development. Definitions of associated development 'co-benefits' resulting from projects are generally weak or non-existent. Assessment of the development benefits of projects tends to focus on impacts within the boundaries of the project or the immediate locality. There is less consideration however, of the barriers facing small-scale producers to enter the market in the first place or the impact on wider aspects of development within the producer country.

Designing carbon offset standards with beneficial development outcomes

There are a number of areas in which standards could help ensure that positive development impacts result from carbon offset schemes.

Project costs: High 'standards' may be desirable, but if they lead to higher costs then this could exclude small-scale producers from the marketplace. The cost of developing small-scale CDM projects (including project design, impact assessment and registration), for example, is estimated to be between US\$40,000 to US\$90,000 (UNDP 2006). Implementing standards schemes can further add to these costs. The CCB Standard, for example adds between \$4000 and \$8000 on top of standard CDM certification costs. This is likely to be far beyond the capacity of most small producers. Ways to address this problem might include:

- Simplifying methodologies
- Subsidising transaction costs

- More efficient targeting of standards on issues of most concern

The level of rigour required: Setting standards purely on the basis of what consumers want could result in standards that are too high for many small-scale producers to comply with. These barriers, faced by small producers wanting to access the CDM, are also a common problem in other standards schemes. There are a number of possible solutions, including:

- Avoiding a 'one size fits all' approach by developing regional and national systems as has been done for Forest Stewardship Council (FSC) timber standards (Cashore 2005). Both the CDM and FSC have developed alternative protocols for small-scale producers, although in both cases it is questionable whether they have achieved their aim, as implementation costs remain high.
- Streamlining carbon offset standards with each other, and with other relevant sectoral standards such as the FSC.
- Relaxing standards in certain technical areas such as the level of accuracy required for carbon stock measurements.
- Phasing in standards with increasing rigour over time as has been used in the Protocol for the Validation of Legal Claims developed for the timber sector by the Dutch standards institute, Kerhout (Wells 2006).

Distribution of benefits: In a self-reported survey of nine companies offering voluntary carbon offsets, Tufts (2006) reports that between 15% to 93% of sales are spent on 'project implementation'. However, they also note that it is not possible to elucidate the breakdown between administration and direct implementation. Given the international character of the schemes, it is probably not feasible for standards to mandate minimum levels of returns for producers. However, there is a strong case to require that they specify to the consumer what those returns actually are.

State policies and legislation: Most standards require adherence to national and local laws. In some countries, however, implementation of the law as it stands may be weak or anti-poor. As a result, whilst a provider could satisfy all of the requirements of the standard this might still not ensure a 'no negative impacts' result. There is also a danger that investors will avoid those countries where legal frameworks and implementation are weak, as the potential benefits of standards are offset by the inadequacy of the law. These are often the countries where investment is most needed.

Oversight mechanisms: Third party verification can improve the quality of offsets by providing independent oversight. Most projects and

standards schemes require third party verifiers, usually through international private sector organisations. International oversight in some form may be essential for the carbon market, which involves trading at the international level between buyers and sellers with very different interests. This raises a number of issues:

- International oversight mechanisms may tend towards the interests of buyers in investor countries rather than producers in developing countries.
- Currently most verifiers are based in developed countries: out of 17 used for CDM projects, only three are based in developing countries. This means that there is less chance for the added value which this activity may bring to accrue in the producer country.

Ownership: Most standards schemes and projects are developed by NGOs and/or by multi-stakeholder groups. These are seen to be more likely to take into account the interests of small-scale producers than standards developed by the private sector, but this cannot be assumed. Much will depend on how the design process is defined, who is included and what mechanisms are in place to ensure that the participation is representative (Vallejo 2004). Procedures are variable and in many cases it is unclear how stakeholder concerns are assessed beyond the design stage. It is also unclear how problems such as the inclusion of the poor in consultative processes or the recognition of the right to land or resources by those with unclear formal rights, is being tackled. Ownership can be enhanced with:

- Clear procedures for consultation in project design and throughout the lifetime of the

project, including clarity over who has the right to be consulted and over what;

- Improved information flows and transparency, which can help producers hold project developers to account;
- Investment in complementary measures such as accessible dispute resolution mechanisms.

Conclusion

The variety of objectives found in the current range of voluntary offsetting schemes presents a challenge for the creation of standards. A fundamental question remains as to whether the dual aims of offsetting carbon and delivering positive development benefits simultaneously can be satisfied. Reducing transaction costs and relaxing standards in order to make the market more accessible to small producers in developing countries may require a compromise in the effectiveness of carbon offsetting. On the other hand, the development of robust standards which pay attention to these multiple objectives has the potential to bring clarity and confidence to the consumer and to ensure the producer ownership and a voice in the rapidly growing international voluntary carbon market. Greater reflection on what the market is trying to achieve, more clarity in definitions of co-benefits and a recognition of the additional costs involved in achieving multiple objectives could enhance the development of robust and relevant standards.

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