

GHG reductions and sustainable development

The Kyoto Protocol will soon come into force. However, in the initial rush to clean the air, are we forgetting the bigger sustainability picture, asks **Marcio Viegas**

The earth is getting warmer, although the debate about greenhouse gas (GHG) reduction projects and sustainable development is apparently in hibernation. A windless atmosphere has surrounded the discussion on the importance of the sustainable development aspects of such projects. More recently, however, impetus has come from UNEP, think-tanks and buyers of carbon credits.

This article considers a mundane example of an investment opportunity for GHG reductions, then discusses its economic, environmental and social aspects, before examining the financial risks and a proposal to harmonise minimum requirements worldwide.

Mountains of waste

Somewhere in a developing country a mountain of urban waste can be a good source of methane, and thus GHG credits. In fact, methane gas recovery projects represent about 20% of the total GHG emissions reductions in the embryonic GHG market. Waste management gas projects usually involve recovery and flaring of methane into carbon dioxide. Methane recovery projects are attractive because the gas has a global warming potential 21 times that of carbon dioxide. Other projects involve the use of recovered methane to generate electricity.

In less idyllic scenarios, a mountain of urban waste can also be a good source of second-hand goods which the local community repairs, recycles or uses in building homes, for instance. It can even be a good source of food for pigs, goats and even children.

Waste is also a good source of leachate, a highly polluting liquid produced during its decomposition. This can silently contaminate underground water and, as more waste piles up, the greater the risks may become. Dangers persist even if the waste stack is enveloped, the leachate treated and the underground water monitored.

To win approval as a GHG reduction project, a mountain of waste has to be upgraded to 'landfill' class and be well managed, controlled and monitored. That will also involve fencing the mountain, thus preventing the sourcing of goods to the 'antiques' and 'grocery' markets. That can cause trouble with the 'traders'.

This far from surreal example illustrates how GHG reduction projects can cause social conflicts even if, at first glance, the picture is one of more control, dignity, and even some job creation. It also gives an idea of the risks and costs

associated with controlling environmental impacts.

GHG reduction projects are also long-term investments, potentially lasting decades. This is a long time, especially in rapidly changing societies of developing countries, where most projects are located. The social needs and the perception of environmental problems can change significantly over such a period. Even if such issues could be forgotten, it is wise, from the investment point of view, to consider the risks related to such changes.

It is difficult to foresee all relevant factors, but risks have to be minimised by seriously considering aspects other than GHG reductions, namely sustainable development issues.

Sustainable development considerations are part of the regulations of the largest GHG reduction programme – the Clean Development Mechanism (CDM) – which was introduced by Article 12 of the 1997 Kyoto Protocol.

Article 12 of the Protocol establishes that: "The purpose of the clean development mechanism shall be to assist Parties not included in Annex I [broadly developing countries] in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in

Annex I [industrialised countries] in achieving compliance with their quantified emission limitation and reduction commitments."

Sustainable development can be defined as 'development that meets the needs of the current generation without compromising the needs of the next generation'. This is achieved through consideration of the economic, environmental and social pillars of development.

The requirements of sustainable development should be uniform, fair and locally defined, not imposed by other societies. Moekti Soejachmoen, from the Pelangi Institute, Indonesia, has summarised the criteria as follows:

□ The economic criteria require any project to contribute positively to local and national economic development through its contribution to balance of payments and macroeconomic sustainability. The implementation of CDM projects should not increase foreign currency expenditures significantly.

□ Regarding environmental criteria, CDM projects should not only contribute to lessening GHG emissions, but also to local environmental integrity. Projects that result in loss of biodiversity need to be rejected.

□ The social criteria should ensure that projects will not harm social cohesiveness. Projects that have the potential for social conflict should be rejected unless there is a set of measures to solve it. Active involvement of stakeholders and the local community is a prerequisite to avoid social conflict. The social sustainability criterion that is closely related to the economic one is the contribution to employment generation. In areas where employment is already a major problem, projects that will result in additional unemployment should be avoided.

As sustainable development is a complex issue involving global, but mostly local issues, host countries have, as a sovereign right, the prerogative to establish their own criteria. Nevertheless, it is hard to see in the southern

Examples of sustainable development indicators

SD criteria	Sectoral/project-level indicator	Measurement standard	
Economic			
Cost effectiveness	Net costs	Financial costs	
	Financial flows	Social cost	
Growth	Income generation	Net surplus	
Employment	Employment	No. of man-years created or lost	
Environmental			
Climate change	GHG emissions	GHG emissions	
Air pollution	Local air pollution, particulates	Emissions of SO ₂ , NO _x , particulates	
	Environmental health benefits	Monetary value of environmental health benefits	
Water	Rivers, lakes, irrigation, drinking water	Emissions in physical units	
		Damages in physical and monetary units	
Social			
Legal framework	Regulation, property rights	Physical regulation standards, tax value and revenue.	Outline of major rules and property rights
		Land area distribution	
Governance	Implementation of international agreements, enforcement	Cost of administering and enforcing agreements and project management	Characteristics of formal and informal authorities
		No. of infringements and sanctions	Quality of bureaucracy
Information sharing	Institutions, markets, formal and informal networks	New institutions created	Description of networks; members, roles, interests
		No. of participants in policy implementation	

Source: UNEP

A procedure to assess sustainable development (SD) impacts of CDM projects

hemisphere the existence of clear and robust criteria which would satisfy stakeholders and give investors confidence and predictability.

Even if countries were establishing their own criteria, minimum requirements should be established globally to harmonise and implement what buyers are doing in various ways and facilitate the implementation of the sustainable development requirements of Kyoto.

When it comes to the validation, verification and certification of CDM projects, it is not obvious what should be assessed. Some, including the UN CDM Executive Board, understand that the existence of a letter of approval, confirming that the project meets sustainable development criteria and signed by the host country, is sufficient. But this sounds too uncertain to some investors, especially when such criteria may not be available.

Because the sustainable development criteria are established locally, international organisations and 'boards' are not giving the necessary attention to these issues. Another reason is the complexity of the subject, as seen above. What is also concerning is that most developing countries have not established their own sustainable development criteria or how they have to be assessed. We then have a vacuum.

However, the GHG market is moving, albeit slowly. In this market, as in many others, buyers such as private sector organisations and taxpayers or other interested parties will not accept GHG reductions achieved at the expense of human rights, for instance. In the absence of sustainable development criteria, they are establishing their own conditions.

This is already happening as we see the Dutch government (one of the two major buyers of CDM credits) including explicit requirements for projects to adhere to the *OECD Guidelines for Multinational Enterprises*, in its terms of reference. It is doing what it considers best, given the lack of enforcement of Article 12 of Kyoto.

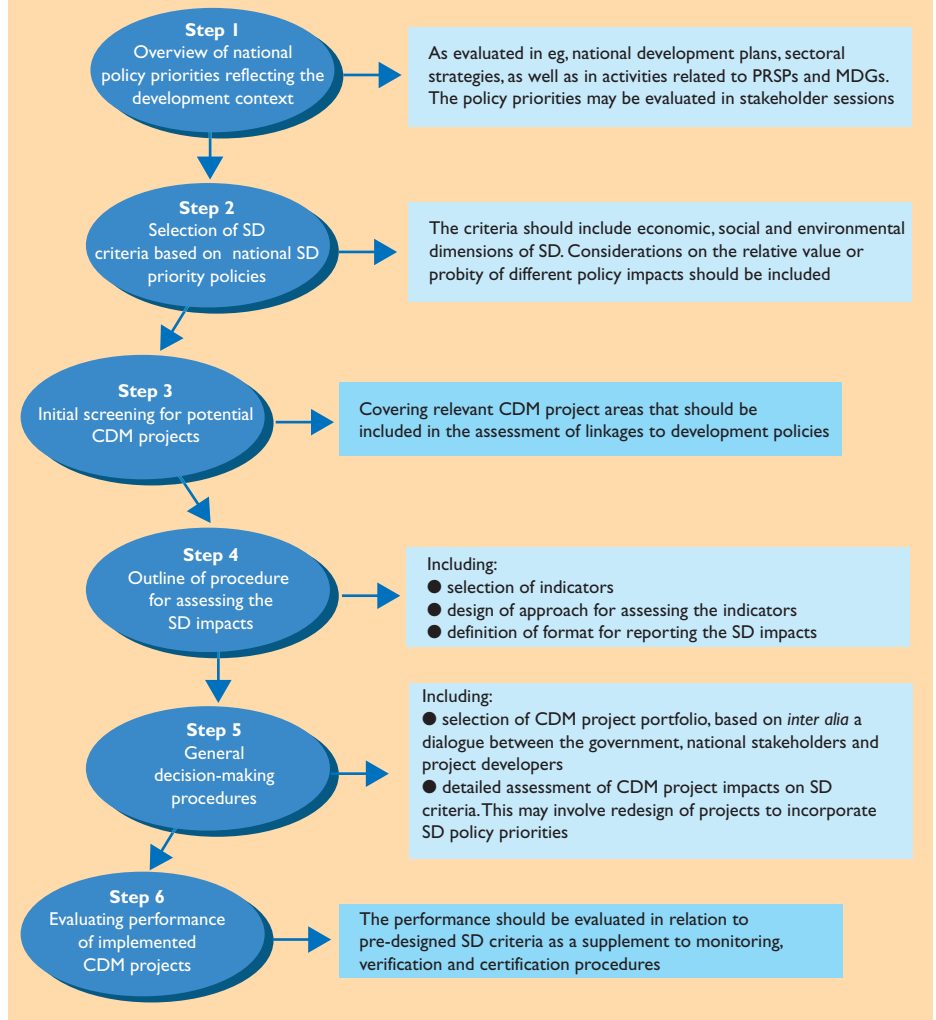
The World Bank's Prototype Carbon Fund, the other big buyer, apparently does not impose such clear requirements. The PCF, in its document *Approval of Clean Development Mechanism Projects by the Host Country* (2003), requires compliance with national laws, highlighting financial and environmental laws, but not labour, health and safety and social laws.

The pressure is on buyers to include sustainable development issues on top of their ambitions for GHG reductions. However, the demands are dependent on the varied groups of stakeholders those buyers have to address. Such variation can be magnified when the buyer imposes different sustainable development criteria on different countries or projects.

What next?

Non-investment or unrealistic requirements that would make investments difficult are obviously potentially worse. The market wants cost-effective solutions and minimised, or at least well-known, risks – ie, good and responsible investments!

Investors find the definition of sustainable development criteria given above, to be correct but too intricate. On the other hand, host coun-



tries and project owners find it unfair, and indeed confusing, to have the criteria imposed by industrialised countries and by different buyers. Objective and credible simplification is needed. How can we get harmonised criteria?

UNEP in its *CDM Sustainable Development Impacts* (2004) guidelines, while recognising that sustainable development is a sovereign matter for each host country, recommends a list of criteria and a procedure for their assessment. The table lists some of the suggested criteria, or indicators.

Another obvious choice for debate is the international conventions on labour and social issues ratified by a significant number of countries, including developing ones. Their value is that they are the fruit of international consensus already, and are managed by the UN, as is the Kyoto Protocol. Such conventions, with additional local requirements, are normally translated into local legislation.

On the soft side, international standards can be used as references. Examples are ISO 14001 (Environmental Management Systems), SA 8000 (Social Accountability) and OHSAS 18001 (Health & Safety). The ISO (International Organization for Standardization) is also starting to develop a standard on social responsibility, but it will be published only in 2007.

Finally, criteria to actively, but feasibly, engage stakeholders beyond electronic files on the internet should be established. This has to happen at an early stage and be maintained during the project life cycle.

The UNEP guidelines also recommend a six-step procedure for assessment (see figure above). It is a straightforward approach and most of the necessary resources are in place. Except national sustainable development criteria, this could be replaced by minimum international requirements, as discussed above.

Responsible investors will naturally demand all the above, but the proliferation of different criteria will be damaging to confidence on all sides of the table. Clearly, the consideration, assessment and management of sustainable development issues may incur extra costs, but should significantly reduce risks in the long term.

Conclusions

Kyoto is a positive, if modest, step towards a less carbon-intensive society. It will not save the planet, nor even reduce significantly the greenhouse effect, at least during its first commitment period (2008–12). However, this first period – and the early preparation for it – can at least teach us some lessons. Discussions about the second commitment period, from 2012 onwards, are starting. It is an opportunity to carefully consider the interrelations between GHG and sustainable development, a much broader aim of society.

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