

# Securing carbon finance to promote energy efficiency

Prof Ciska Terblanche

Carbon financing, when implemented and managed correctly to ensure early income from energy-efficient projects, holds significant advantages for South African businesses. South Africa, in particular, has a lot to gain, as energy-efficiency projects in this country can contribute hugely to successful carbon finance projects.

Carbon finance provides a means to mitigate the risks posed by climate change, as it offers financial encouragement to organisations to implement measures to reduce their greenhouse gas emissions.

Conventional generation methods that are used to provide electricity are some of the main reasons for South Africa's global contribution to emissions being fairly high in comparison with other countries. This contributes to the popularity of energy-efficiency projects in the country, because of the large amount of CO<sub>2</sub> that can be offset.

Typically, reducing 1 MW of electricity will result in a CO<sub>2</sub> reduction of approximately 1 ton, which is among the highest amounts in the world. Emission reductions can also be generated to reduce product-specific energy consumption (ton of CO<sub>2</sub> per ton of product).

Many organisations experience problems with the way carbon financing is currently being implemented. Equity finance is usually provided initially, with certain carbon finance benefits being generated in the second year of implementation of the project. A carbon component for a project is a time-consuming process and the emission reduction can only go through the auditing process and generate a real income after implementation.

This is problematic for most organisations, as the aim is to move carbon finance to the beginning of the project, so that income can be generated sooner, making projects more appealing. This concept is called 'selling carbon forward'.

Various basic principles can be applied to sell carbon reductions forward. These include the following:

- The potential volume of carbon reductions that a project may

deliver over a certain period of time is quantified upfront.

- A view is taken by a financier or carbon buyer on the carbon market up to a future point in time.
- A price structure for the carbon reductions is negotiated between the parties, taking into account all risks associated with the project, the market, etc.
- The price of carbon reductions sold forward is discounted to account for the risks associated with the project.

Usually the financier has a back-to-back agreement with a carbon trader to purchase the carbon reductions once they realise.

## Considering the risks

There are risks associated with such trading that can impact on the financing deal. A carbon buyer in Europe could, for instance, be a counter-party risk. Fluctuating markets create price and exchange rate risks. Combined, these could lead to non-registration, placing the whole project at risk of not being financed. To a large extent, the project developer can manage project risk only.

## Carbon credits

The carbon development mechanism (CDM) is widely regarded as the most significant outcome of the Kyoto Protocol. However, it is intrinsically linked to carbon credit and finance. CDM depends on the regulatory and legal framework that is generated by the protocol.

Companies in the European Union (EU) Emissions Trading System (ETS) will continue to demand carbon credits generated by CDM projects after 2012. However, all indications are that the ETS rules will change to restrict eligibility for new projects to only those in the least developed countries from 2013.

Projects that are not submitted for registration to the United Nations Framework Convention on Climate Change (UNFCCC) by 31 December 2012 cannot sell their emission reductions to the EU ETS.

However, there are some proposed alternative mechanisms to CDM beyond 2012, such as bilateral agreements, sectoral crediting, national appropriate mitigation actions (governed by national government) and verified emission reductions, among others. Such alternatives will require significantly greater involvement from national government, capacity-building within governments and sectors, and the development and approval of new systems and procedures to establish baselines, rules and guidelines.

All the new proposed mechanisms that could be applied by South Africa will take a number of years to develop and implement. What about projects that will be developed in the next two to four years, though? Instead of developing a single project, a Programme of Activities (PoA) could be developed, which can include multiple projects, and any number of projects can be added at any time for the duration of the PoA. The projects have a lifetime of 28 years. Therefore, once registered, projects can be slotted into the PoA for a period of 18 years. A coordinating entity will take on the responsibility for all the CDM activities on behalf of the underlying projects. This entity will then manage the verification activities, monitoring, reporting and contracts.

There are a number of carbon schemes that can be used to provide finance for energy-efficiency initiatives, as well as opportunities to benefit from carbon trading mechanisms. However, organisations that miss the 2012 deadline will miss this opportunity. 🌱



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#### Key carbon finance concepts

- Carbon finance is a finance deal that incorporates the income generated from the sale of carbon reductions from a specific project, usually sold forward.
- A certified emission reduction (CER) unit is traded as a carbon credit, which is equal to 1 ton of CO<sub>2</sub>.
- The carbon development mechanism (CDM) is the relevant mechanism for developing countries, allowing carbon reductions generated under the CDM to trade within the European Union (EU) Emissions Trading System (ETS).
- The baseline is the most likely scenario in the absence of an energy-efficiency project. When talking about CDM and carbon trading, one has to determine a baseline against which one trades it.



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