SERIES 5, BRIEF 3
CLIMATE FINANCE

Carbon finance and trading

Emissions of greenhouse gases have to be drastically reduced if the global population is to mitigate the effect of climate change caused by atmospheric warming. An outline of carbon finance and trading mechanisms reveals three economically efficient strategies.

A brief explanation of the Clean Development Mechanism

The Clean Development Mechanism (CDM), operated by the United Nations as a component of the Kyoto Protocol, commits signatories from developed (Annex 1) countries to keeping annual emissions of greenhouse gases (GHGs) during the period 2008 to 2012 to agreed percentages below 1990 levels. A ton of CO_2 or any GHG has the same effect on the atmosphere wherever it is emitted. Therefore, instead of Annex 1 countries reducing emissions in their own territory to meet these commitments, they can buy Certified Emission Reductions (CERs), commonly known as carbon credits, from an emissions reduction project in a developing country. Projects in developing countries that have the potential to reduce GHGs compared with a baseline situation – a business-as-usual scenario before project implementation – are able to secure extra revenues from CERs received in proportion to GHGs reduced. Though controversial, this carbon finance system with its associated investment also serves as a form of development assistance to developing nations, while enabling them to develop 'cleanly'.

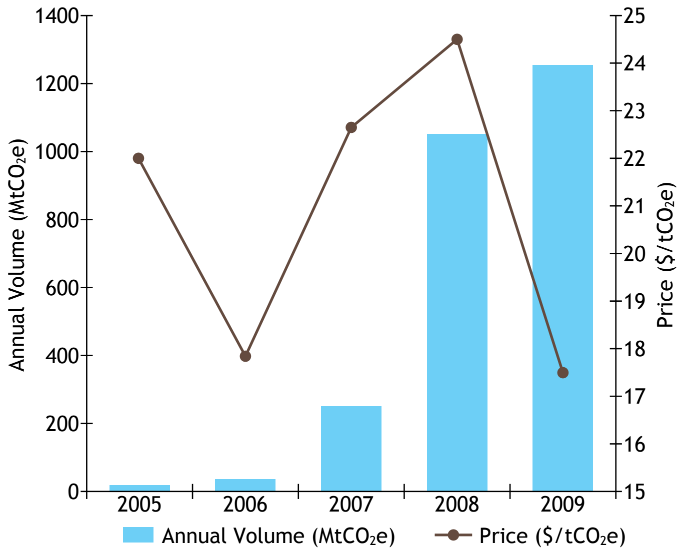
WORD BOX:
Greenhouse gases (GHGs):
Gases that collect in the atmosphere and prevent heat from escaping.
Carbon credits:
Part of a tradable permit scheme that provides a way to reduce GHGs by giving them a monetary value. A credit gives the owner the right to emit one ton of carbon dioxide.
Annex 1 countries:
Industrialised countries and economies in transition that have ratified the Kyoto Protocol and are committed to reducing their emission levels of GHGs to targets which are predominantly set below their 1990 levels.

The voluntary carbon market

The voluntary carbon market, although far smaller, is a carbon finance system that works in much the same way as the CDM, providing voluntary opportunities for companies and/or individuals to offset their carbon emissions. This can happen in any country, is unregulated and driven by personal preference and corporate social responsibility. An example of a voluntary market is when an airline offers passengers the option to make a voluntary payment to offset carbon emitted by their journey.

Market growth

Both the CDM and voluntary carbon markets are growing fast, with the latter 30 times larger than it was in 2002. Together US$92 billion worth of carbon was traded in 2008, growing to US$114 billion in 2009 and expected to grow to



Growth of the carbon market.
The above figure illustrates the recent growth of the carbon market (compliance and voluntary) using annual volumes of CO_2 equivalent traded against average price per ton. Source: www.environmentalleader.com

at least US$800 billion, and possibly as much as US$2trillion, by 2020. At that scale, these markets would be more than twice as large as was the global commodities derivatives market in 2007.

Carbon trading briefly explained

Carbon trading is slightly different to the previously mentioned carbon finance systems. Though still suffering teething problems, the European Union's Emissions Trading Scheme (EU ETS) is the most well established platform for carbon trading. Here, large industry and power companies are issued with emission allowances or quotas – a limit or cap on what they're allowed to emit – and are able to trade those quotas among one another if above or below their cap. If above the cap, emissions allowances would be bought from a company that is below theirs and vice versa. Such systems are also under discussion for Australia, Canada, Japan and New Zealand, and in the developing world for South Africa and Mexico.

Carbon finance and trading in Southern Africa

The Southern African region has performed extremely poorly in comparison to the rest of the developing-world countries in these markets. The entire continent is home to only 1.89% of the compliance markets registered projects, most of which are in South Africa (see Figure 1). This has been attributed to a lack of capacity in designing and developing projects; risky investment climates with weak monitoring capabilities; a lack of public sector assistance; and a general lack of relative economic activity. In order to benefit from the carbon market in the future the region needs to undertake serious capacity development and become more proactive in the space. Certain CDM reforms, aimed at making it easier for Africa to access the carbon market, will however also benefit the region.

Case study: Demonstrating the CDM

To meet the terms of the Kyoto Treaty a developed country, such as the United Kingdom, could buy credits from a wind farm project in South Africa that reduces emissions by generating electricity that would otherwise be generated by burning coal. A coal-fired power plant would emit 10 tons of CO_2 to generate a kW of electricity, whereas the wind farm generates the same amount of energy with zero emissions. Although far more technical in reality, the wind farm is awarded with 10 CERs or – carbon credits – and sells these to the United Kingdom government for €20 a ton. In this way, the United Kingdom has reduced its emissions by 10 tons of CO_2 and the project in the developing country has earned revenue from generating clean energy.

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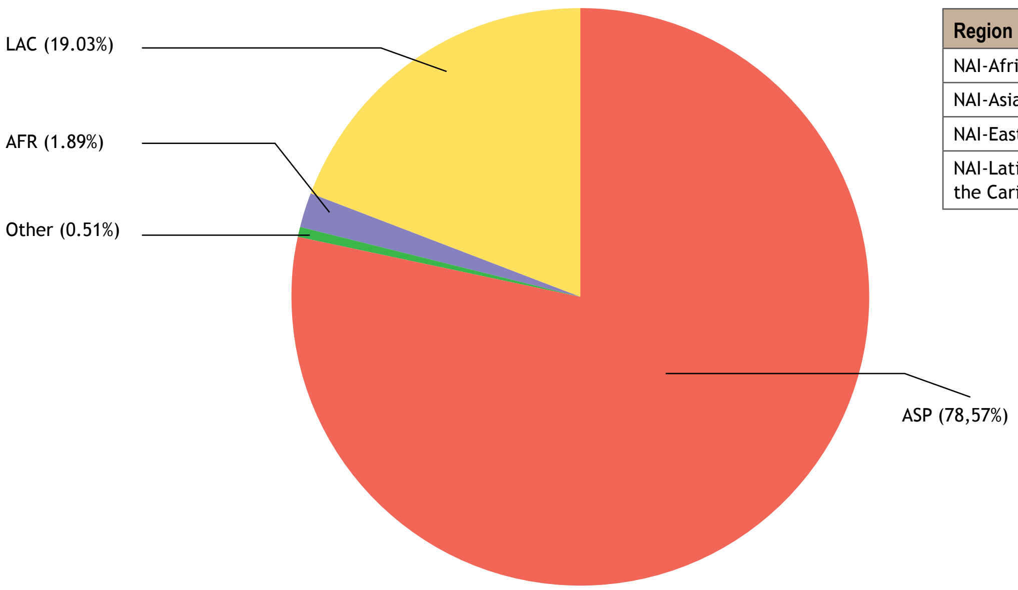
Registered projects by region. Total 2538



Region	Number of projects
NAI-Africa	48
NAI-Asia and the Pacific	1994
NAI-Eastern Europe	13
NAI-Latin America and the Caribbean	483

Figure 1 The entire African region is home to only 1.89% of the CDMs registered projects. (Source http://cdm.unfccc.int/Statistics/Registration/RegisteredProjByRegionPieChart.html).