Helpdesk Research Report: Carbon Trading and Local Governance
Date: 30/06/08

Query: Please identify any available information on local government involvement in carbon emission trading schemes - in particular, the prospect of gains in local revenues and other local community benefits.

Enquirer: GTZ

Contents

1. Overview

There has been limited involvement of local government in carbon trading schemes. As such, documentation in this area is minimal. Still, although current schemes do not particularly cater to their inclusion, it is possible for local government and local communities to participate in and benefit from carbon markets. This can be done through the Kyoto Protocol's Clean Development Mechanism (CDM), which provides for carbon offset projects in developing countries. The owner of a CDM project also owns the revenue derived from sales of Certified Emissions Reductions (CERs) stemming from the project. Local authorities can register and own CDM projects: this has happened for example with the Municipality of São Paulo, which operates the Bandeirantes landfill and owns the Bandeirantes Landfill Gas to Energy project. The municipality has earned revenues from the sale of project CERs auctioned at the São Paulo stock exchange. Revenues have been reinvested in the project and invested in other social programmes for people in the municipality. The Kuyasa Energy Efficiency project is another example: it is a low cost energy efficient housing initiative owned by the City of Cape Town and the Kuyasa community.

Local authorities can also become involved in the voluntary carbon market. Those seeking to enter this market would have to seek out what certification they would require, what independent verifier they could use to authorise Voluntary Emissions Reductions (VERs) and to whom they could potentially sell these carbon credits.

Local governments have independently, or in cooperation with other local entities, set up local and regional carbon schemes on a voluntary basis. These include the New South Wales Greenhouse Gas Abatement Scheme (Australia), the Regional Greenhouse Gas Initiative (RGGI) and the Western Climate Initiative (WCI) (both in North America). The emissions reduction programmes of the RGGI and WCI are scheduled to commence in 2009 and 2010, respectively.

While creating and joining these schemes are voluntary, members are then legally bound by the imposed emission caps. Once the RGGI and WCI are underway, member states/provinces will be able to trade carbon credits with each other and implement carbon offset projects. The Chicago Climate Exchange (CCX) is another voluntary scheme – although again, members are then legally bound to emission caps. Local authorities (cities, municipalities, states and counties) have become members of the CCX: they have the opportunity to earn revenue from sales of carbon credits on the exchange and to engage in carbon offset projects.

While local authorities can currently choose whether or not to become regulated under these voluntary schemes, there is the potential for them to fall under mandatory compliance schemes. This could be the case for emissions under local authority control (schools and other local government-owned buildings, vehicles and utilities). Local authorities are included under the new UK Carbon Reduction Commitment, for example, whereby they will be required to reduce emissions and will have the incentive to abate emissions beyond their cap in order to earn revenue from permit sales.

The extent to which carbon offset projects, under both the CDM and the voluntary market, produce local community benefits depends largely on project design and on national priorities. Some carbon offset projects are designed to promote local sustainable development: local communities may be involved in the design and a percentage of revenues from the sale of carbon credits are designated to fund local development projects. Other benefits include technological transfer and training in order to implement carbon offset projects, which are often complex. National development objectives are also impacting: for example, Designated National Authorities (DNAs) who approve CDM projects in Peru focus more on local community needs as opposed to in China, where the focus is on national economic growth.

While the original intention of the CDM was to link carbon trading to sustainable development, the scheme has been criticised for falling short. The extensive regulations and corresponding high transaction costs have rendered many smaller-scale local community projects, such as agro-forestry initiatives, unfeasible. Such projects are more feasible in the unregulated voluntary market. Forestry carbon projects have been effective in generating local benefits, particularly strengthening livelihoods for farmers. Carbon credits earned, for example through tree planting, belong to the land owners – and this has allowed revenues from sales of VERs to go directly to farmers and local communities.

2. Key Documents

Clean Development Mechanism (CDM) and Local Government Project Case Studies

- Boyd, E. et al., 2007, 'The Clean Development Mechanism: An Assessment of Current Practice and Future Approaches for Policy', Working Paper, no. 114, Tyndall Centre for Climate Change Research, Norwich, UK: http://www.tyndall.ac.uk/publications/working_papers/twp114.pdf

This paper examines the Clean Development Mechanism (CDM) as provided for under the Kyoto Protocol. The CDM is a project-based approach to reducing emissions: it allows industrialised countries and economies in transition to buy Certified Emissions Reductions (CERs) from carbon offset projects in developing countries. The paper looks at linkages between the CDM and sustainable development: it notes that in cases of large-scale CDM projects with little benefits to local communities, project developers have committed to use a percentage of revenues from the sale of CERs to fund local development projects. Small scale CDM projects are often not feasible due to the large transaction costs associated with the design and implementation of community-based CDM projects. Whether CDM benefits accrue to local communities is often determined by the development goals and sustainability criteria developed by host countries approving the projects. For example, Brazil has emphasised employment and income distribution and Peru has promoted local community needs. Chinese projects have focused on national economic growth

instead of sustainable development at the local level. The paper suggests ways to ensure greater attention to local development within the CDM framework.

Bandeirantes Landfill Gas to Energy Project (BLFGE) - Municipality of São Paulo, Brazil

- 'Project Design Document Form (CDM PDD)' – Version 02, in effect as of 1 July 2004: http://cdm.unfccc.int/UserManagement/FileStorage/XAN0MNU4069Z0740KTNZUA3UG2WUOF

This document discusses and outlines the design of the Bandeirantes Landfill Gas to Energy Project (BLFGE) – a CDM project. The municipality of São Paulo, which is responsible for the administration of the heavily indebted city of São Paulo, has taken on this initiative as a means of increasing investment and improving quality of life. The Bandeirantes landfill is operated by the municipality. Under this project, the municipality receives revenues through emissions reduction commercialisation and uses this income for new investments in landfill installations and rubbish dumps recovery. Technological transfer is another project benefit, which includes not only equipment for the project but also training of engineers on how to implement such projects and on how to train others.

Further information on the Project, including Monitoring Reports, is available at the United Nations Framework Convention on Climate Change (UNFCCC) CDM website: http://cdm.unfccc.int/Projects/DB/DNV-CUK1134130255.56

Revenue to São Paulo Local Government

Under the BLFGE, landfill gas is extracted and then flared or converted in small quantities into electrical energy, which will prevent the emission of around 7.5 million tonnes of carbon dioxide up to 2010. In 2006, KfW Förderbank signed an agreement to purchase 1 million certified emission reductions (CERs) from the Bandeirantes project through the KfW Carbon Fund. It subsequently expanded the agreement to cover the second phase of the project: "Until 2012 the KfW Carbon Fund will have purchased 5 million certificates from the two projects. The first carbon credit auction for certificates transferred to the Municipality of São Paulo took place on 26 September 2007 at the São Paulo Stock Exchange. Until 2012 the city will generate substantial additional income from the sale of carbon credits, which it intends to use entirely to finance social measures for the population that lives near the landfill sites". For more information, see: http://www.kfw-foerderbank.de/DE_Home/Klimaschutzfonds/PDF_Dokumente_Klimaschutzfonds/CDM_Projektbsp_engl_Jan08.pdf

In September 2007, the municipality of São Paulo sold $18.5 million in carbon credits to Fortis Bank through Brazil's stock market - Mercantile and Futures Exchange. The credits were sold by auction and were created for the local government through the BLFGE project. For more information, see: http://www.cnn.com/2007/WORLD/americas/09/26/brazil.carbon.ap/index.html

- Fagundes, G., 2005, 'The Brazilian Carbon Market', Brazilian Mercantile and Futures Exchange (BM&F): http://www.bvrj.com.br/mbre2/documentos/download/MBRE_Final.pdf

This power point presentation provides an overview of the BM&F Carbon Facility. This includes information on how to register validated CDM projects; on the process of inclusion of projects and expressions of interest in carbon credits; and on carbon credit trading.

Kuyasa Energy Efficiency Project – City of Cape Town, South Africa

- Mgadi, L. and Malgas, L, 2004, 'The Kuyasa Case Study: An Effort Towards Climate Justice and Energy Poverty Alleviation (Crediting Suppressed Demand for Energy Services under the CDM): SouthSouthNorth Project, South Africa Office, Cape Town: http://eji.snre.umich.edu/EJCC/PRESENTATIONS/LWANDLE%20MQADI_paper.pdf

This paper discusses the Kuyasa Pilot CDM project, owned by the City of Cape Town together with the community of Kuyasa and facilitated by the SouthSouthNorth Project. This initiative aims to build energy efficient housing for people who have never owned property before and who reside in squatter camps close to urban areas. The paper notes that CDM project activities are most likely to be sustainable if they can command high prices in the carbon market. This is due partly to the high costs of monitoring, verifying and certifying emissions reductions – under CDM regulations. It also stresses the time pressure on CDM project activities to produce Certified Emission Reductions (CERs) as soon as possible because CER purchasers are generally unwilling to pay for a future stream of CERs up front. As such, bridge financing is often required to implement the project. The paper outlines different financing frameworks for the Kuyasa project (see p. 7). It also emphasises the potential for project replication in other areas and at the national level, which could attract greater investment funds and provide more communities with sustainable development benefits.

The City of Cape Town, as project owner, registered Kuyasa as a CDM Project with the Executive Board of the United Nations Framework Convention on Climate Change (UNFCCC) in August 2005. For more details about the project, see the following links:

- http://www.capetown.gov.za/en/EnvironmentalResourceManagement/projects/ClimateChange/Pages/KuyasaEnergyEfficiencyProject.aspx
- http://www.theclimategroup.org/reducing_emissions/case_study/cape_town/

Revenue to City of Cape Town

- 'Breakthrough model to finance energy efficiency measures in low cost housing developed': http://www.savingenergy.co.za/content/efficient_lowcost_housing.php

This brief article discusses the various benefits of the Kuyasa project. They include low cost energy efficient housing and the potential to tap into the international carbon market. Since government and NGO grants are limited, the project developers purposely created the Sustainable Housing Facility (SHF). This facility gives building contractors and project developers access to funds generated on the carbon market to install more energy efficient appliances and interventions. Replicating the project elsewhere will be important: since the Kuyasa project is small, the revenue it gains from selling carbon credits can be offset by the costs of registering and selling the credits on the international market. A bigger operation will allow for economies of scale – not only in terms of transaction costs of the carbon market, but also in terms of cheaper equipment and materials for the houses.

- Thorne, S., 2005, 'Experience with Solar Water Heating (SWH) in CDM Project Development', SouthSouthNorth: www.green-markets.org/Downloads/COP11_SWH_SSN.ppt
- 'The Kuyasa Project: Gold Standard CDM', COP1/MOP11 2005, Montreal, SouthSouthNorth: http://www.defra.gov.uk/environment/climatechange/uk/carbonoffset/pdf/southsouthnorth-presentation.pdf

These two presentations provide further details on the Kuyasa project and more generally the benefits of low-cost housing, solar water heating and other energy saving devices to poverty reduction and sustainable development. The presentations also present the projected revenues to be derived from sales of Certified Emissions Reductions (CERs), all of which is to be reinvested into the project. The first presentation notes that attracting foreign investment can often take priority over the goal of sustainable development. It also cautions that that these CDM projects are complex and require specialists.

Voluntary Schemes

- Estrada, M., Corbera, E. and Brown, K., 2008, 'How do Regulated and Voluntary Carbon-Offset Schemes Compare?' Working Paper, no. 116, Tyndall Centre for Climate Change Research, Norwich, UK: http://www.tyndall.ac.uk/publications/working_papers/twp116.pdf

This paper explores the voluntary carbon market and compares it to the Kyoto Protocol's Clean Development Mechanism (CDM). It states that the voluntary market relies on offset projects that may or may not follow the standards of the CDM. They may have less stringent standards or more stringent standards. The paper notes that the CDM has been criticised for not providing many sustainable development benefits. Its projects are rarely in demand-side energy efficiency and forestry; rather, they are often in sectors where mitigation actions have limited environmental and social benefits outside of emissions reduction and associated income. The voluntary offset is seen instead as capable of supporting projects that benefit sustainable development in smaller communities, such as forestry projects. However, most forestry offsets from the voluntary market are taking place in the U.S. The paper stresses as well that the more important determinant of whether a project will benefit local communities is the design of the project. Projects can be designed to include a component that directs a share of carbon revenues to local community development projects or improving employment conditions.

- Taiyab, N., 2005, 'The Market for Voluntary Carbon Offsets: A New Tool for Sustainable Development?' Gatekeeper Series 121, International Institute for Environment and Development (IIED), London: http://www.iied.org/pubs/pdfs/14513IIED.pdf

This paper outlines some of the problems with the CDM and examines the voluntary carbon market. It notes that although the CDM was supposed to link carbon markets to sustainable development objectives, in reality they have delivered few such benefits. This is because the CDM lends itself to low-cost, high-volume projects, such as hydro fluorocarbon destruction or landfill-to-energy projects that have few benefits for local livelihoods. These projects have relatively certain and predictable carbon benefits and are easier to monitor. Agro-forestry or energy efficiency projects on the other hand can greatly benefit local communities, but their carbon benefits are more uncertain and they are difficult to monitor. In addition, smaller scale projects that could benefit communities more are not economically viable under the CDM due to high transaction costs and lengthy bureaucratic procedures.

The voluntary market for carbon offsets, on the other hand, has allowed for smaller-scale community-based projects, as it does not mandate stringent guidelines. The voluntary market consists of companies, governments, organisations and individuals, who buy or sell carbon credits for reasons other than regulatory compliance. As such, local economic development or biodiversity are often given equal or greater importance than carbon emission reduction. The paper lists several carbon markets that have emerged either to meet Kyoto or voluntary emissions targets. In addition to the CDM, they include (see p. 6):

- The European Union Emissions Trading Scheme (EU ETS): an EU-wide carbon market designed to help EU member states meet their Kyoto targets.
- The New South Wales Greenhouse Gas Abatement Scheme: although Australia is not a Party to Kyoto, the state of New South Wales has imposed mandatory greenhouse gas (GHG) benchmarks on electricity retailers. Carbon offset projects are permitted as a way of generating additional credits, but must be carried out within Australia.
- The Chicago Climate Exchange: a cap-and-trade programme that US, Canadian and Mexican companies and organisations can join voluntarily. Eligible offset projects may be implemented in either the US or Brazil.
- The Regional Greenhouse Gas Initiative (RGGI): comprised of seven north-eastern and mid-Atlantic states in the US. This is a cap-and-trade programme, which caps power plant emissions. Offset projects under RGGI can be implemented anywhere in the US outside the power sector. Carbon credits from offset projects used to meet emissions targets under these regulatory schemes are subject to a host of rules governing project design and location, verification and registration requirements.

The paper highlights some of the problems with voluntary markets: the absence of regulation leads to much variation in quality and sustainable development benefits of projects; and a high proportion of revenues may be spent on marketing and administration as opposed to the project itself. The paper also provides examples of voluntary carbon offsets that have been successful in promoting sustainable livelihoods. It profiles Plan Vivo, which is an agro-forestry system through which smallholder farmers in developing countries can plant trees on their land and sell the

emissions reductions. In addition, once the trees mature, a specified portion may be harvested sustainably and sold as timber. Most of the money goes directly to the beneficiary farmers – raising and diversifying their incomes.

- Kollmuss, A., Zink, Helge and Polycarp, C., 2008, 'Making Sense of the Voluntary Carbon Market: A Comparison of Carbon Offset Standards', Stockholm Environment Institute and Tricorona: http://www.sei-us.org/wwf_standcomp_080305%20_web.pdf

This report discusses the voluntary carbon offset market and outlines the available voluntary carbon offset standards using the CDM as a benchmark. The evaluated standards are:

- Clean Development Mechanism (CDM)
- Gold Standard (GS)
- Voluntary Carbon Standard 2007 (VCS 2007)
- Verified Emissions Reduction (VER+)
- The Voluntary Offset Standard (VOS)
- Chicago Climate Exchange (CCX)
- The Climate, Community & Biodiversity Standards (CCBS)
- Plan Vivo System
- ISO 14064-2
- Greenhouse Gas (GHG) Protocol for Project Accounting

The report discusses under compliance-based cap-and-trade systems, the New South Wales GHG Abatement Scheme (NSW GHGAS); the Regional Greenhouse Gas Initiative (RGGI); and the Western Climate Initiative (WCI). Voluntary carbon markets operate outside of the compliance market. They allow governments, businesses, NGOs and individuals to offset their emissions by purchasing offsets (Voluntary Emissions Reductions - VERs) created through the CDM or in the voluntary market. Unlike the CDM, there are no established regulations for the voluntary market, which has facilitated the implementation of micro projects. The small scale of these projects has made it difficult to justify taking on the administrative burden of CDM regulations. However, the absence of regulations has also resulted in some poor quality VERs.

The report discusses the Chicago Climate Exchange (CCX), which is a cap-and-trade system that operates in the voluntary market. The CCX is a voluntary GHG emissions cap-and-trade scheme based in North America. It has an offset programme, whereby members can meet their legally binding targets by purchasing emission allowances (Carbon Financial Instruments) from other CCX members that reduce their emissions beyond the reduction target. These exchanges take place through CCX's electronic trading platform. Offsets from projects implemented through the CCX offset programme can also be used to comply with reduction targets. Most CCX offset projects are currently located in the US, although the CCX accepts projects in any country except in member states of the EU-ETS.

The report also outlines the various carbon offset projects. They can be categorised into biological sequestrian (which includes land use practices), industrial gases, methane capture, energy-efficiency and renewable energy projects (see pp. 20-25). The report profiles the Plan Vivo System, which focuses on small scale land use and forestry projects aimed at promoting sustainable development and improving rural livelihoods and ecosystems. The Plan Vivo Foundation certifies and issues *ex-ante* credits (Plan Vivo Certificates): farmers who participate are paid in regular instalments over 10-15 years; however, they are expected to keep their trees standing for many decades. The report stresses that this entails more risk than under an *ex-post* credit system. Plan Vivo attempts to prevent non-compliance by emphasising that the project goal is to improve livelihoods through income diversification. As such, it is in the economic interest of farmers to keep the trees standing even after offset payments have ceased.

Chicago Climate Exchange and Regional Schemes

- Yang, T., 2006, 'The Problem of Maintaining Emissions 'Caps' in Carbon Trading Programs Without Federal Government Involvement: A Brief Examination of the Chicago Climate Exchange and the Northeast Regional Greenhouse Gas Initiative', Fordham Environmental Law Journal, Fall Issue:

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=900918

This paper looks at carbon markets in the US, focusing on the Regional Greenhouse Gas Initiative (RGGI), set to go into effect in 2009. This carbon market is regulated by state authorities of the seven member states - and is an alternative to federal regulation. Each member state will have its own individual state-wide carbon dioxide emissions cap. Under this system, individual power plants will be given carbon allowances, which they can trade among all RGGI states.

- Chafe, Z. and French, H., 2008, 'Chapter 7: Improving Carbon Markets' in State of the World: Innovations for a Sustainable Economy, The Worldwatch Institute, Washington, CD: https://www.worldwatch.org/files/pdf/SOW08_chapter_7.pdf

This chapter reviews the state of carbon markets, including local and regional initiatives. It discusses the New South Wales Greenhouse Gas Abatement Scheme, which is the second largest allowance-based market. Emission reduction targets apply specifically to the state's power sector: large electricity producers can buy or sell certificates from low-emission generation of electricity, improved generator efficiency, reduced electricity consumption, or forestry carbon sequestrian projects. The Chicago Climate Exchange is the third largest allowance-based market. Joining is voluntarily; however, members must then adhere to legally binding emissions reductions. The chapter also profiles the RGGI and the Western Climate Initiative (WCI). The latter was created in 2007 and includes six US states and two Canadian provinces. The emissions reduction programme is scheduled to begin in 2010. The WCI is largely modeled after the RGGI.

- Ruddell, S., Walsh, M. J. and Kanakasabai, M., 2006, 'Forest Carbon Trading and Marketing in the United States', Paper commissioned by the North Carolina Division of the Society of American Foresters (SAF): http://www.fs.fed.us/ecosystemservices/pdf/forest-carbon-trading.pdf

This paper reviews voluntary carbon markets in the US and the ability to trade forest carbon offset credits. Numerous local entities – cities, municipalities, states and counties – are members of the Chicago Climate Exchange (CCX). Emission reduction credits, gained through verified net increases in forest carbon stocks, are traded on the CCX. Three other regional registries in the US have emerged for registering carbon credits associated with managed forests and afforestation and reforestation projects: the California Climate Action Registry; the Department of Energy National Voluntary Reporting of Greenhouse Gases Programme, and the Regional Greenhouse Gas Initiative (RGGI). The RGGI, set to begin in 2009, will be a mandatory system, whereas the other forestry markets are voluntary. This increased demand for forestry offset credits under this system is expected to raise carbon prices for forestry offset credits.

- Reinaud, J. and Philibert, C., 2007, 'Emissions Trading: Trends and Prospects', Organisation for Economic Co-operation and Development and International Energy Agency: http://www.iea.org/textbase/papers/2007/ET_Trends&Prospects.pdf

This document discusses the general state of emissions trading. It provides details on the New South Wales Greenhouse Gas Abatement Scheme (pp.11-12); Regional Greenhouse Gas Initiative (pp. 13).

Forest Carbon Projects

- Corbera, E., 2007, ''Development' in Carbon Forestry Offsets: A Case Study from Chiapas, Mexico'. Report presented at the Poverty and Environment Partnership meeting, 18-20 June, Danish Ministry of Foreign Affairs. Copenhagen: http://www.biodiversityeconomics.org/applications/library_documents/lib_document.rm?document_id=1108&section_id=23

This report profiles the Fondo Bioclimático carbon forestry project in the state of Chiapas, Mexico - one of the first carbon forestry projects in the world. Its main objective is to provide carbon benefits through agriculture and forestry systems that contribute to sustainable rural livelihoods. The report discusses direct and indirect benefits from carbon forestry activities. Direct benefits

include the increase in local income; better access to forest products; forest management training and increased knowledge about climate change. Indirect benefits are determined by the specific design of the project and can include forest-based enterprises; training in carbon accounting and monitoring skills; formalisation of local tenure rights; strengthening of social institutions; and community outreach programmes. Fondo Bioclimático project provides various benefits: in particular – it is the one of the few carbon forestry projects in the world that pays farmers directly for the sale of Verifiable Emission Reductions (VERs) to international investors. In other cases, the sale of carbon credits is done by governments or NGOs, and local communities benefit more indirectly through employment or development outreach programmes. These VERs are priced similarly to the price of carbon of CDM forestry projects emerging under the World Bank's Bio-Carbon Fund. The report lays out in detail the payment system available to farmers and the expected income benefits from sequestration (see pp. 24-25).

- Boyd, E., Gutierrez, M. and Chang, M., 2005, 'Adapting Small-Scale CDM Sinks Projects to Low-Income Communities', Working Paper, no. 71, Tyndall Centre for Climate Change Research, Norwich, UK: http://www.tyndall.ac.uk/publications/working_papers/wp71.pdf

This paper examines small scale afforestation and reforestation projects under the CDM. It notes that such projects can be profitable – providing supplementary income and strengthening livelihoods among the rural poor. It stresses the importance of decentralisation and the participation of local stakeholders in the design of the project and other decision making. Alongside, it emphasises the need to integrate carbon project systems into broader community development plans.

- May, P. et al., 2004, 'Local Sustainable Development Effects of Forest Carbon Projects in Brazil and Bolivia: A View from the Field', International Institute for Environment and Development (IIED), London: http://www.iied.org/pubs/pdfs/9240IIED.pdf

This paper assesses the socioeconomic and environment impacts of three carbon sequestrian projects underway in Brazil and one in Bolivia. It notes that in order to be profitable, most forest carbon projects, similar to other agricultural commodities, require a large minimum area. This, the report cautions, could reinforce already highly skewed land-distribution patterns. The credits generated in forest carbon projects belong to the land-owner. However, the paper stresses that such projects, if properly planned to incorporate community involvement and community benefits, can contribute to new local employment, local income generation and local tax revenues. Income can be generated through new local initiatives or through new land-use options, stemming from the project. In addition, the purchase of machines and equipment; and local service contracting can produce additional income and government revenues: "the service taxes that are collected by local governments particularly during the project-implementation phase can generate significant additional revenues for the municipality, increasing its capacity to invest in social services that particularly benefit poorer segments of the population" (p. 105).

- Banskota, K., Karky, B. S., and Skutsch, M., 2007, 'Reducing Carbon Emissions through Community-Managed Forests in the Himalayas', International Centre for Integrated Mountain Development, Kathmandu: http://www.communitycarbonforestry.org/NewPublications/icimod_09be93ba2f388cd8786f885474121eea.pdf

This book discusses the role of forests in general, and community forestry in particular, in regulating climate change. It critiques the Kyoto Protocol's Carbon Development Mechanism for including only afforestation and reforestation activities as approved forestry carbon projects. Carbon credits are not given under the CDM for programmes that reduce emissions by avoiding deforestation and/or aim for sustainable management of forests. The book notes that devolution in forest resources management to local communities, for example in India and Nepal, has resulted in better management of forest resources. However, these activities cannot be paid for by industrialised countries under current CDM arrangements. The book finds this to be a critical shortcoming of the Kyoto Protocol.

- Smith, J. and Scherr, S. J., 2002, 'Forest Carbon and Local Livelihoods: Assessment of Opportunities and Policy Recommendations', Centre for International Forestry Research, Jakarta: http://www.cifor.cgiar.org/publications/pdf_files/OccPapers/OP-037.pdf

This report looks at forest carbon projects that promote local livelihoods, providing examples of local benefits from such projects. The Scolel-Té Project in Mexico - administered through the Fondo Bioclimático, for example, involves carbon sequestering by 400 small-scale farmers in 20 communities. There was strong local participation in the design of this project. As much as 60 per cent of carbon revenues have gone directly to farmers. They have spent the revenues on covering the costs of the new farming systems; on food and medicines; and on improvements to their houses. The report emphasises that the ability for CDM livelihood-enhancing forest carbon projects to compete for buyers with large-scale forest protection and industrial plantations, as well as non-forest CDM projects, will depend on the cost-effectiveness of producing certifiable carbon offsets. The paper advocates for proactive efforts to enable community-based CDM forestry projects and local land use to compete effectively. These efforts could include measures to reduce transaction costs and the inclusion of assisted natural regeneration and forest rehabilitation in the definition of afforestation and reforestation. The report also discusses the pricing of carbon credits and the methodologies for achieving equivalence between forest and energy projects under the CDM.

- Barnsley, I., 2008, 'Emissions Trading, Carbon Financing and Indigenous Peoples', UNU-IAS Report, United Nations University – Institute of Advanced Studies, Yokohama, Japan: http://www.ias.unu.edu/resource_centre/UNU-CARBONMARKET.pdf

This paper looks at the opportunities of the carbon market for indigenous communities. It includes case studies of indigenous community involvement in projects in Australia, New Zealand, Columbia, Panama, Kenya, Mexico and Canada. The project in Columbia, for example, involved an agreement between the World Bank's Carbon Fund and the utility company Empresas Públicas de Medellín to purchase 800,000 tons of greenhouse gas emission reductions from the Jepirachi Wind Power Project. This project is located in the Wayuu Indigenous Territory in Guajira, Colombia. It lead to the construction of 15 windmills that deliver power to Columbia's national electricity grid, which is expected to prevent 1,168,000 tons of carbon dioxide emissions that would have been generated under conventional methods. The project will receive a premium per ton of emission reductions upon the implementation of the plan – under the condition that a social plan for the Wayuu people has been implemented. The project seeks to finance a series of community-driven projects, including: training to facilitate direct and indirect job creation; the provision of a water desalinisation plant fed by wind power and the provision of water storage depots; and health and educational facilities.

3. Additional Resources

The United Kingdom Carbon Reduction Commitment (CRC)

The Carbon Reduction Commitment is a mandatory emissions trading scheme being introduced by the Government to cover large business and public sector organisations, such as government departments, universities, retailers, banks, water companies, hotel chains and local authorities.

The scheme is scheduled to begin in January 2010, with a three-year introductory phase. The first capped phase will begin in January 2013. During the introductory three-year phase, carbon allowances will be sold at a fixed price of £12/tCO_2. In the second phase, allowances will be auctioned.

For more information, see;
http://www.defra.gov.uk/environment/climatechange/uk/business/crc/qanda.htm

- DEFRA, 2008, 'Implementation Proposals for the Carbon Reduction Commitment (formerly the Energy Performance Commitment): Review of Consultation Responses', Department for Environment, Food and Rural Affairs, London:

http://www.defra.gov.uk/corporate/consult/carbon-reduc/analysis-responses.pdf

The Carbon Reduction Commitment (CRC) provides incentives for absolute carbon emissions reductions in large, non energy intensive organisations by focussing on direct and indirect energy use at covered organisations. Local government organisations also participated in this consultation. One of the key issues involving Local Authorities (LAs) was whether the government should mandate the inclusion of school energy within the portfolio of LAs for CRC. There was support for and against this. Those supporting the inclusion of schools noted that there is considerable abatement potential in schools and advocated that schools should be included where an LA pays the bill. More generally, half of local government respondents stated that a higher carbon price would provide strong incentives for additional abatement.

- News Release, 2008, 'Carbon trading announcement and £30 million for public sector energy improvements: Benn', 13 March: http://www.defra.gov.uk/news/2008/080313b.htm

"The Carbon Reduction Commitment (CRC), scheduled to begin operation in 2010, is a mandatory emissions trading scheme that will cover around 5000 public and private organisations, including government departments, retailers, banks and local authorities, which combined account for 10 per cent of the UK economy's emissions. Mr Benn also announced that public sector bodies in England, including local authorities and hospitals, would be supported in becoming more energy efficient through an extra £30 million [in interest-free loans] over three years in interest-free loans for energy efficiency projects…The further funding for public sector loans, to be delivered by Salix Finance, forms part of the Government's £400 million domestic Environmental Transformation Fund."

Salix finance works only with public sector bodies. In the past, local authorities have used Salix funds as a method of sharing emission reduction benefits with schools.

For more information about Salix, see: www.eauc.org.uk/file_uploads/salix_and_st_andrews.ppt

Local Governments for Sustainability (ICLEI)

ICLEI is a membership association of local governments committed to advancing climate protection and sustainable development. ICLEI provides technical assistance and analytical tools and methods to measure emissions and identify and act upon emissions reduction opportunities, building capacity and enabling local governments to set and achieve emissions reduction goals. As a network of independent local governments, ICLEI recognises that there are many approaches available to motivated cities for achieving reductions in greenhouse gas emissions, from voluntary registries to cap and trade regimes. It provides local governments with support for whichever mechanism it prefers.

The ICLEI is currently designing a demonstration model for a formal partnership with the Chicago Climate Exchange in order to facilitate the participation of local governments in the carbon trading market.

For more information, see:
http://www.iclei-usa.org/library/documents/ICLEI%20Tools%20Update%20Feb%202008.pdf
http://www.iclei.org/index.php?id=405#3

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Nick Eyre (Oxford University)
Peggy Foran (The Climate Registry, California)
Lin Gan (CICERO)
Maryanne Grieg-Gran (IIED)
Steven Ilkay (Sustainable Alternatives Network)
Steffen Kallbekken (CICERO)
Brian Lucas (GSDRC, University of Birmingham)
Peter May (Rebraf)
Peter Newell (University of East Anglia)
Alistair Paul (University of York)
Clifford Polycarp (SEI-US)
Scott Prudham (University of Toronto)
Julia Reinaud (International Energy Agency)
Timmons Roberts (Oxford University)

Websites visited

CICERO, Climatic Research Unit (UEA), Google, Google Scholar, GSDRC, Ingenta journals, International Emissions Trading Association, International Energy Agency, International Institute for Environment and Development (IIED), International Institute for Sustainable Development (IISD), Local Governments for Sustainability (ICLEI), Oxford University, Sustainable Alternatives Network, SouthSouthNorth, Tyndall Centre for Climate Change Research, United Nations Framework Convention on Climate Change (UNFCCC) – Clean Development Mechanism, UNEP, World Bank - Carbon Finance Unit