

Climate Change and CDM Activities

Congo signed the Kyoto Protocol in December 2000 and was due to ratify it before the end of 2005. It is now necessary to establish the National CDM Authority, evaluate the sustainable character of a development project, enhance national expertise and increase the capacities of the national economic actors. There is scope for synergetic effects between the CDM and focal points of the Rio Convention. The proposed project to protect the Congolese mangrove plantations meets the requirements of four international conventions. The problem of climate change is also an issue in the national strategic document on the environment.

A project to measure the sequestration of carbon in a northern Congolese timber industry concession was carried out in September and October 2004 by Winrock International with US aid financing, and with joint participation by Congolese and US researchers. These measures led to a proposition put by the Congolese government to the International Organisation for Tropical Forests on the theme of multi-spectral and three-dimensional aerial surveying for the management and conservation of the Congolese forests. Several other projects have been carried out in eucalyptus plantations and elsewhere on climate change.

Six possible CDM projects have been identified so far, including:

- Rural electrification by solar generation.
- The management of waste from industrial sawmills and forestry operations.
- The recovery of gas presently flared on oil platforms.
- Reforestation of woodlands felled for energy use.
- Sequestration of carbon by plantations of eucalyptus and fruit trees.

A workshop was held on 18-22 April 2005 on the theme of Mechanism for Clean Development, organised by the International Centre for Agricultural Research for Development. The national debate on climate change and the Kyoto Protocol was previously insufficiently organised, but several actions to increase awareness have now been undertaken, including a radio-television forum and a conference debate on climate change at the level of parliament, university, colleges, and the ecological and industrial zones.

None of the environmental NGOs active in Congo has any experience of climate change, carbon sequestration or the CDM. However, two of the parliamentary committees cover environmental affairs and are therefore involved in decision making on matters concerning the Kyoto Protocol. Their members have benefited from the workshops that have been held to raise awareness of climate change. It would therefore be advantageous to extend this process of increasing awareness to the specific issues raised by the Kyoto Protocol and the CDM to these decision makers as well as the smaller producers. The media regularly publicise environmental questions and the Kyoto Protocol, but journalistic specialisation is necessary, as is reinforcement of their capacities to deal with the subject matter.

Criteria for Sustainable Development

Congo has signed and ratified all the major international conventions and agreements on environmental themes like endangered species, biodiversity, climate change, etc. In addition, it is a party to regional and sub-regional conventions on desertification, migratory fauna and illicit trade in wild animals and plants. It is a member of the International Union for the Conservation of Nature and another five African regional environmental organisations. Around half of the 22 major Congolese legislative acts on environmental issues have a bearing on climate change.

In March 2005 an agreement was signed between Congo and Italy on cooperation in the field of climate change and the implementation of the Kyoto Protocol as well as the CDM project. It covers four aspects: protection, management and observation of the natural milieu; promotion of clean energy carriers and renewable energy production; the urban environment and improvement of living standards; and reinforcing capacities. The Italian side is principally interested in acquiring certified emission reductions, while the Congolese party views the agreement as a means of putting the CDM into effect.

The relevant energy and industrial indicators could include:

- The quantity of greenhouse gases emitted by industry, e.g. Congo Breweries.
- The volume of waste timber products burned in the atmosphere.
- The volume of gas flamed at petrochemical plants.
- Decreased deforestation around towns (more efficient burning of wood by households, or its replacement by gas).
- Increased use of butane gas.
- The volume of timber recovered in forests to supply processing industries heavily dependent on wood.
- Increase in woodland plantation area.
- The number of kilowatt-hours produced by steam turbines fuelled by biomass.

Constraints to CDM adoption

Congo has signed the Kyoto Protocol, but the process of ratification is not yet complete. When this is complete, a National CDM Authority will be set up. Congo already has a National Commission on Sustainable Development. The priorities will then be: to set up the CDM authority's council, permanent secretariat and statutory procedures; identify and adopt a sustainable development project; reinforce the capacities of the national experts; and reinforce the capacities of the economic actors.

There is presently a lack of direction in respect of electrification, the enhanced use of butane gas, solar energy, energy conservation, and plantations that could be affected in local communities due to a lack of ground allocation. This absence of "ready-made" regulatory authorities will tend to put a brake on the absorption of the CDM as well as the introduction of certain technologies.

One considerable obstacle is that, of all the interested parties, the only people who are adequately informed on the Kyoto Protocol and the CDM are those members of the administration who have participated in the relevant international conferences. A seminar was arranged with French assistance, but key sectors – NGOs and private industry – were not represented at it. There is an almost total lack of information on the new technologies.

The scarcity and poor quality of the available information could render the identification and evaluation of the base variables for projects difficult and unreliable. This has inevitably contributed to a degree of reticence on the part of other actors in the carbon trading market in relation to forested countries like Congo, where minimal estimates of net emissions can affect the financial costs.

Economic obstacles to the development of the CDM are most evident in the Congo River basin, where it is difficult to realise a profitable investment that is not directly productive, due to the very high costs of loans and maintenance, resistance to new technologies, and the high cost of transactions, attributable to politico-institutional uncertainty. The Congolese legal system has yet to adapt to international standards.

National Stakeholders

Governmental functions with relevance to the CDM are spread over some 20 national institutions, including the Presidency of the Republic. In addition, the environmental departments of the regional and local authorities will also be involved.

The organisations of the private sector concerned include UNICONGO and its member firms, UNIBOIS in the forest sector, and the various Chambers of Commerce amongst others. At academic level there are the IRD and CERGEC research centres as well as the university Faculty of Sciences, the Institute of Rural Development, and the Geography Department of the Faculty of Arts. Others include the National Centre for Forestry and Fauna. NGOs include inter alia RIAT Congo and the Platform for the Fight against Desertification.

CDM Potential in the Industrial and Energy Sectors

Biomass has enormous potential within the Congolese energy sector. Almost 90% of households use combustible organic materials, and charcoal burning is an important source of employment in rural areas. Improved efficiency and modernisation here are essential components of a national energy policy.

Cogeneration would offer the timber processing industries an opportunity to produce electricity and heat with limited current expenditure, while cutting down dependence on fossil fuels. It would also allow industries to be developed in the large areas of the country with no access to the national electricity grid. Surplus power could be sold to local networks, or even to the national grid where possible.

Improvements could include the use of forest residues, sawmill waste and other vegetable waste; more efficient production of charcoal and firing of building bricks;

improved design of domestic fireplaces; improved industrial processing of timber – a potential CDM project – and timber plantations specifically for energy and industrial use.

A new vision of Congo's energy needs reveals the necessity of using all the available timber waste to produce electricity. What must be avoided is the squandering of this material by combustion involving the emission of pollutants. The current produced must be made available to the population at the lowest possible cost, especially in North Congo. Economic production of timber by-products (charcoal, granules, briquettes, compost, etc.) is difficult on account of the low population density and the distance of the large cities from the timber-growing regions. At the moment, all the forestry companies in North Congo produce electricity for their own purposes and for their workers. The current required is around 1500 kW per concession. Up to the year 2010, therefore, a dozen such companies in North Congo would have a total requirement of around 20 MW of fossil energy.

The savannah regions of Congo cover several million hectares. A programme of industrial plantation here, especially of eucalyptus, would enable a high degree of carbon absorption to be achieved. Congo's forestation and reforestation programme since 1946 has also shown the value of such measures in averting drought and desertification; stabilising the soil; providing timber for energy, construction and industrial production; promoting economic and social development; and not least reducing the net level of greenhouse gas emissions through carbon sequestration.

Congo's other main energy potential is hydro-electricity. Small generating plants can serve several purposes: energy production, irrigation, and domestic water supply. The country is fortunate in possessing a large number of rivers and permanent water-courses that provide an excellent basis for such a programme of small hydro-electric plants, which could also permit the extension of small-scale farming activities in the rural areas.

Conclusions and Recommendations

The implementation of the Clean Development Mechanism in Congo is in its infancy. The country's potential is, however, enormous in respect of its forest resources. The first policy priority is combating poverty, and projects that contribute to this end are indispensable. New measures and new technologies are needed:

- Small hydro-electric schemes also encourage rural developments, provide irrigation, and raise the quality of agricultural products and their returns.
- Projects are required to enhance the population's quality of life and reduce household costs.
- Solar energy can power pasteurisation and other operations to ensure clean water, reduce ill health, and raise individual productivity and family income.
- The use of bottled butane gas can be developed in urban areas while reducing pressure on surrounding forests.
- With the expansion of cities like Brazzaville and Pointe-Noire the question of waste disposal has become more prominent. Studies on biomass should be upgraded to take account of this.

- It is necessary to quantify the emission of greenhouse gases by transport vehicles, and such a system should be introduced, operable by garages and workshops.
- Biomass is an extremely important factor in the industrial sector for the production of both heat and electricity.

In conclusion, Congo is a developing country with strong commitments at international level. It must invest in the ratification of the Kyoto Protocol, and increase its capacities in all the relevant sectors.

A programme of studies is necessary to ascertain the level of emissions of greenhouse gases. It is also necessary to carry out periodic assessments of the Congolese climate.

In view of the objectives of the Clean Development Mechanism, industrialisation should work to the benefit of the Congolese population. This is why industrial projects should be promoted, but also, and primarily, small-scale developments to encourage handwork and enhance employment.