

Climate Change and the Clean Development Mechanism: Opportunities for Cameroon

The climate change today is a major threat to humanity, and the fight against it is one of the biggest challenges the mankind is facing. Selected consequences of climate change can be sudden increase of sea level; rising occurrences of flooding, uncontrolled precipitations and hurricanes; or desertification of some part of the world like the horn of Africa that is already experiencing noticeable changes...

The identified cause to climate change is the abnormal greenhouse effect caused by anthropogenic greenhouse gases (GHG) that human beings through different activities emit day in day out into the atmosphere.

The identified solution to climate change is the reduction of man produced GHG that are emitted into the atmosphere. The solution sounds extremely simple, but the reality is that reducing GHG can have a direct negative impact on the economy. The challenge nowadays is to find converging solutions that balance well economy and environment; solutions that reduce effectively and cost efficiently GHG emitted into the atmosphere without damaging the world's economy.

Amongst existing mechanisms established to fight against climate change is the Clean Development Mechanism (CDM), established in 1997 in the Kyoto Protocol and entered into force in 2005. The CDM is a project based mechanism that enables offset of GHG emissions through trading of emissions between developed countries and developing countries. Entities in developed countries that have ratified the Kyoto Protocol can offset GHG emissions above their allowed emissions cap by purchasing Certified Emissions Reduction (CERs) in developing countries that have also signed and ratified the Kyoto Protocol.

Brief history of the climate change issue

Earlier in the sixties, many scientists argued that the climate was changing noticeably. They further argued that the climate change was due to anthropogenic greenhouse gases (GHG) that human being activities were releasing into the atmosphere. Reacting to the persistence of scientists and researchers, the United Nations (UN) organized in 1972 in Stockholm the first ever United Nations Conference on Human and Environment. The main outcome was the creation of the United Nations Environmental Program (UNEP) to set up rules and regulations towards environmental protection.

To totally dissolve doubts around and fully understand the question of the climate change, the World Meteorology Organization (WMO), together with UNEP, created the Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC is an association of hundreds of top scientists and experts in the field of global climate change, working thoroughly to “assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to

understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation” to quote IPCC’s words.

Just two years after coming to existence, the IPCC’s first report in 1990 concluded that anthropogenic GHG will progressively increase the greenhouse effect and consequently the average temperature on earth will rise during the 21st century, unless mitigation measures were taken on time. The IPCC in the same report further suggested the creation of an international treaty to control the situation and ultimately come out with solutions.

A reaction to that report was the “Earth Summit” organized by the UN in Rio de Janeiro in 1992 which saw the creation of the United Nations Framework Convention on Climate Change (UNFCCC). This convention, recalling the consequences of climate change on environment, created a framework where industrialized countries grouped in Annex I of the convention committed themselves to reducing GHG produced by their industries.

The UNFCCC, even though was a giant step toward climate change mitigation was neither binding for Annex I countries nor fixing clear and measurable objectives about greenhouse gases emissions mitigation. The Conference of Parties (COP) to the UNFCCC was created and its third session (in 1997) marked the establishment and signature of the Kyoto Protocol (KP). This protocol went beyond the UNFCCC and industrialized countries fixed binding objectives of GHG reduction by at least 5.2% to the 1990 level in the 5 years period from 2008 to 2012 (the so-called first commitment period of the KP). This same KP created three mechanisms to support countries in reducing efficiently and cost effectively GHG emitted into the atmosphere.

The KP entered into force in 2005 and since then a lot of progress have been done towards keeping the temperature difference on the earth’s surface at a maximum of 2° Celsius by the end of the 21st century.

The first commitment period of the KP is coming fast to an end. Plus scientists insist that further and more stringent efforts have to be made after 2012 until 2050 to save the planet against climate change catastrophes. The recent COP15 (15th Conference of the Parties to the UNFCCC) and COP16 in Copenhagen (Denmark) and Cancun (Mexico) respectively have seen some progress for an international agreement beyond 2012. But all hopes are now put on the COP17 taking place in December 2011 in Durban (South Africa) to find the final and reel successor to Kyoto to continue the battle against climate change.

From Copenhagen to Durban through Cancun

A Conference of the Parties (COP) is a (yearly) general assembly of all parties (countries) that have signed the UNFCCC. During the general assembly, main decisions related to the UNFCCC development are discussed and approved or rejected by the general assembly.

Major questions at stake in the last two COPs (COP15 in Copenhagen and COP16 in Cancun) were to find a successor to the Kyoto Protocol after 2012 and to agree on further innovative ideas to curb the emissions of GHG into the atmosphere.

The world, especially developing countries almost unanimously agreed that COP15 at Copenhagen was a failure. The famous “Copenhagen Accords” failed to set milestones going forward in the battle

against climate change. On the contrary, the COP16 saw all participants almost unanimously (except Bolivia unwilling to agree on anything) agree on major points discussed during the two weeks meeting.

Key takes of the COP16 are:

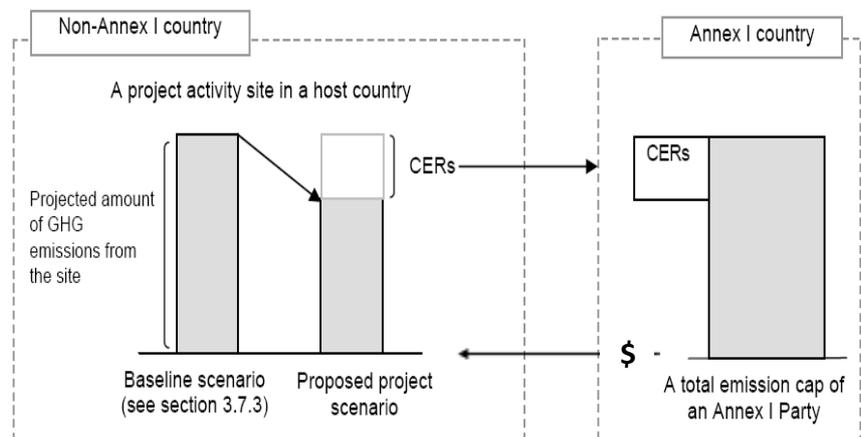
1. The goal to limit global temperature increase to 2° Celsius (coming formally into UNFCCC for the first time)
2. Establishment of the “Green Climate Fund” to support mitigation and adaption projects in developing countries
3. The financial flow of \$30 billion until 2012 and subsequently increasing until yearly \$100 billion by 2020 to support mitigation and adaptation projects in developing countries, as agreed already in Copenhagen
4. New markets and non-market mechanisms to fight climate change should be drafted until COP17
5. The “Cancun Adaptation Framework” to promote and enhance adaptation to climate change especially in developing countries
6. The CDM reform drafted at COP15 was adopted. The main points of the reform are: (i) countries with less than 10 CDM projects registered can have a loan scheme for the CDM development of projects; (ii) development of standardized baselines and (iii) Carbon Capture and Storage activities can be CDM projects

Some of the agreements taken at Cancun will start their materialization in the course of 2011, but many still need to be adopted at Durban during the COP17. Who knows, Africa can be the place where final aggressive agreements to fight climate change and its adversity will be signed

What is at stake for developing countries like Cameroon is that, the Clean Development Mechanism should continue to exist beyond 2012, and reforms drafted and approved even make the CDM process easier and faster. It is important to understand how the CDM works before analyzing business opportunities associated to the CDM in Cameroon.

Principle of the CDM

The principle of the CDM is straight forward, though a bit complex in practice: one develops in a developing country (Non-Annex I Country) a project that through a process designed by the UNFCCC is proven to be reducing greenhouse gases as compared to how much greenhouse gases should have been produced in the absence of the project. The developer of that project gets carbon credits (known also as Certified Emissions Reduction – CERs) that he can sell. The buyer is the government or



often a utility in a developed country (Annex I Country). Utilities, based in countries where they are subject to emissions cap or trading scheme, such as the European Union Emissions Trading Scheme (EU ETS), will then use these carbon credits to offset each ton of CO₂e that they have emitted beyond the cap assigned to them by their government. The sale of carbon credits brings (additional) revenues to increase the profitability of the project. This is a good incentive for the project developer to invest in an environmental friendly technology which is most of the time much more expensive than an existing business-as-usual technology.

Potential projects that can be accepted as CDM projects are in the sectors of energies, renewable energies, energy efficiencies (demand and supply side), landfill gas capture and usage, composting, land use, land use change and forestry, fuel switch...

The CDM potential of Cameroon is enormous and almost totally untapped. Only HYSACAM has succeeded to date in bringing two CDM projects to registration by the Executive Board of the CDM. Reasons to the paradox between potential and real CDM projects are multiple and diverse. But the main one is still the lack of information, knowledge and expertise about low carbon business opportunities in the country. Another publication could discuss at large problems infringing the success of CDM in Cameroon. Only CDM opportunities are succinctly presented here.

Low carbon business opportunities in Cameroon

It's impossible to present in detail the multiple and diverse CDM potential of Cameroon in one publication. The intention here is to describe succinctly possibilities in selected sectors and when possible give some examples. Deeper thoughts will be made available in further publications or during exchange and capacity building events to be organized in the future.

The energies sector presents a wide range of CDM opportunities from non renewable to renewable energies through fuel switching possibilities and energy efficiency.

The main parameters governing CDM projects connected to energies is the electricity grid emissions factor (EF). The EF indicates how much CO₂ is emitted into the atmosphere for electricity consumed in Cameroon. It's assumed here for each MWh consumed in Cameroon, 0.5 ton of CO₂ is released. This value is very realistic in view of the breakdown of actual energy sources in Cameroon (almost 75% hydro and 25% thermal).

Non renewable energies CDM projects are usually switching from high to low carbon fuels. In Cameroon for instance with the emission factor of 0.5 tCO₂/MWh, producing electricity with natural gas in a combined cycle will qualify as CDM project. For instance, if the Kribi Power Development Cooperation (KPDC) project is planned to use a combined cycle gas turbine, then for the production of 200MW power and assuming 11 months (8000hours) running time per year, the project will gain over 150'000 carbon credits per year. This can be translated into 1.5 million Euro extra revenue per year (realistically assuming 10 Euro per carbon credit) for CDM only, not including the reduction of over a third of natural gas consumption.

Renewable energies will produce even more carbon credits as they do not produce any GHG into the atmosphere during the process of electricity production. And Cameroon has enough renewable energy resources in wind, solar, hydro, wave and biomass/waste to energy. Carbon credits associated

to the Mve'le hydro project can be enormous, or companies like SOSUCAM, breweries... could revalue their waste to produce electricity for own consumption and benefit from the CDM.

Energy efficiencies measures in industry can also qualify as CDM project, as well as reducing wood use for cooking, or using LED lamps for lighting in rural areas...

Waste management present ranges of possibilities in the CDM. HYSACAM is capturing methane produced by anaerobic decay and flaring it at existing dumpsites in Douala and Yaoundé. The same methane could have been used for electricity production, if all conditions were met. Municipal solid waste can also be composted to avoid the production of methane. Methane is a GHG 21 times more adverse than carbon dioxide.

In the forestry sector, afforestation and reforestation are CDM opportunities. Forests are carbon sink and deforestation participates by 15% to 25% to global GHG emissions into the atmosphere. Cameroon is in the Congo Basin Forest, the second forest block in the world after Amazonia. The importance of forestry is therefore crucial in Cameroon in meeting world's GHG emissions reduction target. To date, ANAFOR is developing a CDM forestry project but it's too early to draw conclusions. Alpiwood also is developing a forestry project but prefers to follow voluntary market for the commercialization of carbon credits. The Ministry of Environment and Nature Protection (MINEP) has already planted over 9'000 hectares of trees in the northern region of the country (in the "Sahel Vert" campaign) and is trying to get carbon credits.

The CDM presents real opportunities for sustainable development. These opportunities have not really been tapped in Cameroon, as in many African countries with just the exception of South Africa. The main reason for this failure it has been said is the lack of understanding of how the whole process works. The company S² Services SARL is establishing itself in Cameroon to pioneer local and successful CDM projects development

About S² Services SARL

S² Services GmbH (S2) is a group of engineers, managers and experts with worldwide experiences striving to bridge sustainable development between the western world and Sub-Saharan Africa. With a mixed team of well aware Europeans and Africans, S2 has the speed to cope with the western's way of doing business and the patience to navigate successfully throughout the hurdles presented by any business development and implementation in Africa.

The management of S2 has over 5 years experience in CDM development and management throughout Africa and has followed for over 5 years climate change negotiations around COPs. S2 is the right partner for CDM development and management in Cameroon and for analyzing international negotiations related to climate change and sorting out related business opportunities for Cameroon and Africa at large.

Article drafted by:

Hervé Azemtsa and Durando Ndongsok

Contact us for further discussions: info@S2-gmbh.com or 79 52 55 03/77 52 61 20, or visit www.s2-gmbh.com