Clean Development Mechanism

The Clean Development Mechanism (CDM),is one among the three flexible Kyoto Protocol mechanisms facilitated implementation of Green House Gas (GHG) emission reductions in developing countries. Such GHG emissions are procured by the developed countries to meet their emission reduction targets under the Kyoto Protocol.

The concept of the CDM is sketched in Article 12 of the Kyoto protocol (UNFCCC 1997). The CDM was created to assist non- ANNEX I Parties in achieving sustainable development, transfer of sustainable technologies and contributing to the ultimate objective of the Climate Convention while enabling ratifying Annex I parties to use Certified Emission Reductions (CERs) from project activities in non-Annex I countries- including Pakistan- in order to contribute towards their compliance of national greenhouse gas emission reduction targets during the first commitment period (2008- 2012). Under the CDM, ratifying parties Annex I parties are allowed to implement projects that reduce emissions in non- Annex I Parties or absorb carbon through afforestation or reforestation activities. In return, ratifying Annex I parties receive CERs while the project activity assists the host country in their development process and climate change mitigation. As GHG abatement costs in developing countries are expected to be much lower than in industrialized countries the CDM gives the Annex I country the opportunity to achieve their abatement targets at lower costs while providing sustainable development projects with a mitigation potential to the host country.

The CDM was conceived in order to assist countries with a binding emission reduction target in achieving partial compliance with their country target by carrying out project activities aimed at reducing emissions in the developing countries like Pakistan that yet do not have such obligations.

The underlying idea of the mechanism is to take advantage of cost- efficient mitigation options everywhere in the world; in other words, to achieve the same environmental benefits at lower costs, with so- called least- cost abatement measures. The Protocol hence intends to support industrialized countries in reducing their costs of compliance.

In order to preserve a high probability of keeping global temperature increase below 2 degrees Centigrade, current climate science suggests that atmospheric CO_2 concentrations need to peak below 450ppm. This requires global emissions to peak in this decade and decline to roughly 80% below 1990 levels by the year 2050. Such dramatic emissions reductions require a sharp move away from fossil fuel, significant improvements in energy efficiency and substantial reorganisation of our current economic system. This transition can only be achieved by far-reaching national and international climate policies.

Opportunities of Earning Carbon Credits in Alternative & Renewable Energy Projects in Pakistan

Carbon offsetting is an increasingly popular means of taking action. By paying someone else to reduce GHG emissions elsewhere, the purchaser of a carbon offset aims to compensate for – or "offset" – their own emissions. Individuals seek to offset their travel emissions and companies claim "climate neutrality" by buying large quantities of carbon offsets to "neutralize" their carbon footprint or that of their products.

Carbon offset markets exist both under compliance schemes and as voluntary programs. Compliance markets are created and regulated by mandatory regional, national, and international carbon reduction regimes, such as the Kyoto Protocol and the European Union's Emissions Trading Scheme. Voluntary offset markets function outside of the compliance markets and enable companies and individuals to purchase carbon offsets on a voluntary basis

In Pakistan, alternative and renewable energy (ARE)projects have definite prospects for development as carbon offsetting initiatives. Being clean source of energy, theARE projects are best suited for CDM and can earn CERs. The Government of Pakistan (GoP) has taken up a broad spectrum of initiatives for the development of AREs in the country and seeks projects to address the CDM pertaining to sustainable development and should apply to CDM Executive Board as per the guidelines of UNFCCC for get CERs and earn carbon revenues.

To accelerate and streamline activities related to the REs, the Government of Pakistan has authorized Alternative Energy Development Board (AEDB) to act as a focal body of the federal government with mandate of one window facility for ARE development in the country. The GoP approved Policy for Development of Renewable Energy for Power Generation, 2006, in which it specified constitution of Joint Management Committee (JMC) for sale and management of CERs earn through renewable energy projects. The JMC comprise of power purchaser, power producer and AEDB.

Status of Registration of Alternative and Renewable Energy Projects with CDM

CDM is one of the instruments that developers of the Alternative and Renewable Energy (ARE) Projects pursue and earn financial returns by getting their projects registered with CDM Executive Board and selling the accrued Certified Emission Reduction certificates in the international carbon market.

The sponsors of ARE projects in Pakistan also have been looking at this option. 18 RE projects have been registered for 1.3 million CERs annually, and 29 RE projects are in process of registration for 1.6 million CERs annually. Current Market price of one CER is below USD 1; however it is expected to increase as the developed countries are going to re-affirm their commitments to take target to reduce emissions in COP-21 (to be held in Paris in Oct 2015). To avail max benefits from new market situations, the investors are endeavoring to register their projects

with CDM. The details of the ARE projects who have started process for CDM registration are as follows:

Projects Registered with CDM				
Sr. No.	RE Resource	No. of Registered Projects	Cumulative Capacity of Registered Projects (MW)	No. of Approved CERs
1	Wind	8	405.9	709287
2	Biomass	8	190	550000
3	Small Hydro	1	15	76000
4	Solar	1	50	33000
Projects In Process of Registered with CDM				
Sr. No.	RE Resource	No. of Projects	Cumulative Capacity of Registered Projects (MW)	No. of Claimed CERs
1	Wind	10	528	929280
2	Biomass	4	88	254737
3	Small Hydro	12	116.8	591787
4	Solar	3	125	82500

i) Wind Power

Till to date 18 wind power projects are in advanced stage of CDM registration process. 8 projects of 50 MW each have been registered with CDM Executive Board. Aggregate number of approved CERs from these projects is 709,287. Significant factor about these projects is that these are registered by the end of 2012 which allows them to sell their CERs in European Union market.

ii) Solar Power

M/s DACC Power Generation (Pvt.) Ltd. has got registered Program of Activities (PoA) for Solar Power Projects in Pakistan. The PoA was registered on 24/12/2012 has the life time from 01/08/2012 to 31/07/2040. First project of the PoA was registered on 24/12/2012 with approved CERs number 32,070 having crediting period between 24/12/2012-23/12/2012. The PoA allows upcoming solar power projects to get integrated with it and earn the benefits like prompt registration and inclusion in the list of projects registered by 2012. The sponsors of solar power projects are encouraged to start CDM process and are being offered to register their projects with solar PoA of DACC.

iii) Small / Mini / Micro Hydro

Agha Khan Rural Support Programme got registered their CDM project for community Based Renewable Energy Development in the Northern Areas and Chitral (NAC), Pakistan (103 Micro Hydro Turbine sites with 15 MW capacity). The approved number of CERs for the project are 76,017. The project was registered for crediting period between 01/01/08 – 21/12/13

iv) Biomass/Waste to Energy

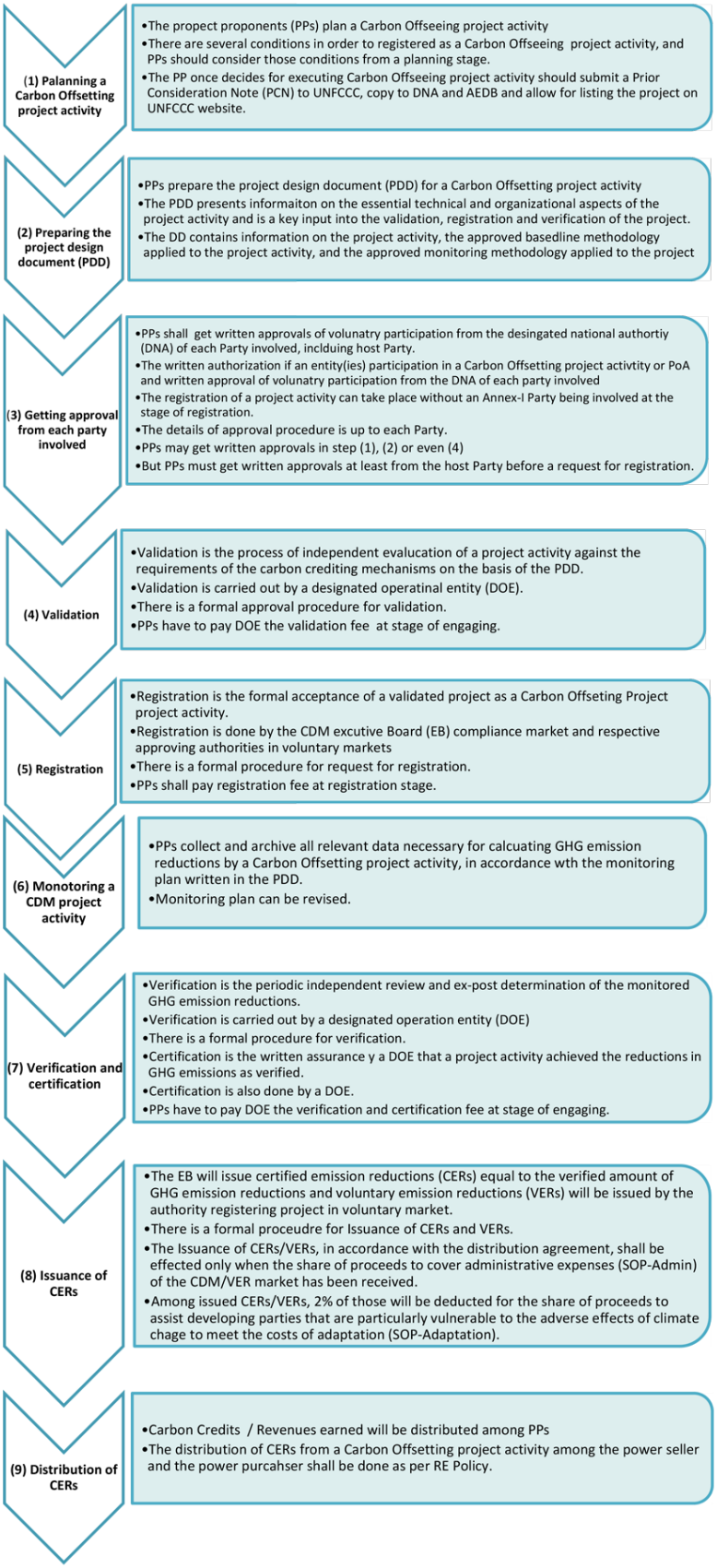
08 projects have so far been registered with CDM Executive Board for various biomass / waste to energy applications which include generation of electricity from bagasse and biomass, composting of solid waste and replacing conventional fuel with biomass. A total of 553,825 CERs have been approved for these projects.

There are a number of ARE projects that are pursuing development of projects under CDM. They are at preliminary stages of completing procedural requirements in this regard.

Checklist of Investors to initiate developing clean energy project

CDM screening methodology for ARE project developers

Step 1: Clarification of scale of the project activity
Step 2: Clarification of design of project activity
Step 3: Selection of UNFCCC Methodology
Step 4: Assessment of CERs potential
Step 5: Clarification of Crediting periods
Step 6: Clarification of potential for recovery of transaction costs
Step 7: Sustainability Check
Step 8: Additionality Check
Step 9: Management decision to go ahead or not
Step 10: If management decides for go ahead then issue Prior Consideration Note to Climate Change Division and onward communication to CDM-Executive Board



Carbon Credits Project Cycle

Note: List of DOEs is available here...