CDM
BASICS

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1. Introduction

The Clean Development Mechanism (CDM), under Kyoto Protocol of UNFCCC enables public or private sector initiatives of the Developed Countries to meet their Green House Gases (GHG) emission reduction commitments by investing in GHG mitigation projects in developing countries.

With the deadlines for the Annexure I countries for their agreed GHG emission reduction commitments approaching nearer, the concept of CDM has become popular not only amongst the Annexure I countries but amongst the Non Annexure I countries as well.

The Clean Development Mechanism (CDM) will serve as a symbiotic association between the Annexure I and Non Annexure I country parties where both will be mutually benefited from the association. Where the developed nations derive the benefits from the association by achieving GHG emission abatement targets by implementing projects in developing nations at a cost lower than it would have been if the projects were implemented within their own national boundaries, the developing country parties would be benefited by receiving new sustainable technologies and funding aids helping them achieve their sustainable development objectives. The other benefits to the developing country parties would be in terms of increased income, employment generation, alleviation of the poor and improvement of ambient air quality and standards of living.

2. Background

In 1992 at the Rio Earth Summit nations from around the world met and agreed to voluntarily reduce greenhouse gas (GHG) emissions benchmarking 1990 levels. The Rio Treaty was not legally binding and because reducing emissions would likely cause great economic damage; many nations would not meet the goal. Representatives from around the world met again in December of 1997 at a conference in Kyoto to sign a revised agreement. The negotiators agreed to legally binding, internationally enforceable limits on the emission of greenhouse gases as a key tenet of the treaty. By 2012 the industrialized

countries would be obliged to cut their GHG emissions by an average of 5% relative to their base-year emissions in 1990. At the global level, countries around the world have expressed a firm commitment to strengthening international responses to the risks of climate change. India has the potential to generate at least 500 million carbon credits, which is worth about 3 billion USD.

Clean Development Mechanism (CDM)

The international community is tackling the GHG issue through United Nations Framework Convention on Climate Change (UNFCCC). UNFCCC was adopted in 1992 by over 170 members. The main agenda is to stabilize atmospheric concentrations of GHG at safe levels. The Clean Development Mechanism as a global flexible mechanism of the Kyoto protocol has a sound basis in theory, which has led to its inclusion in the international climate regime. The CDM concept has itself undergone tremendous changes in design as well as implementation. In recent years albeit fragmented market for carbon has started to emerge and the institutional superstructure for CDM is being set up both Internationally and nationally. Countries in the world have been classified into Annex 1 & NonAnnex 1 countries. Typically developed countries are classified under Annex 1 & developing / under developed countries under NonAnnex 1 countries.

The Annex 1 countries are committed to reduce their GHG emissions by 5% of their 1990 baselines, by the year 2012. A balanced & realistic approach was evolved to meet this stiff target, by evolving a concept of carbon credits and it's trading. Annex 1 countries could meet this target by introducing newer / cleaner technologies and by buying CERs. Any trading of CERs that happens between Annex 1 countries would be under the joint Implementation (JI) scheme and trading of CER's between NonAnnex 1 countries to Annex 1 country would be under the CDM. Adoption of Cleaner and Greener technology in NonAnnex 1 countries would be expensive and would not make economic sense in the short and medium term.

The purpose of the Clean Development Mechanism (CDM) is to benefit both the investor and host countries by contributing to sustainable development in the host developing countries and by allowing investor countries to meet their GHG reduction targets at the lowest possible cost by taking advantage of the lower marginal cost of reducing GHG emissions in developing countries. Hence earnings through CDM would make some of these technology adoptions economically feasible. Some of the other benefits of CDM would also bring in improved productivity and operational efficiency. To enable CER trading, CDM projects needs to be validated by third party agencies that are accredited by UNFCCC. Such validated projects after implementation needs to be verified and certified

by these third party agencies before CER trading could commence. CDM allows governments or private entities in rich countries to set up emission reduction projects in developing countries. They get credit for these reductions as certified emission reductions (CER's).

What is CDM?

With the ratification by Russia, the Kyoto Protocol has entered into force from 16th February 2005. Although, the Protocol to basically combat six green house gas emission, which was negotiated in Kyoto, Japan in December 1997, during the third Conference of Parties of UNFCCC (which was agreed at the Earth Summit at Rio-de-Janeiro in 1992); it's implementation got delayed for more than 7 years, because there were difficulties in obtaining the necessary number of ratification from the countries, who accounted for 55% of carbon dioxide equivalent emissions of 1990 level. Now 141 countries of the world have ratified the Protocol, although a few major green-house-gas (GHG) emitting countries have not. India, along with most of the European Countries and Many other developing counties, have ratified the protocol; although USA and Australia have not. The Kyoto Protocol has brought out three mechanisms for GHG emission abatement. They are:

2.1. Joint Implementation (JI)

It allows countries to claim credit for emission reduction that arise form investment in other industrialized countries, which result in a transfer of 'emission reduction units' between countries.

2.2. Clean Development Mechanism (CDM)

Through this, industrialized countries can finance mitigation projects in developing countries contributing to their sustainable development.

2.3. International Emissions Trading (IET)

It permits countries to transfer part of their 'allowed emissions' - assigned amount units.

All these mechanisms are market-based. The first two are project based, where as the third one allows the developed countries to sell surplus emission of one country to another developed country. Clean Development Mechanism (CDM)

provides trading of Green House Gases (GHG) reductions that is measured in terms of Certified Emission Reductions (CERs) where each CER is equal to one metric tonne of Carbon dioxide equivalent (CO2e). Trading of CERs can take place between those countries who have agreed emissions reductions targets under UNFCCC (Annex-1 countries) and those who have not yet agreed to emission reductions targets (Non Annex countries). Out of the 3 Kyoto mechanisms, CDM is the only one meant for the developing world which encourages cleaner development in developing countries and bring infusion of investments and technologies in developing countries; which thus provides them an opportunity to adopt cleaner technologies and be paid for emission reductions. CDM undergoes through a project cycle involving 4 stages such as:

(1) Project Development
(2) Validation and Registration
(3) Project Monitoring
(4) Verification, Certification and Issuance of Certified Emission Reductions (CERs)

3. CDM Process

All these mechanisms are market-based ones; the first two are project based, where as the third one allows the developed countries to sell surplus emission of one country to another developed country.

CDM works between those countries who have agreed emissions reduction targets, under UNFCCC (Annex-1) and those who have not I.e non-annex countries or the bulk of developing world.

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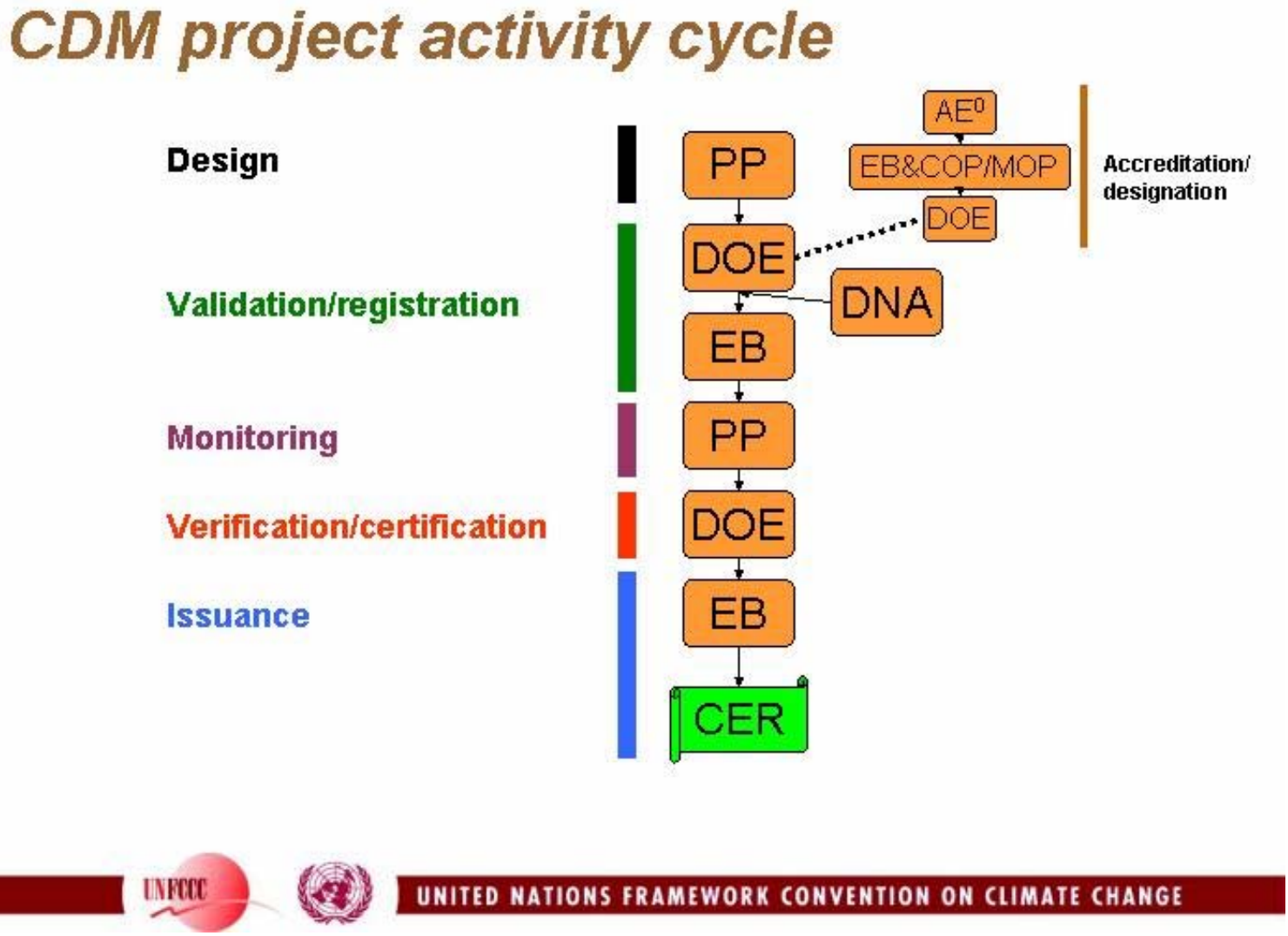
CDM undergoes through a project cycle involving 4 stages such as (1) Project Development (2) Validation and Registration (3) Project Monitoring (4)

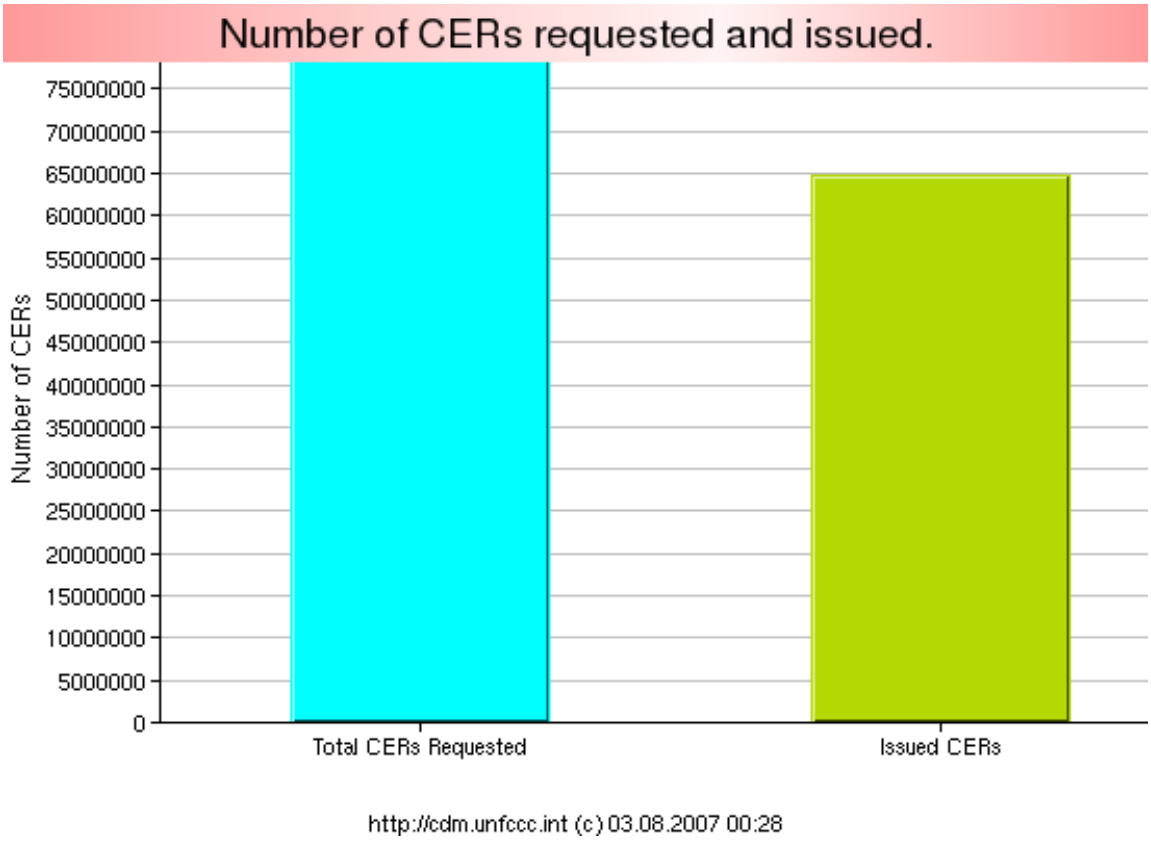
Verification, Certification and Issuance of CERs.



4. Emerging Carbon Markets

A market for CERs is taking shapes since January 2005. The EU's Emission allowance trading directive came into force on January 1st, 2005, initiating the European Emission Trading System. This could create a financial market worth

Euro 2 billion in the short and over 10 billion in the long term.



India being a leading developing nation from South East Asia, has emerged as One of the Key destination for Carbon Trading. With a dynamic support from Govt of India, in market falicitation and low carbon economy; India has emerged as the world leader in GHG mitigation initiatives as well as a prime centre or hub for Certified Emission Reductions (CERs) generation and trading.

India has the potential to significantly benefit from the emerging CDM market with support from a National CDM Authority and a dynamic CDM consultancy and project development community. Indian industry has also demonstrated the capacity to tap emerging opportunities in energy and environmental technologies. If India captures a quarter of today's CDM market, it would generate gross revenues of 250 million carbon credits. If the CDM covers a third of the total emissions gap of Canada, India could reach a revenue of one million crdits. Obviously, a sharpening of climate policy beyond 2012 could considerably increase prices, demand and revenues.

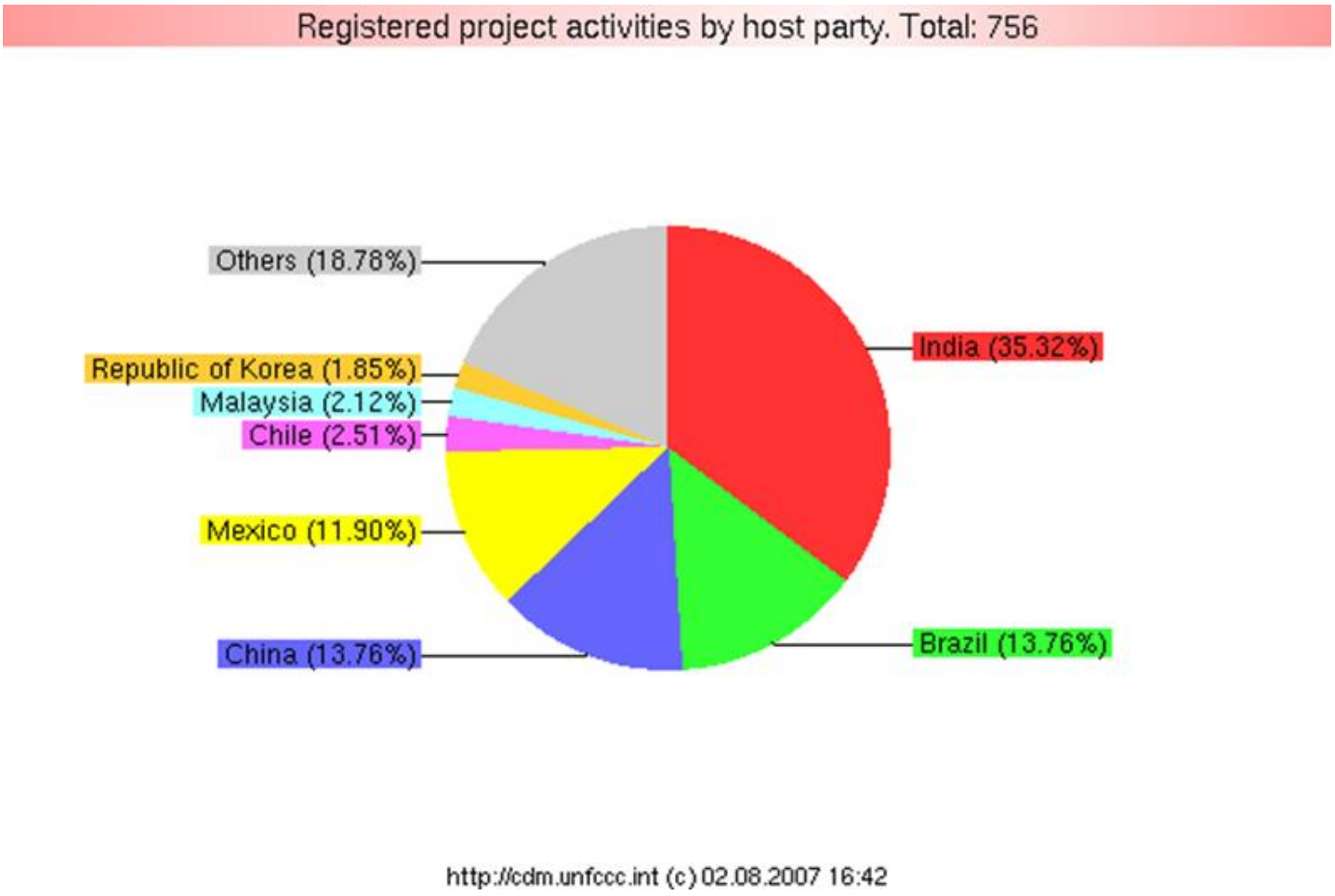
5. CDM and India:

On *6th September, 2006*, CDM Executive Board has cleared highest 91 Indian CDM Projects i.e. 31.60% (against 63 Brazilian (21.88 %), 27 Mexican (7.29%), 18 Chinese, 13 chilian and 10 handuras CDM Projects), where as we have about 350 projects are in the pipeline; against the award of *"Host Country Endorsement "*to 424 Projects by multi-ministerial national Designated National Authority (DNA) of India, involving 360 million CERs.

In India, the CDM projects are from different areas such as Renewable Energy, Energy Efficiency, Waste Management, Fuel Switching, Fuel substitution, Transport Sector, Bio-diesel, A & R Projects etc. The power sector reform and Rural Electrification programmes also likely to generate substantial CERs.

Let's see the Pai-Chart of UNFCCC, providing detailed break up of the countries. Total registered project activities by host party is 288 as on 6th September, 2006.

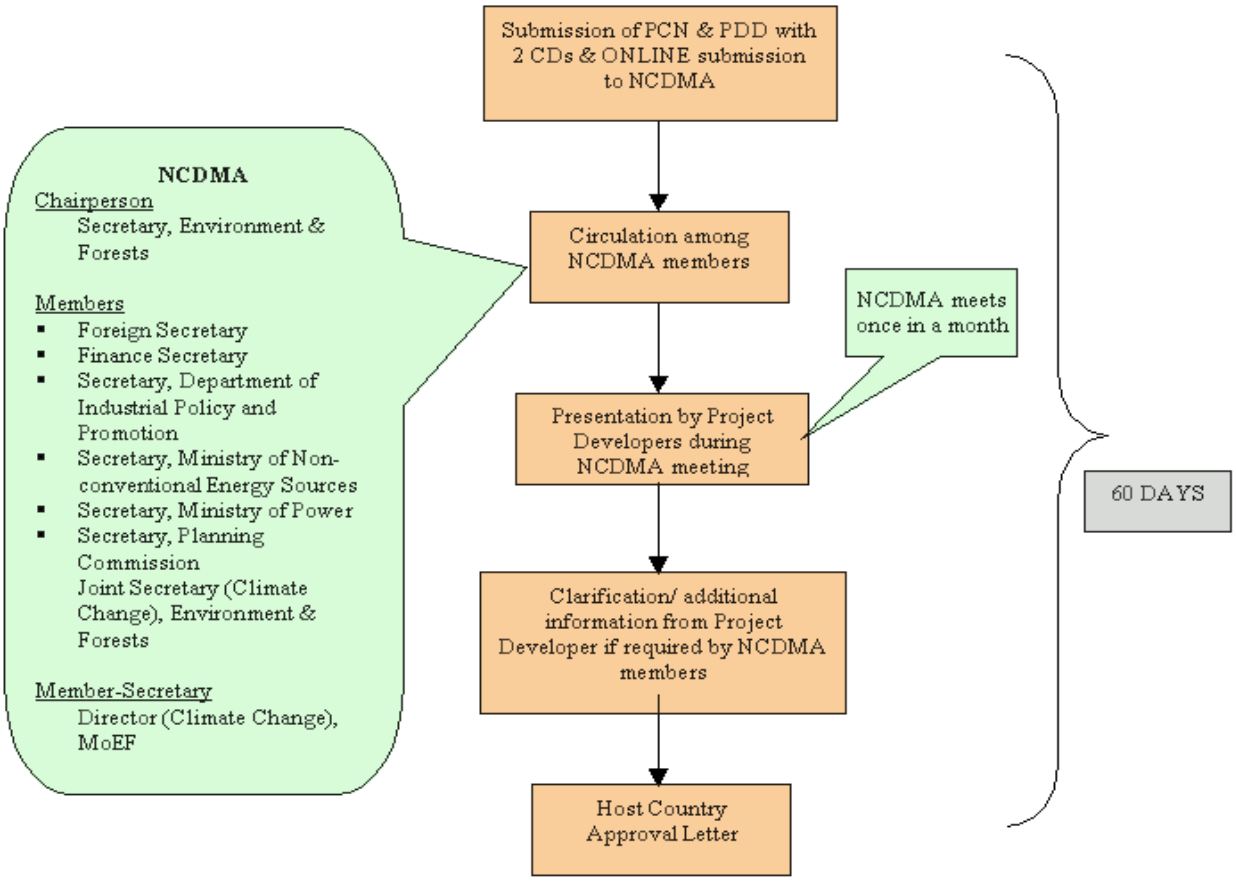
Moreover, the expected average annual CERs in registered projects by host party is 85,676,561 out of which issued CERs 12,795,044 and total CERs requested 17,765,095, out of which China is expected to have 36,665,416 (i.e., 42.8%), Brazil – 14,041,452 (i.e., 16.4%), Korea – 11,075,612 (i.e., 13%) and India – 10,452,925 (12.2%). So India is likely to be fourth nation in generation of total CERs, although first among non – annexure I countries in total number of projects.



5.1 National CDM Authority:

National CDM Authority or Designated National Authority of India is one of the early established DNAs of the world, which started operating from Decenber 2003. Prior to formation of DNA, in fact India had already participated in Dutch, Austrian and Finland tenders.

Indian DNA is one of the most dynamic ones, which has a scientific and at the same time flexible clearing process for CDM projects. It normally takes maximum 60 days for clearance of any project, which has to undergo a single window clearance system only. Following flow chart depicts the details of Indian DNA.


Submission of PCN & PDD with 2 CDs & ONLINE submission to NCDMA
NCDMA
Chairperson
Secretary, Environment & Forests
Members
Foreign Secretary
Finance Secretary
Secretary, Department of Industrial Policy and Promotion
Secretary, Ministry of Non-conventional Energy Sources
Secretary, Ministry of Power
Secretary, Planning Commission
Joint Secretary (Climate Change), Environment & Forests
Member-Secretary
Director (Climate Change), MoEF
Circulation among NCDMA members
NCDMA meets once in a month
Presentation by Project Developers during NCDMA meeting
Clarification/ additional information from Project Developer if required by NCDMA members
Host Country Approval Letter
60 DAYS