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Clean Development Mechanism (CDM) FAQs

Q: What is Kyoto Protocol?

A: The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community – countries listed in Annex I - for reducing greenhouse gas (GHG) emissions. These amount to an average of five per cent against 1990 levels over the five-year period 2008-2012.

Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

Text of the Protocol:

http://unfccc.int/essential_background/kyoto_protocol/items/1678.php

Q: What are the Kyoto mechanisms?

A: Under Kyoto Protocol, Annex I countries must meet their targets primarily through national measures. However, the treaty offers them an additional means of meeting their targets by way of three market-based mechanisms.

These Kyoto mechanisms are:

- Emissions trading – known as “the carbon market”
- Clean development mechanism (CDM)
- Joint implementation (JI)

The mechanisms help stimulate green investment and help Parties meet their emission targets in a cost-effective way.

Q: What is Emissions Trading mechanism under Kyoto Protocol?

A: Emissions trading, as set out in Article 17 of the Kyoto Protocol, allows countries that have emission units to spare - emissions permitted them but not "used" - to sell this excess capacity to countries that are over their targets.

Thus, a new commodity was created in the form of emission reductions or removals. Since carbon dioxide is the principal greenhouse gas, people speak simply of trading in carbon. Carbon is now tracked and traded like any other commodity. This is known as the "carbon market."

For example, say USA (an Annex I country) has to reduce its green house gas emissions by 900,000 tons of CO2 each year (hypothetical figure). However, it is able to reduce its green house gas emissions by 1000,000 tons of CO2 each year. This excess reduction of 100,000 tons of CO2 per year can be sold to any other Annex I country to enable them to meet their own reduction targets.

Q: What is Clean Development Mechanism (CDM)?

A: The Clean Development Mechanism (CDM) is an arrangement under the Kyoto Protocol allowing industrialized countries (Annex I countries) with a greenhouse gas reduction commitment to invest in projects that reduce emissions in developing countries (non-Annex I countries) as an alternative to more expensive emission reductions in their own countries.

For example, say a company in India (non Annex I country) switches to wind based power generation from coal based power generation. The CDM board certifies that this activity reduces

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carbon dioxide (CO₂) emission by 50,000 ton per year. Hence the board issues 50,000 CER's (Certified Emissions Reductions) to this company. Under the Kyoto Protocol, USA (an Annex I country) has to reduce its green house gas emissions by 900,000 tons of CO₂ each year (hypothetical figure). If a USA based company purchases these 50,000 CER's from the Indian company, this target reduces from 900,000 tons per year to 850,000 tons per year.

Q: What is Joint Implementation (JI) mechanism under Kyoto Protocol?

A: The mechanism known as Joint Implementation (JI) defined in Article 6 of the Kyoto Protocol, allows a developed country (Annex I countries) with a greenhouse gas reduction commitment to invest in projects that reduce emissions in other developed countries (Annex I countries).

Joint Implementation mechanism is similar to CDM, the only difference being instead of a non-Annex I country, the project is in other Annex I country.

Q: What is a CER (Certified Emissions Reductions)?

A: Certified Emission Reductions (CER's) are climate credits (or carbon credits) issued by the CDM Executive Board for emission reductions achieved by CDM projects under the rules of the Kyoto Protocol. CER's can be used by Annex 1 countries in order to comply with their emission reduction targets.

CER's can also be used by operators of installations covered by the European Union Emission Trading Scheme (EU ETS) in order to comply with their obligations to surrender EU Allowances, CERs or Emission Reduction Units (ERUs) for the CO₂ emissions of their installations.

For example, say, a project generates energy using biomass based power plant instead of using coal and it can save 100 tons of carbon dioxide per year. For this it can claim 50 CER's (as one CER is equivalent to one ton of carbon dioxide reduction).

CER's can be held by governmental and private entities on electronic accounts. In India income from CER's are not taxed.

Q: How are CER's awarded based on different type of green house gas being reduced by a CDM project?

A: CER's are awarded based on the global warming potential of the gas.

CER's awarded = (Tons of green house gas reduced) X (Global Warming Potential of the Gas)

The Kyoto Protocol deals with following six green house gases:

Gas	Global Warming Potential
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	21
Nitrous Oxide (N ₂ O)	310
HydroFluorocarbons (HFCs)	140-11,700
PerFluorocarbons (PFCs)	7,000-9,200
Sulphur Hexafluoride (SF ₆)	23,900

Q: What is EU ETS (European Emission trading system)?

A: The European Union Emission Trading System (EU ETS) is the largest multi-national, emissions trading scheme in the world and is a major pillar of EU climate policy. Under the EU ETS, large emitters of CO₂ within EU must monitor and annually report their CO₂ emissions. Each emitter is allocated an allowance of CO₂ which it can emit. If a

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company emits lower than its allowed limit, it may sell its extra allowance to other companies who are not meeting their targets. If a company emits more than its allowed limit, it needs to buy equivalent amount of carbon credits to meet its target.

In October 2004, the EU adopted a "Linking Directive" that allows companies to buy CER's from the Kyoto CDM mechanism to meet EU-ETS emission allowances. An EU company can buy CER from CDM projects and surrender it to the host Government and hence meet its EU ETS target. The host Government can use the CER's earned to meet its Kyoto reduction target.

Q: What are Annex I and non-Annex I countries?

A: Annex I includes industrialized countries that were members of the OECD (Organization for Economic Co-operation and Development) in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States.

Non Annex I includes mostly developing countries. Certain groups of developing countries are recognized as being especially vulnerable to the adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought. Others (such as countries that rely heavily on income from fossil fuel production and commerce) feel more vulnerable to the potential economic impacts of climate change response measures. The Convention emphasizes activities that promise to answer the special needs and concerns of these vulnerable countries, such as

investment, insurance and technology transfer.

Non Annex I countries can host CDM projects whereas Annex I countries can buy CER's emerging out of these CDM projects.

List of Annex I Countries:

Australia	Austria
Bulgaria	Canada
Czech Republic	Denmark
Finland	France
Hungary	Iceland
Japan	Latvia
Luxembourg	Monaco
Norway	Poland
Russian Federation	Slovakia
Sweden	Switzerland
United Kingdom	Northern Ireland
Belarus	Belgium
Germany	Croatia
Estonia	European Community
Germany	Greece
Ireland	Italy
Liechtenstein	Lithuania
Netherlands	New Zealand
Portugal	Romania
Slovenia	Spain
Turkey	Ukraine
USA	

Source:-

http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php

List of non Annex I countries can be obtained at:

http://unfccc.int/parties_and_observers/parties/non_annex_i/items/2833.php

Q: How is CDM mutually beneficial to both Annex I and non Annex I countries?

A: CDM provides flexibility to Annex I countries to meet their emission

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reduction targets. Annex I countries can buy CER's from projects in developing countries which will be cheaper than setting up similar project in their own country. For non Annex I countries, infusion of capital and technology for CDM projects will be of assistance for their development.

Q: What makes a project eligible for CDM? What is Additionality?

A: If a project results in a net decrease in green house gas emissions it is eligible for CDM and this is known as Additionality. Technically a CDM project is additional if "Anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity." If it is mandatory in the industry to have for example a waste-heat boiler then such a project is not eligible for CDM benefits, while if it is not mandatory then the company can get CER's. In some cases however, if the law is shown to be "systematically not in force" or "non-compliance is widespread" in the country such a project can still be eligible.

To avoid giving credits to projects that would have happened anyway ("freeriders"), rules have been specified to ensure additionality of the project, that is, to ensure the project reduces emissions more than would have occurred in the absence of the project.

At present, the CDM Executive Board deems a project additional if its proponents can document that realistic alternative scenario to the proposed project would be more economically attractive or that the project faces barriers that CDM helps it overcome.

UNFCCC has identified a stepwise approach to demonstrate and assess additionality. These steps include:

- Identification of alternatives to the project activity
- Investment analysis to determine that the proposed project activity is not the most economically or financially attractive
- Barriers analysis and
- Common practice analysis

Based on information about activities similar to the proposed project activity, the common practice analysis is to complement and reinforce the investment and/or barriers analysis. These steps are summarized in the flow-chart on the next page.

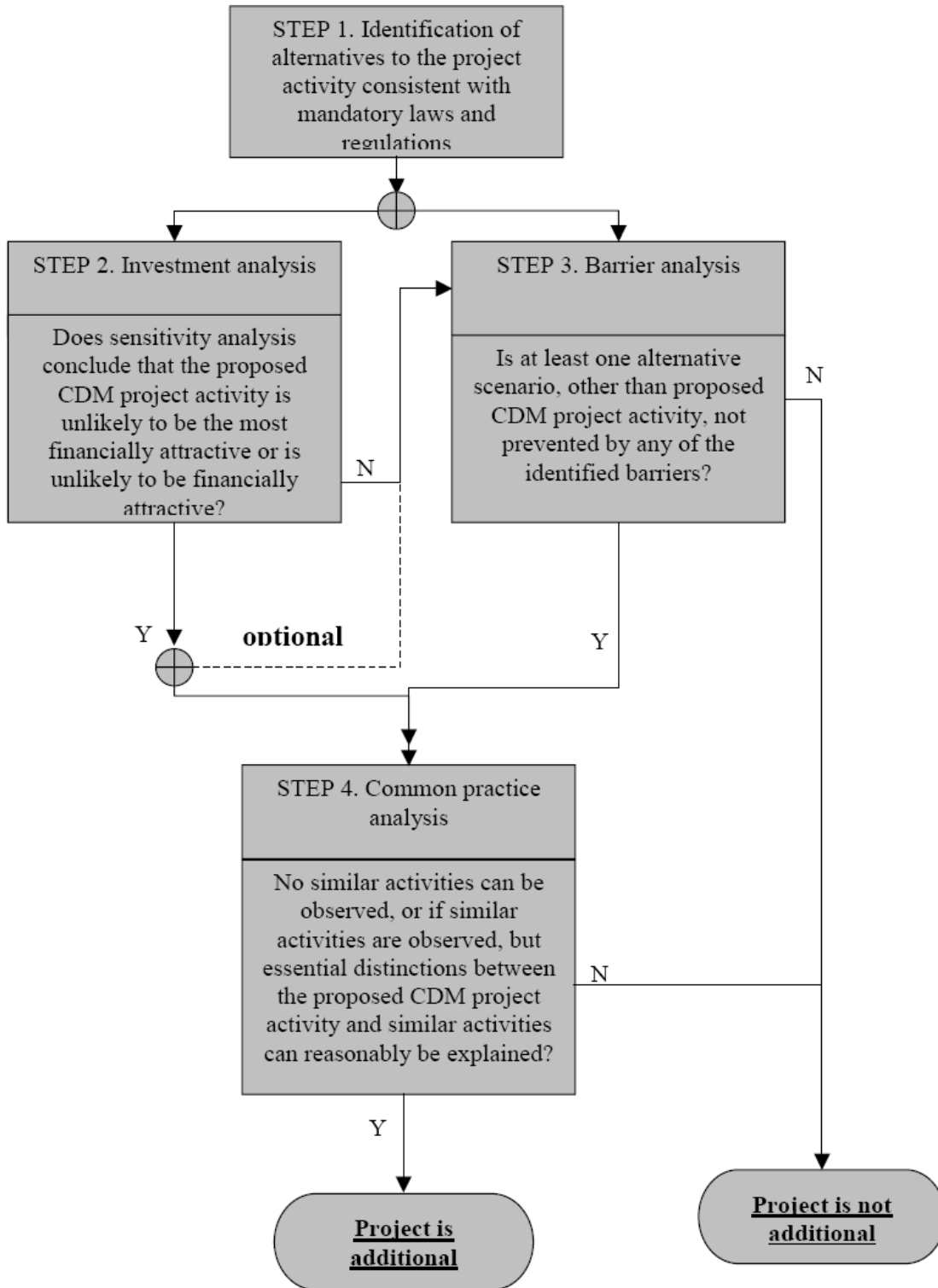
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Clean Development Mechanism (CDM) FAQs



Source: http://cdm.unfccc.int/EB/036/eb36_repan13.pdf



Q: What is the process for approval of CDM project?

A: The process for approval of CDM project is as follows:

- Project Design Documentation (PDD):

Preparing a PDD involves estimating green house gas emissions from your project, reference scenarios and leakages. The PDD has to then build an argument to show that funds from CDM are needed for the project to go forward. This step is what attracts the high fees for PDD development.

- Apply for Government Approval

In India, National CDM authority clears sustainable development criteria for projects usually within 60 days.

- Application of a baseline and monitoring methodology

If the project is a first of its kind then it will probably have to propose a new methodology. (If an approved project methodology applies to the project, proceed to step 4)

Proposing a new methodology is a time consuming process. Consultants charge a lot more for projects that require a new methodology.

The new methodology is reviewed by a panel of experts constituted by the Executive board called the "Methodologies Panel" before final board approval. This process can take 12-18 months to get approved.

- Validation

DOE's review the projects to make sure they fulfill CDM criteria, and act as intermediary between the project

developer and the Executive Board. After the DOE clears the project it submits a request for registration to the UNFCCC Executive Board.

- Approval from the Executive Board

The CDM Executive Board meets 4-5 times a year, and is charged with giving final approval or registration to projects.

- Verification

The DOE's are called in second time after the project is registered for the monitoring phase. For large scale projects, the DOE for Verification cannot be the same DOE as for the validation stage. Once the DOE is satisfied that the green house gas reductions that were set out have been achieved, those emission reductions are certified.

Q: What is a Baseline?

A: The baseline for a CDM project activity is a hypothetical reference case, representing the volume of greenhouse gases that would have been generated if the project activity were not implemented. Once established, the baseline can be used to determine:

- whether a CDM project activity is additional; and
- The volume of additional greenhouse gas sequestrations achieved by a project activity.

Baselines are established using a baseline methodology. These methodologies allow project participants to quantify the estimated greenhouse gas removals in the most plausible alternative scenario to implementation of the project activity. The approaches to establishing baselines are as follows:

- Existing actual or historical emissions, as applicable

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- Emission from a technology that represents an economically attractive course of action, taking into account barriers to investment
- The average emissions of similar project activities undertaken in the previous five years, in similar social, economic, environmental and technological circumstances, and whose performance is among the top 20 per cent of their category.
- Environmental well being: This includes a discussion of impact of the project activity on resource sustainability and resource degradation and reduction of levels of pollution.
- Technological well being: The activity should lead to transfer of environmentally safe and sound technologies that are comparable to best practices.

Q: What are the sustainable development criteria for CDM projects?

A: Sustainable development is a legal requirement of a CDM project. "It is the host party's (e.g. India's) prerogative to confirm whether a CDM mechanism project activity assists it in achieving sustainable development".

Different countries have different sustainable development criteria. In India, clearance for sustainability is granted by the National CDM Authority (NCDMA) and is spearheaded by the Union Ministry of Environment and Forests (MOEF).

The Indian NCDMA has the following sustainable development criteria:

- Social well being: The project should lead to alleviation of poverty by generating additional employment, removal of social disparities and leading to improvement in quality of life of people.
- Economic well being: The project should bring in additional investment consistent with the needs of the people.

Q: What are the simplified modalities and procedures for small scale CDM projects?

A: The simplified modalities and procedures for small scale CDM projects are to reduce the cost of applying for CDM approval. A small scale CDM project is defined as follows:

- Type (i) project activities: renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts (or an appropriate equivalent)
- Type (ii) project activities: energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 gigawatt hours per year
- Type (iii) project activities: other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 kilo tons of carbon dioxide equivalent annually

If the proposed small-scale CDM project activity does not fall into any of the above three categories, the project proponents can submit a request to the CDM Executive Board for approval of a



new simplified baseline and/or monitoring plan.

The simplified modalities and procedures for small scale CDM project activity includes:

- Bundling of project activities during stages of project activity such as preparing the project design document, validation, registration, monitoring, verification and certification
- Simplification of baseline methodologies; for example, fuel switch projects are exempted from accounting for leakages (for instance, greenhouse gases being emitted from other activities of the projects) while formulating their baselines
- Simplification of monitoring plans, including simplified monitoring requirements, to reduce monitoring costs
- Use of the same operational entity for validation, verification and certification

Q: What is the CDM Executive Board?

A: The CDM is supervised by the CDM Executive Board (CDM EB) and is under the guidance of the Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC). The Board has final say on whether a project is approved or not and lays out procedures and guidelines for CDM.

The Executive Board shall comprise 10 members from Parties to the Kyoto Protocol, as follows:
one member from each of the five United Nations regional groups;

two members from the Parties included in Annex I;
two members from the Parties not included in Annex I;
one representative of the small island developing States, taking into account the current practice in the Bureau of the Conference of the Parties.

Q: What is a Designated Operational Entity (DOE)? Who are the 5 DOE's in India?

A: A Designated Operational Entity (DOE) is a domestic or international entity accredited and designated by the CDM Executive Boards to:

- Validate: validate and subsequently request registration of a proposed CDM project
- Verify: verify emission reduction of a registered CDM project activity and certify as appropriate and request the Board to issue CER's accordingly

There are 34 DOE's currently operating globally.

Validation:

Validation is done once before initial project approval. Based on the project design document (PDD), the DOE will evaluate and validate the proposed CDM project, confirming:

- 1 - Voluntary participation of parties
- 2 - Comments by stakeholders have been invited
- 3 - Project participants have submitted documentation on environmental impacts to the DOE
- 4 - The project will result in reduction in greenhouse gas that are additional
- 5 - A methodology has been adopted in accordance with CDM rules
- 6 - Provisions for monitoring, verification and reporting are in accordance with CDM rules
- 7 - The project complies with all other CDM rules

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The DOE then issues a validation report, and requests the CDM Executive Board for registration of the project based on this report.

Verification:

Verification is done periodically after the project has been approved or registered. CDM project are monitored or "verified" after the project has been approved or registered by the CDM Executive Board. After the project has been registered by the Executive Board, the DOE periodically checks (usually once a year) whether emission reduction has actually taken place. It will then request that the CDM EB issue CER's accordingly, based on this verification report. It is only after verification that CER's are actually delivered.

Few Designated Operational Entities (DOE's) in India:

- TÜV SÜD Industries Service GmbH (TÜV-SÜD)
- SGS United Kingdom Ltd. (SGS)
- Bureau Veritas Certification Holding SAS (BVC Holding SAS)

Q: What is a Designated National Authority (DNA)?

A: The Designated National Authority (DNA) is the official body appointed by a Party to the Kyoto Protocol to authorize and approve participation in CDM projects. Establishment of a DNA is one of the requirements for participation by a Party in the CDM. Accordingly the Indian Central Government has constituted the National Clean Development Mechanism (NCDM) Authority for the purpose of protecting and improving the quality of environment in terms of the Kyoto Protocol

The composition of the "National Clean Development Mechanism (CDM) Authority" is as follows:

Secretary (Environment and Forests)	Chairperson
Foreign Secretary or his nominee	Member
Finance Secretary or his nominee	Member
Secretary, Industrial Policy and Promotion or his nominee	Member
Secretary, Ministry of Non Conventional Energy Sources or his nominee	Member
Secretary, Ministry of Power or his nominee	Member
Secretary, Planning Commission or his nominee	Member
Joint Secretary (Climate Change), Ministry of Environment and Forests	Member
Director (Climate Change), Ministry of Environment and Forests	Member-Secretary

Q: How is Ravi Energie Group involved in CDM activities?

A: Ravi Energie Group provides support services along with independent third party certification services for CDM projects. For further information please contact us at energy@ravienergie.com

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References:

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