United Nations Framework Convention on Climate Change

THE KYOTO PROTOCOL MECHANISMS

INTERNATIONAL EMISSIONS TRADING
CLEAN DEVELOPMENT MECHANISM
JOINT IMPLEMENTATION

UNFCCC

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GREENHOUSE GAS EMISSIONS – A NEW COMMODITY

With ratification of the Kyoto Protocol, emitting greenhouse gas (GHG) emissions over a set limit entails a potential cost. Conversely, emitters able to stay below their limits hold something of potential value. Thus, a new commodity has been created – emission reductions. Because carbon dioxide (CO_2) is the principal greenhouse gas, people speak simply of trading in carbon. Carbon is now tracked and traded like any other commodity.

BINDING TARGETS

The central feature of the Kyoto Protocol is its requirement that countries limit or reduce their greenhouse gas emissions to set levels. With the setting of such targets, emission reductions took on economic value. To help countries meet their emission targets under the Kyoto Protocol, and to encourage the private sector and developing countries to contribute to emission reduction efforts, the negotiators of the Protocol included three market-based mechanisms – international emissions trading (IET), the clean development mechanism (CDM) and joint implementation (JI).

The participants in the carbon market

Private sector, e.g.	Public sector, e.g.
• Companies with binding emission reduction obligations • Companies with voluntary commitments • Emission-reduction project developers • Banks • Investment firms • Brokerages • Law firms • Accounting firms • Technology developers • Consultants	• Multilateral development banks, such as the World Bank • Government agencies • United Nations agencies • Non-governmental organizations

IET

Article 17 of the Kyoto Protocol

Countries with commitments under the Kyoto Protocol can acquire emission units from other countries with commitments under the Protocol and use them to meet a part of their Kyoto targets. An international transaction log, a software-based accounting system, ensures the secure transfer of emission reduction units (ERUs) between countries. The Kyoto Protocol spurred the creation of the European Union emissions trading scheme, and many people foresee the growth and linking of emission markets globally.

CDM

Article 12 of the Kyoto Protocol

The CDM allows emission reduction (or emission removal) projects in developing countries to earn certified emission reductions (CERs), each equivalent to one tonne of CO_2. These CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

The mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet their emission reduction or limitation targets. The projects must qualify through a rigorous and public registration and issuance process designed to ensure real, measurable and verifiable emission reductions that are additional to what would have occurred without the projects.

The mechanism is overseen by the CDM Executive Board, answerable ultimately to the countries that have ratified the Kyoto Protocol. The mechanism is seen by many as a trailblazer. It is the first global, environmental investment and credit scheme of its kind, providing a standardized instrument for offsetting emissions, namely CERs.

JI

Article 6 of the Kyoto Protocol

Through JI, a country with an emission reduction or limitation commitment under the Kyoto Protocol may take part in an emission reduction (or emission removal) project in any other country with a commitment under the Protocol, and count the resulting emission units towards meeting its Kyoto target.

JI projects earn ERUs, each equivalent to one tonne of CO_2. As with the CDM, all emission reductions must be real, measurable, verifiable and additional to what would have occurred without the projects. Under JI there are two 'tracks' by which projects can apply for approval: Track 1, in which verification is carried out by the hosting Party, and Track 2, in which verification is the responsibility of the Joint Implementation Supervisory Committee, answerable ultimately to the countries that have ratified the Protocol.

ADDITIONALITY

Each project must show that the emission reductions it produces are additional to what would have happened without the project. This requirement, ensuring that credits/units are not awarded for emission reductions that would have happened anyway, is called 'additionality'. Project participants can use the published additionality tool to demonstrate a financial or non-financial barrier that was overcome thanks to the potential to earn saleable CDM CERs or JI ERUs.


VOLVO

METHODOLOGIES

Projects can earn CERs/ERUs equivalent to the volume of the emissions reduced, compared with the 'business-as-usual' baseline level of emissions. Hence, each project requires a baseline methodology – to calculate the emissions expected without the project – and a monitoring methodology – to measure the actual level of emissions with the project. Project participants can use an existing approved methodology, available on the UNFCCC website. If no such methodology is available, then the project participant must develop a methodology and have it vetted and approved. Once approved, each methodology becomes an international public good, published on the UNFCCC website and free for use.

NATIONAL APPROVAL

Before a project can be submitted for registration under the CDM or for determination under the JI, it must have a letter of approval from the host country. Likewise, project participants from a country other than the host country must have a letter of authorization from a Kyoto Protocol Party. A list of designated national authorities under the CDM is available at <http://cdm.unfccc.int/DNA/index.html> and a list of designated national focal points under the JI is available at <http://ji.unfccc.int/JI_Parties>.

THIRD-PARTY CERTIFIERS

Independent, third-party certification is a key feature of both the CDM and JI. Accredited certifiers assure the quality of the projects put forward and verify that the emission reductions claimed are true reductions. A list of accredited designated operational entities under the CDM is available at <http://cdm.unfccc.int/DOE/list/index.html> and a list of accredited independent entities under JI is available at <http://ji.unfccc.int/AIEs/List.html>.


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Figure 1. **Emissions trading simplified – Creation of project-based emission reduction units/credits**

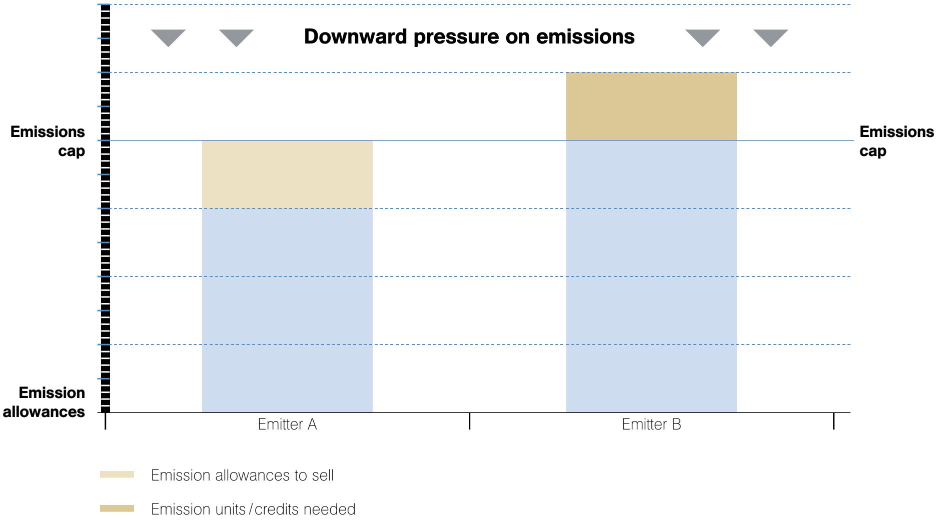


Figure 2. **How CDM and JI projects generate tradable emission units**

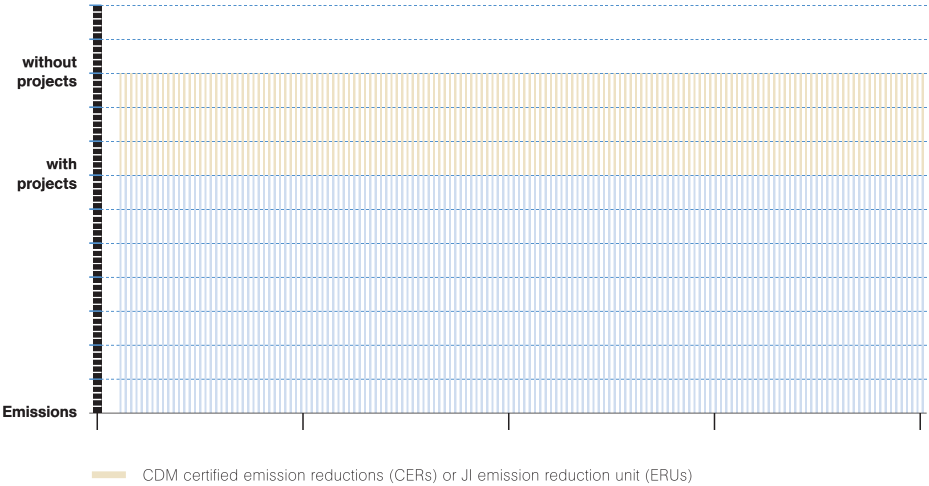


Figure 3. **Clean Development Mechanism project cycle**

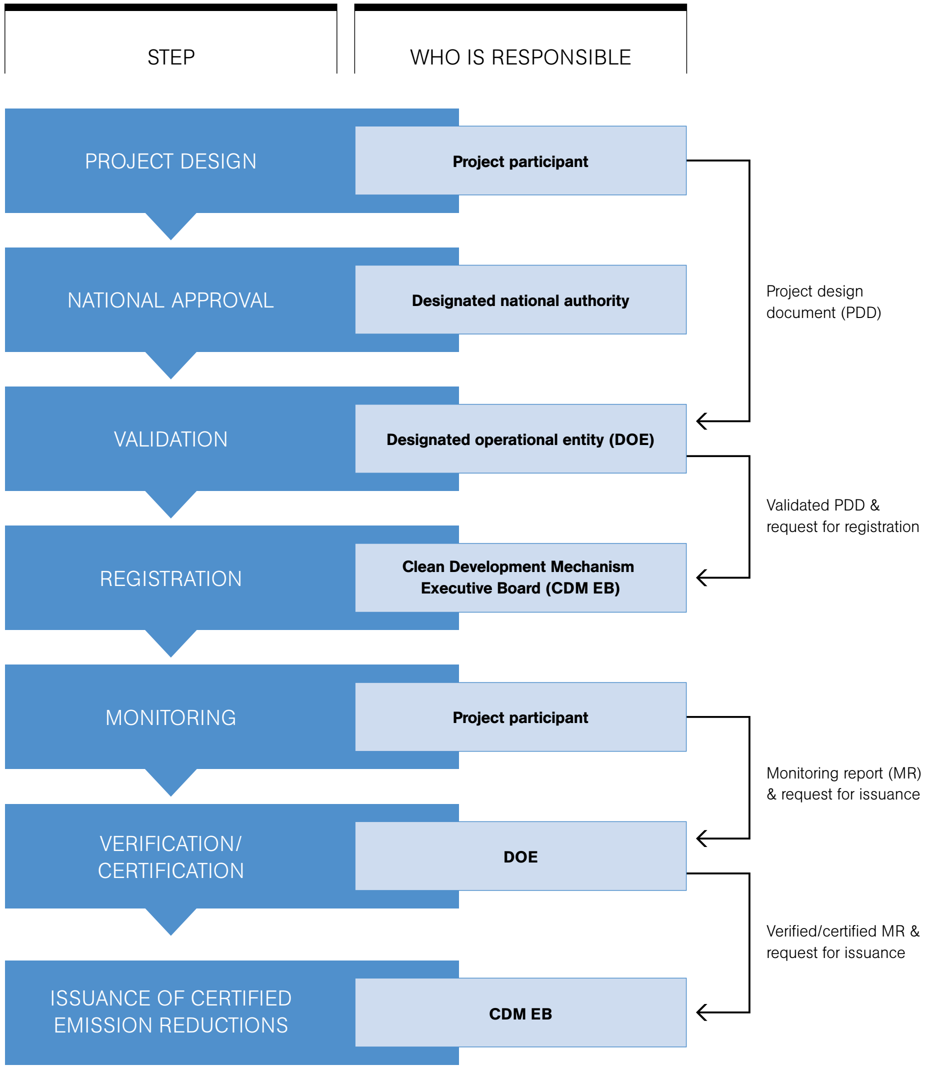
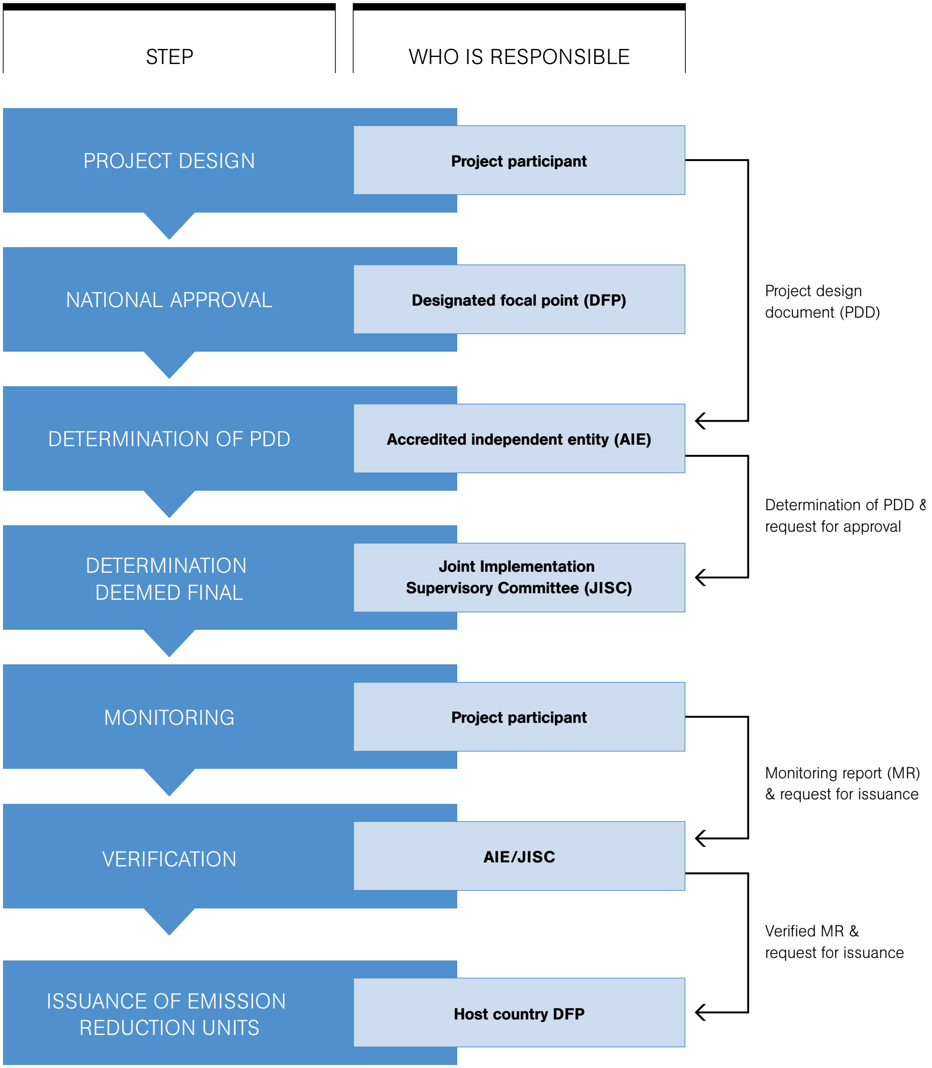


Figure 4. **Joint Implementation project cycle**



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(CDM project 1368: Qinghai Ge-ermu Gas Turbine Power Plant Project)
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(CDM project 0425: Aguascalientes – EcoMethane Landfill Gas to Energy Project)
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