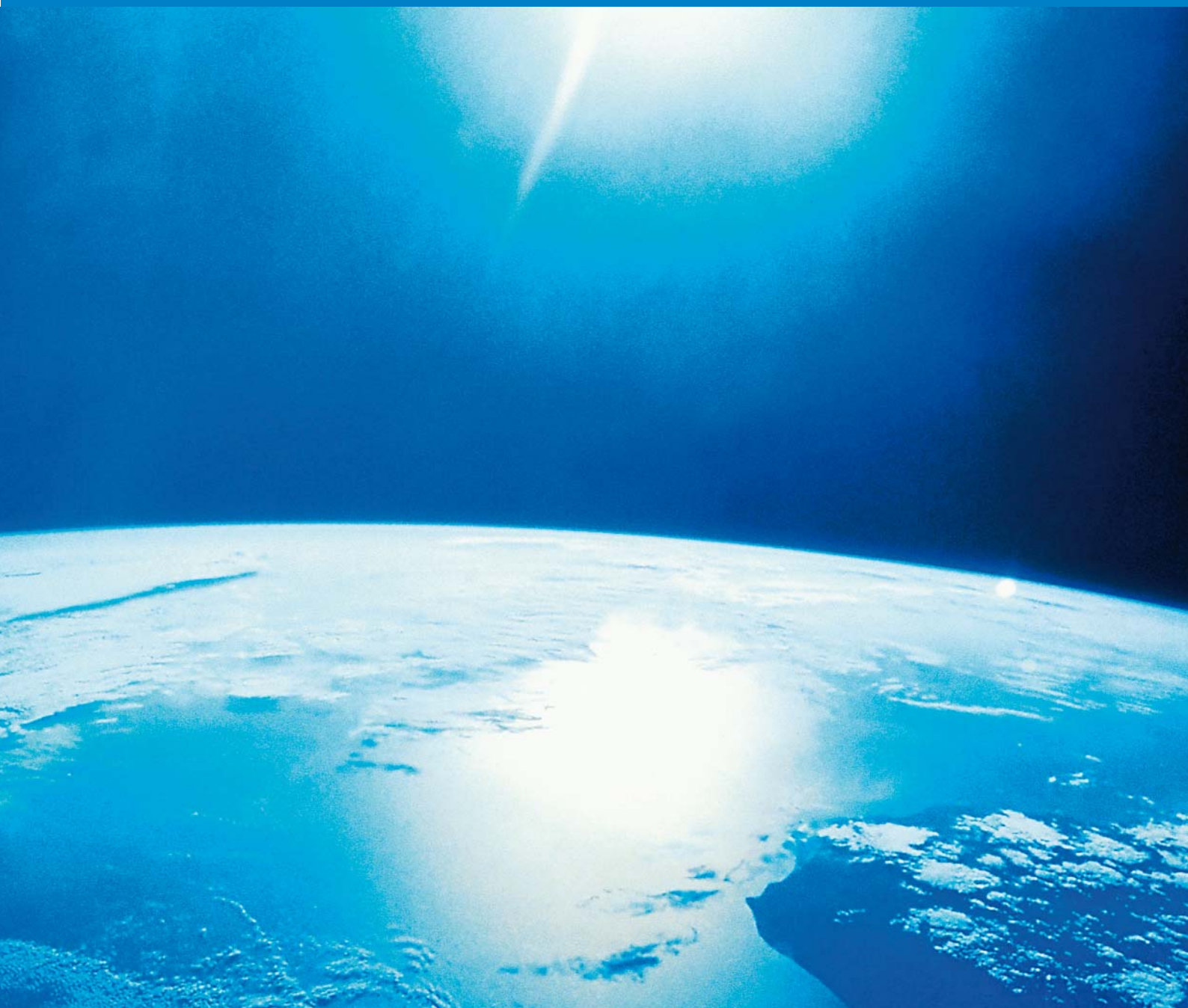
Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety

Investing in Climate Protection

Project-Based Mechanisms CDM and JI



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Contents

Dear Readers,

at the beginning of the 21st century, we face the challenge of developing new approaches for a sustainable and resource-saving response to climate change. We must act quickly and efficiently to limit global climate change and its impacts to a minimum. Climate change policy at national, European and international level plays a key role in this connection: It must define the policy framework with regard to climate change and identify instruments that can be deployed to attain adopted targets. Hence, a cornerstone of future climate change policy must be to create the political and economic conditions for combining economic growth with climate protection. Renewable energy sources and energy efficiency provide an especially wide range of climate-friendly investment options. Sustainable, wise investment in protecting the climate therefore presents an opportunity to meet climate policy challenges constructively and to cut energy costs.

If we do not master the challenge, the harm caused by climate change will exceed the costs of the current economic and financial crisis by several orders of magnitude. All scientific analyses show that temperatures on our planet must not be allowed to rise by more than 2 °C on average from pre-industrial levels if the consequences are to remain manageable. This requires a reversal of the emission trend during the next two decades. While industrialised countries must take the lead in this regard, the problem of climate change calls for all states to contribute.

Germany is leading by example and will reduce its greenhouse gas emissions by 40 percent compared with 1990 levels by 2020. And we think it will be possible – and necessary – for industrialised countries to reduce their greenhouse gas emissions by 80 to 95 percent.

Germany committed itself under the Kyoto Protocol to reduce its greenhouse gas emissions by 21 percent over the period 2008 to 2012 compared with the 1990 base year. We have already met this emissions target. The German example shows that economic growth and climate protection need not conflict with one another but can go hand in hand. Industrialised countries have various options for attaining the reduction targets under the Kyoto Protocol. Aside from trading in 'assigned amount units' (AAUs), two project-based mechanisms – Joint Implementation (JI) and the Clean Development Mechanism (CDM) – can help industrialised countries in attaining their greenhouse gas reduction targets.

With the Joint Implementation mechanism, industrialised countries (known as Annex I states) are credited with emission reductions attained by investing in other industrialised countries and can then trade the reductions as emission reduction units (ERUs). The CDM, on the other hand, ties industrialised countries' reduction obligations to the aim of sustainable development by way of infrastructure improvements in developing and emerging economies, to the benefit of both sides. Under the EU Emissions Trading Scheme, German companies are allowed to import some 450 million carbon credits from CDM and JI projects by 2012. This opens up considerable opportunities for global investment to protect the climate. Developing and emerging countries benefit for their part from inward transfers of technologies and financial resources. In the process, the CDM is intended to promote sustainable development in developing and emerging economies. Germany is currently involved in 204 CDM projects world-wide.

This publication provides an overview of the German Environment Ministry's CDM and JI initiative and aims to highlight the opportunities offered by the project-based mechanisms. Project case studies of German CDM activities are presented to illustrate the possibilities available in the various sectors. The publication is intended for anyone with an interest in CDM and JI.

Dr. Norbert Röttgen

Federal Minister for the Environment, Nature Conservation and Nuclear Safety

CDM and JI: Investing in Climate Change Mitigation

The European emissions trading scheme and the two project-based Kyoto mechanisms – the Clean Development Mechanism (CDM) and Joint Implementation (JI) – bring market-based instruments for combating the greenhouse effect to the fore. The EU Linking Directive permitting recognition of emission reduction certificates from CDM and JI was transposed into German law in the Project-Based Mechanisms Act (ProMechG) of September 2005. This opens up tremendous opportunities in the international carbon market for German companies both inside and outside of the sectors covered by the emissions trading scheme.

The CDM and JI, the two project-based Kyoto mechanisms, have taken on considerable climate policy significance since the introduction of EU emissions trading in 2005 and the entry into force of the Kyoto Protocol. Five years after the launch of the CDM, over 2,000 registered CDM projects, nearly 4,000 further projects in the pipeline and emission reductions exceeding 1.7 billion tonnes of carbon dioxide equivalent make up a respectable outcome that international climate change policymakers can continue to build upon. Cost-efficiency and ecological integrity do not present themselves as conflicting goals. To an increasing extent, profit-taking is prevented by improvements to evaluation procedures. In fact, cost-efficient climate protection makes it easier to push through ambitious climate change targets. When it comes to revising the flexible mechanisms for the time beyond the first commitment period under the Kyoto Protocol (2008/12), important objectives include simplifying the scope for business to invest in additional emission reduction measures and linking the mechanisms with developing countries' national climate change policies.

Current options for business

Companies whose operations come under the emissions trading scheme face key strategic choices: First, they must decide whether to meet their reduction obligations and caps by cutting emissions across their own asset base or by buying in emission reduction certificates. Second, those who opt to buy emission reduction certificates have at least three economically attractive alternatives:

- EU allowances from other companies covered by the EU emissions trading scheme
- Certified emission reductions (CERs) from CDM emission reduction projects in developing countries
- Emission reduction units (ERUs) from JI emission reduction projects in industrialised countries – that is, projects between parties with emission limitation or reduction commitments listed in Annex B of the Kyoto Protocol

The CDM creates new openings, and not just as a funding mechanism, for companies planning to take up or expand international activities as providers of technology, whether or not their operations come under the emissions trading scheme. The CDM presents a chance to deploy technologies that mark an advance on business as usual in every single investment project. It has also sparked a quest for new emission reduction potential – a quest whose significance should not be underrated – and is fuelling competition for good and economically viable project proposals. In many cases, the international Kyoto Protocol framework is helpful in minimising institutional risk in investment host countries. Of course, the CDM cannot temper a country's investment climate and offset prevailing

investment risk on its own. Selecting suitable host countries is therefore the first step in any strategic involvement in the international carbon market.

A make-or-buy decision

Companies must not only decide whether to acquire external emission reduction certificates, but how – by purchasing them or by investing in their own projects abroad.

Buying in the quantity of emission reduction certificates needed will generally be the easier option – especially if the quantity involved is limited and/or the company has no foothold in suitable third-country markets. The risks of entering a new area of business and fairly steep transaction costs make it inappropriate to take what are plainly major risks in meeting a relatively modest climate policy requirement.

Companies that operate internationally and have suitable technologies and activities are strategically very differently placed from the outset. Such companies should not only consider buying in emission reduction certificates to meet their own needs, but might themselves generate certificates for sale on the carbon market. This side of emission trading, however, will not deliver a steady and sustained incentive until the carbon market has attained a degree of predictability.

Practical aspects of project implementation

Since October 2005, responsibility for endorsing and approving CDM and JI projects in Germany has been vested with the German Emissions Trading Authority (DEHSt), an arm of the Federal Environment Agency (UBA). DEHSt is responsible for all approval-related questions (including the issuing of endorsements and approvals), while the policy-related responsibilities remain assigned to the Federal Environment Ministry (BMU). This includes cooperation with host countries and in particular the CDM/JI initiative, which supports German participation in the international carbon market.

Berlin, January 2010

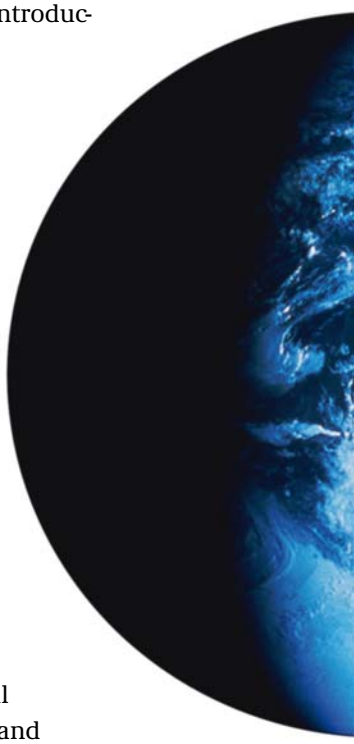
Franzjosef Schafhausen

Silke Karcher

Thomas Forth

Introduction

This publication aims to provide an introduction to the Clean Development Mechanism (CDM) and Joint Implementation (JI) and to describe the current status of their implementation. It is written for project developers who are thinking of registering a project as a CDM/JI project and for anyone seeking a general introduction to the project-based mechanisms.



The presentation is divided into two main parts. The first part explains the theoretical and legal structure of CDM and JI and the status of their implementation. It begins with a general definition outlining what constitutes a climate change project under the Kyoto Protocol and the phases that make up a typical project cycle. This provides the background for a detailed description of the CDM and JI mechanisms, with sections explaining their legal basis and the phases involved in each type of project. There follows a description of the market for carbon credits generated by CDM/JI projects. The first part is rounded off with an overview of Germany's KfW Carbon Fund and the distribution of responsibilities between the German federal government and Federal Environment Agency.

The second part illustrates this presentation with selected sample projects. The examples aim to explain how CDM and JI work in practice and to give an idea of the range of project types that are possible. Finally, a comprehensive glossary clearly and concisely defines key terms and abbreviations, and a service chapter lists further information sources and contact addresses. Clear, informative figures illustrate all project procedures and key interrelationships.

This publication has been compiled by the Wuppertal Institute on behalf of the German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety under the JIKO research and development project. Further information on the project is provided under www.jiko-bmu.de and www.wupperinst.org/jiko. The authors would especially like to thank the developers of the CDM/JI projects presented in the appendix for their kind help and cooperation.

Wuppertal, January 2010

Wolfgang Sterk and Christof Arens

Energy, Transport and Climate Policy Research Group

Wuppertal Institute for Climate, Environment and Energy

1. What is a Climate Change Project?

The CDM and JI serve to promote bilateral cooperation. Such cooperation takes place not at state but at project level and involves private bodies (particularly businesses). This is why CDM and JI are often subsumed under the term 'project-based mechanisms'.

CDM and JI were created in 1997 as an integral component of the Kyoto Protocol. The idea is for project developers to register projects with the competent authorities. Their projects must either reduce emissions or capture carbon from the atmosphere and store it in biomass (sink projects). Once a project has completed a pre-determined project cycle, the project developer receives emission reduction certificates in the amount of the emissions saved or of the carbon captured and stored.

Examples of emission reduction projects include the construction of wind farms, more energy-efficient district heating systems and the installation of biomass-fuelled power stations. Sink projects – projects that increase the amount of carbon stored per unit area – comprise afforestation and reforestation activities.

Specific requirements must be adhered to when attempting to implement a climate change project. Figure 1 depicts the project cycle, which can be roughly separated into six working phases. The terms used and the working phases are described in simplified form below. Specifics of the CDM and JI mechanisms are explained in later chapters.

The Project Idea

One of the first things to consider is the project idea. This involves giving thought to potential project activities and project partners.

Project Design Document (PDD)

The PDD has both a prescribed format and mandatory content and provides the basis on which project approval decisions are made.

Its main component, apart from a detailed description of the project activity, is an outline of a reference scenario. The scenario has two parts: Firstly, it describes the investment that would be made and/or the business approach that would be taken in the absence of the project. This is often termed as the reference scenario. When identifying the reference scenario, available technologies, state incentive programmes and statutory requirements must be taken into account. Secondly, the emissions are estimated that would result if the reference scenario occurred. The estimate is known as the baseline. The baseline is then compared with a forecast of the emissions that would occur if the project activity were implemented. This allows calculation of the emission reductions expected from the project.

A key prerequisite in the approval of a climate change project is the criterion of additionality. This requires that climate change projects only be approved if they would not have come to fruition without the incentives provided by the CDM and JI mechanisms.

Other important terms used include project boundary and leakage. The project boundary is determined by the project developer. It must be stated in the PDD and take in all emissions from sources which are controlled by the project participants, are significant and result directly from the project. Leakage describes the increase in greenhouse gas emissions outside the project boundary that can be attributed to the project activity. For example, afforestation projects on former agricultural land could force farmers to use other areas of land and clear existing forest or woodlands. This leakage must be included when calculating the emission reductions achieved or the amount of carbon captured and stored.

A further element of the PDD is the development of a suitable monitoring plan. Monitoring constitutes seamless, verifiable documentation of how the project is implemented and of the associated GHG emissions. The data forms the basis for subsequent verification of the emission reductions achieved.

Assessment/Approval of Climate Change Projects

The PDD is assessed by an independent body – a Designated Operational Entity in the case of a CDM project or an Accredited Independent Authority in the case of a JI project (see later chapters). Where objections and deficiencies occur, improvements must be made or a new PDD produced. In some cases, project descriptions must be made available to the general public in order to allow people, especially those affected by the project activity, the opportunity to comment on the contents of the PDD. Also, the project must be approved by both the host country and the participating investor countries. National approval is usually based on the assessment by the respective independent body.

If the assessment is successful and no objections are raised, the project is officially accredited as a CDM/JI project.

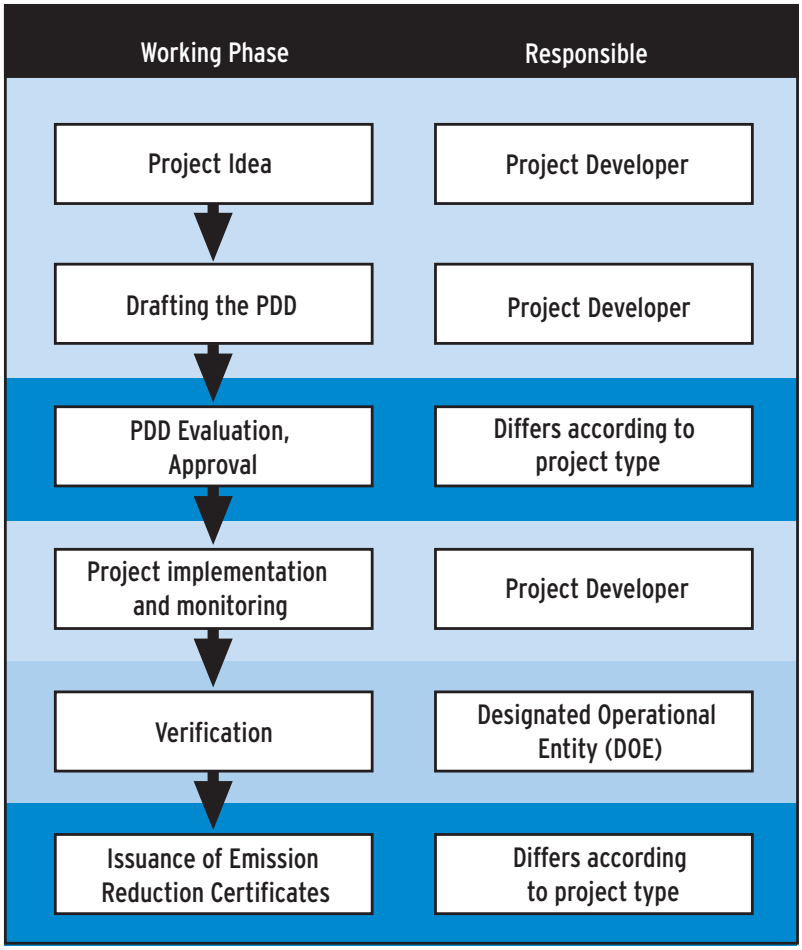


Figure 1

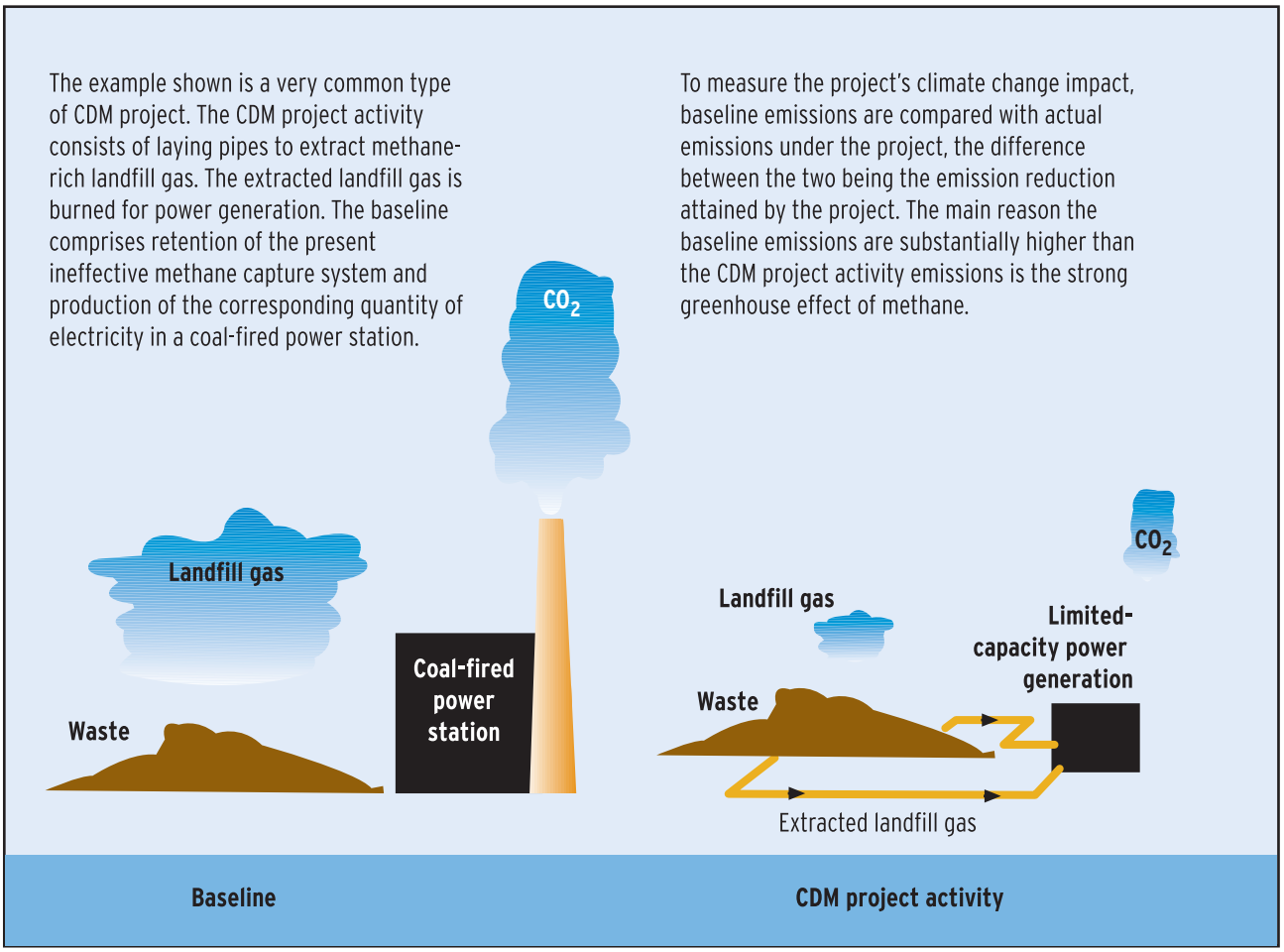


Figure 2

Project Implementation and Monitoring

Project implementation must be documented according to the monitoring plan set out in the PDD. Seamless reporting, particularly of the associated emissions, provides the basis for subsequent verification of the emission reductions achieved and for the issuance of CDM/JI-generated CERs and ERUs.

Verification of the Achieved Emission Reductions/Issuance of Emission Reduction Certificates

The emission reductions achieved with the project are verified by the DOE/AIE, who compares them with the baseline contained in the PDD. Depending on the mechanism involved, the assessment is subject to different rules and regulations (see later chapters). Once the assessment is complete, emission reduction certificates are issued by the competent authorities.

2. The Function of the Project-Based Mechanisms in Climate Policy

The Kyoto Protocol requires countries listed in Annex B of the Kyoto Protocol – essentially, industrialised nations belonging to the OECD and in Eastern Europe – to reduce emissions. To enforce the obligation on Annex B states, a comprehensive emissions management system was created on the basis of emission certificates. This works on the principle that for each tonne of greenhouse gas they emit, industrialised countries must be able to present an internationally recognised emissions certificate. Accounting of emissions and assigned amounts takes place according to commitment periods. Clearly defined sanctions apply to states that fail to comply.

The emission allowances to be assigned to each industrialised nation for the first commitment period (2008–2012) are set out in the Kyoto Protocol. The amounts are based on emission quantities for a base year (mostly 1990) plus a reduction factor.

The Protocol provides for four types of emission certificates:

- Assigned Amount Units (AAUs) are emission certificates assigned to industrialised nations ahead of the commitment period.
- Certified Emission Reductions (CERs) are issued for climate change projects carried out in developing countries by industrialised nations using the Clean Development Mechanism (CDM).
- Emission Reduction Units (ERUs) are issued for climate change projects carried out by industrialised nations in other industrialised countries using the Joint Implementation (JI) mechanism.
- Removal Units (RMUs) are issued for national sink activities in industrialised states. Under Article 3.3 and 3.4 of the Kyoto Protocol, states may count a limited number of sink activities performed on their territory against their greenhouse gas emissions.

As shown in Figure 3, industrialised nations may use all four types of emission reduction certificates to meet their Kyoto commitments.

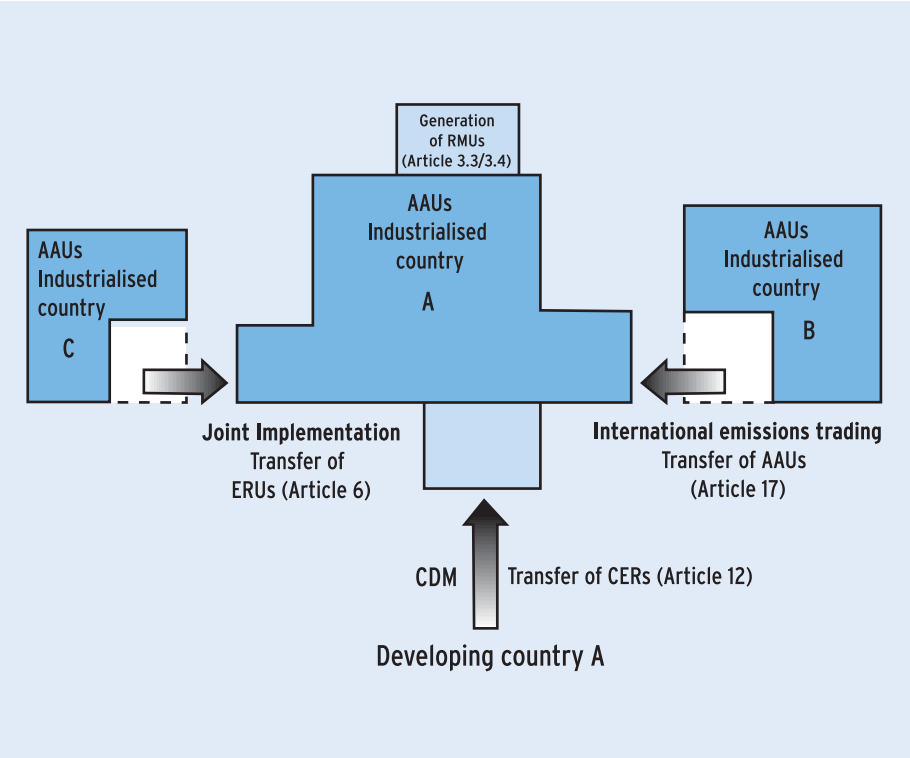


Figure 3

That is, the Kyoto Protocol does not rigidly cap the level of emissions allowed by industrialised nations during the commitment period. Instead, it provides a number of options: national Kyoto commitments can be achieved entirely by reducing national emissions until they are fully covered by the issued emissions allowances, or countries may for example invest additionally in CDM and JI projects in developing countries or other industrialised countries in order to obtain CERs and ERUs.

As Figure 4 shows, there are also other mechanisms besides CDM and JI by which states can cooperate in efforts to mitigate climate change:

The first option relates to international emissions trading. This allows industrialised nations to exchange the certificate types defined in the Kyoto Protocol. In Figure 4, international trading is intentionally left 'neutral' as it is difficult to say how important emissions trading is going to be because it is subject to vehement attack and is seen as politically unacceptable. Critics of the Kyoto Protocol primarily refer to the 'oversupply' of AAUs to Eastern European states and fear a trade in 'hot air', meaning the transfer of 'too generously' allocated AAUs to industrialised countries in the west without any additional climate protection in the seller state. This standpoint is somewhat diffused, however, where purchase of the AAUs clearly leads to additional investment in climate change activities.

The second option, in contrast, has already gained major importance. As shown in the left-hand side of Figure 4, industrialised countries can consolidate and establish a transnational emissions trading scheme which is operated at business level. Adoption of the EU Emissions Trading Directive in 2003 can be seen as such a grouping, comprising EU member states. Under the Emissions Trading Directive, the EU Member States have introduced an emissions trading scheme according to standardised provisions. The underlying idea is similar to that of the Kyoto Protocol. Operators of specific industrial installations and combustion facilities are not allowed to emit greenhouse gases

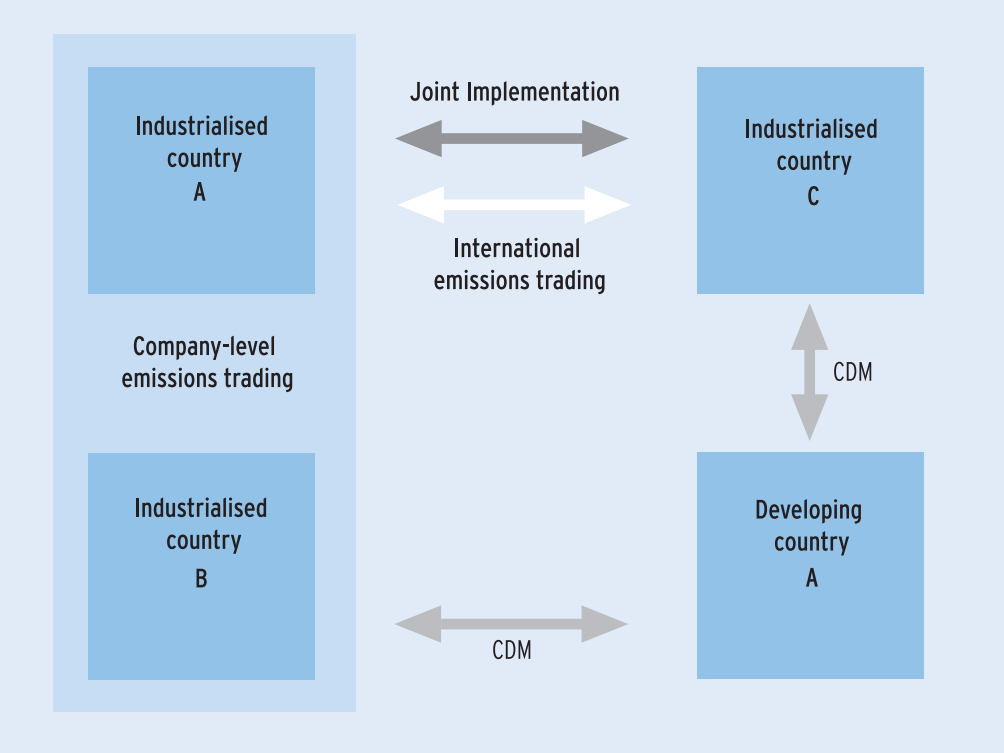


Figure 4

unless they are in possession of an EU Allowance. Allowances are calculated according to commitment periods and operators are assigned an initial quantity of EU allowances prior to the start of a commitment period. Once trading of EU allowances begins, these must be recognised by each EU Member State regardless of where they originated.

Cooperation with other industrialised nations outside the EU benefits from Article 25 of the EU Emissions Trading Directive, which allows linking between the EU Emissions Trading Scheme and emissions trading schemes in other countries. Thus, non-EU industrialised nations may cooperate with EU Member States by engaging in business-level cross-border emissions trading.

All of these cooperation options are laid down in the Kyoto Protocol. In simple terms, they may be interpreted as a right enjoyed by states. There is also a superordinate obligation, however, for states to implement climate change mitigation measures within their own borders. This is why use of the Protocol's flexible mechanisms is subject to the principle of supplementarity. Supplementarity means that cooperation with other states may only be entered into to supplement domestic emission reductions. After all, by setting out reduction targets for the first commitment period, the main aim of the Kyoto Protocol is to achieve a shift in industrialised countries' greenhouse gas emission patterns.

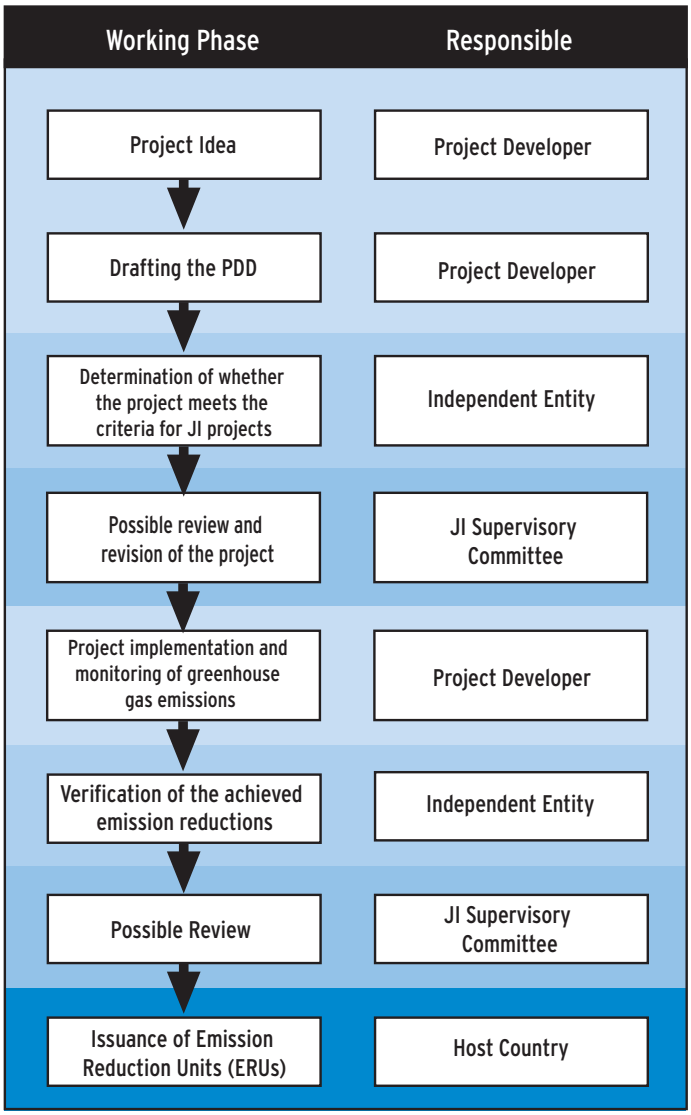


Figure 5

The principle of supplementarity has not, however, been quantified at UN level and its implementation thus plays a key role in EU climate change policy. The EU Linking Directive adopted in September 2004 to allow the incorporation of CDM/JI projects into the EU Emissions Trading Scheme requires that starting with the 2008-2012 trading period, the Member States cap the number of CDM and JI-generated emission reduction certificates they will use to meet their EU Emissions Trading Scheme targets (see Chapter 5).

In the EU decisions for the third trading period under the EU Emissions Trading Scheme, the use of CDM and JI-generated emission reduction certificates was capped on an overall basis for the second and third trading periods. This has left German installation operators – who are allowed to use a total of 450 million emission reduction certificates in the present, second trading period – with hardly any additional certificates from CDM and JI projects after 2012. The addition of air transport nonetheless results in a small but, for this sector, significant increase in the CDM/JI cap for Germany overall.

3. Conducting JI Projects

Legal basis

Joint Implementation is enshrined in Article 6 of the Kyoto Protocol. JI is only open to countries listed in Annex B of the Protocol, in other words to industrialised nations. In international law, JI projects are usually described as Article 6 projects.

Legally binding decisions on JI implementation have been in place since the end of 2005 in the form of decisions of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol (CMP). CMP 1 in December 2005 adopted a set of Guidelines for the Implementation of Article 6 of the Kyoto Protocol. CMP 1 also set up the JI Supervisory Committee (JISC) (Decisions 9/CMP.1 and 10/CMP.1). The project approval process was officially launched on 26 October 2006. JISC developed further guidelines in the years that followed. The stipulations laid down by JISC were endorsed by the meetings of the parties to the Kyoto Protocol.

The JI project cycle

The ways in which a JI project can be conducted are largely dependent on whether the potential host country fulfils specific criteria, namely:

a. Ratification of the Kyoto Protocol

b. Calculation of the number of Assigned Amount Units (AAUs) it receives

c. Establishment of a national scheme to estimate its greenhouse gas emissions and carbon stored in sinks

d. Establishment of a national emissions registry

e. Timely annual submission of its emissions inventory

f. Submission of additional information on its AAUs

To host a JI project, industrialised countries must meet at least criteria a, b and d. If a host country meets all of the above criteria, it may verify the emission reductions and carbon storage and then issue the respective JI-generated ERUs on its own. The requirements which apply to JI projects and the necessary project cycle are largely left to the host country to determine. This is known as JI Track 1, which is likely to become the norm. EU Member States in particular are required to meet these criteria because from 2008, they are a prerequisite in making the EU Emissions Trading Scheme work.

If a host country only fulfils criteria a, b and d, an international procedure applies in respect of ERUs. This is known as JI Track 2. Structuring and monitoring of Track 2 is the responsibility of the JISC.

Stages of project implementation under Track 2 are shown in Figure 5, see page 14.

The initial stages more or less match the general project cycle described in Chapter 1, What is a Climate Change Project? Project developers submit their PDDs to a JISC-accredited Independent Entity (IE). The IE conducts its preliminary assessment and has the PDD published to give the general public, and especially those affected by the project, an opportunity to raise their objections or make comment. The IE collects and evaluates the public input.

If its evaluation is positive, the IE publishes its decision together with a supporting justification. Based on the IE report, the respective designated focal points (DFPs) check whether the applicable national requirements for JI projects have been met. If the result is positive, the projects are approved.

According to JISC stipulations, however, a letter of approval from an investor country does not necessarily have to be submitted at this stage. A letter of approval only has to be presented later when ERUs are to be issued.

The IE then forwards the full set of documentation to the JISC. Projects are automatically deemed approved 45 days after the PDD is submitted unless a party involved in the project or at least three members of the JISC request a review by the JISC. If a review is requested, the JISC decides at its next meeting whether to perform the review or allow the project through. If the JISC determines as the outcome of a review that a project does not comply with JI rules, it may require changes to the project or turn down the project in its entirety.

Once a JI project is approved, the project developers must produce ongoing documentation of the project status over the course of the project cycle in line with the monitoring plan. An IE determines the quantity of emission reductions achieved at the end of a specific period, announces it to the public and forwards its report to the JISC. The JISC can again conduct a review of the project at this point; otherwise (or if a review finds in favour of the project) it instructs the DFPs of the host and investor countries to transfer the appropriate number of ERUs. A JI project can only generate ERUs from 2008 onwards, i.e. from the start of the first Kyoto Protocol commitment period.

States which meet the requirements for Track 1 may alternatively choose Track 2, for example to save the effort and expense of developing their own project approval procedure. States applying Track 1 may also use selected elements of Track 2: Many host countries in Track 1, for example, require that projects be evaluated by a JISC-accredited IE. Alongside reliability considerations, this may be a precautionary measure for the event that the requirements for Track 1 no longer apply once the project gets underway and it then has to be implemented under Track 2. Experience has shown that CDM designated operational entities (DOEs) are usually selected to be the independent entities for JI Track 1 (see next chapter).

Simplified procedure for small-scale projects

The transaction costs involved in JI (for example IE fees) are largely unrelated to the size of project and are therefore less of a burden for large projects than for small ones. To promote small-scale JI projects, the JISC has adopted a simplified procedure:

- Simplified requirements for the PDD
- The possibility of bundling multiple project activities to form a single project
- Small-scale projects are exempt from payment of a fee to JISC on submission of the PDD

The simplified procedure applies for the following JI project types:

- Renewable energy projects with a capacity of up to 15 MW.
- Energy efficiency projects with energy savings (on either the supplier or the user side) of up to 60 gigawatt hours per year.
- Other projects which result in annual emission reductions of no more than 60,000 tonnes CO_{2e}.

For bundled projects, these thresholds only apply for individual activities in the bundle. They may be exceeded by the bundle as a whole.

JI in Germany

JI was originally conceived as a way of mobilising the potential for emission reductions in transition states of Central and Eastern Europe. Unlike most other western industrialised countries, however, Germany allows JI projects to be conducted on its own territory. This is provided for in the German Project-Based Mechanisms Act (ProMechG); the country's designated focal point (DFP) is the German Emissions Trading Authority (DEHSt).

Two additional points must be taken into account regarding domestic JI projects. The first is the problem of double counting. If a project is implemented at a facility that is covered by the EU Emissions Trading Scheme, two things will happen. First, emission reduction certificates are issued to the project developer. Second, the facility operator needs fewer EU allowances. That is, unless further action is taken, the emission reductions are counted twice. Under ProMechG, these emission reductions count as part of the baseline and are not credited with ERUs.

The second point is that projects are not allowed to receive double grant funding. Where a project receives public funding, the grant-funded portion of emission reductions likewise counts as part of the baseline. Feed-in tariffs for renewables-generated electricity and subsidies for combined heat and power plants are treated as being equivalent to public funding.

The UNFCCC JI website, http://ji.unfccc.int, provides all necessary documentation for applying for and carrying out JI projects, together with other information such as the criteria for baseline setting and monitoring under JI Track 2, a list of accredited IEs and a list of the DFPs established so far. DEHSt has also compiled a comprehensive manual on carrying out JI projects. This is available from the BMU JI portal, www.jiko-bmu.de.

4. Conducting CDM Projects

Legal basis

The CDM is based on Article 12 of the Kyoto Protocol. Article 12.2 sets out two equally weighted objectives: To assist investor countries in achieving compliance with their Kyoto Protocol commitments and to assist host countries in their efforts to achieve sustainable development. CDM host countries are those countries not listed in Annex B of the Kyoto Protocol – the countries generally described as developing countries. The investor countries are the world's industrialised nations.

In contrast to the rules on Joint Implementation, those for the CDM provisionally entered into force in 2001 (the 'prompt start') by way of a decision of the Conference of the Parties (COP) to the Framework Convention on Climate Change held that year in Marrakech. The modalities and implementation procedure for CDM projects are set out in the Marrakech Accords. These are designed to ensure that a real contribution is made towards achieving sustainable development in the host countries and to combating climate change.

In the following years, the COP adopted additional guidelines for CDM implementation along with modalities and procedures specifically applicable to afforestation and reforestation projects. Following the Kyoto Protocol's entry into force, the CMP adopted all the COP's provisional decisions regarding the CDM and issued further guidelines (Decisions 3-8/CMP.1, 1/CMP.2 and 2/CMP.3). The CDM Executive Board (EB) is responsible for drawing up detailed rules and guidelines and for monitoring CDM projects.

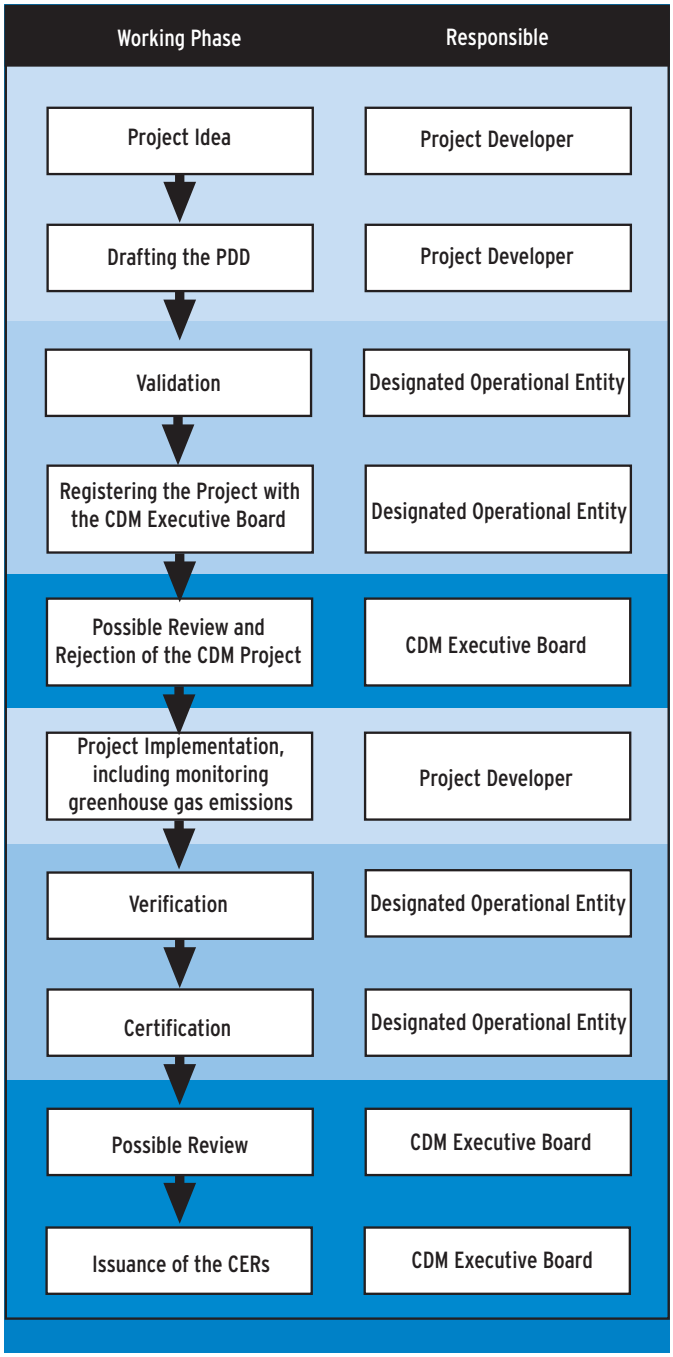


Figure 6

The CDM project cycle

The procedure for implementing a CDM project is outlined in Figure 6. The first steps are once again largely the same as those for the general project cycle described in Chapter 1, What is a Climate Change Project? Project developers submit their PDDs to a Designated Operational Entity (DOE) accredited by the CDM EB. Other than with JI projects, CDM project developers must use EB-approved methodologies when determining the baseline and when monitoring project implementation. The EB cannot, however, develop these methodologies itself; instead, project developers must submit proposed methodologies to the EB for approval. This step can only be skipped if a methodology already approved for another project can be used for the new one.

Public input is expressly required in the application process. The DOE must make the PDD available to the public during the assessment phase in order to allow both the general public and those actually affected by the project an opportunity to comment. The DOE receives objections and comments, evaluates them and then publishes them.

For a long time confusion reigned regarding the provision of adequate proof of a project's additionality. The EB has thus developed a tool to enable demonstration and assessment of additionality. While the tool is designed to assist project developers, they may also develop and use other procedures to provide proof of additionality.

Article 12 of the Kyoto Protocol calls for CDM projects to foster sustainable development in the host country. The host countries themselves assess whether or not this is the case. Each host country develops its own criteria and procedure; assessment takes place as part of the host country's general CDM approval procedure. Normally, both host and investor countries approve a project on the basis of the DOE's validation report. The respective national procedures are explained on the various DNA websites.

According to the EB decisions, registration of a CDM project is not necessarily subject to the availability of a letter of approval from an investor country (see 'unilateral projects' below). A letter of approval must only be provided if emission reduction certificates are to be transferred to an industrialised country after they are issued.

If the DOE finds that the project meets all the required criteria, it forwards it to the EB for registration. The EB registers the project automatically eight weeks after the project is submitted for approval unless a party involved in the project or at least three members of the EB request a review by the EB. If a review is requested, the EB decides at its next meeting whether to perform the review or allow the project through. If the EB determines as the outcome of a review that a project does not comply with CDM rules, it may require changes to the project or turn down the project in its entirety.

A significant difference when compared with the JI procedure involves how verified emission reductions are dealt with. Firstly, validation and verification are not normally to be performed by the same DOE. Secondly, the emission reductions must be certified by the DOE. In other words, the DOE must provide written confirmation that the respective emission reductions were actually achieved. Public participation is mandatory.

Following certification, the appropriate quantity of emission reduction certificates (Certified Emission Reductions or CERs) is normally issued automatically by the EB, although the EB can also elect to conduct another review of the project at this point. Two percent of CERs issued are retained and transferred to the Adaptation Fund, which is designed to support the least developed countries in adapting to the effects of climate change.

Unilateral projects

The CDM was originally designed as a mechanism to promote cooperation between industrialised and developing countries. Following clarification by the EB in February 2005, projects may also be registered without the involvement of an industrialised country. These 'unilateral' projects give project developers in host countries the opportunity to develop their own projects and sell the CERs they generate on the free market instead of having to find an investor in the initial planning stage. A letter of approval from an industrialised country must be submitted after the fact, however, if the CERs are to be transferred there. Unilateral projects now make up more than half of the projects currently being developed.

Simplified procedure for small-scale projects

As part of the Marrakech Accords it was agreed to establish a simplified procedure for small-scale projects. It was developed by the CDM Executive Board and comprises the following simplified modalities and procedures:

- Simplified requirements for the PDD
- Simplified methodologies to produce the baseline and the monitoring plan
- The possibility of bundling multiple project activities to form a single project
- The possibility of using the same DOE for validation, verification and certification

The same thresholds apply as for small-scale JI projects. In contrast to the JI arrangements, however, the thresholds must not be exceeded by a CDM project bundle as a whole.

Also, projects that promise annual emission reductions of less than 15,000 tonnes of CO_{2e} are exempt from the registration fees levied by the CDM EB.

Programmatic CDM

At the first Conference of the Parties serving as a Meeting of the Parties (CMP) to the Kyoto Protocol in 2005, it was decided to allow an additional project type known as programmes of activities (PoAs). A PoA is a programme combining multiple decentralised activities. While project bundling was already an option for small-scale projects (as mentioned above), the activities in a bundle nominally each retain their separate status, it is necessary to state what activities make up the bundle at the time of registration and the composition of the bundle is not allowed to change over the duration of the project. Additionally, as noted, the thresholds for small-scale projects must not be exceeded by the bundle as a whole.

A PoA, in contrast, is a measure with a central coordinator that provides impetus for decentralised activities, for example by creating financial incentives. The size of a PoA is also not fixed from the outset and further CDM programme activities (CPAs) can be added at any time. Multiple baseline and monitoring methodologies can be used in a single PoA. This makes it possible to combine, say, renewable energy and energy efficiency activities in the same PoA.

As part of its PoA Support Centre activities, KfW has published a PoA Blueprint Book to provide project owners and project developers with examples of how to develop PoAs with reference to six typical sectors and possible implementation models. The Blueprint Book can be downloaded at www.kfw.de/carbonfund.

On application to register a PoA, a CPA characteristic of the PoA must be submitted to the EB and appraised. The PoA PDD must also describe the criteria by which additional CPAs may be added to the PoA. Further CPAs may be added at any time once a PoA has been registered with the EB. Such CPAs are submitted for checking to the DOE that validated the PoA; they are not appraised by the EB. If the EB subsequently determines that a CPA has been erroneously included in the PoA, the entire PoA becomes subject to review. To replace any CERs issued erroneously as a result of the CPA's inclusion, the responsible DOE must transfer an equal quantity of emission certificates to the EB.

The UNFCCC CDM website, http://cdm.unfccc.int, provides detailed information, including approved methodologies, the Tool for proof of additionality, lists of accredited DOEs, DNAs established so far and all necessary forms and instructions needed to request project registration by the EB. DEHSt has also compiled a comprehensive manual on carrying out JI projects. This is available from the BMU JI portal, www.jiko-bmu.de.

5. The Market for CDM/JI-Generated Carbon Credits

The opportunities to use CDM/JI-generated emission reduction certificates (carbon credits) in Germany and other EU Member States are largely driven by national and EU legislation. Put simply, there are three main demand segments for such certificates:

- Demand generated by the EU Emissions Trading Scheme
- Demand created under programmes run by the various EU Member States
- Voluntary demand from the private sector

Demand generated by the EU Emissions Trading Scheme

Most non-state demand for CERs and ERUs is generated by the caps placed on industrial emissions in the EU Emissions Trading Scheme. Under the EU Linking Directive of 2004 (transposed in Germany's Project-Based Mechanisms Act (ProMechG)), carbon credits generated from CDM/JI projects may be used in the EU Emissions Trading Scheme as follows:

- CDM/JI project developers complete their respective project cycles and receive a quantity of CERs or ERUs.
- CDM/JI project developers sell their carbon credits to operators of industrial installations or combustion facilities that must participate in the EU Emissions Trading Scheme (ETS). Project developers and operators of facilities covered by the ETS may be identical.
- These operators request that the CERs or ERUs be exchanged for EU allowances by surrendering their CERs/ERUs to the competent authority in their own EU Member State.
- If operators are in a position to substitute more CERs/ERUs than the EU allowances needed to meet their obligations, they may use the remaining EU allowances to meet subsequent obligations under the EU Emissions Trading Scheme; alternatively, they may sell their EU allowances to other market players.
- An EU Member State which exchanges CERs/ERUs for EU allowances can use the CERs/ERUs to comply with their Kyoto Protocol commitments.

Exchange and substitution of emission reduction certificates is restricted by the setting of a installation-related upper limit for the use of CDM/JI as prescribed by the EU Linking Directive. In its National Allocation Plan II (NAP II), Germany has set this upper limit at 22 percent of assigned EU allowances. Thus, for the ETS second trading period from 2008 to 2012, industries participating in the scheme may use up to 90 million CERs or ERUs per year or 450 million for the entire trading period. The amount can be surrendered in varying quantities throughout the trading period. Alternatively, CERs/ERUs can be carried over to the period after 2012. The stipulations for the ETS third trading period have resulted in hardly any additions to the quantity usable by German installation operators. Additional quantities are available for the air transport sector newly included in emissions trading from 2012. The limited quantitative increase is partly due to the period 2008/20 – i.e. the ETS second and third trading periods – being treated on an overall basis and partly in connection with the 20 percent EU reduction target. It is expected that if the EU

reduction target is raised to 30 percent, part of the extra reduction can be met out of reduction certificates generated in CDM and JI projects.

A revision of EU emission trading is currently being debated for the period after 2012. Under the revised system, the current national upper limits for the use of CDM/JI are likely to be superseded by a harmonised EU-wide upper limit.

Demand from EU member states

Independent of the ETS, the EU Member States may create opportunities to use CERs and ERUs at national level. The simplest method involves direct purchase of emission reduction certificates by the state and many such programmes have already been implemented.

Another option would be to allow CERs and ERUs to be counted towards obligations under other policy instruments (e.g. voluntary agreements, eco-tax). None of the EU Member States appear to be considering such action at present, however. The overarching aim of the EU Member States in both cases is to obtain CERs and ERUs in order to use them to comply with their Kyoto Protocol commitments.

Voluntary demand from the private sector

In addition to the two demand segments outlined earlier, a third is emerging in which no state intervention occurs whatsoever. This involves voluntary offsetting, which is as yet unregulated at international, EU or national level. In voluntary offsetting, a quantity of greenhouse gases produced by one emitter – for example a business or an individual – is offset by avoiding an equal quantity of emissions elsewhere.

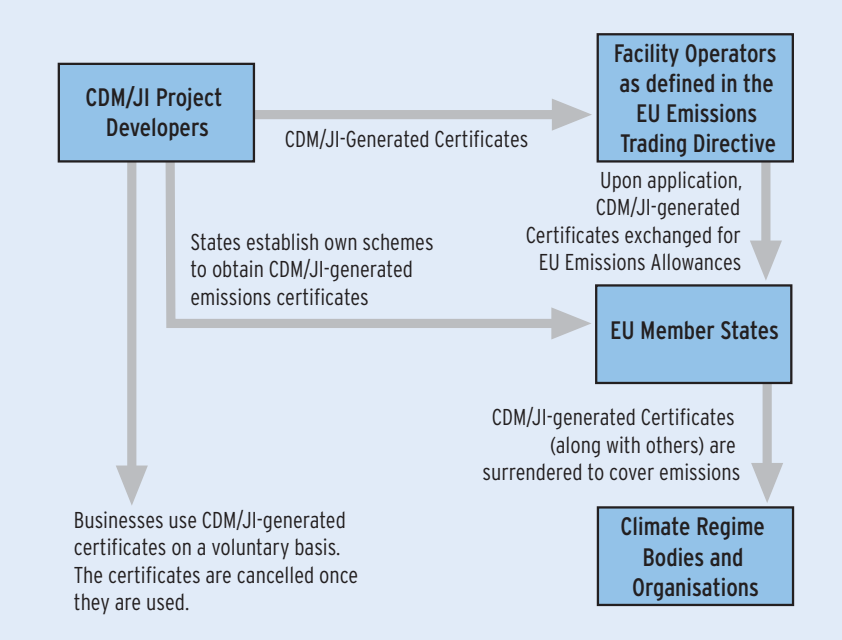


Figure 7

As Figure 7 shows, the main feature of this demand segment is that the CERs and ERUs purchased by the private sector are not used by the state to comply with Kyoto commitments. Rather, the purchasers cancel them voluntarily.

6. The KfW Carbon Fund

Launched by the KfW Bank Group in 2004, the KfW Carbon Fund has developed into the KfW marketing platform for carbon credits under the Kyoto flexible mechanisms. The aim of the Carbon Fund is to promote climate change projects worldwide and to give companies in Germany and the rest of Europe access to the carbon market. Another aim is to devise innovative approaches to foster the development of the carbon market.

Procurement programmes to date

KfW Carbon Fund: The first procurement programme launched in 2004 secured the participation of 24 companies from Germany and elsewhere, the German government and KfW itself with a total outlay of €84 million. Participating companies must comply with obligations under the EU Emissions Trading Directive, using the project-based mechanisms. Participating companies and institutions agreed with KfW to purchase carbon credits procured by KfW up to a committed amount. KfW selects the projects from which to procure carbon credits based on a transparent procedure. KfW also provides support for selected projects in obtaining the necessary approvals from international institutions.

Credits are immediately transferred to participants on delivery by sellers. They are allocated from a portfolio of Emission Reduction Purchase Agreements (ERPAs) put together by KfW based on cost and risk criteria. There is no direct assignment of credits from specific projects to specific participants. The committed funds are requested soon after delivery of credits by sellers. KfW only buys credits that can be used in the EU emissions trading system. They are bought under long-term purchase agreements to international standards, at fixed or variable prices.

EIB-KfW CO_2 Programme I: A second procurement programme was launched jointly with the European Investment Bank (EIB) in 2007. The programme successfully closed with a volume of some €88 million in mid-2008. Its participants are 15 companies from Germany, Switzerland and the Netherlands. The programme is geared to the needs of SMEs that do not trade in emissions themselves and so have no interest in buying credits directly from project developers. They can obtain a delivery guarantee from KfW and EIB on payment of a premium. KfW has now entered into purchase agreements for some eight million credits. Credits can be bought from any type of project except industrial gas projects and projects excluded by the Kyoto Protocol and the EU Directive. With suitable projects, sellers may be offered a down-payment on the contractually agreed price of the credits. As co-sponsor of the programme, EIB takes on an equal share of all risks assumed by KfW in its capacity as direct counterparty to the projects and sellers.

Further KfW activities

Participation in the Post 2012 fund to purchase post-Kyoto credits: KfW has participated in the Post 2012 Carbon Credit Fund launched by five European public financing institutions in March 2008. The fund will buy up carbon credits generated after 2012 by projects that are registered or applying for registration as JI or CDM projects. In

launching the fund and assuming the regulatory risk, the banks gave a show of confidence in the system's onward development after the end of the first Kyoto Protocol commitment period and sent out a clear signal for the continued operation of the carbon markets. The fund has a volume of €125 million. Its focus is on renewable energy sources, energy efficiency and fuel switch projects.

Programmes of Activities (PoAs): Since October 2008, the KfW Carbon Fund has run the PoA Support Centre Germany on behalf of the German Environment Ministry. PoAs promoting climate change activities or implementing climate change policies in developing countries can be registered under CDM/JI since mid-2007. The aim is to open up the carbon market to small and very small emission sources that on their own would not cover the transaction costs for CDM/JI.

The KfW Carbon Fund also buys carbon credits for other European government and on its own account.

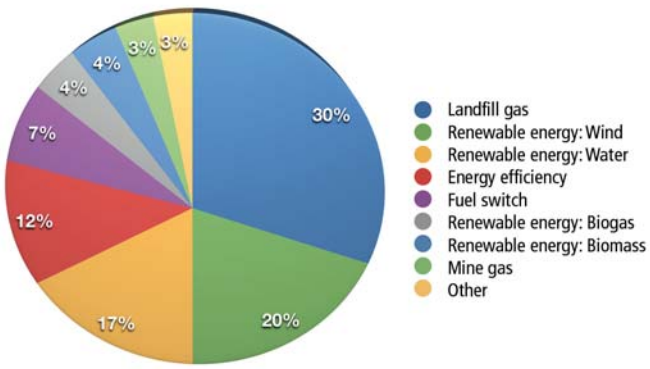
Current procurement programme

EIB-KfW CO_2 Programme II: This new programme focuses on sustainable projects in the poorest developing countries and on innovative PoAs. It is planned to purchase Kyoto and post-Kyoto credits up to 2020. Priority is given to purchasing emission credits from energy efficiency, renewable energy and methane avoidance projects. Sellers gain an assured purchaser for their carbon credits and may qualify for advance payments to help finance the projects. Credits will be purchased up to €100 million, with the risk shared equally between EIB and KfW. The final purchasers of the credits will mostly be European companies seeking to meet obligations under the European Emissions Trading Scheme. They receive a guarantee that they will be only required to buy certificates that

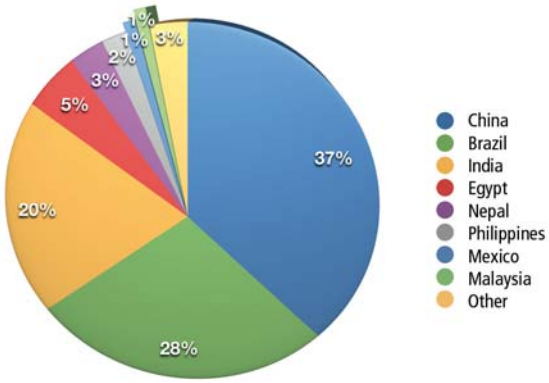
KfW portfolio of carbon credits

- Current KfW portfolio of carbon credits (as of 31 December 2009)
- Total contracted projects: 69
- Total contracted credits: approx. 28 million

Portfolio by sector



Portfolio by country



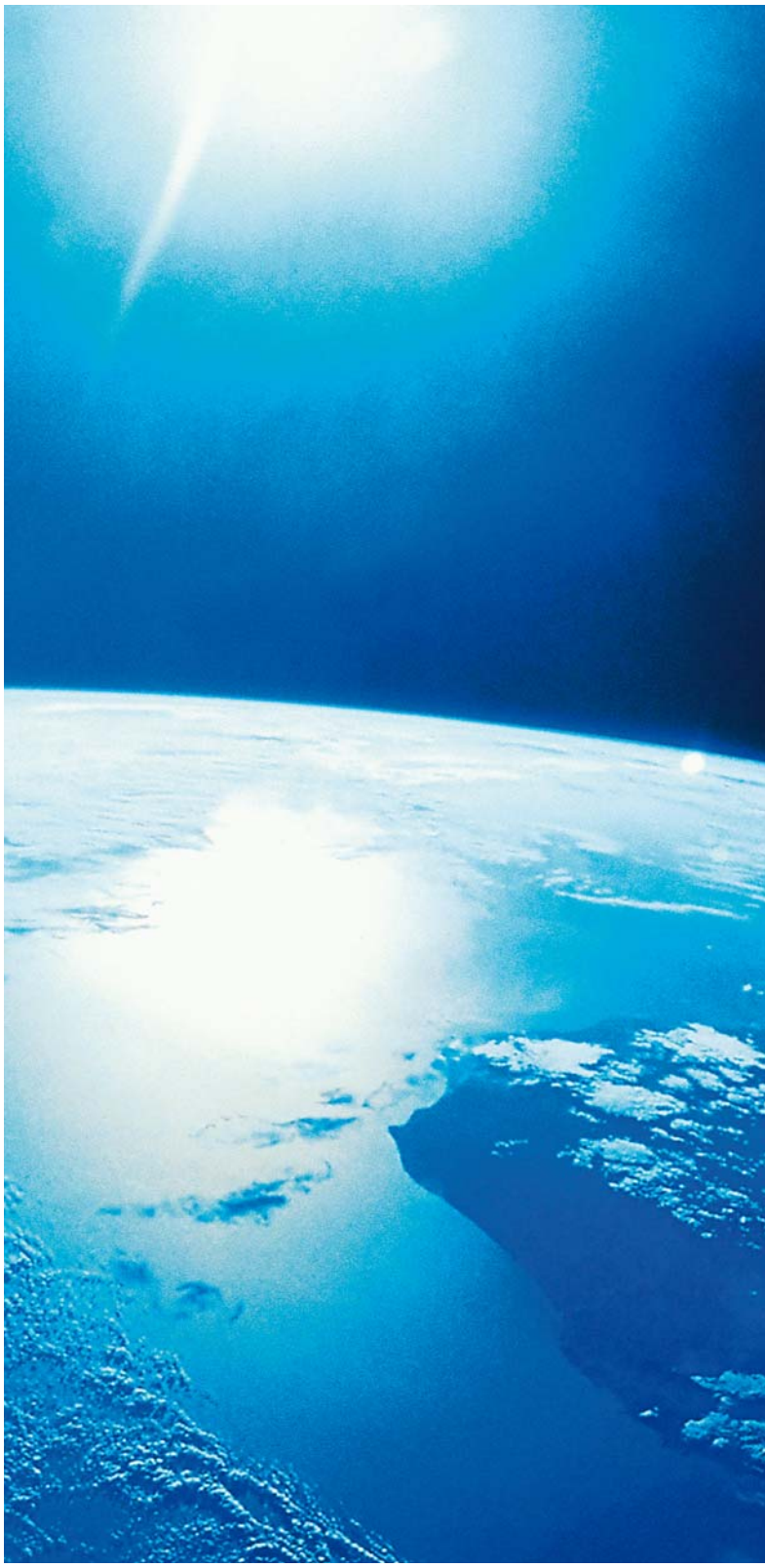
remain offsettable in the European ETS after 2012. EIB and KfW assume the related regulatory risk. The maximum commitment is €20 million for intermediaries and €10 million for buyers under the EU ETS; the minimum commitment is €1 million. The first project purchases for the EIB-KfW CO_2 Programme II have already been carried out.

Project portfolio

KfW had entered into 69 emission reduction purchase agreements (ERPAs) for 28 million carbon credits by 31 December 2009. The portfolio is dominated by renewable energy projects (wind, water and biomass/biogas). The main regional focus is on Asia – notably India and China – followed by Latin America.

Procurement activities continue at the same level in 2010. Interested parties can contact KfW directly.

The latest information on the fund is available at www.kfw.de/carbonfund. Contact details are provided in the Further Information and Contacts chapter.



7. Division of Responsibilities Between BMU and DEHSt

The arm of the German government in charge of the project-based mechanisms is the Federal Environment Ministry (BMU), which is assigned all policy-related responsibilities. These comprise cooperation with host countries, conceptual onward development of the CDM and JI at European and international level, and the provision of the legal framework in Germany. Other responsibilities include BMU activities under the CDM/JI Initiative with the aim of supporting German companies in the use of CDM and JI.

Administrative tasks relating to CDM and JI are the responsibility of the German Federal Environment Agency (UBA) and within it the German Emissions Trading Authority (DEHSt) in Berlin.

BMU and DEHSt have cooperated closely in supporting CDM and JI projects since responsibilities were assigned to DEHSt under the German Project-Based Mechanisms Act (ProMechG). Regular meetings are held to discuss enforcement of the Act and project approval. The two agencies consult directly where there is a need for liaison on individual projects. Decisions are made by DEHSt in its capacity as the competent national authority for CDM and JI.

8. The German Emissions Trading Authority as the German Competent Authority for CDM/JI

The main task of the German Emissions Trading Authority (DEHSt) as regards the CDM and JI mechanisms is to examine and approve climate change projects. In doing so, it acts as the Designated National Authority (DNA) for CDM projects and as the Designated Focal Point (DFP) for JI projects. Approval of an overseas project makes Germany the investor country, while approval of JI projects in Germany makes it the host country. The responsibilities assigned to DEHSt in this context include verification and confirmation of verification reports for JI projects and submission of requests for reviews to the EB or the JISC in cases of uncertainty.

Project developers may submit different proposals depending on the stage the project is at. First, a Letter of Endorsement (LoE) may be requested. This involves providing an informative Project Idea Note (PIN) which outlines the project and enables an initial assessment of its additionality. A Letter of Endorsement for a project idea can be useful in securing ongoing funding for project development and approval from a host country. It is recommended to request a letter of endorsement for JI projects within Germany as a means of ensuring that German legal requirements are taken into account in the project documentation from an early stage.

When requesting a Letter of Approval (LoA), the following documents must currently be supplied under the Project-Based Mechanisms Act (ProMechG):

- Written request for approval
- The Project Design Document (PDD)
- The Validation Report (VR) with a final appraisal of the project
- For CDM projects and JI projects implemented overseas, host country approval
- A power of attorney from the host country project developer for the applicant

Proposals and supporting documentation may be drawn up in German or English. The proposal must be submitted in writing, although the supporting documentation can be forwarded to DEHSt online or on a CD-ROM.

Once the project proposer has submitted all necessary documentation to DEHSt, approval of CDM and JI projects by Germany's National Authority occurs within two months. If DEHSt requires additional paperwork, the project proposer is informed without delay.

DEHSt aims to provide a reliable service to businesses participating in climate change projects. This is achieved, for example, by means of the CDM and JI manuals, working tools and a list of Frequently Asked Questions (FAQs) published on the DEHSt website. An online project database (accessible via the website) provides an overview of the projects involving German businesses. DEHSt employees attend conferences and working groups to promote development of CDM and JI projects. DEHSt also provides project developers with advice in administrative matters.

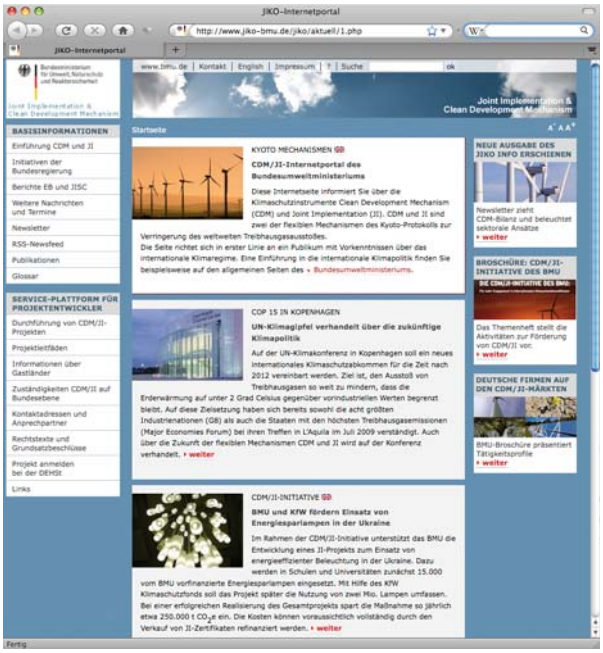
By the beginning of 2010, a combined total of over 230 applications for CDM and JI projects had been received since the Project-Based Mechanisms Act entered into force.

A regularly updated list showing numbers of applications and the regional and sectoral distribution of project activities is available in the JI/CDM section of the DEHSt website, www.dehst.de. The website also features a project database with full sort and search facilities.

9. Further Information and Contacts

Kyoto mechanisms portal

www.jiko-bmu.de is the German government's primary information medium on CDM and JI. The portal contains a wide range of general information about CDM and JI, current news and events, rel-evant publications and a comprehensive glossary. A service platform for project developers provides direct access to information and documents needed to develop and carry out climate change projects, including the CDM/JI project cycles, short portraits of potential host countries for CDM/JI projects, and all key legislation and decisions. The portal was set up in cooperation with other German government agencies concerned with CDM/JI. This made it possible to put together a comprehensive information pool that serves as a gateway to all relevant information and websites.
www.jiko-bmu.de



DEHSt CDM/JI manuals

The German Emissions Trading Authority (DEHSt) has compiled a CDM and a JI manual. Each manual provides background information on emissions trading and a brief introduction to the mechanism concerned. The focus, however, is on the specific phases making up the project cycle and the application procedure for DEHSt approval, DEHSt being the German national authority. The manuals are produced as navigable documents both for online use (with internal and external links) and for use as printed reference works. They are available for viewing and downloading on www.dehst.de and www.jiko-bmu.de.

JIKO Info

The Wuppertal Institute has published the JIKO Info newsletter on behalf of the German Environment Ministry since 2003. JIKO Info reports on the establishment of national and international institutions and procedures to process and approve CDM/JI projects. It also provides information on incorporating CDM and JI into German and EU climate change policy, and highlights best-practice examples of successful emission reduction projects. Each issue places the spotlight on a specific topic using various analyses and background articles. Reports are supplemented by interviews with policymakers from the sectors in question. Each issue is rounded off by a guest article written by an external expert in the field. The newsletter can be subscribed to on http://www.jiko-bmu.de/, under 'Newsletter'.

JIKO Info 1 | 10

Wuppertal Institut für Klima, Umwelt, Energie GmbH

NEWSLETTER OF THE PROJECTS "JOINT IMPLEMENTATION & CLEAN DEVELOPMENT MECHANISM: JIKO" · RESEARCH GROUP ENERGY, TRANSPORT AND CLIMATE POLICY

Editorial

Dear Readers,

The outcome of the Climate Conference in Copenhagen left many people disappointed: the agreement on and the substance of the Copenhagen Accord have not served to provide clarity and planning security for the carbon markets.

Since the conference, many countries have registered their climate change efforts with the UN Climate Secretariat. That all key emerging economies are among them is one of the most useful things to come out of the Copenhagen summit. It is, however, too early to use the many and varied submissions to draw any conclusions as to a global effort. For this reason, the analysis provided in the article on page 8 looks primarily at the different types of action reported.

Also in this issue, we present the key outcomes of the climate summit in general and in relation to CDM/JI. To round off the newsletter, we provide a brief overview of the implications concerning demand for CDM/JI certificates generated under the EU Emissions Trading Scheme (ETS).

I wish you an interesting and informative read.

Christof Arens

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- Global Climate Change Agreement Essential

Volume 8, Issue 1/2010
January – March 2009

JIKO Report

CDM: Minor Reform and Uncertain Future

Climate summit fails to bring clarity on future of flexible mechanisms and instead agrees mini CDM reform

The climate change conference held in Copenhagen at the end of 2009 did not generate the hoped-for agreement on international climate policy beyond 2012. Rather, it produced only a minimum consensus which the Plenary merely "took note of" (see article below). The work performed by the two ad hoc working groups on the Kyoto Protocol and the Climate Change Convention will continue in 2010. The situation is open regarding the future structure of the flexible mechanisms. For the period up to 2012, the Conference of the Parties was only able to agree on a moderate reform of the existing CDM rules.

In the course of 2009, numerous proposals were discussed on the further development of the CDM in the post-2012 regime. These ranged from positive/negative lists for certain project types, discounting of CERs to limit the problem of additionality, and standardised baselines or the setting of benchmarks for each project type.

Continued on page 2

JIKO Report

No KyotoPlus Agreement

Little Progress at Copenhagen Summit

According to the Bali Action Plan, an agreement on the future of the climate regime should have been reached in Copenhagen. But the nearer the summit got, the clearer it became that considerable differences of opinion existed between the negotiating parties and that the Copenhagen conference would only bring an interim solution at best. The dramatic scenes in the last few days of the summit, when it seemed doomed to complete failure, left many people surprised nonetheless. JIKO Info analyses the conference outcomes and potential next steps.

As at every conference since climate change diplomacy began, the main lines of conflict have involved who should contribute how much of the effort needed to protect the climate. The countries in the South continue to argue that historically speaking, the industrialised countries have produced by far the most emissions and should thus continue to play a leading role in combating climate change. The industrialised nations counter by pointing to rapidly rising emissions, not least in the bigger emerging economies, which immediately negate all climate change activities in industrialised countries. They thus call for the emerging economies to commit to binding measures and targets.

Continued on page 5

CDM Highlights

The monthly CDM Highlights newsletter provides information on the Clean Development Mechan-ism in a brief and clearly structured format. It is published monthly in English and French by the GTZ Climate Protection Programme (CPP), on behalf of the German Ministry for Economic Cooperation and Development. The newsletter can be subscribed to free of charge at www.gtz.de/climate.

Contact | Recommend this newsletter

gtz Climate Protection Programme

CDM Highlights Newsletter

Carbon market news for the development community
From GTZ Climate Protection Programme on behalf of BMZ

Issue no. 81
March 2010

Dear reader!

Dark winter storms are still ravaging the Northern climate policy world. The US becomes more and more unlikely to introduce a domestic emissions trading scheme anytime soon. Climate skeptics resurface everywhere and manage to seduce even respected media, while jeopardizing the future of the IPCC. A brave, but disappointed diplomat will leave the helm of the UNFCCC Secretariat end of June. CDM submissions are starting to drop substantially and carbon brokers are downsizing their staff. But some shy signs of springs appear. No longer stunned, the UN system reverts into negotiation mode. The African CDM market sees a heartening increase of activity. Let us hope that full-fledged spring arrives for the CDM market sooner than later!

Anja Wucke, GTZ
Axel Michaelowa, Perspectives GmbH

UNFCCC, CDM-Executive Board and its panels

- UNFCCC secretary Yvo de Boer has stepped down, but will serve until the end of June. He is rather skeptical about the status of climate negotiations and expects no treaty this year.
- Reflecting the requests of Non-Annex I countries to hold extra meetings in 2010, the UNFCCC secretariat scheduled an additional session of climate talks from 9 – 11 April in Bonn. The weekend meeting will re-start the negotiations on the road to Cancun, which will also include meetings outside the UNFCCC process such as the Petersberg Climate Dialogue on 2-4 May in Germany.
- At the Bonn meeting the Ad-hoc working groups will resume their work. According to a UN press release, negotiations had come close to decisions in Copenhagen. Those comprise a set of measures to make a long-term action to climate change operational. The texts of the draft decisions are available at: http://unfccc.int/documentation/...
- By the end of February 40 Annex I and 30 Non-Annex I countries had submitted targets and mitigation actions under the Copenhagen Accord. Some mitigation action plans are very detailed. A further 35 Non-Annex I countries had signed the accord but not provided lists of actions. 4 countries (Cuba, Ecuador, Kuwait and Nauru) have formally rejected the Accord.
- According to the World Resources Institute, the 2010-2012 climate finance pledges of Annex-I countries have so far only reached the $23 billion, short of the Copenhagen Accord promise. A majority of the funding is not "new and additional".

Number of the month

70 - Number of countries that submitted targets and mitigation actions to be included in Appendix I and II of the Copenhagen Accord.

Designated Operational Entities

Companies applying to become operational entity: 9

Accredited operational entities: 26
- of which 18 from host countries
- of which 8 from buyer countries
- of which 23 for verification
- 9 DOEs have withdrawn
- 0 DOE is suspended

Designated National Authorities

The DNA approval hitlist suffers from the general CDM downturn.

China: 2411 projects (+42). The new approvals include 19 hydro, 15 wind, 5 waste heat recovery, 3 biomass power, 1 district heating, 1 coal mine methane, 1 power plant rehabilitation and 1 fuel switch. Total annual CER volume is estimated at 4.6 million.
India: 1467 projects (+0)
Brazil: 229 projects (+2)
Indonesia: 104 projects (+0)
Vietnam: 111 projects (+0)
Thailand: 100 projects (+0)
Philippines: 64 projects (+0)
Colombia: 45 projects (+0)
Peru: 34 projects (+0)
Israel: 32 projects (+0)
Argentina: 30 projects (+2)

Notified DNAs: 148 (117 host countries, 31 buyer countries)

Other news

Points of Contact

German Environment Ministry (BMU) and German Emissions Trading Authority (DEHSt)

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Sample Projects

Brazil: Landfill Gas Project in Bandeirantes, São Paulo

Project Description

Project Details

Project Type	CDM Large Scale
Project Partners	
Germany	KfW
Brazil	Prefeitura Municipal de São Paulo, Biogás Energia Ambiental S.A.
Category	Landfill gas
Project Location	Brazil: São Paulo, São Paulo
Project Cycle	7 Years (December 2003 – December 2010); renewable
Expected Emission Reductions	1,070,649 t CO_{2e}/year
Project Status	Registered in February 2006

A large share of megacity São Paulo's daily 15,000 tonnes of waste is collected at the modern, large-scale (1.35 million m^2) landfill site in Bandeirantes. The Bandeirantes Landfill Gas to Energy project burns off (flares) the methane produced during decomposition of the organic waste. The project's two phases use both the methane from the two active segments of the landfill site and that from the three full segments which were filled in in 1995. For operational and safety reasons, the gas extraction facilities are equipped with numerous measuring instruments. The flaring activities produce 22 MW output of power. Although the electricity is fed into the South Brazilian grid, it is used exclusively to supply branches of Unibanco, the third-largest private bank in Brazil and the leasing partner for the 24 Biogeração electricity generators used in the project. Biogás Energia Ambiental S.A. took over project management following a municipal call for tenders and is supported by Germany's KfW Bank Group and the Netherlands's Fortis Bank N.V./S.A. The technology also comes from the Netherlands and meets the highest environmental and safety standards. Environmental education in schools on issues like waste separation and visits to the landfill site round off the project's sustainability approach. Bandeirantes is the first of 18 landfill gas projects of this type in Brazil and operates the world's largest biogas-fuelled power station.

Baseline and Emission Reductions

The baseline equates to the largely uncontrolled emission of landfill gases found in most landfill sites in Brazil. Prior to the project's implementation, safety reasons forced Bandeirantes to practice passive ventilation with flaring of around 20 percent of the landfill gases. There is no legislation to regulate such activities and additional emission reduction measures are economically unattractive. The baseline emissions constitute the methane emissions and the emissions associated with the landfill site's energy needs. The latter are determined by multiplying the energy produced during the project by the emissions factor for the regional electricity grid (0.2677 CO_{2e}/MWh). The baseline would result in around 8.9 million t CO_{2e} in the first crediting period.

To calculate the expected emission reductions, it was assumed that 80 percent of the methane would be included in the project. The total amount of methane produced was estimated based on the expected amount of organic waste. Methane flaring produces CO_2, which is 21 times less damaging to the climate. Together with the energy generated, which replaces electricity from the fossil-fuelled power plant and accounts for about five percent of the emissions achieved, this provides a dual climate benefit. The energy needs for the project activity are covered by the energy generated on site. The previously calculated emission reduction potential amounts to 1,070,649 t CO_{2e}/year or just under 7.5 million t CO_{2e} during the first crediting period. Half of the revenue from the sale of certificates (1 t CO_2 = 1 Certificate) goes to the debt-ridden city of São Paolo. The seven-year project cycle will be subject to two extensions, taking it up to 2024.

Monitoring

Photos: KfW

The baseline and monitoring activities are developed in line with the CDM's ACM0001 methodology for landfill gas projects. For the energy generated, an additional working instruction (ACM0002) is used. Monitoring of the measuring system takes in six key variables: methane flow from the landfill site to the combustion facility and on to the power plant, the methane levels in the landfill gases, efficiency during flaring and the amount of electricity fed into the grid. An online control system ensures accurate gas temperatures, pressure and quantities and sends automatic messages to the various operational units around the landfill site. No relocation of site emissions takes place. Netherlands-based ARCADIS Tetraplan S.A. draws up the monitoring reports using statistics produced by Biogás.

Project Implementation: Current Status

Despite having only been registered in February 2006, the project has been up and running since December 2003 and the first crediting period finishes in December 2010. Emission reductions achieved since the project commenced have been documented in nine reports covering different monitoring periods up to and including September 2008. ARCADIS estimates 726,764 CERs for 2007, of which almost 38,000 stem from energy generation. Calculations also fall short of the one million mark for 2008: fewer than 500,000 t CO_{2e} had been recorded at the end of the third quarter.

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India: Energy-Saving Lightbulbs in Visakhapatnam

Project Activity

In the district of Visakhapatnam in the eastern Indian state of Andhra Pradesh, around 700,000 private households are connected to the state electricity grid. Every household is given the opportunity to swap conventional 60 and 100 watt lightbulbs for long-life, energy-saving 15 and 20 watt lightbulbs (compact fluorescent lamps, CFLs). They can do so either free of charge or in return for a marginal fee. In a study conducted on 200 households randomly selected from the state electricity provider's project database, the potential exchange rate is estimated at approximately one lightbulb in 90% of reachable households. The density of CFL lightbulbs was low, at 6.8 percent. The self-help groups trained by OSRAM India distributed 630,000 CFL lightbulbs in a door-to-door campaign. These are mostly used in places that are secured against theft and with high daily lighting needs (e.g. living and dining rooms). The lightbulbs given in exchange are collected, destroyed under the supervision of an independent agency and then recycled in an environmentally compatible way. Should the pilot project prove a success, the project partners intend to initiate a series of follow-on projects in Asia and Africa.

Project Details

Reference No.	1754
Project Type	CDM Small Scale
Project Partners	
Germany	OSRAM GmbH, RWE Power AG
India	OSRAM India Pvt. Ltd.
Category	Energy efficiency
Project Location	India: Andhra Pradesh, Visakhapatnam district
Project Cycle	10 Years (May 2008 – May 2018); not renewable
Expected Emission Reductions	391,116 t CO_{2e} / years
Project Status	Not yet registered

Baseline and Emission Reductions

The baseline constitutes ongoing use of the conventional lightbulbs in households in Visakhapatnam. As yet, India has introduced neither state incentives nor legislation to promote distribution of energy-saving lightbulbs. Some 435 of the 698 lightbulbs counted in the preliminary study mentioned earlier are 'exchangeable'; of these 89% are 60 watt and 11% 100 watt. To assess their utilisation, electricity meters were installed and use of the lightbulbs was metered for a period of 90 days. Because the reference achieved with this method was only valid for the time of year the survey took place in, it was adjusted to take account of the average length of a day in order to reach an annual average. Another key reference is the emissions factor for the state electricity grid. Before the project began, it amounted to 0.85 kg CO_{2e}/kWH and this was the figure used when setting the baseline. The sample was then used as a base on which to calculate the overall emissions produced by all households in the district: these baseline emissions amount to 519,676 t CO_{2e} for the entire project cycle.

Photo: RWE/Osram

Energy-saving bulbs use up to 80% less electricity and thus reduce emissions from coal-fired power generation. Calculations to arrive at the project-related emissions were based on the average length of use and the ratio of lightbulb types from the preliminary study. The emissions factor was retained as is because the electricity came from the same power plant. The number and level of performance of the CFL lightbulbs used in the project have been documented in a project database. Taking account of a lifecycle curve for CFL lightbulbs and a one percent drop-out rate due to users' incorrect behaviour, overall project-related emissions are estimated at 128,510 t CO_{2e}. The difference between the baseline and project-related emissions results in total emission reductions of 383,342t CO_{2e} for the period May 2008 to May 2018.

Monitoring

Baseline calculations and monitoring activities follow the CDM's AMS-II.C methodology. Given its very general nature, this was adapted for use in the project.

The first of the one-year monitoring periods began with the distribution of the first lot of energy-saving lightbulbs. Since then, the effective electricity savings, both during the project cycle and daily, are registered by the electricity meters installed in 200 selected households and then documented in the project database. Apart from this 'spot check', in each monitoring period a cross-check team

monitors how the energy-saving lightbulbs are used in 200 alternating households. The number of defective lightbulbs is extrapolated for the total number of households so that actual emission reductions can be determined as accurately as possible. Monitoring activities also include counting the number of lightbulbs that are destroyed. If their number is smaller than that for the CFL lightbulbs distributed to the households, the figure is classed as leakage and subtracted from the estimated emission reductions.

Project Implementation: Current Status

The project was successfully validated and is now in the 'registered with corrections' stage. The distribution of CFL lightbulbs and the installation of meters began in October 2008.

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Germany: Joint Implementation Model Project NRW (JIM.NRW)

Project Activity

The Joint Implementation Model Project NRW (JIM.NRW) is managed by Energy-Agency.NRW on behalf of the Ministry of Economic Affairs and Energy of the State of North Rhine-Westphalia, Germany. JIM.NRW is a pilot project in a Joint Implementation Programme of Activity (JPoA) designed to foster climate change activities in the highly industrialised state of North Rhine-Westphalia and achieve emission reductions 'at home'. The idea is to either modernise outdated heating and steam boilers (<20 MW) installed in public institutions (e.g. clinics and hospitals) or to replace them with more efficient, low-emission equipment (with or without a fuel switch). The facilities in question must be located in NRW. Facilities already slated for replacement under the Federal Immissions Control Act (BImSchG) or for funding from schemes such as progress.NRW, EEG and KfW are excluded. The project will run from 2008 to 2012. Interested parties contact EnergyAgency.NRW, who use a catalogue of criteria (owners of such facilities, legal stipulations, subsidies, etc.) to conduct on-site assessments of potential facilities. If EnergyAgency.NRW gives the go ahead, cooperation is agreed in a legally binding contract. The ultimate aim is to show how emission reduction measures can be made more feasible by consolidating various energy efficiency activities 'under one roof'. The Ukraine and Russia are especially suited to future projects of this type.

Project Details

Reference No.	DE1000016
Project Type	Joint Implementation Programme of Activities (JPoA)
Project Partners	
Germany	EnergieAgentur.NRW
France	Rhônalpénergie-Environnement
Category	Fuel switch, energy efficiency
Project Location	North Rhine-Westphalia, Germany
Project Cycle	5 Years (January 2008 – December 2012)
Expected Emissions Reduction	250,000 t CO_{2e}
Project Status	Emission reductions can be credited from 1.1.2008 onwards

Baseline and Emissions Reduction

The baseline constitutes ongoing use of the existing boiler. To identify the baseline emissions, each project participant measures the amount of fuel used with their old boilers and then multiplies by the specific emissions factor to convert the result to an amount in CO_{2e}. The individual values are added together to arrive at baseline emissions of 1.115 million t CO_{2e} by the end of 2012.

The next step involves a comparison of the baseline with the emissions achieved with the new or modernised boiler. The project emissions for the refurbished or new boiler are calculated in the same way as the baseline emissions and amount to around 865,000 t CO_{2e} by the end of 2012. The difference between the baseline and the project-

related emissions constitutes the emission savings that can be registered with the German Emissions Trading Authority (DEHSt). The savings target for the period 2008 to 2012 is thus 250,000 t.

Photo: EnergieAgentur.NRW

Monitoring

Given that no baseline or monitoring methodology is available for Programmatic Joint Implementation, methodologies developed for the CDM have been used instead. This sees project participants join forces to make up sub-groups for what are known as JI programme activities, or JPAs. They each produce their own PDDs that meet the monitoring requirements. In practice, project participants inform EnergyAgency.NRW of the exact quantity of fuel consumed, which they calculate using fuel statistics and meters. The actual CO_2 emissions achieved can then be determined using specific emission factors. This also allows individual payments to be made from the revenue accrued in the sale of the certificates generated by the project.

Project Implementation: Current Status

The project was approved by the German Emissions Trading Authority (DEHSt) at the beginning of 2008. The revenue accrued from sale of the certificates will be paid out to project participants retrospectively for 2008. The certifying period is limited to the end of 2012, as prescribed by Germany's Project-Based Mechanisms Act (ProMechG).

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Abbreviations/Glossary

AAU	Assigned Amount Unit, emission allowance assigned to industrialised countries prior to the start of the commitment period based on their emission targets.
Additionality	The criterion of additionality of emission reductions is a prerequisite for the approval of CDM/JI projects.
Annex I State	Countries listed in Annex I of the UN Framework Convention on Climate Change. For the most part, these are the industrialised nations of the OECD and Eastern Europe. Non-Annex I states are thus the developing countries.
Annex B State	Countries listed in Annex B of the Kyoto Protocol who have adopted a greenhouse gas emissions target. The list of Annex B states is largely identical with the list of ➡ Annex I states.
AIJ	Activities Implemented Jointly, the pilot phase of the ➡ CDM and ➡ JI mechanisms.
Baseline	Estimated emissions in the reference scenario.
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)
CDM	Clean Development Mechanism.
CDM Executive Board (EB)	The CDM EB monitors implementation of CDM projects.
CER	Certified Emission Reduction, the type of emission reduction certificate generated by CDM projects.
CMP	Conference of the Parties serving as a Meeting of the Parties to the Protocol, the annual conference of the parties to the Kyoto Protocol.
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
COP	Conference of the Parties, the annual conference of the parties to the UNFCCC.
CPA	CDM programme activity (under a ➡ PoA)
DFP	Designated Focal Point, the competent national authority in the approval of JI projects.
DNA	Designated National Authority, the competent national authority in the approval of CDM projects.

DOE	Designated Operational Entity, an independent auditor accredited by the ➡ CDM Executive Board to assess eligibility and compliance of CDM projects with the prescribed criteria.
Domestic Offset Project	A climate change project conducted in an industrialised country without the involvement of a foreign project partner.
EB	➡ CDM Executive Board
ERU	Emission Reduction Unit, the type of emission reduction certificate generated by JI projects.
EU	European Union
EU Allowance	An emissions permit issued under the EU Emissions Trading Scheme (ETS).
EU Emissions Trading Directive	Directive establishing a scheme for greenhouse gas emissions allowance trading within the EU.
EU Linking Directive	Directive regulating the integration of the CDM and JI project-based mechanisms into the EU Emissions Trading Scheme.
IE	Independent Entity, an accredited entity which assesses eligibility and compliance of JI projects with the prescribed criteria.
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee, oversees the ➡ JI Track 2 process.
JIKO	Joint Implementation Coordination Unit at the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. The ministry's contact point for climate change projects conducted using the CDM and JI mechanisms.
Leakage	The increase in greenhouse gas emissions occurring outside project boundaries and which can be traced to the project activity. This leakage must be included in the calculation of the emission reductions achieved or of the amount of carbon stored.
Monitoring	Documentation of CDM/JI project implementation.
PDD	Project Design Document, the standardised project documentation which CDM/JI project developers must submit when requesting project approval.
PoA	Programme of Activities, a CDM project type in which a coordinator is able to combine multiple decentralised activities.
Project boundary	The project boundary is determined by the project developer and stated in the PDD. It must take in all emission sources that can be directly traced to the project activity.

ProMechG	Germany's Project-Based Mechanisms Act transposing the ➡ EU Linking Directive into national law.
RMU	Removal Unit, an emissions certificate issued under Article 3.3 and 3.4 for national sink activities in industrialised countries.
SBSTA	Subsidiary Body for Scientific and Technological Advice, a subsidiary body of the Climate Change Convention which reports to the Conference of the Parties (COP).
Supplementarity	The principle by which states should only cooperate with one another if their activities supplement national measures to reduce greenhouse gas emissions.
TEHG	Germany's Federal Emissions Trading Act (TEHG), which transposes the ➡ EU Emissions Trading Directive into national law.
Track 1	The simplified procedure for JI projects.
Track 2	International procedure for JI projects monitored by the JI Supervisory Committee (➡ JISC).
UNFCCC	United Nations Framework Convention on Climate Change.
WCD	World Commission on Dams, a multi-stakeholder dialogue commissioned by the World Bank to produce criteria for sustainable dam projects.

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