

CDM and JI Methodology

Status Report on Progress and Lessons Learned

May 2005 – June 2006

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Executive Summary

This report presents an update of the CDM Methodology Status Report 2005, which was prepared by ECON Analysis for the World Bank's Carbon Finance Unit. The present report tracks the changes in JI and CDM methodologies during the period May 2005 to June 2006 and their implications for project implementation. The report focuses on CDM methodologies, since the implementation of the regulatory framework for JI projects did not begin before the first Meeting of the Parties to the Kyoto Protocol (COP/MOP1) in December 2005.

The key objective of this report is to provide an assessment of the existing CDM methodology approval process to date, as well as early experience with project registration. Some of the key issues addressed are as follows:

- The extent to which methodologies approved so far cover key sectors with high CDM potential, and how broad their scope is within those sectors.
- Whether methodologies that are not initially approved are being revised and resubmitted, and how successful they are in that process.
- The length of time it takes to approve or reject a methodology.
- The success rate of World Bank Carbon Finance Business in producing "approved" methodologies.
- The steps being taken to improve the speed and quality of the methodology approval process.
- The rate at which projects submitted with approved methodologies are moving forward to validation and registration, and the time required for these steps.
- Key lessons from the first few requests for review of projects submitted for registration.

The report shows that, despite the fact that the implementation of the CDM is well on its way, significant work on methodological issues and CDM process still remains to be accomplished. The report arrives at the following key findings:

COP/MOP1 formally adopted the regulatory framework for JI and the CDM and provided guidance.

The first Meeting of the Parties (MOP) to the Kyoto Protocol took place in Montreal, Canada from November 28th until December 9, 2005, simultaneously with the 11th Conference of the Parties (COP) to the Climate Change Convention. COP/MOP1 formally adopted the Marrakech Accords, which includes the regulatory framework for JI and the CDM. MOP1 established the Article 6 Supervisory Committee for Joint Implementation (JISC) and called for improvements to the CDM. In particular, MOP1 requested the CDM Executive Board (EB) to undertake further work on additionality and baseline determination and the additionality tool. MOP1 decided that large scale CDM projects can be bundled and that activities under a program of activities can be registered as a single CDM project, but that policies and standards as such cannot be CDM projects. Further, MOP1 called for a report on the regional distribution of CDM projects and requested further work on new HCFC22 facilities and on carbon capture and storage projects.

Progress has been made in developing procedures for JI projects.

Since the Joint Implementation Supervisory Committee (JISC) only started its work at the beginning of 2006, it has not yet made any decisions regarding criteria for baseline-setting and monitoring. However, decisions regarding procedures and PDD formats have been made. Further decisions on methodological issues are expected this year following responses to a call for inputs on criteria for baseline setting. The World Bank CFU observes the work of the JISC and uses every opportunity to share its experience and provide inputs. The JISC have an ambitious work plan with the intention of enabling the first JI projects can be formally accepted by the end of 2006.

The number of approved CDM methodologies has increased steadily, but their sectoral coverage and applicability remains limited.

Since May 2005 twenty-four new methodologies have been approved. This brings the number of approved methodologies to a total of 31¹ (the approved methodologies now include three afforestation/ reforestation methodologies) and 19 (before 15) for small scale projects. In addition, 9 consolidated methodologies have been developed by the EB to date, seven of which have been adopted within the last year. Of the 111 large scale methodologies that were submitted last year in the rounds 9 to 15, thirty (30) have been rejected (“C” cases). Nine methodologies were rated as ‘B’ cases, while 72 are yet awaiting consideration by the EB.

The new additions have increased the sectoral coverage, since the first methodologies for afforestation and reforestation and the first methodology for Scope 8 (Mining/Mineral Production) have been approved. However, overall coverage continues to be weighted heavily towards the energy industry and methane capture from waste handling projects. There is still a lack of methodologies for energy efficiency and transport projects.

The scope of many methodologies is further limited as a result of applicability conditions that restrict their applicability to only a part of the relevant technology area or sub-sector. Additionally, although the EB has made some progress in approving more methodologies that they apply to both existing sites and new facilities, there are still insufficient methodologies to cover the significant expansion in infrastructure, end-use demand and non-renewable energy supply needed in developing countries.

The additionality tool is used widely in new methodologies, but there are unnecessary overlaps with baseline selection process.

The additionality tool has become standard practice in most of the newly approved methodologies. Few methods incorporate minor amendments to the tool, and in some consolidated methodologies the tool is mandatory. At its 23rd meeting, the EB further adopted an additionality tool specifically for afforestation and reforestation activities. However, there is considerable overlap between baseline selection and additionality assessment, and the EB made a call for public input to address this issue. A decision on how to revise the additionality and baseline selection tool to reduce unnecessary repetition in PDDs is expected at EB25.

¹ Note that NM00038-rev was approved but then integrated into AM00013 rather than adopted as an independent new methodology in addition to the existing AM00013. Similarly NM0080 and NM0153 were approved but then combined into a single methodology. This process is part of the consolidation process requested by the COP/MOP1.

Consolidation of methodologies is a key element in broadening the coverage of approved methods.

With the approval of seven consolidated methodologies over the last twelve months, the consolidation process has become and will remain an eminent item on the EB's agenda on methodologies. Efforts to both reduce the quantity and broaden the coverage of approved, is anticipated to reduce difficulties in identifying the most appropriate methodology for projects. Importantly, two of the new consolidated methodologies cover Scope 4 (Manufacturing). This expands the options for the industrial sector as both methods are widely applicable to fuel switch and cement projects.

Following the adoption of procedures for the revision of approved methodologies at EB19, twelve (12) of the approved methodologies and seven (7) of the approved consolidated methodologies have been revised. Most revisions were initiated by the EB, although there were a few cases where requests for clarification or deviation submitted by a DOE also resulted in a change to a methodology. The changes to approved new methodologies were for the most part relatively minor in nature, providing clarifications on the interpretation of the methods and seeking to ensure the conservativeness of emission reductions and compatibility with other standards. Consolidated methodologies were mainly revised to expand the applicability or scope of the methods and to ensure consistency between methodologies.

Recent action by the EB has improved the methodology approval process, but more efforts to reduce bottlenecks are needed.

At EB20 and EB21, the EB took a number of decisions with a view to improving the workflow and the quality of the methodologies submitted. Key aspects include the introduction of a pre-screening step of methodologies by Designated Operational Entities (DOEs) or the Methodology Panel, an extension of the time frame for technical clarifications by project participants as well as introduction of a channel for DOEs to submit queries regarding the application of methodologies. Furthermore, in order to streamline the approval process for new methodologies, the timeframe for resubmissions – which are now only permitted once – was limited to five months, and a submission fee for new methodologies was introduced.

While these innovations are in general welcome, they have not yet been able to make a visible impact on the bottlenecks in the approval process. This is illustrated by the relatively long time for considering a methodology and the large number of methodologies yet awaiting consideration. Further efforts may well be needed, in particular with a view to improving the feedback loop for project participants, to speed up the process of approving and consolidating methodologies, and strengthening confidence in expert reviews of methodologies.

Methodological guidance from the EB has proliferated over the last year, with an accelerating trend to over-conservativeness.

The growing number of methodologies assessed by the Methodology Panel and the EB and their application by project developers has highlighted uncertainty on a range of questions regarding the development of new and the application of approved methodologies. The EB has responded by issuing guidance on a number of issues, often with the objective to increase standardization of methodologies, to ensure conservativeness of emission reductions, or to clarify misunderstandings.

While some of the guidance provides helpful clarifications which will facilitate the application of methodologies, there are still areas that remain unclear. For example the lack of guidance from the EB regarding how to interpret the ruling on treatment of policies and regulations in the baseline scenario to avoid perverse incentives, or how to apply some of the rules from approved methodologies in new methodology submissions.

The EB has taken an increasingly conservative stance on methodological issues. Examples are the prescription of the first order decay model for methane avoidance projects or the very conservative rules on upstream leakage adopted in ACM0009. The current tendency to conservativeness is noticeable with regard to small-scale projects. The rules for small-scale bundles have been increasingly conservatively interpreted by the EB which has made the economic viability of small CDM projects more difficult. Furthermore, the recent EB ruling on non-renewable biomass has attracted public criticism. The assumptions made in the proposed small-scale methodologies for projects involving non-renewable biomass effectively discourage the implementation projects that facilitate a switch from firewood to renewables (solar, sustainable biomass, biogas) or that limit the use of firewood through energy-efficient stoves.

Much progress has been made in project registration.

As a result of Kyoto ratification in February 2005 and increasing experience with methodologies, there has been an increase in submission of project for registration. The number of projects registered has risen sharply over the past months, to a total of 200 as of June 1st 2006. As regards sectoral coverage, the lion share of projects is from the power and energy sectors, while others are poorly represented. New initiatives such as CDM activities under a program will hopefully encourage a wider variety of project activities covering more sectors.

Since EB19, some changes to the registration process have been adopted. The possibility for DOEs to request a clarification of approved methodologies and a deviation from an approved methodology for a particular project is a welcome step to streamline the registration process and to clarify how to apply existing methodologies.

Reviews of projects submitted for registration has initially served as a useful tool to assist the learning process of the CDM. It is a useful “double check” measure that ensures project emission reductions are conservatively calculated and consistent with the latest interpretations of the EB on methodological issues. The EB has to date reviewed a total of 12 projects. Reviews have been requested for an additional eleven projects. Most of the reviews were requested on the basis of at least one overriding issue, such as incorrect application of an approved methodology, justification of project additionality, letters of approval etc. Of some concern is the time needed by the EB for reviews, which exceeded the timeframe set by the CDM rules in some cases. The EB has established review teams, and as a result it can be expected that the number of reviews shall increase.

JI Methodologies and JISC Decisions

1.1 Status of JI Methodologies

To date no JI methodologies have been formally approved. This is because the Joint Implementation Supervisory Committee (JISC) was only officially established by the COP/MOP at its first session in 2005. The first JISC meeting was in February 2006 and has met three times.

Based on the COP/MOP1 decision and clarifications provided at the first JISC meetings, it is clear that the JISC only has a mandate for so-called 'Track 2' JI project activities in line with the *Guidelines for the Implementation of Article 6 of the Kyoto Protocol*. The Guidelines state that the JISC is responsible, *inter alia*, for "the review and revision of reporting guidelines and criteria for baselines and monitoring in Appendix B [of the *Guidelines for the Implementation of Article 6 of the Kyoto Protocol*]...". According to these same Guidelines, it is the accredited independent entity (AIE) that "shall determine whether, *inter alia*,"

- a) The project would result in a reduction of anthropogenic emissions by sources or an enhancement of anthropogenic removals by sinks that is additional to any that would otherwise occur;
- b) The project has an appropriate baseline and monitoring plan in accordance with the criteria set out in Appendix B".

The Marrakech Accords specify that the JISC is to "... (give) consideration to relevant work of the executive board of the CDM, as appropriate". The COP/MOP1 decision on JI, and discussions of the JISC at its first three meetings have confirmed that CDM methodologies can be used for JI projects or methodologies specific to JI projects can be defined.

Further decisions on methodological issues are expected this year, and it is expected that applicant Independent Entities can be accredited in 2006. This would enable the approval, publication and use of methodological approaches proposed and pursued under JI.

1.2 Summary of JISC Decisions

At its first meeting, the JISC adopted draft rules of procedure. The JISC agreed to apply them provisionally and to keep them under consideration at its subsequent meetings for possible recommendation for adoption by the COP/MOP at its second session

At its second meeting, the JISC developed the following documentation relevant for JI procedures:

- Draft guidelines for users of the joint implementation project design document (PDD).
- Draft procedures on public availability of documents under the verification procedure under the Joint Implementation Supervisory Committee.
- General guidelines for panels and working groups under the Joint Implementation Supervisory Committee.
- Terms of reference for the establishment of the joint implementation accreditation panel.

At its third meeting the JISC:

- Adopted the JI PDD format. A decision will be made at the next JISC meeting in September 2006 whether to develop an independent PDD format for LULUCF and Small Scale projects
- Established a JI accreditation panel
- Defined early movers as projects that have received a letter of approval before June 15th 2006. Early movers may submit JI projects using either an approved CDM format or the JI PDD

format. The Independent Entity will decide whether information from JI projects validated using a PDD format other than the CDM or JI formats shall be updated or not.

- Decided to review each determination report submitted by Independent Entities.
- The JISC clarified that the end of the crediting period can be after 2012 subject to the approval by the host Party. The status of emission reductions generated after the end of the first commitment period may be determined by any relevant agreement under the UNFCCC.

The decision on early movers and the formats is likely to result in many early mover JI project developers opting to wait for JI Track One procedures to be defined. Since the costs for re-formatting and in some cases update and re-validate projects could vary between US\$20,000 to US\$ 50,000 per project.

At the time of writing this report (June 2006) the JISC has made no decisions on JI methodologies. Criteria for baseline and monitoring methodologies are to be approved at the JISC 4 meeting in September.

2 CDM Methodologies

2.1 Overview of New Methodologies from May 2005 until June 2006

Since May 2005, twenty-four (24) new methodologies have been approved as “A” cases of which three (3) were for reforestation and afforestation projects, four (4) were for small scale projects and seven (7) were consolidated methodologies. In total there are now twenty-six (26) approved methodologies for large scale projects.

Table 2 a Methodologies Approved

APPROVED NEW METHODOLOGIES SINCE EB19		
AM0022	Avoided wastewater and on-site energy use emissions in the industrial sector	EB19 EB20 ver2
AM0023	Leak reduction from natural gas pipeline compressor or gate stations	EB20
AM0024	Waste heat recovery and utilization for power generation at cement plants	EB21
AM0025	Avoided emissions from organic waste through composting	EB21 EB22 ver2 EB23 ver3
AM0026	Zero-emissions grid-connected electricity generation from renewable sources in Chile or in countries with merit order based dispatch grid	EB22
AM0027	Substitution of CO2 from fossil or mineral origin by CO2 from renewable resources in production of inorganic compounds	EB22
AM0028	Catalytic N2O destruction in the tail gas of Nitric Acid Plants	EB23
AM0029	Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas (Incorporates two approved methodologies NM0153 & NM0080)	EB 24
AM0030	PFC emission reductions from anode effect mitigation at primary aluminium smelting facilities	EB 24
AM0013	NM0038-rev was approved and then incorporated into the existing AM0013 methodology.	EB 24 ver3
APPROVED NEW A/R METHODOLOGIES SINCE EB19		
AR-AM0001	Reforestation with multiple-use forest on degraded land with harvesting	EB22 EB24 ver2
AR-AM0002	Restoration of degraded lands through afforestation/reforestation	EB 24
AR-AM003	Afforestation and reforestation of degraded land through tree planting, assisted natural regeneration and control of animal grazing.	EB 24
APPROVED NEW CONSOLIDATED METHODOLOGIES SINCE EB19		
ACM0003	Emission reduction through partial substitution of fossil fuels with alternative fuels in cement manufacture	EB19 EB23 ver2 EB 24 ver3
ACM0004	Waste gas and/or heat for power generation	EB20 EB23 ver2
ACM0005	Increasing the blend in cement production	EB21 EB22 ver2
ACM0006	Grid-connected electricity from biomass residues	EB21 EB23 ver2
ACM0007	Conversion from single cycle to combined cycle power generation	EB22
ACM0008	Coal bed methane and coal mine methane capture and use for power (electrical or motive) and heat/or destruction by flaring	EB22
ACM0009	Industrial fuel switching from coal or petroleum fuels to natural gas	EB23 EB 24 Ver2

APPROVED NEW SMALL SCALE METHODOLOGIE SINCE EB19		
AMS.-III.F	Avoidance of methane production from biomass decay through composting	EB23
AMS-III.G	Landfill methane recovery	EB23
AMS-III.H	Methane recovery in wastewater treatment	EB23
AMS-III.I	Avoidance of methane production in wastewater treatment through replacement of anaerobic lagoons by aerobic system	EB23

Of the 111 large scale methodologies that were submitted last year in the rounds 9 to 15, thirty (30) have been rejected (“C” cases). Nine methodologies were rated as ‘B’ cases, while 72 are yet awaiting consideration by the EB.

The twenty-four methodologies approved last year are listed in the table above. The approval of seven (7) new consolidated methodologies since May 2005 illustrates the efforts by the EB to reduce the quantity and broaden the coverage of approved methods thereby reducing the work of project developers in identifying which methodology is most appropriate for their project. However, there is more work to be done to reduce conflicting principles and application of tools within the methodologies. This and other themes are highlighted in the discussion below.

2.2 Methodologies According to Sectoral Scopes

The following table shows the sectoral scope of the new methodologies. The recent additions continue to weight overall sectoral coverage towards the energy industry and methane capture from waste handling projects. Four of the six new methodologies for waste handling are for small scale projects concentrating on methane capture. Positively the new additions have increased coverage of scopes and include the first methodology for Forestry and Afforestation projects and the first methodology for Sectoral Scope 8 (Mining/Mineral Production) and Sectoral Scope 9 (metal production). Furthermore, two of the new consolidated methodologies are applicable to Sectoral Scope 4 (Manufacturing). This expands the options for this sector since the consolidated methodologies are widely applicable for fuel switch (ACM0009) and cement projects (ACM0005). Construction, Solvent Use, Energy Efficiency, Agriculture and Transportation project methodologies are clearly under represented at the moment.

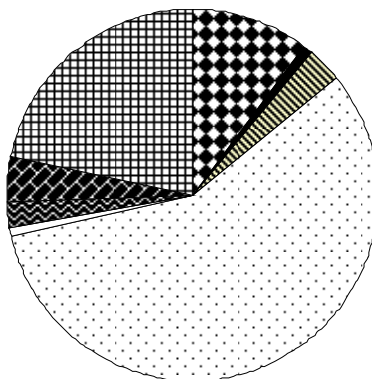
Sector Coverage of New Approved Methodologies Since EB19

	UNFCCC Sectoral Scope	Approved Methodologies	Approved Small Scale Methodologies	Approved Consolidated Methodologies
1	Energy Industries	3 (9)	(6)	3
2	Energy Distribution		(1)	
3	Energy Demand	(3)	(3)	
4	Manufacturing Industries	1 (4)	(1)	2 (3)
5	Chemical Industries	2 (3)		
6	Construction			
7	Transport		(1)	
8	Mining/Mineral Production			1
9	Metal Production	1		
10	Fugitive Emissions from Fuels	1 (3)	(1)	
11	Fugitive Emissions from HFCs & SF6	(1)		1
12	Solvent Use			
13	Waste Handling and Disposal	2 (10)	4 (6)	(1)
14	Afforestation and Reforestation	3		
15	Agriculture.	(1)	2 (3)	

Note: The sum of the columns is greater than the total number of approved methodologies, because some methodologies cover more than one sectoral scope

Registered projects by scope

(Source:UNFCCC website)



■	Agriculture
■	Chemical industries
▨	Energy demand
□	Energy industries (renewable - / non-renewable sources)
□	Fugitive emissions from fuels (solid, oil and gas)
▩	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
■	Manufacturing industries
▨	Waste handling and disposal

3 CDM Methodologies - Issues and Guidance

In the last year the EB has been active in developing guidance to clarify methodological application. The following section summarizes principles and elements within methodologies and assesses the implications of new guidance.

3.1 Common Methodology Principles and Elements

3.1.1 Scope of Applicability

While almost all methodologies have a global geographical scope, many of them have applicability conditions that restrict their coverage to only a part of the relevant technology area or sub-sector. This means that in order for a sector or technology area to be fully covered, more methodologies will be needed or revisions will need to be made to existing methodologies.

Some progress has been made in increasing the scope of methodologies so that they apply to both existing sites and new facilities. All four of the new small scale methodologies can be applied to both existing and new facilities (AMS-III.F, AMS-III.G, AMS-III.H and AMS-III.I). However only two of the new approved methodologies (AM00024, AM00025) and three of the seven new consolidated methodologies (ACM0004, ACM0005, ACM0006) cover both existing and new facilities. AM00026 is a special case in that it is applicable only to new renewable energy capacity additions. It is not however, applicable to existing capacity although it is restricted to countries that have a dispatch merit order based on marginal costs and where this information is publicly available. Of the five new approved and consolidated methodologies that are applicable to both existing and new facilities, three cover the energy sector, one manufacturing and one waste. In other words, existing methodologies are still insufficient methodologies to cover the significant expansion in infrastructure, end-use demand and non-renewable energy supply sector scopes.

Most of the new methodologies do not explicitly limit baseline production capacity. Only four directly limit capacity additions or expansion (AM00024 places limits on power production, AM00027 limits production expansion, and ACM0003 and ACM0009 are only applicable for installed capacity). As in previous years, new methodologies continue to introduce regulatory and technical applicability conditions that limit their use. For example, AM0027, ACM0003, and ACM0009 are only applicable where the baseline is business as usual (i.e. no future change in existing facility operation). AM0022 is only applicable to aerobic lagoons that are at least 1 metre deep and have a temperature of at least 15°C. Similarly, AM00025 limits the calculation of emission reductions from methane avoidance projects using the First Order Decay Model only.

Energy efficiency projects continue to face difficulty in the methodology approval process. Only two methodologies for supply side energy efficiency (ACM0004 and ACM0007, pertaining both to energy efficiency in the power generation sector) and one methodology for waste heat recovery and utilization for power generation at cement plants (AM00024) were approved. It is anticipated that the recent COP/MOP decision on the registration as a CDM project of activities under a program of activities will facilitate the development of more methodologies in the energy efficiency sector. A definition of a program of activities is expected to be discussed at the next EB meeting. However, at EB 24 the issue of additionality over time for energy efficiency projects was raised. In other words at some point in time it can be expected that energy efficiency measures will no longer be additional, since after a period of time the barriers to the particular measure are expected not to be as high. Project developers may therefore be expected to address this issue when submitting new energy efficiency methodologies to the board.

Finally the withdrawal of small scale methodologies for projects that reduce the consumption of non-renewable biomass and the proposal of new methodologies for such projects (I.E. - Switch from Non-

Renewable Biomass for Thermal Applications by the User; and II.G. - Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass) indicates an increasingly conservative regulatory approach. These methodologies place the following restrictions on the assessment of the baseline by imposing the following assumptions:

- Fossil fuels (kerosene; LPG; etc.) would be adopted as the baseline fuel in place of non-renewable biomass. This is inconsistent with reality. The methodologies target projects and technologies for thermal applications (e.g. cooking stoves) that burn non-renewable biomass. Most households that use biomass for thermal applications cannot afford to pay for fossil fuels. Therefore, the assumption that fossil fuels would be the baseline fuel is unrealistic.
- As the fossil fuel is less carbon intensive than that of biomass the emission reductions that can be claimed from these projects decline steeply, making the development of many small projects in this project class economically unviable, since the transaction costs associated with these projects are very high in relation to the return from the sale of emission reductions from the projects.
- The methodologies count the improvement in energy efficiency in the project relative to the baseline case against the emission reduction performance of the project. This is the first time emission factors are discounted for the difference in energy efficiency for small-scale CDM projects, and it is unclear why these rules are introduced for small scale project types.

The above assumptions discourage projects that facilitate a switch from firewood to renewable energy sources (solar, sustainable biomass, biogas) or that reduced the use of firewood through energy-efficiency measures (e.g. better cook stoves). Compared to a biomass baseline, the proposed methodologies decrease the claimable emission reductions by up to 70% of avoided CO₂ emissions. The proposed methodologies thus reduce the CDM benefits for least developed countries and poor communities.

3.1.2 Approaches

The significance of the approaches listed under paragraph 48 of the CDM Modalities and Procedures (CDM M&P) have diminished over time. Of those methodologies approved, only four (4) use approach 48(b): “Emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment”, whilst the remaining four (5) use approach 48 (a): “Existing actual or historical emissions, as applicable”. The approved methodologies for Afforestation and Reforestation projects uses approach 22(a): “Existing actual or historical emissions, as applicable”. ACM0003 uses approach 48(b): “Emissions from a technology that represents an economically attractive course of action taking into account barriers to investment”. The Project developer may choose from either 48 (a) or 48 (b) in two (2) of the consolidated methodologies (ACM0006, ACM0007). The consolidated methodologies ACM0004, ACM0006, ACM0008 and ACM0009 do not specify an approach. None of the approved methodologies use approach 48(c); “The average emissions of similar project activities undertaken in the previous five years, in similar social, economic, environmental and technological circumstances, and whose performance is among the top 20 per cent of their category”.

3.1.3 Additionality and Baseline Selection

In October 2004, the EB approved the “Tool for the demonstration and assessment of additionality” (EB16 Report, Annex 1), and EB23 approved the “Tool for the demonstration and assessment of additionality for afforestation and reforestation CDM activities”. Both tools provide an ex-ante basis for baseline methodologies to determine additionality. The tool is mandatory in some of the consolidated methodologies, whereas in other cases, project participants are free to choose a different approach. In practice, most methodologies continue to use the tool. Of the fifteen (15) recently approved methodologies for large scale projects only four (4) incorporated minor amendments to the tool. AM0026 allows project developers to use an optimisation model for the investment analysis, whilst AM0022 and ACM0008 note that additionality is already proven for the project as part of the baseline selection process

and thus barrier and investment analysis need only be applied when the baseline is not conclusive. ACM0005 only utilizes steps 2, 4 and 5 of the tool. To avoid unnecessary repetition in methodologies, it was agreed at EB21 that new methodologies need only refer to the additionality tool and do not need to “cut and paste” the wording in the tool into the PDD.

The COP/MOP1 called for an evaluation of the additionality tool, and the EB has responded by initiating a call for public inputs to address both the overlapping nature of baseline selection and the assessment tool for additionality, and to make suggestions on alternatives to the additionality tool. Currently the baseline selection tool as a separate procedure to the additionality tool (EB23), however, if the additionality tool is used in conjunction with the baseline selection tool, it appears unnecessary to include a scenario where the proposed project activity without CDM status is included as a scenario in the list of alternative scenarios generated in Step 1 of the baseline tool. Including the project in this list makes sense only if the baseline selection tool is accepted as also being a viable means for proving additionality. This is possible if the baseline scenario, as determined by the baseline tool, is different from the project activity (and the project scenario’s emissions are lower than the emissions in the baseline scenario). In such a case the project is additional per definition. A decision is expected to be made on this by the end of 2006.

3.1.4 Boundary and Leakage

In order to increase the conservativeness of methodologies submitted for approval and to avoid over-crediting of emission reductions, EB22 clarified that the magnitude of emissions from sources omitted in the calculation of project emissions and leakage effects (if positive) should be equal to or less than the magnitude of emissions from sources omitted in the calculation of baseline emissions (EB22 Annex 2, para.11).

3.1.5 Baseline Calculation Options

The EB has provided more guidance over the last year on ex post and ex ante calculations for baseline emissions, and the use of regression and life cycle analysis.

Ex Post versus Ex Ante Calculation of Baseline Emissions

A number of consolidated methodologies leave the choice between *ex post* or *ex ante* calculation of the baseline emission factor open to the project developers, whereas in others it is prescribed. For example, AM00023 and AM00028 require *ex post* calculations whilst *ex ante* calculations are required in AM00024, AM00025 and AM00026. The *ex post* method is often promoted as a more accurate way to allocate emission reductions.

The EB provided some further guidance on the issue of *ex ante* or *ex post* baseline options. In order to ensure conservativeness of project activities requesting retroactive credits, these shall be issued according to the most recent information available at the validation stage for the calculation of *ex ante* baseline emissions. When a methodology includes an option to use either *ex ante* or *ex post* calculation for of baseline emissions, the *ex post* option should be selected. If one option (*ex ante* or *ex post*) is explicitly established in the methodology or if the methodology stipulates that the lower value of *ex ante* and *ex post* must be used, the prescription of the methodology must be followed. (EB20 report, para. 24).

Regression Analysis

Additionally, as part of efforts to ensure that emission reduction calculations are conservative, the EB introduced the following safeguards at EB21 to be applied when regression analysis is used in a methodology to calculate baseline and/ or project emissions:

- The assumptions and requirements for regression models should be considered, e.g., tests for multicollinearity should be used.
- Technical background information should be provided to justify variable selection.
- All independent variables shall be tested to ensure they are significant.
- If time series data is used to fit the regression, autocorrelation shall be tested. If autocorrelation is found to be statistically significant, time series analysis should be used instead of regression analysis.

EB22 provided further clarification regarding the use of sample surveys, stating that a 95% confidence level should be used and, for a conservative assessment, the upper or lower bound of the confidence interval shall be used when calculating baseline and project emissions and estimating emission reductions.

Lifecycle Analysis

In order to improve transparency in methodologies, which is important for ensuring their accurate application and re-duplication, the EB22 requested that all equations, parameterizations and assumptions used in a Life Cycle Analysis (LCA) and/or LCA tools to calculate baseline and monitoring methodologies be presented in the PDD (EB22, Annex2, para.1). This is likely to make the application of LCA in PDDs less attractive due to the time and costs associated with preparing the relevant information.

3.1.6 Crediting Period

EB20 approved the recommendations made by the Meth Panel regarding the renewal of a crediting period for CDM projects² that have chosen this option. After each seven year period a DOE is required to check that the baseline is still the most likely scenario, based on the approved methodology used for the project, and whether project emissions are still below baseline emissions. In addition, if regulations have changed such that existing plants would be required to implement the practices or technology currently used by the project activity (potentially making it part of the baseline), then the validity of the baseline would be called into question. The verifying DOE would assess the impact and enforcement of the regulations to determine if the baseline and justification for additionality remains valid. In terms of updating the baseline, the original approved baseline methodology should be applied to any new data that is available to determine baseline emissions. This would include updating *ex ante* emissions factors that were used throughout the previous crediting period. Data used for updating baseline emissions should exclude the impact of other CDM project activities.

The reassessment of the baseline scenario seems to some extent inconsistent with the general EB decision on national policies and regulations, which allows policies and regulations that reduce greenhouse gas emissions if implemented since the adoption of CDM Modalities and Procedures on November 11, 2001 (see below) to be disregarded. Further clarification regarding this point may be needed.

EB 24 clarified that all project participants shall state in the project design document the start date of the crediting period with no qualifications, e.g. “expected”. Only one start date for the crediting period, even in cases of phased implementation, is permitted. The EB also ruled that if the start of the project is after the date of registration then project participants may:

- a) Inform the secretariat that the start date of the crediting period be moved to a date up to one year earlier than the one indicated in the PDD, provided that this date is not earlier than the date of registration of the project activity;
- b) Inform the secretariat to delay the start date of the crediting period by up to one-year;

² CDM projects can choose between a 7 year crediting period with the option of renewing twice for seven years, provided the baseline is reviewed, or a 10 year crediting period with a fixed baseline.

c) Make a request to the secretariat, via a DOE, that the start date of the crediting period be delayed by more than one year but no more than 2 years by submitting to the secretariat: In such cases a DOE must confirm that no changes have occurred which would result in a less conservative baseline and that substantive progress has been made by the project participants to start the project activity and the Host Party must confirm that the revision to the crediting period will not alter the project's contribution to sustainable development.

For projects that start before the date of registration no changes can be made to the start date of the crediting period. (i.e. project claiming retroactive credits is not permitted)

3.1.7 Project Emissions

In order to avoid over-crediting, it was decided at EB21 that in projects where negative emission reductions could occur, e.g. where a project underperforms or where technological problems result in unexpected underperformance, further CERs will only be issued when these “negative” emissions have been compensated by the project activity.

3.1.8 Policies and Regulations in Relation to Baseline Scenarios

EB16 and EB22 introduced a ruling on national and local policies that states that national and/or sectoral policies and regulations that favour less emission-intensive technologies (referred to as E-minus measures) need not be taken into account in developing a baseline scenario if they have been implemented since the adoption of the CDM Modalities and Procedures on November 11, 2001.³ In other words, the baseline scenario does not need to describe a situation where the policies that favour less emission intensive technologies are in place. The rationale for this decision is the recognition that policy maker may avoid the introduction of environmentally friendly regulations for fear of undermining the country's greenhouse gas baseline.

Despite this ruling, approved and newly proposed methodologies continue to contain requirements for re-assessing the baseline in the light of regulatory changes. For instance, AM0028 requires a reassessment of the baseline scenario, if there is a change of regulations that restricts emissions of N₂O from nitric acid production. Following the EB's general guidance in this matter, such restrictive requirement in a methodology appear unnecessary and potentially contradictory, but some project developers and the EB appear to include them in an attempt to strengthen the conservativeness of methodologies.

3.1.9 GHG Gas Coverage

The new approved methodologies continue the trend of covering CO₂ only from energy projects. Exceptions include the second methodology for reducing N₂O from nitric acid production (AM0028) and the consolidated methodology for coal bed methane and coal mine methane (ACM008). The consolidated methodology ACM0006 for grid-connected and *biomass residue* fired electricity generation projects contains the coverage of CH₄ as an option where it is relevant. However, N₂O and CH₄ from fossil fuel combustion are often insignificant. They become significant when these methodologies are applied to technologies with low combustion efficiencies (e.g., transport fuels as opposed to power generation).

3.1.10 Monitoring

The EB is working to improve the quality of monitoring measures within methodologies.

³ The ruling was altered at EB22 so that the definition only referred to so called E policies. At EB16 there were two additional definitions, referred to as “L” policies. The L policies referred to public sectoral mandatory regulations. See EB16, Annex 3 for the original and EB22, Annex 3 for the revised version.

At EB 24 it was decided that a zero check cannot be considered as a substitute for calibration of the measurement instrument. This decision was made based on the acceptance of the revision to AM0001 for HFC projects, in which it was decided that calibration should be undertaken every 6 months not every week by an independent entity. Zero checks shall be used every week to check calibration. This shall be applied to new methodologies. Existing approved methodologies applied can select the old approach (i.e. calibration every week) or apply the new approach (calibration every 6 months with zero check every week).

The Meth Panel is working on the development of information on monitoring to be included in CDM-PDD and CDM-NMM with respect to standards for measurement, information on calibration procedures and procedures to address situations when measuring instruments are non-functional. A proposal for guidance is expected to be presented for EB approval at the next meeting.

3.1.11 Increasing Standardization of Approaches

There has been a continuation in the trend to apply the combined margin approach that is defined in the consolidated methodology ACM0002 for displaced electricity. It appears that this approach is becoming widely recognized as the standard for calculating displaced electricity rather than other approaches defined in earlier methodologies (AM0004, AM0010, AM0013) where the weighted average emissions factor or only the operating margin were used. In the case of methane projects, following the EB19 decision, the First Order Decay model is widely used (see section 5.2) and is likely to become standard practice for this project type. However, there is some controversy about the decision made at EB19. This is discussed below.

In general, progress in standardizing parameters has been slow in comparison to the standardization of procedures (i.e. PDD formats, additionality tool etc.). This is perhaps to be expected given the “learning by doing approach” of the CDM and JI. Further work to advance standardization could include the following:

- Discount factors and emissions factors could be standardized for projects where fully developed surveys or control groups are required (e.g., transport and energy efficiency projects). This would greatly reduce costs associated with such projects. We are already seeing this in methodologies for landfills and in ACM0008 for discounting of emission reductions.
- Some parameters are sector specific and could be standardized under general approaches for standardization of parameters in specific sectors. General approaches could include standard nomenclature and equations defined for each sector. Generic numerical constants would ensure consistency across PDDs. This is also already occurring in some methodologies such as for flare efficiency in ACM0008 and for adipic acid in AM0021.

3.2 Methodological Issues and Guidance by Project Type

3.2.1 Bundling of Small Scale Projects

Further clarification, based on the work by the Small Scale CDM Working Group (SSC-WG) was provided at EB20 and EB21 on the bundling of small scale projects. A “bundle of projects” refers to several project activities that are brought together to form a single activity or a portfolio of activities without the loss of the distinctive characteristics of each individual project activity. Bundles of small scale project activities have to follow the following rules:

1. Project activities within a bundle of projects may use the same baseline where this is appropriate. Conditions under which this will be appropriate will be developed in order to clarify when the same baseline can be applied.
2. The three types of SSC activities are mutually exclusive. In other words it is not possible to include different categories within a bundle of projects in a single PDD.
3. SSC projects and bundles of SSC projects shall remain under the SSC limits every year, and project participants shall provide evidence in the PDD that the small scale bundle will not exceed these limits. If this limit is exceeded in any year of the crediting period, the emission reductions that can be claimed during this particular year will be capped by the maximum emission reduction estimated by the project participants and reported in the PDD for that year. Project activities using a renewable crediting period shall reassess their compliance with the limits at the renewal of the crediting period.
4. Project activities in a bundle (including sub-bundles) shall not change over time. In other words it is not possible to add activities to a bundle (or sub-bundle) over time. All activities must have the same duration and starting date of the crediting period and be submitted in a single PDD (EB23, Annex 27). This is a particularly restrictive ruling that prevents project developers submitting a sequence of SSC projects over time.
5. Sub-bundling within a bundle is allowed. Sub-bundles contain activities that can be arranged in one or more sub-bundles, with each project activities retaining its distinctive characteristics. Such characteristics include: technology/measure or location or application of the same simplified methodology.

3.2.2 Non-renewable Biomass in Small-Scale Projects

The original simplified methodologies for small scale projects contained methodology for projects involving emission from the use of non-renewable biomass. These methodologies were withdrawn by the EB in consideration of issues associated with the protection of carbon pools and with the intention of preparing replacement methodologies, which was also requested by COP/MOP1 in their December 2005 decision on the CDM. In response, the SSC-WG proposed two new methodologies for small-scale CDM projects that displace non-renewable biomass (*I.E: Switch from Non-Renewable Biomass for Thermal Applications by the User; II.G: Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass*). The proposed methodologies, which are discussed in Section 3.1.1 above, indicate a conservative policy trend which is likely to be detrimental to small scale biomass projects. EB23 took note of the SSC-WG proposal and referred it back to the working group for consideration of leakage issues. EB24 is expected to finally resolve the matter.

The EB considers leakage in small scale projects using non renewable biomass to be problematic, because of the following uncertainties:

1. *How to protect non-renewable biomass that will not be used due to the project from any use by project participants or others during the crediting period or at a later time*
2. *How to prevent that the same non-renewable biomass is used to justify other CDM projects in addition to the one project for which it is the baseline?*
3. *How to safeguard against the incentive to start using non-renewable biomass (deforestation) in order to “create” a baseline for a small scale non-renewable biomass project?*

3.2.3 Category III Small Scale Projects

At its 24th meeting the EB noted that type III project activities may be able to achieve significant emission reductions, without exceeding the direct emissions limits of 15 kilo tonnes CO₂ea, for example; composting projects. As a result the EB requested that the small scale working group develop new type III categories including procedures for more precise estimations of emission reductions and more detailed monitoring. As an interim solution to the problem that large scale projects could utilise the category III methodology, the Board established a cap on projects that fall into this category of 25,000 tonnes CO₂eq.

If a project activity exceeds the cap then the additional emission reductions above 25,000 tonnes shall be ignored.

The cap was established by taking the average emissions of project activities registered under Category I. The cap is considered an interim measure and the small scale working group have been asked to develop additional categories under category III where the cap need not apply.

3.2.4 Afforestation and Reforestation Project Activities

The Afforestation and Reforestation Working Group (AR-WG) definitions for biomass and biomass residues were accepted at EB20.

- Biomass is “*non-fossilized and biodegradable organic material originating from plants, animals and micro-organisms. This shall also include products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes. Biomass also includes gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material.*”
- Biomass residues include “*biomass by-products, residues and waste streams from agriculture, forestry and related industries.*”

The AR-WG will, in addition to the Meth Panel, also review CDM methodologies which could have an impact on carbon pools. This could delay the approval process for some methodologies, notably carbon capture and storage projects, if they are defined as being sequestration projects.

EB21 adopted the Afforestation and Reforestation additionality tool. The baseline scenario selection and additionality assessment should be kept separate as in the existing CDM process. All projects should incorporate methods for calculating *ex ante* estimates of the GHG removals.

EB22 confirmed that the increase of pre-project GHG emissions (but not the decrease) as a consequence of the implementation of the project activity has to be taken into account in the calculation of net anthropogenic GHG removals by sinks. Leakage was defined as follows:

“In the case of deforestation as land clearance outside the project boundary due to activity shifting, effects on all carbon pools shall be considered; in the case of fuelwood collection or similar activities outside the project boundary, only the gathered volume of wood that is non-renewable shall be considered as an emission by sources if forests are not significantly degraded due to this activity (extracted volume results in emissions which are between 2% and 5 % of net actual GHG removals by sinks).”

EB20 had already decided that projects that do not claim long-term or temporary CERs (from afforestation or deforestation activities) but lead to a decrease in carbon pools shall take such decrease into account in the calculation of emission reductions, whereas any increase in carbon pools due to non-A/R projects shall not count towards emission reductions claimable by such projects

EB23 defined “renewable” biomass. Biomass is “*renewable*” if one of the following conditions applies:

- i) The biomass is originating from land areas that are forests⁴;
- ii) The biomass is woody biomass and originates from croplands and/or grasslands;
- iii) The biomass is non-woody biomass and originates from croplands and/or grasslands,

⁴ The forest definitions as established by the country in accordance with the decisions 11/CP.7 and 19/CP.9 should apply.

- iv) The biomass is a biomass residue⁵ and the use of that biomass residue in the project activity does not involve a decrease of carbon pools, in particular dead wood, litter or soil organic carbon, on the land areas where the biomass residues are originating from,
- v) The biomass is the non-fossil fraction of an industrial or municipal waste.

Otherwise, where none of these conditions applies, the biomass is considered as “*non-renewable*”. As a result of this definition, dead wood is considered a form of non-renewable biomass. It is not clear how this new definition will affect the existing methodology ACM0006 Ver.2 (Consolidated Methodology for grid-connected electricity generation from biomass residues), which defines biomass residues as “*a byproduct, residue or waste steam from agriculture, forestry and related industries*”.

EB23 also confirmed that methodologies should not give rise to perverse incentives and that therefore national and/or sectoral land-use policies or regulations, which give comparative advantages to A/R activities and which have been implemented since the adoption of the CDM M&P at COP7 need not be taken into account in developing a baseline scenario.

EB 24 provide further clarifications that included:

- Clarification on how to address the presence of afforestation/reforestation as a plausible baseline scenario, although at a slower rate than in the project scenario, in certain proposed new methodologies.
- Confirmation that losses of carbon in carbon pools due to the construction of access roads, within the project boundary, are negligible compared to net anthropogenic GHG removals by sinks over the crediting period.

3.2.5 Retrofit Projects

EB22 clarified that retrofit methodologies should outline an approach to assess whether the existing equipment would, in the absence of the CDM, be replaced and, if this is the case, to reflect in the calculation of baseline emissions the replacement, retrofit or modification of the equipment. This is to be done by first identifying when equipment would be replaced without the project and then calculating the emission reductions for retrofits only from the installation until the time the original technology would have been replaced or the end of the crediting period, whatever is earlier. In order to estimate the point in time when the existing equipment would need to be replaced in the absence of the CDM, three approaches are possible: (a) sector and/or activity specific method or criteria, (b) documenting typical average technical lifetime of the type of equipment, e.g. based on industry surveys, statistics, technical literature, etc., and (c) practices of project participant regarding replacement schedules may be evaluated and documented, e.g. based on historical replacement records for similar equipment.

For project activities that involve several replacements or retrofits, project participants may consider, inter alia, the following generic approaches: (a) determination of the technical lifetime on a case-by-case basis, for each equipment or equipment type that is being replaced; (b) assuming a conservative default technical lifetime for all equipment involved; or (c) for projects involving a large number of individual equipment installations, methodologies may use a baseline that reflects the expected improvements in emission characteristics (for the equipment type within the sector or industry in question) as a result of replacements or retrofits of equipment in the absence of the project activity.

⁵ Biomass residue is defined as biomass by-products, residues and waste streams from agriculture, forestry, and related industries. (EB22, Annex 8).

3.2.6 Methane Avoidance Projects

EB23 accepted the Meth Panel recommendations (19th meeting) that all methane avoidance projects (i.e. where alternative technology to landfill such as digesters are used) should base the calculation of emission reductions on the First Order Decay Model and not use the IPCC tier 1 approach. The IPCC tier 1 approach assumes that all potential methane emissions from the waste are emitted in the year it was placed in the landfill. The Meth Panel suggests that this is an inappropriate approach which was developed for greenhouse inventories and which may not be appropriate for CDM projects since the method results in the crediting of avoided baseline emissions beyond the crediting period of the project. This is considered to be problematic since it is not possible to verify emission reductions beyond the crediting period. The first order decay model simulates the anaerobic degradation process of the waste in the landfill over time. It is deemed more accurate since, in most cases, methane is emitted during and after the crediting period due to the presence of slow degrading waste. The requirement to use the First Order Decay model increases the complexity of calculating emission reductions. Composting and recycling projects are often small, and therefore this decision negatively impacts their viability as CDM projects.

3.2.7 Activities under a Program of Activities

COP/MOP1 decision on the CDM (FCCC/KP/CMP/2005.L7, para 20) states that: "... a local/ regional/ national policy or standard cannot be considered as a clean development mechanism project activity", but that "...project activities under a programme of activities can be registered as a single clean development mechanism project activity..." provided that CDM methodological requirements are met.

Accordingly, policies and standards are not eligible as CDM project activities. Policies could be defined as governmental courses of action taken with the purpose of guiding or determining decisions and trends. Policies may be binding or non-binding (e.g. policy to increase share of renewable energy). Standards are government regulations to standardize some features of a product or of an activity. While policies and standards can lead to GHG reductions, the above decision renders them not eligible for the CDM possibly due to (i) the difficulty in attributing an observed GHG reduction to a particular policy or standard; and (ii) the difficulty in verifying the corresponding GHG impact (e.g. a tax on fossil fuels would likely not be eligible as a CDM project activity). Accordingly, EB23 also confirmed that the transfer of know-how and training cannot be considered a CDM project activity since these are not activities that directly results in emission reductions. In other words it is not certain that people will become involved in emission reducing activities following training.

However, the above COP/MOP1 decision made activities under a program of activities eligible as a single CDM project activity. While COP/MOP1 has not defined CDM activities under a program, it is plausible to define CDM programs in relation to emission reductions that are achieved by multiple verifiable activities executed over time as a result of a government measure or private sector initiative. An example of CDM activities under a program could be a soft loan program for renewable energy. A development bank, the public utility or an NGO could choose to set up a soft loan program accessible to those who purchase and install solar water heaters. A second example could be a private company that uses CDM revenues to finance a price discount on the energy efficient equipment it sells, or an energy service company (ESCO) that finances the purchase of energy efficient equipment to be paid back with the energy savings. A third example could involve energy efficiency labelling of appliances. Clarification regarding a formal definition of CDM activities under a program by the EB can be expected once such projects have been submitted and the Meth panel has submitted a draft definition for consideration by the Board.

A definition of CDM programmatic activities is expected to be approved by the EB in 2006.

3.2.8 Large Scale Bundles of Projects

COP/MOP1 confirmed that it is possible to bundle several large scale activities at multiple sites into one project that requires one PDD by stating that "... large scale project activities under the clean development mechanism can be bundled" subject to EB guidance. It is anticipated that the EB will only provide such guidance when a project or methodology proposing a large scale bundle is submitted to the EB.

At the present time, there is still a lot of uncertainty regarding the specific characteristics of CDM programs of activities and large scale CDM bundles and the relationship between the two. Clarification on this issue will hopefully be incorporated into the definition to be prepared by the Meth Panel.

3.2.9 Power Projects

EB22 accepted the recommendations of the Meth Panel that weights for operating and build margins in projects generating electricity for a grid can vary with the relevant circumstances of the grid. However, neither the weight for the operating nor for the build margin shall exceed 75% during the first crediting period.

3.2.10 Hydro Electricity Projects

In order to account for greenhouse gas emissions from hydropower reservoirs, EB23 established emission thresholds, which are defined in terms of power density (measured as installed power generation capacity divided by the flooded surface area measured, Watt/m²):

- (a) Hydroelectric power plants with power densities less than or equal to 4 W/m² cannot use the current methodologies;
- (b) Hydroelectric power plants with power densities greater than 4 W/m² but less than or equal to 10 W/m² can use the currently approved methodologies, using an emission factor of 90 gCO₂eq/kWh for project reservoir emissions; and
- (c) Hydroelectric power plants with power densities greater than 10 W/m² can use current approved methodologies, and the project emissions from the reservoir may be neglected.

3.2.11 Carbon Capture and Storage Projects

At present the issue of carbon capture and storage (CCS) under the CDM is uncertain. CCS projects capture GHG emissions and store them underground. COP/MOP1 called for public inputs on how to treat these projects due to the methodological questions this type of project raises, which are: (a) whether to deal with these projects as emission reduction or carbon sequestration projects; and (b) how to deal with monitoring and issues of permanence.

EB23 requested the Meth Panel to consider the two submitted CCS methodologies according to the procedure for the consideration of new methodologies, making use of technical clarifications from project participants, as appropriate. The Meth Panel is "to provide to the Board a qualitative assessment that the Board shall use to prepare its recommendation on methodological issues related to CCS as CDM project activities, in particular on boundary, permanence and leakage, as requested by COP/MOP1". The SSC-WG was also invited to consider the CCS submissions and assess the relevance of the findings for small scale projects.

3.3 Consolidation of Methodologies

The increased number of consolidated methodologies that have been approved reflects efforts to standardise approaches and make methodologies more coherent with wide project coverage. As more methodologies are submitted it is anticipated that further consolidation will occur. This has been illustrated by the invitation to project developers to contribute directly to amending or revising a consolidated methodology, such as in the case of ACM0006, which states:

“Where a combination of project activities and baseline scenarios is not covered by this methodology, project participants are encouraged to submit proposals for revision or further amendment of this consolidated methodology”.

However, although the process of consolidation can ensure consistency between standards it can also increase project risk. For example as part of the consolidation process, previously approved methodologies are sometime withdrawn. For example AM0008 was withdrawn following EB24s revisions to the consolidated ACM0009 which made it applicable to projects that used natural gas sourced from LNG. Therefore the reason for making AM0008 available was considered no more applicable. Additionally, the EB has also put methodologies on “hold” in order to consider the appropriateness of consolidation. For example after EB24 the methodologies AM0006 and AM0016 were put on hold, due to identified errors (i.e. they did not include the monitoring of flaring) that were brought to the attention of the board by the Meth Panel proposal to consolidate the two methodologies.

It also appears that more emphasis will be given to public inputs as part of the consolidation process. As a result a call for public inputs was made regarding the consolidation of AM0006 and AM0016. This is a positive trend and reflects the call for more public input made at the COP/MOP1.

Further clarity regarding the process for consolidation is expected at EB25, following the EBs request that the Meth panel should clarify the differences and overlaps between consolidation, revision and withdrawal of previously approved methodologies.

4 The Methodology Approval Process

4.1 Recent Changes to the Methodology Approval Process

Since EB19, the EB has improved both the quality of methodology submissions and the related workflow. Key new decisions include:

- Allowing **DOEs to complete a pre-screening** step to speed up procedure for approval and reduce the workload for Meth Panel members. (Decision at EB20/21).
- **A submission fee of USD 1,000** (level subject to review in autumn 2006) when submitting a proposed new methodology for regular project activities (except SSC and A/R). It is hoped that this will increase the quality of submissions. If a methodology is approved and the project activity for which it was developed is registered, the registration fee shall be lowered by that amount. (Decision at EB20/21)
- **Timeframe for Technical Clarifications by Project Participants Extended.** The time frame was extended from ten (10) working days to four (4) weeks to allow for an improvement in the quality of information provided. (Decision at EB23)
- **The EB can retain methodologies once submitted** even if the original proponents have withdrawn. The Board may continue drawing on “B cases”. This allows the EB and Meth Panel to draw on ideas and concepts that will assist in reviewing new methodologies and developing consolidated methodologies. (Decision at EB19)
- **DOEs can submit queries regarding how to apply new methodologies.** DOEs can submit a new form “F-CDM-AM-Subm” to request clarification from the Meth Panel until six (6) weeks prior to a Meth panel meeting. One member of the Meth panel shall be responsible for responding to these queries and the information shall be made publicly available. (Decision at EB20)

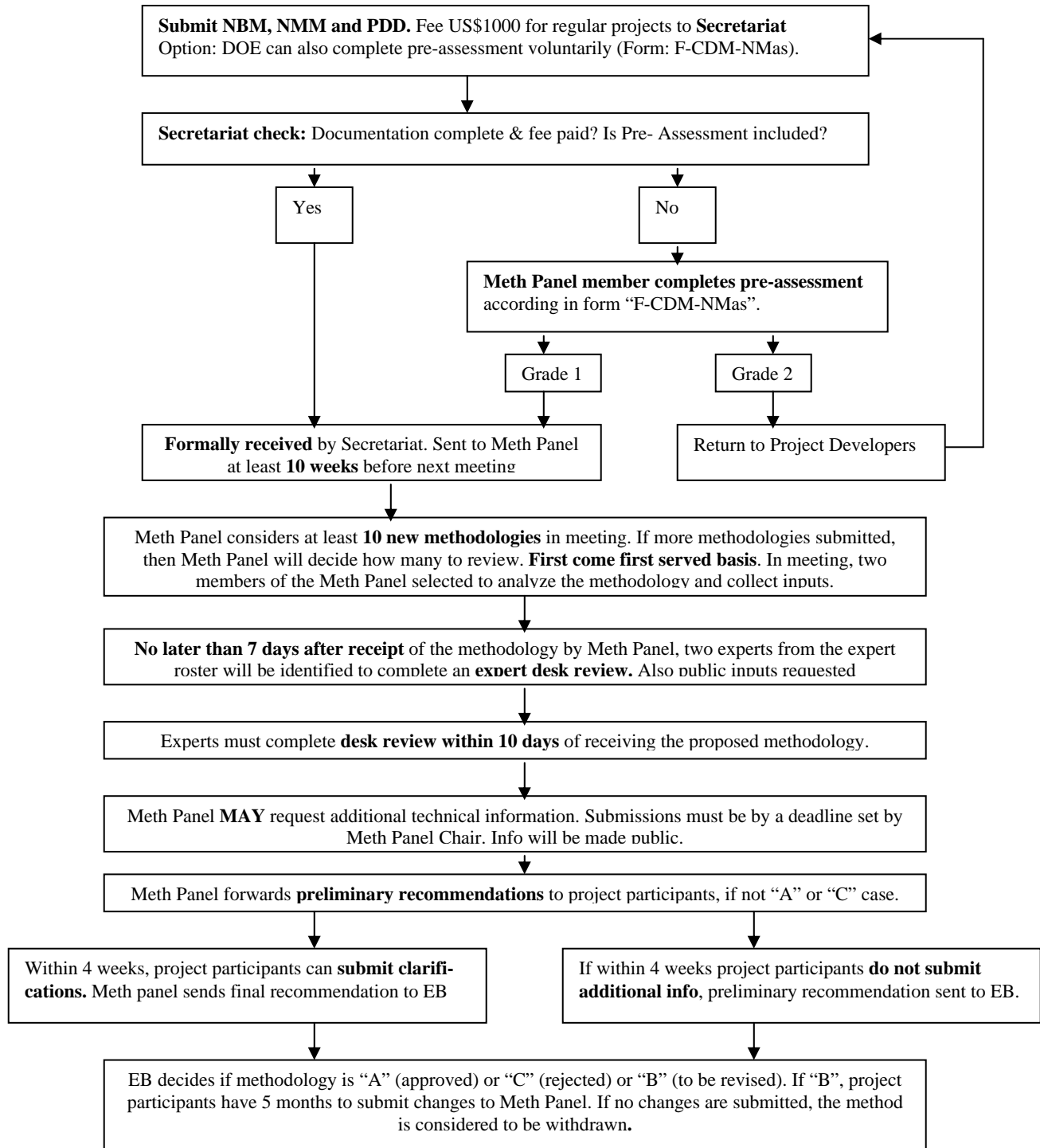
The decisions made last year have also had a positive impact on the workflow. Innovations include:

- **The time frame for resubmission** of a proposed methodology is limited to a maximum of five months after “B” rating. If no changes are submitted the methodology is considered withdrawn. This reduces the length of time that a methodology is under consideration. (Decision at EB20/21)
- “B case” methodologies may only be **resubmitted once**. (Decision at EB20/21)
- **New tasks for the CDM Secretariat:** Preparation of detailed technical summaries of Meth Panel up meetings including comments on the recommendations by the Meth Panel members; revision and editing of forms for submission of proposed new methodologies for consideration of the Board, the Meth Panel and the afforestation and reforestation working group (A/R WG); further development of an online database which contains specific information regarding methodologies (e.g., applicability). (Decision at EB20/21)
- **CDM forms were improved.** The format for new submissions (CDM-NMB) was changed to more closely reflect the format for reformatted methodologies to enable more consolidated methodologies to be developed more efficiently. For instance, the form used by the Meth Panel to recommend methodological decisions to the EB (F-CDM-NMSUMmp) was reduced to one page. (Decision at EB20)
- **New Technical guidelines issued.** The technical guidelines for the development of new baseline and monitoring methodologies, combines all guidance provided by the Board on methodological issues in one single document with the aim of facilitating the development of new methodologies. These guidelines will replace the section in the current guidelines for completing the CDM-NMB

and CDM-NMM contained within the guidelines for completing CDM-PDD, CDM-NMB and CDM-NMM version 4. The revised guidelines came into force on 19 May 2006.

With these modifications, the procedures for submitting a new methodology now looks as depicted in the following diagram:

Diagram 4a – New Methodology Approval Procedure



The current procedures for new methodologies are time consuming and work intensive. Additionally, against the background of an ever growing number of submissions the Meth Panel and EB are facing increasing time constraints, which lead to more and more work flow bottlenecks. Due to this problem, the EB has in some instances recommended a “B” rating for a methodology, which allows the methodology to be revised and submitted for review, without having to go through the entire public comment and desk review process a second time. Further improvements to the approval procedures for new methodologies include:

- Feedback Loop: Originally intended to allow project participants to provide clarifications without making changes to the methodology. The process could be improved if the Meth Panel provided more information on their reasons for requesting specific changes requested in addition to identifying what should be revised.
- Speeding up the process for consolidations. For example, NM0048-rev and NM0040, which both address the use of alternative fuels in clinker production, were approved at EB18 subject to consolidation, but took an additional three months before the consolidated methodology was published.
- Expert Review: In the past, the more critical reviewer’s opinion often appeared to take precedence. Given that there is now a lead and secondary reviewer, it is presumed that the lead reviewer is selected as a result of his or her experience relevant to particular methodologies. Transparency on how experts are selected and evidence that the more critical review is not always given precedence although it would increase confidence in the expert review procedure.

4.2 Key Reasons for the Non-Approval of New Methodologies

34 methodologies were **not** approved since and including EB18. The reasons were varied, but the main causes for rejection include: poorly written PDDs with errors and inconsistency; insufficient rationale for baseline scenarios; insufficient explanation of additionality; lack of or inaccurate justification for assumptions; a non-conservative calculation of emission reductions; and poor assessment of leakage. The following table summarizes key reasons for methodology rejection.

Table 4a – Reasons for Rejection of Proposed New Methodologies

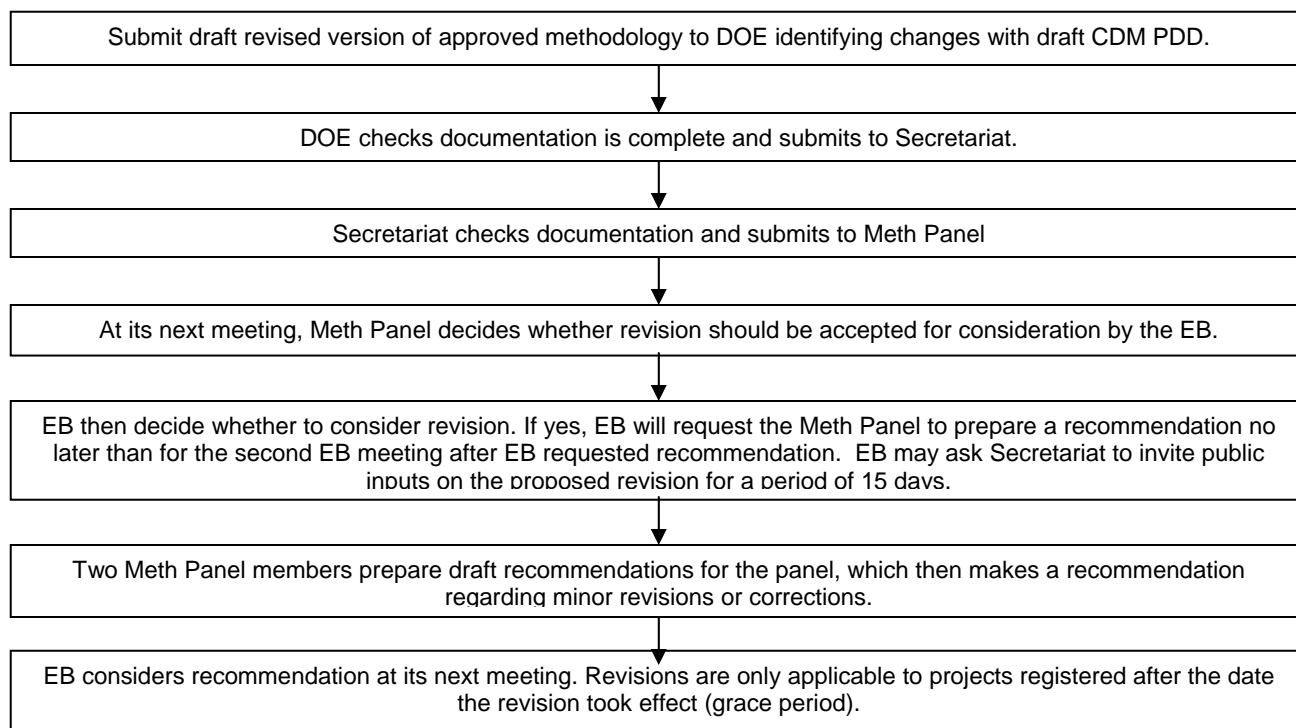
Reasons for rejection of methodology	Number of methodologies with this reason for rejection
Similar methodology exists	2
Not a stand alone methodology	7
Lack of clarity, logic and consistency in PDD	27
Applicability conditions - not clear or consistent	6
Scope of methodology too broad	2
Methodology is not conservative	20
Insufficient explanation of or rationale for baseline scenarios	33
Insufficient explanation of project additionality	20
Baseline emission calculations are inaccurate or information not sufficiently supported by evidence and/or not referenced sufficiently	19
Major risks to the baseline not identified / described	6
Contradictory assumptions or insufficient justification for assumptions	15

Poor assessment of uncertainties	9
The project boundaries not defined clearly	4
Leakage not properly addressed	12
Deviations from monitoring methodology not justified sufficiently	5
Monitoring - inadequate assumptions and or missing data	1
Incorrect use of small scale approach	2

4.3 Methodology Revisions and Guidance

EB19 approved procedures for revision of an approved baseline methodology. The EB explicitly distinguished between minor changes to approved methodologies, which will be handled by publishing “versions”, and major changes or “revisions”. While the EB can at any time propose a revision, the procedures clarify how project participants can request a revision. Experience has shown that the revision process depicted in the diagram below can, in practice, be longer than the procedure for submitting a new methodology.

Diagram 4b – Methodology Revision Process



4.4 Summary of Revisions to Approved Methodologies

Since EB19, twelve (12) of the approved methodologies and seven (7) of the approved consolidated methodologies have been revised. These revisions are illustrated in the table below. The rest of this section summarizes the changes to the methodologies as a result of the revisions.

Table 4b – Revisions to Methodologies since EB19

REVISIONS TO METHODOLOGIES		
AM0001	Incineration of HFC23 waste streams	EB19 ver3 EB24 ver4
AM0009	Recovery and utilization of gas from oil wells that would otherwise be flared	EB19 ver2
AM0013	Forced methane extraction from organic waste-water treatment plants for grid-connected electricity supply	EB19 ver2
AM0022	Avoided wastewater and on-site energy use emissions in the industrial sector	EB19 ver1 EB20 ver2
AM0003	Simplified financial analysis for landfill gas capture projects	EB20 ver2 EB21 ver3
AM0017	Steam system efficiency improvements by replacing steam traps and returning condensate	EB20 ver2
AM0011	Landfill gas recovery with electricity generation and no capture or destruction of methane in the baseline scenario	EB21 ver2
AM0002	Landfill gas capture & flaring with public concession contract (ex-post baseline correction)	EB22 ver2
AM0025	Avoided emissions from organic waste through composting	EB22 ver2
AM0016	Change of animal waste management systems	EB23 ver3
AM0019	Renewable energy projects replacing part of the electricity production of one single fossil fuel fired power plant that stands alone or supplies to a grid, excluding biomass projects.	EB24 ver2
AM0026	Methodology for zero-emissions grid-connected electricity generation from renewable sources in Chile or in countries with merit order based dispatch grid	EB24 ver2
AR-AM0001	Reforestation of degraded land.	EB24ver2
REVISION OF CONSOLIDATED METHODOLOGIES		
ACM0001	Landfill gas project activities	EB21 ver2 EB 24 ver3
ACM0002	Grid-connected electricity generation for renewable sources (no biomass, no reservoir extension)	EB21 ver3 EB22 ver4 EB23 ver5 EB24 ver6
ACM0003	Emission reduction through partial substitution of fossil fuels with alternative fuels in cement manufacture	EB19 EB23 ver2
ACM0004	Waste gas and/or heat for power generation	EB20 EB23 ver2
ACM0005	Increasing the blend in cement production	EB21 EB22 ver2 EB24 ver3
ACM0006	Grid-connected electricity from biomass residues	EB21 EB23 ver2 EB24ver 3
ACM009	Consolidated baseline methodology for industrial fuel switching from coal or petroleum fuel to natural gas	EB24 ver2

4.4.1 Revisions to Approved Methodologies

AM0001 - Incineration of HFC23 waste streams (EB24 ver4): AM0001 was approved in 2003, applied by two projects in 2004, and placed on hold in September 2004 due to concerns over its applicability, and a review of the methodology was held. Despite the hold placed on the methodology, EB18 (February 2005) agreed to register both projects with revised PDDs. EB19 revised the applicability conditions of the methodology to limit its use to existing HCFC-22 production facilities where no regulation requires complete destruction of the HFC-23 waste. This was decided, because this project type involves gases governed by two different Protocols (first issue), and the methodology without amendments could create a perverse incentive (second issue) encouraging new HCFC-22 production facilities to be built so that project developers could “cash” in on CERs from the destruction of HFC-23⁶. Furthermore, EB19 provided clarification on the monitoring for these projects, which requires the use of two flow meters. “Where the flow meter readings differ by greater than twice their claimed accuracy (for example 10% if the accuracy is claimed to be $\pm 5\%$) then the reason for the discrepancy is investigated and the fault remedied. For the sake of conservativeness the lower value of the two readings will always be used to estimate the HFC23 waste flows.”

EB 24 revised the approved methodology to reflect an interpretation of the “lower of the two readings” in the methodology in accordance with its guidance provided at its twenty-third meeting. With this revision the methodology clearly states that monthly recording of HFC23 flow is the sum of the lower of the two periodic readings taken by the two flow meters. Additionally, EB24 incorporated a change that the calibration of the flow meter used for the measurement of the HFC-23 gas flow be conducted every six months and a zero check on a weekly basis. Should the zero check indicate that the flow meter is not stable, an immediate calibration of the flow meter should be undertaken by an officially accredited entity. The Board also agreed that the projects that have been submitted using earlier versions have the option of either using the procedure listed in the corresponding version of the approved methodology or the above procedure.

AM0002 (ver 2) - Greenhouse gas emission reductions through landfill gas capture and flaring where the baseline is established by a public concession contract: The methodology was revised at EB22 in order to take account of the flare efficiency in the estimation of emission reduction as well as to provide for a procedure for monitoring and verifying emission reductions for a period of less than one year.

AM0003 (ver 3) - Simplified financial analysis for landfill gas capture projects: Minor revisions were made at EB20 and EB21 resulting in the current Version 3 in order to ensure consistency between AM0003 and ACM0001, in particular with regard to the application of the adjustment factor

AM0009 (ver 2) - Recovery and utilization of gas from oil wells that would otherwise be flared: EB19 resulted in a minor revision to insert formulae and data to measure CH₄ emissions from the transport of the gas in pipelines under normal conditions and by accidental events

AM0011 (ver2) - Landfill gas recovery with electricity generation and no capture or destruction of methane in the baseline scenario: A minor revision at EB21 changed the applicability conditions to include contractual requirements, i.e., the methodology is only applicable when “There are no regulations and contractual requirements governing the landfill gas emissions”.

AM0013 (ver2) - Forced methane extraction from organic waste-water treatment plants for grid-connected electricity supply: EB19 resulted in minor revisions to AM00013 which included the impact of uncertainties related to factors used in baseline emission calculation (Maximum Methane Producing Capacity and Methane Conversion Factor, MCF), of additional applicability conditions to ensure the open

⁶ HFC-23 is emitted in the production of HCFC-22

lagoon anaerobic condition in accordance with the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and consolidation with elements from NM0085.

AM0016 (ver2) - Greenhouse gas mitigation from improved Animal Waste Management Systems in confined animal feeding operations: EB23 revised AM0016 to include monitoring of flares and to reflect the conditions that estimation of emissions reductions should be based on the conservative value of the two: the actual methane captured and the baseline methane emissions estimated using equations provided in the methodology, which ever is conservative.

AM0017 (ver2) - Steam system efficiency improvements by replacing steam traps and returning condensate: EB23 resulted in a slight modification to variable “*msteam*”, which is the quantity of steam produced in the boiler in kg (corresponds to the quantity of makeup water, plus condensate, *plus steam to the deaerator*, minus boiler blowdown).

AM0019 ver2 -Renewable energy projects replacing part of the electricity production of one single fossil fuel fired power plant that stands alone or supplies to a grid, excluding biomass projects: EB 24 revised the approved methodology to incorporate guidance provided at its twenty-third meeting on emissions from reservoirs of hydro electric power projects with reservoirs. Therefore the applicability conditions have been expanded to make hydro electricity projects with reservoirs eligible under this methodology.

AM0022 (ver2) - Avoided wastewater and on-site energy use emissions in the industrial sector: EB20 resulted in clarification of variable definition and emission factors. Furthermore, formulae were added to ensure conservative emission reductions, i.e., that the emissions of CH₄ from the lagoons in the baseline situation are not higher than the total emissions of biogas from the digester and the lagoons in the project situation.

AM0025 (ver2) - Avoided emissions from organic waste through composting: Two minor changes were made at EB22 and EB23. EB22 changed the title of the methodology: “Avoided emissions from organic waste composting at landfill sites” becomes “...through composting”, in order to clarify that AM0025 also applies to organic waste composting that occurs outside the landfill sites. EB23 changed the baseline approach from “48(a): “existing actual or historical emissions”, to “48(b): economically attractive course of action”, and expanded the scope of applicability to alternative treatment processes other than composting

AM0026 -Methodology for zero-emissions grid-connected electricity generation from renewable sources in Chile or in countries with merit order based dispatch grid. The Board agreed to revise the approved methodology to incorporate guidance provided at its twentythird meeting on emissions from reservoirs of hydro electric power projects with reservoirs. Therefore the applicability conditions have been expanded so as to make hydro electricity projects with reservoirs eligible.

AR-AM001 – Reforestation of degraded land. EB24 introduced some minor editing changes to the methodology.

Summary or Revisions to Approved Methodologies: Most of the revisions made to the approved methodologies were initiated by the EB and not project developers submissions via the revision process. The revisions have focused on minor changes that were primarily concerned with:

- Improving understanding and interpretation of the methods,
- Ensuring conservativeness of calculations of emission reductions,
- Ensuring compatibility with other standards.

4.4.2 Revisions to Consolidated Methodologies in the Last Year

ACM0001 (ver3) - Landfill gas project activities: The methodology was revised at EB21 to ensure consistency between AM0003 and ACM0001, in particular with regard to the application of adjustment factor. EB24 responded to a request for clarification regarding on monitoring of temperature and pressure of LFG, the Board agreed to revise the approved methodology to reflect that separate monitoring of LFG temperature and pressure is not required if the monitoring equipment used automatically adjusts the volume for these two parameters. Additionally EB24 resulted in the incorporation of the procedures of estimating emissions reductions to take into account situations where project activities may not utilize the captured LFG but require use of fossil fuel or purchased electricity in operating the project activity.

ACM0002 (ver5) - Grid-connected electricity generation for renewable sources (no biomass, no reservoir extension): EB21 revised the methodology to provide more details on the application of the methodology to retrofit projects. EB22 added guidance for project participants to define the grid boundary applicable to their project activity in situations where the application of ACM0002 does not result in a clear grid boundary given country-specific grid management policies. EB23 clarified the build margin emission factor (“even if a part of the plant capacity enables meeting the requirement of 20% (of the generation capacity in the systems) for estimating the build margin emission factor, the total plant capacity should be considered in estimating the build margin emission factor”); and added that registered CDM projects need not be considered in estimating the emission factors.

EB24 incorporated the guidance, provided by it at its twenty third meeting on emissions from reservoirs of the hydro electric power projects with reservoirs, by expanding its applicability to include hydro electricity projects with reservoirs. Additionally the option to use of a weight of 75% for operating margin (OM) and 25% for build margin (BM), as default weights for intermittent generation resources, where generation is relatively unpredictable and non-dispatchable was adopted. Specifically this weighting would apply to wind and solar power projects. The revision also clarifies that the OM should be calculated as the generation weighted average of the most recent three years’ of data. The choice of using ex-ante or ex-post data vintages for OM should be clearly specified in the CDM-PDD and cannot be changed during the crediting period.

ACM0003 (ver2) - Emission reduction through partial substitution of fossil fuels with alternative fuels in cement manufacture: EB23 further defined the term alternative fuel in the methodology by stating which alternative fuels may replace fossil fuels used in cement manufacture. Additionally, the methodology incorporated the revision that requires the use of the First Order Decay model for estimating the methane avoided from biomass. EB24 introduced a revision to simplify the procedure for estimating the moisture penalty for using alternative fuels in project scenario.

ACM0004 (ver2) - Waste gas and/or heat for power generation: EB23 expanded the scope of the methodology to include situations where waste gas is used along with other fuels in generating electricity and where it is not possible to measure directly the electricity produced by use of waste gas alone in power generating units supplied by other fuels as well as to situations where electricity is produced using the pressure of waste gas (Top Surplus Pressure technology utilizes the surplus pressure of waste gas generated from the furnace, in the steel and iron technology, to power a turbine to generate electricity).

ACM0005 (ver3) - Increasing the blend in cement production: EB22 saw the correction of some formulae relating to leakage and references to the blend content in formulae. EB24 amended the methodology in response to a request for an amendment regarding the three options for selecting the benchmark for the baseline since it was noted that the existing approach can not be applied if plants are not located in the region or where the project is a Greenfield project. Additionally it was confirmed that the benchmark should not be revised every year by 2% if this exceeds regulatory requirements of host country.

ACM0006 (ver2) - Grid-connected electricity generation from biomass residues: EB22 expanded the applicability of the methodology by introducing an additional scenario based on project NM00098 and to include projects that use extraction-cum-condensing turbines for cogeneration (and acceptance of request for deviation by DOEs with regard to the use of the methodology for cogeneration).

ACM009 ver2 Consolidated baseline methodology for industrial fuel switching from coal or petroleum fuel to natural gas - At its 24th meeting the Board agreed to revise the methodology to expand its applicability to projects that use natural gas sourced from LNG. This effectively incorporates AM0008 under the consolidated methodology and AM0008 will therefore be withdrawn.

Summary of Revisions to Approved Consolidated Methodologies: The revisions incorporated to the ACMs since EB19 have been primarily the initiative of the EB although changes made at EB24 to the consolidated methodologies were in part responses to clarifications and requests for revisions made by DOEs (ACM0005, ACM0001 and AM0008).

The revisions have focused primarily on

- Expanding the applicability or scope of the methodology,
- Minor changes to ensure consistency between methodologies,
- Clarification of aspects of the methodologies which were not clear.

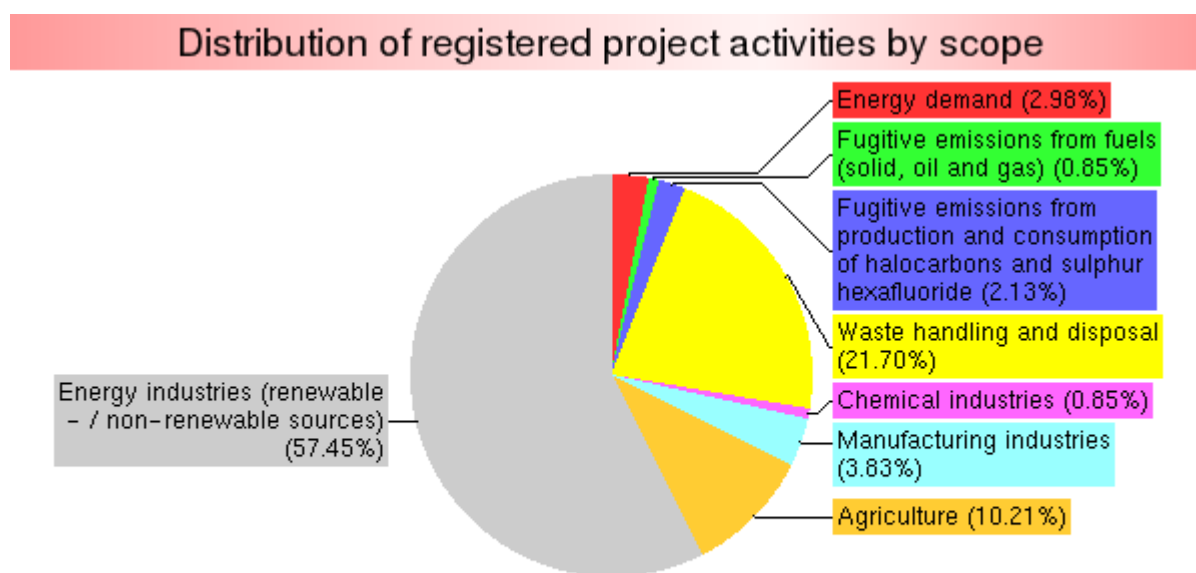
5 Procedures for Project Registration

5.1 Project Registration Procedures

Project registration comprises of three components:

- **Documentation Submission:** Project registration requires that the DOE submits to the EB the validation report, the project design document and the written approval of the host party⁷ as well as an explanation of how it has taken due account of comments received. The review of the documentation is then completed by a member of the Registration and Issuance Team (EB-RIT). A DOE may, at the point of submission, submit a request for deviation from an approved methodology for consideration by the EB.
- **Payment of Registration Fee:** The Project participants must pay an initial registration fee to cover administration costs. The date of the request for project registration is the date when the deposit of the registration fee has been received by the Secretariat.
- **Registration:** Registration is secured 8 weeks (4 weeks for small scale projects) after the date or receipt by the EB of the request for registration, unless a Party involved in the project activity or at least three members of the EB request a review of the proposed CDM project activity.

Diagram 5a – Registered CDM Projects by Scope



<http://cdm.unfccc.int> (c) 01.06.2006 17:56

⁷ Registration can take place without an Annex I Party being party to the project. Project participants can develop projects and go through the process of validation, registration, monitoring and verification on their own, and negotiate to sell the CERs later in the life of the project. At that point, the buyer Annex I country must submit a letter of approval to the EB to transfer the credits.

As of June 2006, a total of 200 projects have been registered and there are an additional 66 projects that have officially requested registration.⁸ Currently the most projects are from the power and energy sector with other sectors being poorly represented, as illustrated in the diagram 5a above. More needs to be done in order to encourage a wider distribution of project activities under the CDM. New initiatives such as the CDM projects under a program may encourage a wider variety of project activities.

5.2 Changes to the Project Registration Process

Since EB19 the main amendments to the registration process include:

- **Request for Deviation:** At EB22 it was agreed that a DOE can, prior to requesting registration of a project activity or issuance of CERs, notify the Board of deviations from approved methodologies and or provisions of registered project documentation and explain how it will address deviations. The request shall be made using the form F-CDM-DEV. The information in this request shall be made public. Within 5 days, the Chair of the Board shall decide if relevant panels shall review documentation or if more information is needed. It is not clear how long it will take to process the request for deviations at this point in time, but this approach is a welcome step in facilitating the registration process and in clarifying how to apply existing methodologies.
- **Amendments to the Registration Fee:** EB23 defined the registration fee as “*the share of proceeds⁹ applied to the expected average annual emission reduction for the project activity over its crediting period.*” There is a maximum limit of USD 35,000 that can be charged and projects with emissions less than 15,000 tCO₂eq/year are exempt from this fee. The fee is in effect an advance payment of the share of proceeds to cover admin (SOP-admin) in the first year of a project’s lifetime. It shall therefore be deducted from the SOP-admin when it is calculated at the end of the first year. If a project is not registered any fee above USD30,000 shall be reimbursed.
- **Clarification of Review Process:** EB22 agreed on draft clarifications to facilitate the implementation of the procedures for review as referred to in paragraph 41 CDM M&P (Annex II to decision18/CP.9). Registration of a project is deemed final eight weeks after the date of receipt by the EB of the request for registration, unless a party involved in the project activity or at least three members of the EB request a review of the proposed CDM project activity. Reviews must be finalized no later than the second meeting following the request for the review. A request for review shall be sent by a Designated National Authority (DNA) to the EB via the secretariat who shall acknowledge receipt and forward it to the EB members.
- **Period of Grace:** EB21 decided that if a methodology revision is requested by the COP/MOP then no project activity may use this methodology. However, a graced period of eight weeks (formerly 4) after the methodology was revised is granted, during which projects using this methodology are not affected by the amendment.
- **The EB-RIT** – In order to make the process of registration appraisal more efficient EB24 decided that the EB RIT team leader may use a member of the methodology expert roster to assist in making an appraisal of a request for registration.

⁸ Statistics at <http://www.unfccc.org>

⁹ The share of proceeds to cover administrative expenses (SOP-Admin) of the CDM was defined at the first session of the COP/MOP as USD 0.10/CER for the first 15,000tCO₂eq/year and USD0.20/CER for any amount in excess of 15,000 tCO₂eq/year.

6 Project Reviews

6.1 Review Process

A project is reviewed following submission for registration to the EB by an accredited DOE. The EB must register the CDM project within 8 weeks (4 weeks for small-scale CDM projects) of the date of receipt of the request. During this time a request for a review can be made by a Party involved in the project activity or at least three members of the EB. The purpose of the review is to allow Parties to appraise the quality of a DOE's validation work. If there is doubt regarding the legitimacy of a project (i.e. if a DOE has found to complete fraudulent or incompetent work) that has been validated the project can be reviewed. If a review is requested the registration can be delayed until the next EB meeting for a review (see Annex decision 17/CP.7).

If a review by three EB members or a Party involved in the project is requested within the public comment period, the process is as follows. The review process is important since it results in useful clarifications that assist the learning process.

- The EB shall consider the request for review at its next meeting, where it will decide whether to undertake a review or register the project.
- If a review is undertaken, the EB will specify the scope of the review, which will be made public, and a review team¹⁰ will be formed.
- The review team screens the review requests and can ask for clarifications and further information from the DOE and project participants, for which a response must be received within 5 working days.
- The review team then prepares a recommendation for the EB and circulates it two weeks prior to the next EB meeting.
- At the next EB meeting, the EB takes a decision to register the project, reject the project, or request the DOE and project participants to make corrections before proceeding with registration.

In order to avoid unnecessary time delays in project registration EB 24 decided that in the case of minor issues the project participant and DOE will then be informed by the secretariat that the registration of the project has been postponed until they have provided satisfactory clarifications to the issue(s) raised, and if necessary revised documentation. These clarifications and documentation shall be checked by the secretariat, in consultation with the Chair of the Executive Board before the activity is displayed as registered.

At the time of writing this report, four projects are under review and there are 14 requests for reviews of projects. To date, only two requests for registration were rejected on the basis of incomplete documentation. Both projects resubmitted the information and were later registered. Most of the projects reviewed were then registered albeit with some revisions.

¹⁰ The registration team includes non EB members and at least a single EB member.

Table 6a – Projects Reviewed

Ref	Title	EB Meetings	Outcome	EB Decision	Registered
0001	Project for GHG emission reduction by thermal oxidation of HFC 23 in Gujarat, India	17 18	Registered with modifications	25.02.05	08.03.05
0003	HFC 23 Decomposition Project in Ulsan	17 18	Registered with modifications	25.02.05	24.03.05
0009	La Esperanza Hydroelectric Project	18 19	Resubmitted with corrections	13.05.05	19.08.05
0010	Cuyamapa Hydroelectric Project	18	Resubmitted as project 0045 due to incomplete documentation	25.02.05	n/a
0024	Graneros Plant Fuel Switching Project	18 19	Resubmitted with corrections	13.05.05	18.07.05
0029	Olavarria Landfill Gas Recovery Project	18 19	Resubmitted as project 0140 due to incorrect methodology for small scale project	13.05.05	n/a
0069	Nubarashen Landfill Gas Capture and Power Generation Project in Yerevan	21 22	Registered with modifications	25.11.05	28.11.05
0168	BK Energia Itacoatiara Project	23	To be registered on submission of revised PDD	24.02.06	
0065	Santa Cândida Bagasse Cogeneration Project (SCBCP)	23	Register based on DOE & PP comments	24.02.06	24.02.06
0151	Quimobásicos HFC Recovery and Decomposition Project	24	To be registered if methodology changed so that reductions claimed are only calculated from existing facilities and not swing plant capacity.	12.05.06	
0259	Trupan Biomass Power Plant in Chile	24	To be registered if revise monitoring plan to monitor the sources of the biomass.	12.05.06	
0273	Vajra and Chaskaman small hydro projects of Vindhychal Hydro Power Ltd., Maharashtra, India.	24	Registered based on the comments received from the DOE and project participant	12.05.06	12.05.06

6.2 Reason for Reviews

Most project reviews to date were requested due to at least one overriding issue, although many of the reviews detail more than one. Unfortunately information on the reasons for the review of the Santa Cândida Bagasse Cogeneration Project were not available in the EB23 meeting minutes; therefore reasons for its review could not be ascertained. However, from the available information, it is possible to categorise the basis for requesting reviews as follows.

6.2.1 Incorrect Application of an Approved Methodology

A review of the Quimobásicos HFC Recovery and Decomposition Project was initiated due to the incorrect inclusion of emission reductions from new swing plant facilities.

The BK Energia Itacoatiara Project is a small scale fuel switch diesel-to-biomass project that referred to the small scale methods AMS.1D Grid Connected Renewable Energy projects and AMS III.E. Avoidance of methane production from biomass decay through controlled combustion. The review required that *only* emission reductions from fresh wood waste to be considered as the basis for renewable biomass.

The review of the Olavarria Landfill Gas Recovery Project questioned whether the project qualified as small scale and should be allowed to use the SSC methodologies, because the project emissions calculation did not include fugitive methane emissions from the landfill site under the project scenario. The review demonstrated that the size definition for type III small scale projects cannot be made operational and needs to be modified.

The scope of review for the Graneros Fuel Switching Project also requested additional information regarding the approach to leakage (i.e. to include maritime transport emissions for coal as positive leakage). In addition, the review of the Graneros project noted that the requirement in AM0008 to cap the crediting period at the remaining lifetime of the existing equipment had not been correctly applied in the PDD.

A review of the HFC destruction projects in Ulsan, Korea and Gujarat, India, were requested to determine whether the “possible implications as to the effect of HCFC 22 as a greenhouse gas have been appropriately treated in the CDM-PDD.” The key question was whether HCFC 22, a greenhouse gas without a Global Warming Potential (GWP) and governed under the Montreal Protocol, should be treated as leakage. As a result, EB19 revised the applicability conditions of the methodology to limit its use for existing HCFC-22 production facilities where no regulation requires complete destruction of the HFC-23 waste.

6.2.2 Monitoring

The Trupan Biomass Power Plant in Chile was reviewed since the inclusion of the sources of biomass was not incorporated within the monitoring plan. The decision was made at EB24 which interestingly focused on several aspects of improving the quality of monitoring plans in general.

6.2.3 Additionality

In both the La Esperanza Hydroelectric Project and the Graneros Fuel Switching Project, the requests for review raised concern that the justification for project additionality was insufficient (e.g. lack of justification of assumptions used in investment analysis). Furthermore, the EB stated that all of the key parameters for the financial analysis used to justify the additionality of the Graneros project had to be clarified and made publicly available as part of the registration process. This clearly raises questions regarding financial information that a project developer wishes to retain as confidential.

6.2.4 Letters of Approval

Concerns over letters of approval were voiced for two projects. For the Gujarat HFC project, the initial letter of approval contained conditions that the EB members calling for a review did not find acceptable. When the project was under review, a new letter was received stating it provided clarification to the previous letter rather than replacing it, which led the EB to query which letter should be considered the final letter of approval. In the case of the La Esperanza Hydroelectric Project, the EB interpreted the CDM M&P to mean that one letter of approval and authorisation were needed from all of the investor country participants in the Community Development Carbon Fund (CDCF). The project has been one of the first submissions from a multi-lateral fund, and it was the first time that this issue was raised. Subsequently, however, in the revised PDD guidelines released by the EB, it is stated that multilateral funds do not necessarily require approval by each participant’s DNA, although the Parties might forgo some rights and privileges if they did not send separate approval letters.

6.2.5 Disclaimer and Responsibility of DOEs

In three of the projects reviewed (i.e. Gujarat HFC, La Esperanza, and Olavarria), the DOE included a disclaimer in the validation opinion stating that they could not be held liable for any incorrect information they had received from project participants. The EB rejected this practice and required the disclaimer be deleted. This is a significant liability issue for DOEs.

The EB decision is based on the requirement in the modalities and procedures for the CDM that DOEs check the information they receive, and conduct any necessary investigations to check its accuracy in order to determine whether the proposed project activity should be validated. The structure of the CDM is such that the DOEs must ensure the accuracy of the information received, particularly if the information is project specific (as opposed to official national or international data) rather than the EB. This also points to the need for the EB to develop a good working relationship with DOEs that provides a common understanding of DOE roles.

The EB also noted, in both the Graneros and La Esperanza reviews, their concern with the clarifications from the DOE and project participants, which did not address the full scope of the review.

6.2.6 Validation Process

The review of the La Esperanza project also raised the issue of whether the final PDD was made available for public comment, or whether public comment was based on an earlier version. This is a concern when revisions are made to the PDD after the public comment period ends. Similarly, in the review of the Olavarria project, the DOE specified that an outstanding Corrective Action Request (CAR) would have to be made before the commissioning of the project, but the EB has queried how the DOE could ensure that this would happen.

6.2.7 Inconsistency, Errors and Language Issues

Inconsistency of information was also cited as a reason for reviewing the La Esperanza project, the Nurbarashen Landfill project and the Ulsan HFC project. Inconsistency include errors in formulae and incorrect paraphrasing. The Cuyampa Hydroelectricity project and the Graneros Fuel Switch projects were asked to resubmit documentation in English which is the legal working language of the CDM. The Cuyampa Hydroelectricity project then had to undergo another public review process.

6.3 Reasons for Rejection

The Cuymapa Hydroelectric project request for registration was rejected by EB18, because the documentation was not complete for the proposed project activity. The information corresponding to the validation report had not been made available at the time the request for registration was submitted. In addition, the language used in the annexes to the CDM-PDD provided was not English, the working language of the Executive Board. The project was thus revised and underwent a second review period before being registered.

The findings of the review for the Olavaria landfill project were issued at EB19 and instructed the project participants to resubmit the project for registration using a large scale methodology. Positively, the time requested for the review period for the revised project documentation would be limited to 4 weeks for the resubmission, since the project had already gone through the 4 week registration period for small scale projects.

6.4 Time of Reviews

For the first three projects where a request for review was submitted, (i.e. Gujarat HFC, Ulsan HFC, Cuyampa Hydroelectric) the review process took approximately six months from the date of the request for registration to final project registration. The Nurabarshen project and Santa Candida projects were registered at the second EB meeting after the request for review as required by the M&P. However, in the cases of La Esperanza and Graneros, however, the EB was unable to complete the review within this

timeframe. In its finding, the EB stated that the DOE and project participants did not address some issues identified in the scopes of review. The La Esperanza and Graneros cases were then decided in August and July respectively.

The review process ensures consistency in the application of methodologies as well as assisting project developers better understand how to interpret them. However, the review process can cause delays in project registration. The establishment of the EB Registration and Issuance Team (EB-RIT) is likely to increase the number of reviews undertaken and thus increase the delays in project registration.

7 References

Note: All UNFCCC documentation on methodologies, projects, and meetings reports are from <http://cdm.unfccc.int>.

World Bank Carbon Finance Unit (2006): Submission to UNFCCC call for inputs on procedures to address “leakage” in small scale CDM biomass project activities Small Scale Projects and Leakage.

World Bank Carbon Finance Unit (2006): Submission to UNFCCC call for inputs to improve the current version of the “tool for the demonstration and assessment of additionality”.

World Bank Carbon Finance Unit (2005): CDM Methodology Status Report, prepared by ECON Analysis AS for the World Bank Carbon Finance Business. Washington DC, World Bank.

World Bank Carbon Finance Unit (2004): Carbon Finance Unit Annual Report 2004: a public/private partnership. Washington DC, World Bank.

Figures, Christiana (2006): Note on Policies, Programs and Bundles in the CDM. Prepared for the World Bank Carbon Financed Unit. Washington DC, World Bank.

UNEP Risoe (2006): CDM Pipeline, www.Cd4cdm.org/Publications/CDMpipeline.xls