



GUIDANCE ON CRITERIA FOR BASELINE SETTING AND MONITORING

Version 01

A. Background

1. Appendix B of the annex to decision 9/CMP.1 on guidelines for the implementation of Article 6 of the Kyoto Protocol (hereinafter referred to as JI guidelines) defines criteria for baseline setting and monitoring.
2. According to paragraph 28 of the JI guidelines a Party hosting a joint implementation (JI) project shall make publicly available, directly or through the secretariat, information on the project in accordance with the reporting guidelines set out in appendix B of the JI guidelines and the requirements contained in decision 13/CMP.1.
3. Paragraphs 30–45 of the JI guidelines define the verification procedure under the Joint Implementation Supervisory Committee (JISC) (hereinafter referred to as the Track 2 procedure). The Track 2 procedure is the determination by an independent entity, accredited pursuant to appendix A of the JI guidelines, of whether a project and the ensuing reductions of anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks meet the relevant requirements of Article 6 of the Kyoto Protocol and the JI guidelines. Under the Track 2 procedure, according to paragraphs 31 (c), 33 (b) and (c) and 37 of the JI guidelines, the accredited independent entity (AIE) shall:
 - (a) Receive from the project participants a project design document (PDD) that contains all information needed for the determination of whether the project has an appropriate baseline and monitoring plan in accordance with the criteria set out in appendix B of the JI guidelines;
 - (b) Determine whether 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 and has an appropriate baseline and monitoring plan in accordance with the criteria set out in appendix B of the JI guidelines;
 - (c) Make, upon receipt of a report referred to under paragraph 36 of the JI guidelines, a determination of the reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks reported by project participants in accordance with appendix B of the JI guidelines, provided that they were monitored and calculated in accordance with paragraph 33 of the JI guidelines.
4. According to paragraph 2 (f) of decision 10/CMP.1 the JISC shall develop, as soon as possible, guidance with regard to appendix B of the JI guidelines, including provisions for small-scale projects as defined in paragraph 6 (c) of decision 17/CP.7, as appropriate.
5. Moreover, according to paragraph 3 (d) of the JI guidelines, the JISC shall also be responsible for the review and revision of reporting guidelines and criteria for baselines and monitoring in appendix B of the JI guidelines, for consideration by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP), giving consideration to relevant work of the Executive Board of the clean development mechanism (CDM Executive Board), as appropriate.



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6. The present document provides guidance on the criteria for baseline setting and monitoring contained in appendix B of the JI guidelines as well as related matters. The review and revision referred to in paragraph 3 (d) of the JI guidelines may be considered by the JISC at a later stage.
7. The JISC will review this document periodically.



B. Guidance on criteria for baseline setting

1. Background

8. Paragraphs 1–3 of appendix B of the JI guidelines define criteria for baseline setting:
- (a) The baseline for a JI project is the scenario that reasonably represents the anthropogenic emissions by sources or anthropogenic removals by sinks of greenhouse gases (GHGs) that would occur in the absence of the proposed project. A baseline shall cover emissions from all gases, sectors and source categories listed in Annex A of the Kyoto Protocol, and anthropogenic removals by sinks, within the project boundary;
 - (b) A baseline shall be established:
 - (i) On a project-specific basis and/or using a multi-project emission factor;
 - (ii) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors;
 - (iii) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector;
 - (iv) In such a way that emission reduction units (ERUs) cannot be earned for decreases in activity levels outside the project activity or due to force majeure;
 - (v) Taking account of uncertainties and using conservative assumptions;
 - (c) Project participants shall justify their choice of baseline.

2. Elements of joint implementation relevant for baseline setting

9. The project boundary of a JI project shall:
- (a) Encompass all anthropogenic emissions by sources and/or removals by sinks of GHGs which are:
 - (i) Under the control of the project participants;
 - (ii) Reasonably attributable to the project; and
 - (iii) Significant, i.e., as a rule of thumb, would by each source/sink account on average per year over the crediting period for more than X per cent of the annual average anthropogenic emissions by sources/anthropogenic removals by sinks of GHGs, or exceed an amount of XXX tonnes of CO₂ equivalent, whichever is lower; and
 - (b) Be defined on the basis of a case-by-case assessment with regard to the criteria referred to in subparagraph (a) above.

10. Leakage is the net change of anthropogenic emissions by sources and/or removals by sinks of GHGs which occurs outside the project boundary, and that can be measured and is directly attributable to the JI project.



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11. Projects starting as of 2000 may be eligible as JI projects if they meet the requirements of the JI guidelines. ERUs shall only be issued for a crediting period starting after the beginning of 2008. The project participants shall choose the starting date of the crediting period to be on or after the date the first emission reductions/enhancements of removals are generated by the JI project. The crediting period shall not extend beyond the operational lifetime of the project. The crediting period can extend beyond 2012 subject to the approval by the host Party. The status of emission reductions/enhancements of removals generated by JI projects after the end of the first commitment period may be determined by any relevant agreement under the UNFCCC.

3. Basic features of a baseline

12. The baseline for a JI project:

- (a) Is the scenario that reasonably represents the anthropogenic emissions by sources or anthropogenic removals by sinks of GHGs that would occur in the absence of the project;
- (b) Shall cover emissions from all gases, sectors and source categories listed in Annex A of the Kyoto Protocol, and anthropogenic removals by sinks, within the project boundary.

4. Basic options for the establishment of a baseline

13. A baseline shall be established on a project-specific basis and/or using a multi-project emission factor, taking into account the project boundary and in particular paragraph 20 below.

14. A multi-project emission factor may be used if its application can be reasonably justified. Standardized sector-wide baselines may e.g. be used if:

- (a) The physical characteristics of the sector justify the application of a standard emission factor across the sector (e.g. in the case of an integrated electricity network with no major transmission constraints, the physical characteristics of the system may imply that the impact of a project on emissions can be assessed irrespective of its location); and/or
- (b) The emissions intensity does not vary significantly across the sector (e.g. in the case of diesel power generation in off-grid electricity systems, the emission factor for electricity generation may be based on standard factors with a reasonable degree of accuracy).

15. The following two options are applicable if a baseline is established on a project-specific basis:

- (a) According to decision 10/CMP.1, paragraph 4 (a), project participants may apply methodologies for baselines and monitoring approved by the CDM Executive Board, including methodologies for small-scale project activities, as appropriate. If an approved CDM baseline and monitoring methodology is used, all explanations, descriptions and analyses shall be made in accordance with the selected methodology;
- (b) Alternatively, the project participants may establish a baseline that is in accordance with appendix B of the JI guidelines. In doing so, selected elements or combinations of approved CDM baseline and monitoring methodologies may be used, as appropriate.



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5. Identification of a baseline

16. Taking into account the options for the establishment of a baseline referred to in section 4. above, a baseline can be identified, inter alia:

- (a) By using a multi-project emission factor;
- (b) By using an approved CDM baseline and monitoring methodology. In this case all explanations, descriptions and analyses, inter alia with regard to the identification of a baseline, shall be made in accordance with the methodology chosen;
- (c) By identifying and listing all plausible future scenarios on the basis of conservative assumptions and identifying the most plausible one.

17. A baseline shall be established taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. Key factors that affect a baseline, inter alia, over time shall be taken into account, e.g.:

- (a) Sectoral reform policies and legislative development;
- (b) Economic situation/growth and socio-demographic factors in the relevant sector as well as resulting predicted demand. Suppressed and/or increasing demand that will be met by the project can be considered in the baseline as appropriate (e.g. by assuming that the same level of service as in the project scenario would be offered in the baseline scenario);
- (c) Availability of capital (including investment barriers);
- (d) Local availability of technologies, skills and know-how and availability of best available technologies in the future;
- (e) Fuel prices and availability;
- (f) National expansion plan for the energy sector.

18. Furthermore, each baseline shall be established:

- (a) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors;
- (b) Taking account of uncertainties and using conservative assumptions; and
- (c) In such a way that ERUs cannot be earned for decreases in activity levels outside the project activity or due to force majeure.

19. The project participants shall justify their choice of baseline taking into account annex 1 to this document. If the baseline approach chosen differs from approaches already taken in comparable cases and/or theoretically applicable approved CDM baseline and monitoring methodologies the differences shall be explained and justified.



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20. In any case:

- (a) The project participants shall set a baseline in accordance with appendix B of the JI guidelines;
- (b) The host Party/Parties (as well as the other Parties involved) has/have to approve the project, including the use of a specific multi-project emission factor, if applicable; and
- (c) The AIE, under the Track 2 procedure, has to determine whether the project has an appropriate baseline in accordance with the criteria set out in appendix B of the JI guidelines.



C. Guidance on monitoring

1. Background

21. Paragraphs 4–6 of appendix B of the JI guidelines contain regulations with regard to monitoring:
- (a) Project participants shall include, as part of the PDD, a monitoring plan that provides for:
 - (i) The collection and archiving of all relevant data necessary for estimating or measuring anthropogenic emissions by sources and/or anthropogenic removals by sinks of GHGs occurring within the project boundary during the crediting period;
 - (ii) The collection and archiving of all relevant data necessary for determining the baseline of anthropogenic emissions by sources and/or anthropogenic removals by sinks of GHGs within the project boundary during the crediting period;
 - (iii) The identification of all potential sources of, and the collection and archiving of data on increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of GHGs outside the project boundary that are significant and reasonably attributable to the project during the crediting period. The project boundary shall encompass all anthropogenic emissions by sources and/or removals by sinks of GHGs under the control of the project participants that are significant and reasonably attributable to the JI project;
 - (iv) The collection and archiving of information on environmental impacts, in accordance with procedures as required by the host Party, where applicable;
 - (v) Quality assurance and control procedures for the monitoring process;
 - (vi) Procedures for the periodic calculation of the reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks by the proposed JI project, and for leakage effects, if any. Leakage is defined as the net change of anthropogenic emissions by sources and/or removals by sinks of GHGs which occurs outside the project boundary, and that is measurable and attributable to the JI project;
 - (vii) Documentation of all steps involved in the calculations referred to in paragraphs 4 (b) and (f) of appendix B of the JI guidelines;
 - (b) Revisions, if any, to the monitoring plan to improve its accuracy and/or completeness of information shall be justified by project participants and shall be submitted for the determination referred to in paragraph 37 of the JI guidelines by the AIE;
 - (c) The implementation of the monitoring plan and its revisions, as applicable, shall be a condition for verification.



2. Monitoring

22. As part of the PDD of the project a monitoring plan has to be established in one of the following two ways:

- (a) According to decision 10/CMP.1, paragraph 4 (a), project participants may apply methodologies for baselines and monitoring approved by the CDM Executive Board, including methodologies for small-scale project activities, as appropriate. If an approved CDM baseline and monitoring methodology is used, all explanations, descriptions and analyses shall be made in accordance with the selected methodology;
- (b) Alternatively, the project participants may establish a monitoring plan that is in accordance with appendix B of the JI guidelines. In doing so, selected elements or combinations of approved CDM baseline and monitoring methodologies may be used, as appropriate.

23. The monitoring plan shall, inter alia:

- (a) Describe all relevant factors and key characteristics that will be monitored on a regular basis, in particular also all decisive factors for the control and reporting of project performance;
- (b) Specify the indicators, constants and variables used taking into account paragraph 24 below;
- (c) Describe the methods employed for data monitoring (including its frequency) and recording;
- (d) Present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request;
- (e) Clearly identify the responsibilities and the authority regarding the monitoring activities; and
- (f) On the whole, reflect good monitoring practices appropriate to the project type.

24. The indicators, constants and variables used shall be reliable (i.e. provide consistent and accurate values) and valid (i.e. be clearly connected with the effect to be measured), and shall provide a transparent picture of the emission reductions/enhancements of removals (to be) monitored. In particular, it is recommended with regard to:

- (a) Project-specific indicators to use, to the extent possible, indicators that are already used in normal business practice and/or have to be reported e.g. to local authorities. Such indicators might also be used to cross-check project operations (e.g. changes in the ratio of fuel input and energy output could indicate that the project equipment is not working properly and leakage effects have occurred);



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- (b) Leakage indicators to use data from suppliers/utilities and/or available public statistics and/or to conduct surveys, as business-linked indicators might not be available and leakage effects can be controlled less effectively by the project participants.

Default values, may be used, as appropriate. In the selection of default values, accuracy and reasonableness shall be carefully balanced. The default values chosen should originate from recognized sources, be supported by statistical analyses providing reasonable confidence levels and be presented in a transparent manner.

25. Emission reductions/enhancements of removals shall be estimated/calculated in accordance with annex 2 below.

26. If a national or international monitoring standard has to be and/or is applied to monitor certain aspects of the project, this standard shall be identified and a reference as to where a detailed description of the standard can be found shall be provided. Whenever possible, internationally recognized standards/methods with regard to monitoring (as well as calibration, as appropriate) should be applied.

27. In any case:

- (a) The project participants shall set a monitoring plan in accordance with appendix B of the JI guidelines, in particular covering the criteria listed in paragraph 21 (a) above;
- (b) The host Party/Parties (as well as the other Parties involved) has/have to approve the project; and
- (c) The AIE, under the Track 2 procedure, has to determine whether the project has an appropriate monitoring plan in accordance with the criteria set out in appendix B of the JI guidelines.

28. If deemed necessary, accredited laboratories or inspection bodies should be employed for monitoring.

29. If statistical techniques are used for monitoring, these shall be documented and used in a conservative manner.

30. Under the Track 2 procedure, the AIE shall make, upon receipt of a report referred to under paragraph 36 of the JI guidelines, a determination of the reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks reported by project participants in accordance with appendix B of the JI guidelines, provided that they were monitored and calculated in accordance with paragraph 33 of the JI guidelines.

31. The project participants are encouraged to improve the monitoring process and its results. Revisions, if any, to the monitoring plan to improve its accuracy and/or completeness of information shall be justified by project participants and shall be submitted for the determination referred to in paragraph 37 of the JI guidelines by the AIE. In this case the AIE shall determine whether the proposed revisions improve the accuracy and/or completeness of information of the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans and, in case of a positive determination, shall proceed with the determination referred to in paragraph 37 of the JI guidelines.

32. Data monitored and required for determination according to paragraph 37 of the JI guidelines are to be kept for two years after the last transfer of ERUs for the project.



ANNEX 1

Additionality

1. According to Article 6 of the Kyoto Protocol a joint implementation project has to provide a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur.
2. Having identified a baseline, additionality can be demonstrated, inter alia, by using one of the following approaches:
 - (a) In case an approved clean development mechanism (CDM) baseline and monitoring methodology is used, all explanations, descriptions and analyses, inter alia with regard to additionality, shall be made in accordance with the selected methodology;
 - (b) In all other cases, inter alia, one of the following options may be applied:
 - (i) Application of the most recent version of the “Tool for the demonstration and assessment of additionality” approved by the CDM Executive Board;
 - (ii) Application of any other method for proving additionality approved by the CDM Executive Board;
 - (iii) Provision of traceable and transparent information showing that the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks of GHGs. In this context, a simplified version of the tool referred to in subparagraph (i) above may be used, as appropriate;
 - (iv) Provision of traceable and transparent information that an accredited independent entity has already positively determined that a comparable project (to be) implemented under comparable circumstances would result in a reduction of anthropogenic emissions by sources and/or an enhancement of anthropogenic removals by sinks that is additional to any that would otherwise occur and a justification why this determination is relevant for the project at hand.

The approach chosen, including its appropriateness, shall be justified as a basis for the determination referred to in paragraph 33 of the annex to decision 9/CMP.1 on guidelines for the implementation of Article 6 of the Kyoto Protocol.



ANNEX 2

Calculation of emission reductions and/or enhancements of removals

1. The emission reductions/enhancements of removals generated by the project have to be estimated ex ante in the project design document (PDD) of the project and calculated ex post according to the monitoring plan included in the PDD:
 - (a) On a periodic basis;
 - (b) At least from the beginning until the end of the crediting period;
 - (c) On a source-by-source and/or sink-by-sink basis;
 - (d) In tonnes of CO₂ equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol.

2. Reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks of greenhouse gases (GHGs) generated by joint implementation (JI) projects are estimated/calculated by comparing the quantified anthropogenic emissions by sources and/or anthropogenic removals by sinks within the project boundary in the baseline scenario with those in the project scenario and adjusting for leakage. The total reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks of GHGs generated by JI projects depend on the length of the crediting period of the project. In practice, this estimation/calculation can be conducted, as appropriate, in one of the following two ways:
 - (a) Assessment of emissions and/or removals in the baseline scenario and in the project scenario:
 - (i) Estimation/calculation of anthropogenic emissions by sources and/or anthropogenic removals by sinks within the project boundary in the baseline scenario;
 - (ii) Estimation/calculation of anthropogenic emissions by sources and/or anthropogenic removals by sinks within the project boundary in the project scenario;
 - (iii) Difference of the results of the estimations/calculations referred to in subparagraphs (i) and (ii) above;
 - (iv) Adjustment of the result of subparagraph (iii) above for leakage;
 - (b) Direct assessment of emission reductions and/or enhancements of removals:
 - (i) Direct estimation/calculation of the difference between the anthropogenic emissions by sources and/or anthropogenic removals by sinks within the project boundary in the baseline scenario and in the project scenario (e.g. in the case of landfill gas projects, the emission reductions can be calculated by multiplying the methane captured with an appropriate factor based on the global warming potential of methane);
 - (ii) Adjustment of the result of subparagraph (i) above for leakage.



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3. The project boundary chosen affects the identification of sources and/or sinks for which emissions and/or removals have to be assessed when estimating/calculating reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks of GHGs.

4. A number of key factors, e.g. those referred to in paragraph 17 on page 5 of this document as well as project-specific factors such as operation mode and/or technical performance, influence:

- (a) The baseline scenario and the baseline emissions/removals; and
- (b) The activity level of the project and the emissions/removals as well as risks associated with the project;

and should therefore be taken into account, as appropriate, not only when establishing a baseline, but also when estimating/calculating the emission reductions and/or enhancements of removals (to be) generated by the project.

5. Data sources used to define project and baseline scenarios, to assess leakage effects and to estimate/calculate emission reductions/enhancements of removals shall be clearly identified, reliable and transparent.

6. In the estimations/calculations referred to in paragraph 2 above emission factors, including default emission factors, may be used, as appropriate. In the selection of emission factors, accuracy and reasonableness shall be carefully balanced. The choice of emission factors shall be justified.

7. The estimations/calculations referred to in paragraph 2 above shall, in particular, be based on conservative assumptions and the most plausible scenarios, and be conducted in a transparent manner.