

Conclusions and recommendations
Sixth meeting of inventory lead reviewers
Bonn, Germany

16–17 March 2009

The sixth meeting of inventory lead reviewers (LRs) was held in Bonn, Germany, from 16 to 17 March 2009. Thirty-two experts from Parties not included in Annex I to the Convention (non-Annex I Parties) and 33 experts from Parties included in Annex I to the Convention (Annex I Parties) were invited to the meeting. Of the 38 experts that attended, 17 were from non-Annex I Parties and 21 were from Annex I Parties. In addition, a review expert, who is a representative of the European Community, attended the meeting as an observer.

In accordance with decisions 12/CP.9, 22/CMP.1 and 24/CMP.1, the meeting addressed both procedural and technical issues relating to the annual review of greenhouse gas (GHG) inventories of Annex I Parties, and the initial and annual reviews under the Kyoto Protocol. The aim of the meeting was to develop a common approach to these issues by the expert review teams (ERTs) and to make recommendations to the secretariat on ways to improve the effectiveness and efficiency of the reviews. The conclusions and recommendations of the meeting are presented below.

Review process in 2008

The reviews undertaken in 2008 comprised reviews of both the 2007 and 2008 inventory submissions of Annex I Parties, and reviews of supplementary information reported voluntarily by a few Annex I Parties under Article 7, paragraph 1, of the Kyoto Protocol. LRs recognized that the **increased complexity of the review process required a substantial effort by experts, Parties and the secretariat in order to finalize these reviews in a timely, consistent and transparent manner**. This was achieved in spite of the insufficient number of experts currently involved in the review process and the increased complexity of the tasks involved.

The LRs expressed their **appreciation to all experts who participated in the review process of the 2007 and 2008 annual submissions**, in particular experts who accepted late invitations to attend a review following last minute cancellations by other experts, experts who participated in more than one review and experts who had to take on additional responsibilities during the reviews owing to unforeseen circumstances. The LRs also expressed their appreciation to the secretariat for coordinating and supporting the review process in an effective and efficient way.

The LRs acknowledged the need for **prioritization and time management, in particular during the centralized reviews**, and recommended that in centralized reviews priority be given to reviewing the implementation by the Party of recommendations from the previous review and any recalculations that were undertaken, and that LRs set a priority in maintaining the quality of reviews, including in-depth consideration of the changes in the inventory since the previous submission. At a minimum, the ERT should ensure during the review that the quality of the GHG inventory and other elements reported under Article 7, paragraph 1, of the Kyoto Protocol has been maintained by the Party over time.

The LRs acknowledged that the **experience gained and lessons learned from the reviews of supplementary information submitted under Article 7, paragraph 1**, of the Kyoto Protocol provide a basis for Parties to improve the reporting of such information in their 2009 annual submission, and for annual reviews under the Kyoto Protocol.

LRs acknowledged that each ERT consistently applied the “Guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention” (hereinafter referred to as the UNFCCC review guidelines), and the “Guidelines for review under Article 8 of the Kyoto Protocol” (hereinafter referred to as the Article 8 review guidelines) under the Kyoto Protocol, as well as relevant procedures. The LRs noted that **consistent application of the UNFCCC review guidelines and the Article 8 review guidelines is essential, but must take into account the different national circumstances of Parties and the fact that there will always be a need for the ERT to use its own judgement.** To this end, the secretariat could maintain a list of frequently asked questions on key issues raised in expert reviews for each annual review.

The LRs expressed **support for the efforts made by the secretariat to track issues between reviews conducted in 2008, as well as from one annual review to the next**, and requested that the secretariat intensify its efforts, with a view to facilitating the work of the LRs in their task by ensuring that the reviews in which they participate are performed in accordance with the UNFCCC review guidelines and the Article 8 review guidelines, and consistently.

The LRs noted that the **review tools and the review report template prepared by the secretariat helped to facilitate a consistent approach** in all reviews. The LRs reiterated the conclusions at their fifth meeting which recognized that **strengthening the capacity of expert reviewers by increasing the number of experts available and training, and involving more secretariat staff in future reviews** is required to enhance consistency.

2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories, higher tier methods and other relevant issues

The LRs noted that **a number of Parties are currently using some of the scientific and technical information contained in the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories** (hereinafter referred to as the 2006 IPCC Guidelines) in their annual inventory submission, following the conclusions of the Subsidiary Body for Scientific and Technology Advice (SBSTA) at its twenty-sixth session.¹ This has either a positive or negative impact on the emission time series when compared with previous emission estimate. The LRs recognized that the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance) provides a solid basis for the review of emission estimates obtained by Parties using the methods, emission factors (EFs) and parameters contained in the 2006 IPCC Guidelines.

The LRs recommended that the ERT take into account the following issues when reviewing estimates obtained using the 2006 IPCC Guidelines:

- **Methodologies for new categories or subcategories from the 2006 IPCC Guidelines** that were not available in the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines), the IPCC good practice guidance nor the *IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry* (hereinafter referred to as the IPCC good practice guidance for LULUCF) can be used by Parties. The ERT should commend Parties for estimating such new categories, as well as for using new tier 1 methods, for example to estimate actual emissions of fluorinated gases, when such estimates and uses enhance the completeness and accuracy of the inventory;
- While the **need to maintain time-series consistency** in emissions estimates was clearly recognized, the LRs noted that when Parties use new information (e.g.

¹ FCCC/SBSTA/2007/4.

methodologies, EFs and parameters) from the 2006 IPCC Guidelines or elsewhere that leads to lower emission estimates than in previous submissions, the ERT should ensure that the Party justify in its annual submission the use of this new information in accordance with the IPCC good practice guidance;

- The ERTs should **continue to encourage Parties to improve their inventories**, but should not request the use of information available in the 2006 IPCC Guidelines;
- When a Party uses **new allocation rules or recommendations for emissions to be allocated to categories in accordance with the 2006 IPCC Guidelines**, the ERT should recommend that the Party revise such allocations in accordance with the guidelines that are mandatory under the Convention and the Kyoto Protocol for categories where clear allocation rules are provided in the Revised 1996 IPCC Guidelines or the IPCC good practice guidance.

With regard to the **review of estimates obtained from the application of higher tier methods**, the LRs noted that the IPCC good practice guidance provides a good basis for the review of emission estimates. They also noted that there is a need for further work on good practice for the transparent reporting of tier 3 methods and models used for GHG inventory estimates in order to facilitate reviews by ERTs, and recognized that this additional good practice could involve further work by the IPCC.

LRs recommend that the following considerations provided in the IPCC good practice guidance be taken into account when reviewing the emission estimates obtained from the application of higher tier methods:

- The ERTs should determine whether the Party provided **detailed and transparent information** on the method used in a way that meets the requirements of the UNFCCC reporting guidelines and facilitates the review process;
- During the review, the ERTs should **focus on input data, key assumptions, the type of model used and the parameters used therein, and on output data**, in order to ascertain whether or not the model is sufficiently robust;
- The ERTs should determine whether information is provided in the national inventory report (NIR) on whether **sensitivity analysis, calibration and validation** of the model have been conducted, **quality assurance/quality control (QA/QC)** activities have been undertaken, and model outputs have been **verified** (e.g. comparison with a tier 2 method and any differences transparently explained);
- The ERTs should determine whether information is provided on the **publication and peer review** of models/methods used;
- After the overall assessment, the ERTs should **identify any instances where the IPCC good practice guidance was not followed**, and should provide clear recommendations on the necessary steps that should be taken by a Party to improve transparency, to resolve problems and to make improvements to the models/methods used.

The LRs recognized that the in-depth review of estimates from complex tier 3 methods and models could be done only during in-country reviews.

When Parties start **using information based on plant-level reports that have been verified** (e.g. European Union emissions trading scheme) **or direct measurements that were not available in previous years**, the ERTs should determine whether additional information on

time-series consistency and recalculations is provided by the Party, and the ERTs should check the information reported on the relevant QA procedures;

Training

The LRs welcomed the update by the secretariat of modules in the training programme under the Convention. They also welcomed the development by the secretariat of new online training courses under the Kyoto Protocol on activities under Article 3, paragraphs 3 and 4, and on modalities for the accounting of assigned amounts under Article 7, paragraph 4, including the national registry and the standard electronic format. The LRs **urged experts on land use, land-use change and forestry to take the new online course** on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, and **generalists and LRs to take the new online course on modalities for the accounting of assigned amounts** under Article 7, paragraph 4, in particular the modules on the national registry and the standard electronic format.

The **draft updated training programmes for 2010–2011 under the Convention and the Kyoto Protocol** prepared by the secretariat for consideration by the SBSTA and the Subsidiary Body for Implementation at their thirtieth sessions were welcomed by the LRs. These programmes outline the ongoing training activities, including new Kyoto Protocol modules mentioned above, as well as possible new activities, such as regional training seminars, and the development of new training courses for experienced reviewers and for the review of higher-tier methods and models.

The draft training programmes were considered and the LRs noted that the **implementation of these programmes would enhance the expertise of the reviewers and, hence, contribute to the quality and consistency of the review process**. The LRs supported the implementation of the draft training programme subject to a decision of the Conference of the Parties (COP) and the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP).

Given the increased complexity of the review process, the LRs noted that there is a **need for better integration of the new reviewers into the work of the ERTs**. The LRs requested that the secretariat take this into account when planning ERTs, and that LRs take this into account when allocating tasks within the team.

The LRs further noted the need for **additional review experts**, in particular those from non-Annex I Parties, **to be nominated to the roster of experts** and trained. The LRs expressed concern that there are still some Annex I Parties that have nominated only one expert to the roster of experts. Therefore, the LRs requested that the secretariat explore further options to identify new review experts, in particular from non-Annex I Parties.

The LRs requested that the **secretariat inform national climate change focal points of the need to support the review experts** that they nominate for the review process, including by taking into account the requirements of this process, such as the time needed for preparation and the time needed during and after the review week in the lead-up to the finalization of the annual review report.

Managing the implementation and support of the updated training programmes would require the strengthening of the capacity of the secretariat. This would be achieved by creating a new post. The LRs noted that all activities under the training programmes are subject to supplementary funding, which is currently insufficient, and that further progress in expert training is required to maintain the rigour of the expert review process under the Convention and the Kyoto Protocol.

Reporting, data management and review tools

The LRs welcomed the work undertaken by the secretariat to facilitate the annual reporting of Parties, as well as the processing and reviewing of the reported information by further developing the GHG information system, including CRF Reporter software and the review tools to account for needs under the Convention and the Kyoto Protocol.

LRs noted the development, in accordance with decision 6/CMP.3, of a new **CRF Reporter module for reporting activities under Article 3, paragraphs 3 and 4**, of the Kyoto Protocol. They welcomed plans by the secretariat to organize, subject to the availability of resources, a **workshop** in the second half of 2009 for Parties to share experiences on the use of this new module.

LRs noted that the demands of reporting and managing information on GHG inventories have put pressure on the infrastructure of the GHG information system, including the capacity of CRF Reporter software to store data and information. The LRs acknowledged the **important role of the GHG information system, including CRF Reporter software, in the submission and review processes**. They further noted the plans of the secretariat to upgrade the GHG information system with new technology and hardware. The LRs supported the activities of the secretariat relating to the upgrading, subject to the availability of supplementary funding, and noted that this could be undertaken in the context of any work required on the GHG information system, including CRF Reporter software, to meet the requirements of reporting and reviews under the post-2012 climate regime.

The LRs expressed **support for the work undertaken and planned by the secretariat to further develop the review tools**, such as incorporating data and information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol into the current set of review tools. The LRs agreed to establish a **working group** to assist the secretariat in establishing the scope of data and information reported by Annex I Parties on these activities that is to be included in the review tools. The LRs expressed support for the secretariat's ongoing work of preparing a key category analysis at an aggregation level that is largely consistent with the level currently reported by Parties. The LRs requested that the secretariat explore the development of a review tool to track issues and recommendations from the previous expert reviews.

LRs welcomed information presented by the secretariat on the standard independent assessment report (SIAR) that will be prepared by the International Transaction Log (ITL) administrator in support of the expert review of information on the accounting of Kyoto units, standard electronic format and changes in national registries reported under Article 7, paragraph 1, of the Kyoto Protocol. LRs noted that the **SIAR will greatly facilitate the review of the information reported under Article 7, paragraph 1**, and therefore the overall review process. The LRs requested that the secretariat prepare before the next meeting of LRs information on the experiences and lessons learned in the use of this review tool by ERTs. The LRs also requested that the secretariat explore how to make publicly available on the UNFCCC website information on the work of the Registry System Administrators Forum (RSA Forum) related to the support of the SIAR process.

LRs reiterated the need for consultation amongst LRs on complex matters and questions during ongoing reviews, as outlined in the conclusions by the SBSTA, at its twenty ninth session.² The LRs support this and emphasized the role of the secretariat in facilitating such consultations. In this context, LRs expressed support for the proposal of the secretariat to **explore options for a virtual team room**, subject to the availability of funding.

² FCCC/SBSTA/2008/13, paragraph 65.

Reviews in 2009

During the meeting, the secretariat presented the overall approach for conducting the reviews of the 2009 annual inventory submissions under the Convention and supplementary information submitted under Article 7, paragraph 1, of the Kyoto Protocol. The LRs noted the increased volume of information that is expected to be reported by Parties under Article 7, paragraph 1. The LRs also noted that the updated review report template takes this into account and contains specific sections for the recording of relevant findings, conclusions and recommendations of the review. The LRs further noted that the template helps to minimize the duplication of information and facilitates consistency across review reports. The LRs **endorsed the overall approach for the reviews in 2009, including the review template.**

The LRs welcomed the draft **annotated NIR** prepared by the secretariat in response to requests by many Parties, which includes reporting elements of the annual inventory required under both the Convention and the Kyoto Protocol. The LR requested that the secretariat finalize the annotated NIR, taking into account comments received during the meeting, and that the secretariat post it on the UNFCCC website. The LRs **encouraged Parties to use the annotated NIR** as an example for the annual inventories with a view to ensuring complete, transparent and consistent reporting of annual inventories, including supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol. This should in turn facilitate and provide for an effective and efficient expert review.

The Convention and the Kyoto Protocol

For the review of GHG inventories, the LRs reiterated that both the Convention and the Kyoto Protocol require reporting Parties to **continuously improve their GHG inventories and systems as part of the established QA/QC process and to continuously work on the implementation of the recommendations for improvements arising from the inventory review.** The LRs recommended that when changes in methodologies are identified during the review, including changes resulting from the implementation of methodologies contained in the 2006 IPCC Guidelines, the ERTs should ascertain whether:

- Such changes are carried out only to improve accuracy, completeness and/or time-series consistency, and are well justified and documented in accordance with the UNFCCC reporting guidelines and the IPCC good practice guidance;
- Recalculations, including the recalculation of base year emissions, are performed with a view to having a consistent time series. However, such recalculations will not affect the assigned amount established for the Party concerned following the initial report review under the Kyoto Protocol.

The LRs agreed to strive to **identify during the review in 2009 instances where the 2006 IPCC guidelines may need further clarification and/or elaboration**, with a view to discussing these instances at the next meeting of LRs in 2010 and to provide feedback to the technical support unit of the IPCC task force on inventories.

The LRs expressed concern that the review transcript that records findings of a review, including those on problems that have been resolved, are not necessarily complete and that the secretariat does not always receive completed review transcripts from ERTs. The LRs reiterated that the **review transcript remains an important tool for the review process** and should be used during all stages of the individual reviews, including preparation of the review and the review week, and when reflecting the final outcome of the review. The ERTs should clearly indicate in the review transcript whether or not an issue included in the transcript has been resolved.

Matters specific to the Kyoto Protocol

The LRs reiterated the conclusions from their fifth meeting stating that for Annex I Parties that are also Parties to the Kyoto Protocol, and that had a review of their initial reports in 2007, the **2008 and 2009 inventory submissions could be their voluntary submissions under the Kyoto Protocol** and that, under decision 22/CMP.1, paragraph 5, the Article 8 review guidelines should be used when reviewing these submissions. The LRs noted with appreciation that in 2008 all Parties to the Kyoto Protocol submitted their annual inventories on a voluntary basis, except for a small number of Parties that had recently ratified the Protocol. The LRs expect that Parties will continue to report information under the Kyoto Protocol on a voluntary basis in the lead-up to 2010 when reporting becomes mandatory.

For the **review of GHG inventories under the Kyoto Protocol**, the LRs noted that in cases where potential problems relating to meeting the methodological and reporting requirements have been identified, the ERTs should clearly indicate these problems at the end of the review week and should clarify the nature of the problem in accordance with the principles of the IPCC good practice guidance, namely transparency, consistency, comparability, completeness and accuracy. The ERTs should provide clear recommendations to the Party on how to solve the problem and should clearly indicate the possibility for the Party to submit revised estimates, with a view to addressing identified potential problems within the six-week deadline after the review week, as established by the Article 8 review guidelines. The review report can then be based on these revised estimates.

The ERT should clearly state in the review report whether or not the problems were resolved; if not it should formulate recommendations on how and when these problems should be resolved and on the further steps to be taken by the Party. When major potential problems relating to methodological requirements for the annual inventory remain unresolved and can be attributed to the functions of the national system, the ERT may raise a question of implementation regarding how the national system performs its functions.

The LRs expressed support for the ERTs to apply **procedures for adjustments, where relevant, on a trial basis during the 2009 reviews for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol** in accordance with the conclusions of the SBSTA at its twenty-second session³ and subject to the availability of resources and the consent of the Party concerned.

For the **review of the functions of the national system**, the LRs noted a number of reports from the 2008 reviews indicating that some problems with the national system identified during the initial reviews have not been resolved. The LRs noted that Parties should strive to implement recommendations from the 2008 expert review by reporting updated information on their national system. The LRs welcomed the plans by the secretariat to organize in-country reviews for most of these Parties in 2009. During the 2009 reviews, the ERTs should assess whether such information is provided. If the outstanding problems have not been resolved, the ERT may raise a question of implementation regarding the national system.

For the **review of changes in national registries**, the LRs noted that this review should be defined by the scope and nature of changes to the national registry, including changes to the software, platform and/or to the host of the national registry. In the case of major changes in the national registry requiring a thorough technical review, the ERT may use additional expertise from the RSA Forum, and may use a standardized technical assessment of these changes, including the SIAR.

³ FCCC/SBSTA/2005/4.

The ERT may use the SIAR to conclude on its assessment of information reported under Article 7, paragraph 1, of the Kyoto Protocol, which in addition to the assessment of the change in national registry, contains an assessment of the accounting of Kyoto units and the standard electronic format, and its comparison with data from the ITL. The SIAR contains a summary of findings on the elements mentioned above that can be used by ERTs in the annual review report. For a finding that indicates a major problem, the secretariat will initiate a process of thorough technical review that may, depending on the nature of the problem, involve an in-country visit. The secretariat will invite an expert from the RSA Forum to assist the ERT in its task of reviewing the problem. If the major problem remains unresolved then the ERT can list a question of implementation in the annual review report.

Long-term issues relating to the review process

The LRs took note of the two discussion papers prepared by the secretariat, which describe how activities relating to the review process, including the training of experts, the organization of the meeting of LRs and the planning and conducting of reviews, as well as the further development of the GHG information system, including CRF Reporter software, are planned and prioritized for 2010–2011. The LRs acknowledged that these review activities are mandated by a number of decisions of the COP and the CMP, and are fundamental for the implementation of the Convention and the Kyoto Protocol. To date, all these activities have been supported by supplementary funding.

The LRs welcomed the steps taken by the secretariat in the planning and setting of priorities for activities that underpin the managing of the reporting and review processes, and the planning of related activities that meet the requirements of a robust process under the Convention and the Kyoto Protocol. The LRs reiterated the need for stable and predictable funding for these core activities, in particular the activities envisaged in the baseline option. In order to maintain the current level of quality, consistency and timeliness of the review process, the LRs noted that most of the planned activities that will be supported from the supplementary budget must be implemented. Among the priority activities in this context are regional training seminars that, in addition to strengthening the capacity of experts for reviews, should enhance the capacity of experts from developing countries to prepare their national inventories.
