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#### **METHODOLOGICAL ISSUES**

# REVIEW OF METHODOLOGICAL WORK UNDER THE CONVENTION AND THE KYOTO PROTOCOL

### Synthesis and elements of a possible work programme

#### **Note by the secretariat**

#### Summary

The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its seventeenth session, noted that numerous methodological activities have been initiated and implemented under the Convention and the Kyoto Protocol. The SBSTA concluded that the future implementation of the Convention and the Kyoto Protocol would benefit from further consideration of ongoing methodological activities and from the development of a strategic approach to future work. The SBSTA invited Parties to submit their initial views on needs for specific methodological activities and on a strategic approach to future methodological work, and requested the secretariat to prepare a synthesis in order to initiate discussions by the SBSTA, at its eighteenth session, on elements of a possible work programme.

This note contains a synthesis of views submitted by nine Parties on specific methodological activities and on a strategic approach for future methodological work. Based on submissions by Parties and a previous note by the secretariat (FCCC/SBSTA/2002/INF.12), provisional elements of a possible work programme on future methodological work are identified. This note also contains a synthesis of views by Parties on the future revision of the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*.

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#### I. INTRODUCTION

#### A. Mandate

- 1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its seventeenth session, took note of information provided in document FCCC/SBSTA/2002/INF.12 and noted that numerous activities relating to the development of guidelines for reporting information, including national communications, and to the dissemination of information on methods, guidelines, modalities and rules, have been initiated and implemented under the Convention and the Kyoto Protocol. The SBSTA concluded that the future implementation of the Convention and the Kyoto Protocol, and the future elaboration of the climate change process in pursuing the ultimate objective of the Convention, taking into account principles and relevant provisions of the Convention, would benefit from further consideration of ongoing methodological activities and from the development of a strategic approach to future work.
- 2. The SBSTA invited Parties to submit, by 1 March 2003, their initial views on needs for specific methodological activities and on a strategic approach to future methodological work, for example, what methodological work should be done, how should it be done, who should undertake the work and what are the priorities. The SBSTA requested the secretariat to compile submissions, and prepare a synthesis based on submissions by Parties and document FCCC/SBSTA/2002/INF.12, in order to initiate discussions by the SBSTA, at its eighteenth session, on elements of a possible work programme for further consideration by the SBSTA at its future sessions.
- 3. The SBSTA, at its seventeenth session, invited the Intergovernmental Panel on Climate Change (IPCC) to revise the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC Guidelines), taking into consideration relevant work under the Convention and the Kyoto Protocol, including work by the SBSTA, the Subsidiary Body for Implementation (SBI), and the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention, and the technical review of greenhouse gas inventories of Annex I Parties. The ninth session of the Task Force Bureau of the IPCC National Greenhouse Gas Inventory Programme noted that views from Parties would assist the IPCC to perform this task.

## B. Scope of the note

- 4. This document contains a synthesis of the views submitted as at 29 March 2003 by Australia, Canada, Greece (on behalf of the European Community and its member States, Czech Republic, Latvia and Slovenia), Japan, New Zealand, Norway, Saudi Arabia, Switzerland and the United States of America. These submissions are contained in document FCCC/SBSTA/2003/MISC.3. Based on submissions by Parties and a previous note by the secretariat (FCCC/SBSTA/2002/INF.12) provisional elements of a possible work programme on future methodological work have also been identified (see annex I).
- 5. To assist the work of the IPCC on the future revision of the IPCC Guidelines, specific views from Parties on the future revision are synthesized in annex II.
- 6. The document aims to facilitate further consideration of ongoing methodological work and the development of a strategic approach to future methodological work for the benefit of the medium- and long-term needs of the Convention and the Kyoto Protocol.

## C. Possible action by the SBSTA

7. The SBSTA may wish to take note of the information contained in this document. It may wish to consider which priorities should be addressed and elements of a possible work programme, and provide additional guidance as appropriate. In addition, the SBSTA may wish to consider under which agenda items specific methodological issues might be considered.

- 8. The SBSTA may also wish to consider the following questions:
  - (a) What methodological work should be done?
  - (b) How should it be done?
  - (c) Who should undertake the work?
  - (d) What should be the time frame?

#### II. VIEWS OF PARTIES ON FUTURE METHODOLOGICAL WORK

- 9. Parties made reference to various topics under discussion and consideration under different agenda items, such as consideration of the Third Assessment Report (TAR) of the IPCC,<sup>1</sup> the development of the guidelines under Articles 5, 7 and 8 of the Kyoto Protocol and the assessment of contributions to climate change ("the Brazilian proposal").
- 10. Australia recognized that discussion under Article 9 and Article 3, paragraph 9, of the Kyoto Protocol, and Article 4, paragraph 2 (d), and Article 7, paragraph 2 (a), of the Convention, will create demand for further methodological work that cannot be pre-empted. In the meantime, priority areas for methodological work include greenhouse gas (GHG) inventories, projections of GHG emissions and removals by sinks, assessing mitigation and adaptation technologies (including cost and benefits) and developing methodologies for assessing the future costs of climate change under various scenarios.
- 11. Canada identified areas for future methodological work and specific activities: methodological questions arising from consideration of the TAR of the IPCC, methodological questions specific to the Convention including national communications from Parties not included in Annex I to the Convention (non-Annex I Parties), methodological questions specific to the Kyoto Protocol, and the revision of the IPCC Guidelines.
- 12. The European Community and its member States, Czech Republic, Latvia and Slovenia encouraged the secretariat to develop a work plan focusing on GHG inventories, projections of GHG emissions and removals by sinks, assessing policies and measures, assessing mitigation and adaptation strategies, assessing impacts, vulnerability and adaptation to climate change, national communications from non-Annex I Parties, guidelines under Articles 5, 7 and 8, modalities for the accounting of assigned amounts under Article 7.4, and the revision of the IPCC Guidelines.
- 13. Japan gave high priority to GHG inventories, projections of GHG emissions and removals by sinks, and assessing mitigation and adaptation technologies. It also suggested future methodological activities in areas of assessing policies and measures and assessing the impacts, vulnerability and adaptation to climate change.
- 14. Matters identified by New Zealand as deserving future methodological work include the provision of technical information to guide decision-making as part of future negotiations and the revision of the IPCC Guidelines. Norway also provided views on the revision of the IPCC Guidelines.
- 15. Saudi Arabia examined future methodological needs on issues relating to the impact of response measures for the both the Convention and the Protocol. Future activities would include methodologies for implementing win/win policies and measures to reduce emissions in developed countries and to minimize adverse impacts in developing countries; for assessing terms of trade and socio-economic impacts on individual developing countries; and for assessing the impacts on developing countries of policies already implemented by Annex I Parties.
- 16. Switzerland proposed that future methodological activities would be clustered under three categories:

On this matter, Parties may wish to refer to documents FCCC/SBSTA/2003/2 and FCCC/SBSTA/2003/MISC.2.

- (a) Greenhouse gases, including greenhouse gas inventories, projections and methodological work relating to Articles 5, 7 and 8 of the Kyoto Protocol;
  - (b) Mitigation;
- (c) Adaptation, including vulnerability, adaptation and methodological issues relating to Article 4.8 and 4.9 of the Convention.
- 17. Switzerland also noted that other important areas for future methodological work include national communications from non-Annex I Parties, implementation of flexible mechanisms under the Kyoto Protocol, technology transfer, needs of the least developed countries and adverse effects.
- 18. The United States noted that a distinction should be made regarding the utility of methodologies for national decision makers and those that are useful in the international process. It believed that the role of the SBSTA is generally to focus on the dissemination of information on methods. It is more appropriate for other organizations or national institutions to develop, refine and improve methods. The United States provided detailed comments on revision of the IPCC Guidelines and on specific items raised in document FCCC/SBSTA/2002/INF.12.

# III. VIEWS OF PARTIES ON A STRATEGIC APPROACH FOR FUTURE METHODOLOGICAL WORK

### A. Objectives and mandate

- 19. Most Parties confirmed that revision and further elaboration of methodological work would benefit the implementation of the Convention and the Kyoto Protocol, and the future elaboration of climate process in pursuing the ultimate objective of the Convention. Canada noted that existing provisions (e.g. Article 9 of the Convention, and decisions 4/CP.1 and 6/CP.1) already provide a clear mandate for SBSTA in further development of methodologies, yet the challenge is to how the SBSTA further fulfils its mandate.
- 20. Parties expected that current methodological work should be reviewed, and that further methodological work should be relevant and beneficial to Annex I and non-Annex I Parties (Canada, Japan), and should aim at, inter alia:
- (a) Better serving the subsidiary bodies and the Conference of Parties (COP), assisting Parties in implementing the Convention and the Protocol, and supporting the analytical needs of the Convention for future decision-making (Canada);
- (b) Ensuring that comprehensive, complete and reliable information is available to assist all Parties to conduct necessary analysis, and that future discussions are based on a shared understanding of the issues (Australia);
- (c) Contributing to the elaboration of a future regime to combat climate change through the provision of scientific and technical information and data (Japan, New Zealand).
- 21. Some Parties expected that future methodological work would increase comparability, enhance transparency and promote the use of common definitions. It would also lead to an active process of sharing information.

#### B. Phases of methodological work

22. Parties made a number of proposals on further activities in relation to different phases of methodological work: identification of information needs and availability, development and testing, application and use, and assessment and refinement of methodologies (see figure 1 below). The role of the SBSTA, the SBI, the secretariat, other organizations and national institutions may differ in different phases of the methodological work.

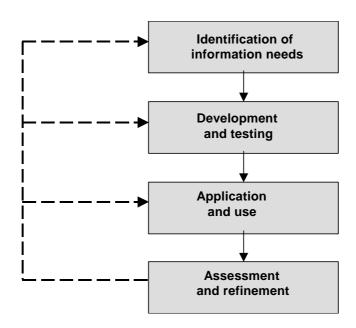


Figure 1. Phases of methodological work

- 23. The United States believed that methodological needs should derive from specific analytical needs identified in discussions of the SBSTA. Future discussions relating to inventories, policies and measures, technology transfer, vulnerability and adaptation, or other aspects of the work of the Convention may reveal the need for further specific methodological work.
- 24. To emphasize the strategic aspect of the work, Australia proposed that the following tasks be undertaken:
- (a) Identification and analysis of information needs and availability, including needs of Parties for information on emissions and socio-economic issues, and a stocktaking of existing sources of information. The secretariat could prepare a paper for consideration by the SBSTA at its nineteenth session:
- (b) Development of options for the collation and presentation of information for consideration by the SBSTA at its twentieth and twenty-first sessions. This work could be undertaken by the secretariat, taking into account discussions at the SBSTA at its nineteenth session and, possibly, submissions by Parties in March 2004.

## C. Time frame

- 25. Australia proposed that a decision on strengthening the information base be forwarded to the COP at its tenth session. Switzerland suggested that the COP at its ninth session should adopt a work programme on future methodological work.
- 26. Canada, the European Community and its member States, Czech Republic, Latvia and Slovenia noted a need for the further development of more sophisticated methods over a period of five to eight years. Australia supported the need for work to consider the level of accuracy that will be needed by GHG inventory methods under the Convention in five to 10 years.

## D. Approaches for future methodological work

27. Parties stated that the review and further development of methodological work should be carried out in a non-duplicative manner, should build on synergies, and should draw upon, and be informed by, methodological work undertaken by other groups and organizations, in particular the IPCC (Canada, Japan, New Zealand) and the Executive Board of the clean development mechanism (Switzerland).

However, the SBSTA has a substantial role in making policy decisions that are necessary to advance methodological work (New Zealand). Future work should avoid unnecessary costs or confusion with ongoing work by Parties (Japan). The future work programme should also be flexible enough to encompass additional needs if such emerge in the future (Australia, the European Community and its member States, Czech Republic, Latvia and Slovenia).

28. The mechanisms available to the SBSTA include workshops and special side-events to exchange information among Parties, requests to the secretariat to synthesize information or to undertake other activities, and invitations to other organizations to undertake work on its behalf.

#### E. Clustering of elements

- 29. Methodological activities can be clustered under different headings and in several different ways. For the purpose of this document, and in order to facilitate discussions and to provide a structure for the consideration of future methodological activities, provisional elements of possible work programme are listed in annex I under the following headings:<sup>2</sup>
  - (a) Greenhouse gas inventories
  - (b) Projections of greenhouse gas emissions and removals by sinks
  - (c) Assessing policies and measures
  - (d) Assessing mitigation and adaptation technologies
  - (e) Assessing impacts, vulnerability and adaptation of climate change
  - (f) Other areas for methodological work.

<sup>&</sup>lt;sup>2</sup> Items are grouped in the way to facilitate consideration by the SBSTA at its eighteenth session, and this does not prejudge any decision Parties may wish to take.

## Annex I

## PROVISIONAL ELEMENTS OF A POSSIBLE FUTURE WORK PROGRAMME<sup>1</sup>

## A. Greenhouse gas inventories

Background information on current and planned activities	Possible elements for future methodological work
The IPCC is preparing a revision of its <i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i> and aims to complete the work by early 2006.  The SBSTA, at its seventeenth session, requested the secretariat to provide information on the methodologies and data used by Parties to estimate GHG emissions and removals by sinks, taking into account results of the trial period of annual inventory reviews (decision 6/CP.5), to support, inter alia, the work relating to the revision of the current IPCC Guidelines, <sup>2</sup> with the aim of preparing initial information for consideration at SBSTA 19. Parties have provided specific views on this task (FCCC/SBSTA/2003/MISC.3)	Provision of additional information to the IPCC relating to the scope and nature of the revision
The IPCC is developing, at the invitation by the COP at its seventh session, a report on <i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i> and aims to complete the work by the second half of 2003  The SBSTA, at its fifteenth session, invited the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) to explore opportunities for examining and improving the quality of data reporting and comparability of GHG emissions from international aviation and maritime transport under the relevant provisions of the Convention, the Kyoto Protocol, ICAO and IMO	<ul> <li>Modifications to the common reporting formats for LULUCF</li> <li>Modalities for adjustments under Article 5.2 of the Protocol for LULUCF activities</li> <li>Consideration of wood products</li> <li>Compilation of data and information on methods and definitions to ensure that GHG emissions are reported in a consistent and transparent manner</li> </ul>
Issues relating to guidelines under Articles 5, 7 and 8 of the Kyoto Protocol, and on issues relating to registries under Article 7, paragraph 4	Possible additional complementary methodological work to apply the adopted guidance in a more precise way based on experiences gained during the period 2003–2005.

The clustering of items of a possible future work programme, and the inclusion of provisional elements drawn from submissions by Parties and document FCCC/SBSTA/2002/INF.12, aims to facilitate the consideration by the SBSTA at its eighteenth session.

The SBSTA at its seventeenth session invited the IDCC to take into consideration the relevant work work and the session invited the IDCC to take into consideration the relevant work work.

<sup>&</sup>lt;sup>2</sup> The SBSTA, at its seventeenth session, invited the IPCC to take into consideration the relevant work under the Convention and the Kyoto Protocol, including work by the SBSTA, the SBI, and the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention, and the technical review of GHG inventories of Annex I Parties.

# B. Projections of greenhouse gas emissions and removals by sinks

Background information on current and	Possible elements for future methodological	
planned activities	work	
The secretariat prepared a compilation and synthesis of information on projections of GHG emissions and removals by sinks contained in the national communications from Annex I Parties (FCCC/SBI/2003/7/Add.3). The report notes that various methods and assumptions are used by Parties	Analysis of assumptions, methodologies and data based on information provided in national communications.	
	<ul> <li>Additional elements</li> <li>Exchange of information on projections among Parties</li> <li>Improvement of reporting guidelines and formats on projections by, for example, adding more specific lists of parameters to be reported</li> <li>Development of methodologies for elaboration of projections for non-Annex I Parties and for reporting in national communications</li> </ul>	

# C. Assessing policies and measures<sup>3</sup>

Background information on current and	Possible elements for future methodological work	
planned activities		
The secretariat prepared a compilation and synthesis of information on projections of GHG emissions and removals by sinks contained in the national communications from Annex I Parties (FCCC/SBI/2003/7/Add.2)	Methodological work on ex ante and ex post analysis of policies and measures, including methods for self-evaluation by Parties	
	Additional elements	
	<ul> <li>Methodologies for developing planning and decision-making tools to assist Parties to assess and implement mitigation strategies</li> <li>Methodologies to enhance transparency in reporting on policies and measures in the national communications of Annex I Parties</li> <li>Methodologies for Annex I Parties on implementing win/win policies and measures to reduce emissions and minimize adverse impacts on developing country Parties</li> <li>Methodologies for assessing terms of trade and socio-economic impacts on individual developing country Parties, including assessment of data sets, development of assumptions, verification of existing data, improvement of models and establishment of baseline data</li> <li>Methodologies for assessing the impacts on developing countries of policies already implemented by Annex I Parties. Expand the coverage of current models with a view to using them as a part of a portfolio of tools for decision-making</li> <li>Exchange of experiences from clean development mechanism projects that may contribute to the development of policies and measures for non-Annex I Parties</li> </ul>	

<sup>&</sup>lt;sup>3</sup> Policies and measures will also be considered by the SBSTA at its eighteenth session under item 6 of the provisional agenda.

# D. Assessing mitigation and adaptation technologies

Background information on current and planned activities	Possible elements for future methodological work
Based on decision 9/CP.3 and the request by the SBSTA at its fifteenth session, the secretariat has developed a web-based prototype information system/clearing house on technology transfer (TT:CLEAR).	Design, testing and dissemination of simple tools for technology assessments
	Additional elements     Methodologies for assessing mitigation and adaptation pathways     Methodologies for assessing mitigation technologies including analysis of socioeconomic costs and benefits and ancillary benefits and social acceptability
The IPCC is preparing a report on CO <sub>2</sub> capture and storage, and aims to complete the work by 2005	Identification of methodological work after the completion of the IPCC report

# E. Assessing impacts, vulnerability and adaptation of climate change

Background information on current and	Possible elements for future methodological work
planned activities	
The COP, by its decision 9/CP.3, requested the secretariat to accelerate the development of methodologies for assessing adaptation technologies, in particular decision tools to evaluate alternative adaptation strategies. Parties, international organizations and others have provided information on adaptation methods and decision tools, which the secretariat has placed on its web site	<ul> <li>Dissemination of information on methodologies to assess climate change impacts</li> <li>Synthesis of information on the effectiveness and experiences in using impact methods</li> </ul>
	Additional elements
	<ul> <li>Dissemination of information on methods to assess vulnerability and adaptive capacity</li> <li>Development of planning and decision-making tools to assist Parties to assess and implement appropriate strategies</li> <li>Assessment of costs of impacts of climate change on the global scale</li> </ul>

# $\boldsymbol{F.} \hspace{0.1cm} \textbf{Other areas for future methodological work} \\$

Background information on current and	Possible elements for future methodological
planned activities	work
The COP, at its eight session, adopted	Compilation of methodological information relevant
decision 17/CP.8 on improvement of the	to the implementation of the guidelines
guidelines for the preparation of national	
communications by non-Annex I Parties and	
decision 3/CP.8 on the work of the Consultative	
Group of Experts on National Communications	
from Parties not included in Annex I to the	
Convention	
Based on the invitation by the COP at its seventh	Work to be determined based on the work by the
session, the IPCC is currently developing a report	IPCC
on definitions and methodological options for	
degradation and devegetation activities and aims	
to complete the work by the second half of 2003	
Based on the invitation by COP at its seventh	Work to be determined based on the report of the
session, the IPCC is preparing, for submission to	IPCC at COP 10
the COP at its tenth session, practicable	
methodologies to factor out direct human-induced	
changes in carbon stocks and GHG emissions and	
removals by sinks from changes due to indirect	
human-induced and natural effects, and effects	
due to past practices in forests	
The SBSTA, at its seventeenth session, agreed	Work to be determined at future sessions
that work on the scientific and methodological	
aspects of the proposal by Brazil (assessment of	
contributions to climate change) should be	
continued by the scientific community. The	
SBSTA decided to review the progress of work on	
the scientific and methodological aspects at its	
twenty-third session	

#### Annex II

# SUMMARY OF SPECIFIC VIEWS ON REVISION OF THE REVISED 1996 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES

## A. Views from Parties

- 1. Australia, Canada, the European Community and its member States, Czech Republic, Latvia, Slovenia, Japan, New Zealand and Norway confirmed the importance of the guidelines for national greenhouse gas inventories, and welcomed the revision of current IPCC Guidelines. Japan suggested that the review of guidelines for GHG inventories should be carried out in a manner that encourages all Parties to prepare and submit their GHG inventories. Norway emphasized that an overall aim should be to simplify the guidelines in order to improve their usability. New Zealand noted that revision of the guidelines is fundamental and essential work and is part of the technical information that will be needed to guide decision-making during future negotiations.
- 2. The European Community and its member States, Czech Republic, Latvia, Slovenia and Norway stated that the revision of guidelines should focus on filling existing gaps in the coverage of sectors, sources and gases; on expansion of cross-cutting issues (e.g. the key source analysis) in the light of implementation by Parties; on the reporting tables used to submit inventory data; on improved coverage of regional emission factors; and on building upon practical experiences gained through the implementation of inventory guidelines.
- 3. The United States suggested that the secretariat should provide assistance to the IPCC based on a review and synthesis of the methods used by Parties in their inventories, and summarize significant findings of reviews conducted under the UNFCCC process. This information would be useful to the technical writing teams convened by the IPCC to revise the guidelines by providing information about how current inventory guidelines are being implemented and what key problems or issues have been identified by the UNFCCC expert review teams.
- 4. Canada, the European Community and its member States, Czech Republic, Latvia, Slovenia, Japan and Norway proposed that different guidelines (Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, the forthcoming report on Good Practice Guidance on Land Use, Land-Use Change and Forestry) and other sources of information (e.g. the IPCC Emission Factor Database) should be integrated into one single document or a set of sources of information.
- 5. Norway noted that the approach taken in the good practice guidance use of decision trees and key sources should be a basis for the integration. Norway suggested that the current main chapter structure should be maintained in order to prevent confusion and discontinuity in the preparation of inventories. It recognized that further consideration is needed on appropriateness of the concept of three volumes (Reporting Instructions, Workbook and Reference Manual) and the good practice guidance.
- 6. Japan believed that guidelines need to be made available to all Parties, even if the applicability of default values and methodologies have not been fully tested, especially in non-Annex I Parties. Japan suggested that the secretariat of the UNFCCC, the IPCC National Greenhouse Gas Inventories Programme Technical Support Unit and other relevant bodies facilitate capacity-building activities in the field of inventories.
- 7. Australia was mindful of the degree of accuracy required for producing inventories for joint implementation and the clean development mechanism project activities compared to the degree of accuracy of national inventories. Australia suggested that financial implications of estimating emissions to different degrees of accuracy and the degree of institutional capacity required should also be considered.

- 8. Canada had the view that only those gases for which global warming potential (GWP) and methods can be developed should be included in the Guidelines. The solvent and other product use category should include all product uses such as HFCs in air conditioning equipments, or it should be completely integrated into the Industrial Processes section. Canada noted that the revision of the IPCC Guidelines offers an opportunity to harmonize and integrate methods and categories relating to LULUCF reporting under the Kyoto Protocol, and the existing categories relating to LUCF and agriculture. Canada and New Zealand identified a need for further work and clarification on the treatment of wood products. New Zealand noted that methodologies for estimating emissions from international marine and bunker fuels are required in order to standardize the approach taken by Parties in producing inventory estimates.
- 9. Norway provided detailed comments on the structure and cross-cutting issues, on coverage and on methodology and emission factors relevant to the revision of the IPCC Guidelines. It suggested that new sectors (and chapters) be developed for non-biotic sequestration, and a separate chapter be developed for HFCs, PFCs and SF<sub>6</sub> or that these be integrated with solvents. Guidance on some cross-cutting issues, such as capture and storage of non-biotic carbon, how to allocate CO<sub>2</sub> emissions from peat production and combustion, and how to allocate different sources of CO<sub>2</sub> from agricultural soils, should be provided. Norway recommended that guidelines should include any new greenhouse gases not covered by the Montreal Protocol (e.g. NF<sub>3</sub> and other F-gases), and continue to cover precursors and aerosols, including SO<sub>2</sub>, NO<sub>X</sub>, NMVOC and CO. In the existing guidelines there are in general no methodologies for the precursors, because such methods are covered in regional programmes, (e.g. EMEP/CORINAIR).
- 10. Norway suggested that in the preparation of the new guidelines, consideration shall be given to whether references to regional programmes are sufficient or whether a more global approach should be introduced. In any case, the good practice approach should be extended to the precursors, and the list of precursors could be extended. For example, the inclusion of  $NH_3$  would be reasonable, because these emissions are linked to the formation of secondary particles and deposition of reduced nitrogen will normally increase denitrification in soil, and hence increase  $N_2O$  emissions. Inclusion of particles should also be considered. However, any inclusion of new precursors and methodologies for estimating these gases should be done in collaboration with other relevant programmes or conventions, such as the United Nations Economic Commission for Europe Convention on Long Range Transboundary Air Pollution Programme (CLRTAP) and its Task Force on Emission Inventories and Projections (TFEIP). If it is decided to include particulate matter, it is necessary to clarify what types of particles (black carbon, organic carbon, etc.) will be included, and relevant size distribution, which will differ from regional programmes focusing on particle size ( $PM_{10}$  and  $PM_{2.5}$ ). Furthermore, Norway underlined the need to have a good and transparent dialogue with experts from industry and non-governmental organizations throughout the revision process.

# B. Other issues relating to development of GHG inventories that may warrant further consideration

- 11. The secretariat has identified the following topics relating to GHG inventories that may warrant consideration by the IPCC:
- (a) For some source categories, particularly in the Energy and Industrial Processes sectors (for example non-CO<sub>2</sub> emissions from stationary combustion, PFC emissions from aluminium production), the IPCC good practice guidance provides for the accounting of emissions estimates resulting from the use of direct measurement techniques. The IPCC could consider whether direct measurements are also applicable to other source categories; whether and how their use would improve the quality of reported GHG data; and what additional guidance can be provided to inventory agencies to ensure that these data are accounted for in a reliable, systematic, consistent and transparent manner.
- (b) Experience with the technical assessment and the review of GHG inventories from Parties has demonstrated that the availability of reliable activity data is a key component of the GHG

inventory preparation process. The IPCC good practice guidance recommends that inventory agencies should check activity data used for estimating GHG emissions to assess their reasonableness and ensure applicability and relevance to specific source categories. In addition, for certain source categories, it recommends that the activity data used be compared with other existing data sets that may be available. Following from these recommendations, the IPCC could consider whether statistical methods or other similar tools are available to assist inventory agencies in determining whether the activity data are representative for the source categories included in their national GHG inventories.

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