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Tenth session

Bonn, 31 May - 11 June 1999

Item 4 (a) of the provisional agenda

SUBSIDIARY BODY FOR IMPLEMENTATION

Tenth session

Bonn, 31 May - 11 June 1999

Item 3 of the provisional agenda

**NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED  
IN ANNEX I TO THE CONVENTION**

**Comments from Parties on methodological issues related to possible clarifications,  
additions and amendments to the inventory section of the revised guidelines for  
the preparation of national communications by Annex I Parties**

**Note by the secretariat**

**Addendum**

1. In addition to the submissions included in document FCCC/SB/1999/MISC.5, seven further submissions have been received.\*
2. In accordance with the procedure for miscellaneous documents, these submissions are attached and are reproduced in the language in which they were received and without formal editing.

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\* In order to make these submissions available on electronic systems, including the World Wide Web, these contributions have been electronically scanned and/or retyped. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

**FCCC/SB/1999/MISC.5/Add.1**

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PAPER NO. 1: AUSTRALIA

**AUSTRALIAN SUBMISSION ON THE OPTIONS ADDRESSED  
IN DOCUMENT FCCC/SBSTA/1998/8  
(Methodological issues related to greenhouse gas inventories)**

**INTRODUCTION**

Australia welcomes the program of work on methodological issues related to estimating Annex I Party emissions, and in particular the secretariat documents FCCC/SBSTA/1999/INF.1 and Add.1. Australia notes that this work program extends considerably beyond methodologies (as defined in Article 5.2 of the Protocol) to cover most issues relevant to the development, reporting and review of Annex I Party inventories.

We note that this work program is being developed under the UNFCCC Annex I Party inventory guidelines, but with a view to possible future requirements in implementing the Kyoto Protocol. Australia foresees that in the longer term the UNFCCC guidelines relating to Annex I Parties would be incorporated in the guidance necessary under Articles 5 and 7 of the Protocol. However, we note that the UNFCCC guidelines request more information than is likely to be required under the Kyoto Protocol, for example on the comprehensive estimation of net emissions from the Land Use Change and Forestry (LUC&F) sector, on emissions of SO<sub>2</sub>, and on bunker fuels. This additional information, which is important to help estimate total emissions from Annex I Parties, should continue to be reported even though it may not be required under the Kyoto Protocol.

Australia notes that there are several strands of work in other bodies related to these issues:

- In response to a request from the SBSTA, the IPCC is due to report to the SBSTA in the year 2000 on its work on good practice in inventory programmes and uncertainties in inventory estimations;
- The IPCC has established a new greenhouse inventories task force, to take forward IPCC work on the estimation of greenhouse gas emissions;
- The IPCC is also preparing a special report on land use, land use change and forestry (due mid 2000) which will also examine the implications of the Protocol for the IPCC guidelines and for national inventories. Accordingly LUC&F matters are not included in the current IPCC work on methodological issues.

The results of these work programs will need to feed into work on improvements under the UNFCCC guidelines, and accordingly it would be premature for SBSTA-10 to reach final conclusions on the program of work on methodological issues.

Overall, Australia considers that transparent and effective reporting and review is the key to ensuring confidence in Parties' emission estimates. Australia seeks clear rules for ensuring transparency and verification of inventories, but does not wish to see the creation of

constraints which would restrict the capacity of countries to improve their inventory estimates.

### **BASE YEAR**

Whether Parties should be allowed to recalculate baselines, and when baselines should be fixed for the purposes of determining compliance in the first commitment period are, in Australia's view, compliance issues which should be considered by the joint working group on compliance.

Australia considers that, as a general principle, baselines should be calculated using the same methodological framework as inventories during the commitment period, and that any rules relating to the calculation of baselines need to permit their ongoing improvement and consistency with calculations in the commitment period. There should be no cut off period after which recalculations cannot be made (except for determining the baseline for the purposes of assessing compliance in the commitment period).

The Revised 1996 IPCC Guidelines require the backward calculation of emissions estimates to ensure the consistency of time series data, but no guidance is provided on the conditions under which updates should be undertaken. While some guidance may be useful on this matter, Australia believes that a number of issues (including the availability of resources and expertise, and the magnitude of change from previous calculation) will determine the need for and frequency of back calculations. Accordingly it should to a considerable extent be a matter for individual countries to determine whether recalculations are appropriate in any particular circumstance.

Improvements in the calculation of baselines will continue to be possible as the scientific understanding of emission factors and activity data improves. However there will be circumstances when there will be discontinuities between the base year and the commitment period, because of the lack of data availability, or changes in activities and processes. This means that full time series consistency cannot necessarily be achieved.

The recalculation of baselines should impose a particular obligation to clearly and transparently report the reasons for recalculations.

### **REPORTING**

Australia notes the problems with the consistent and complete reporting of inventories that have been identified in the second compilation and synthesis of second national communications. In addition to possible lack of clarity in the guidelines, it appears that many Parties are not meeting existing inventory reporting requirements.

It is, however, clear that reporting requirements will need to be improved to meet the requirements of a legally binding regime under the Protocol. In the future, the adequacy of inventory reporting is likely to be a compliance issue.

Difficulties in reporting under the Convention need to be addressed through the development of reporting guidelines that aim to facilitate inventory reporting, while ensuring that Parties submit sufficient inventory information.

Australia notes that there is a trade-off between the detailed information that may be required from Parties, and the cost and effort required to report information.

Document FCCC/SBSTA/1998/8 raises several options for possible further inventory detail that might be provided, whether for certain sectors, or for certain years. Australia considers that before the merits of these approaches can be addressed, greater clarity is needed on the objective of reporting detail beyond that which might normally be required, the implications of what this detail might constitute in practice, and the use to which this additional data may be put.

Australia notes that defining what might constitute extra reporting detail is under discussion. Requiring additional detail imposes a cost burden on countries to provide additional layers of information. The objectives of requirements for information need to be clearly identified so as to focus effort in a constructive way. Sufficient information should be provided in inventories to enable third parties to identify data sources, consider the quality of input data, assess the completeness of the estimate, and identify the reasons for and extent of uncertainties associated with the estimates. Methodologies used and the underlying algorithms, assumptions and limitations should also be clearly stated. The use of decision trees, as may be developed by the IPCC inventories task force, may be useful to help document the required information.

The 1996 revised IPCC inventory guidelines request provision of worksheets supporting the inventory estimates and this detail should be provided as fully as possible. Where national methods are not compatible with the worksheets provided, differences should be clearly identified and comparable information provided. Possible requirements for additional information should continue to recognise the principle that countries are encouraged to use or develop methods that enable the best possible estimate of national emissions.

Any new reporting requirements may usefully be trialed and incrementally improved to meet possible future requirements under the Protocol.

Reporting of inventory data should move towards the use of a common electronic reporting format. Australia notes that the standardised format for electronic reporting that the secretariat is developing may be particularly useful in this regard.

Synthetic gases form a relatively small proportion of the inventory of most Parties, but they are a rapidly growing portion with substantial global warming potentials for most gases. Accordingly Australia believes that Parties should be obliged to report actual emissions of synthetic gases, following the approach taken for all other gases. The reporting of potential emissions may be useful as a reference point, but it should become redundant as the capacity to report actual emissions is improved. Australia also believes that it would be a useful

benchmark if the secretariat were to compare the sum of these Parties actual emission estimates with measurements of atmospheric concentrations.

Document FCCC/SBSTA/1998/8 notes that Parties report emissions from bunker fuels using a variety of different criteria for what should be included and excluded. To ensure consistency, a set of rules should be developed on how bunker fuels are to be estimated.

Australia considers that, as far as possible while minimising overlap with requirements under the Montreal Protocol, information on all greenhouse gases should be reported under the Convention. This includes information on ozone precursors and SO<sub>2</sub>. The advantage of providing this information is that Parties have a single source of all greenhouse gases, and information that has been provided under the provisions of the Convention can more readily be considered by Convention bodies given its official status under the Convention.

### **VERIFICATION OF ESTIMATES**

Australia considers that transparent and effective reporting and review is the key to the quality of country's inventories. Of the options raised in the secretariat's paper (FCCC/SBSTA/1998/8) to deal with ensuring inventory quality, Australia offers the following comments:

- *Recalculation of previously submitted inventory data.* Australia considers that recalculations should be permitted if they will result in more accurate emission estimates. This is likely to be the case where recalculations are due to improved methods or better emission factors, and in some cases to better activity data (eg through the capacity to more accurately interpret satellite data on historic land clearing), all of which may become available some time after the year in question. In all cases, however, recalculations should result in additional reporting responsibilities to ensure that the rationale and basis for recalculation is transparent. Recalculations should, to the full extent possible, be applied consistently to base and subsequent years;
- *Use of default methods.* The IPCC guidelines provide a default method, which Parties are encouraged to improve upon. The default method provides a lowest common denominator - except for the energy sector. It does not offer a means to generate more accurate estimates of actual emissions. By definition, default methods are based on data derived elsewhere that do not necessarily reflect the circumstances of the countries using them. Thus, requiring Parties to use a default method for calculating emissions is in general the equivalent of requiring them to use less accurate methods. Australia believes that common default methods generally do not lead to a more accurate estimates of emissions, and do not provide a valid means of comparison of emissions estimates between countries.
- Document FCCC/SBSTA/1998/8 notes that the use of default methods may help to identify errors. Australia is not aware of any instances in which this has occurred.

- *Other sources of data.* Australia considers that the approach of comparing officially submitted data with data from other authoritative sources is unlikely to be particularly useful. There appear to be difficulties with the lack of availability of international data for all sources, with the methodologies and assumptions used in different data sets, and with whether international data sources actually rely on the same primary sources drawn upon in compiling national inventories. Rather than rely on data from other sources, Australia believes that efforts should be directed to ensuring good practice in inventory compilation, reporting and review.

Inventory reporting is retrospective, although the lag between actual emissions and the due date for inventory reporting may decrease in the future. Australia notes the potential usefulness of approaches to estimating future emissions, including performance estimates for particular mitigation measures, sectoral and national projections, and trend information. Such information is likely to become increasingly valuable in the context of forward estimations of compliance in the commitment period.

In summary, Australia places considerable importance on:

- processes to verify emission estimates (pending the development of methods to directly measure atmospheric concentrations);
- robust reporting and review process;
- the development of best practice reporting methods;
- enhanced review processes (including, in the future, under Article 8 of the Protocol);
- consideration of the need for good practice guidelines for the review process as a step in enabling better comparison between country emission estimates.

## **INVENTORY CONFIDENCE LEVELS**

Considerable work is being undertaken in the IPCC to develop good practice guidelines to improve confidence levels in inventory reporting (and to reduce ‘uncertainties’).

Australia believes that it would aid the work of the SBSTA if SBSTA-10 could receive a detailed report on the progress of this program of work, including an update on its current objectives, timelines and expected outputs, as well as an indication of what further steps may be required to progress this agenda. SBSTA-10 could then provide guidance on the strategic planning of this work for the future.

Australia believes that uncertainties will always be an inherent feature of inventory estimates and that some sectors by their nature will always have greater uncertainty than others. The IPCC and SBSTA should work towards developing good practice in managing and reporting uncertainties while retaining comprehensive coverage of anthropogenic emissions.

PAPER NO. 2: CANADA

**CANADIAN COMMENTS ON DRAFT GUIDELINES FOR THE PREPARATION  
OF NATIONAL COMMUNICATIONS:**

**PART I: INVENTORIES & THE COMMON REPORTING FORMAT  
FCCC/SB/1999/1 and FCCC/SB/1999/1/Add.1**

Canada believes that the common reporting format tables alone do not provide an adequate means of monitoring inventory transparency, or comparability. In the attempt to use the tables as a method of reviewing inventory methods, the number and size of the tables has increased significantly, with limited actual value. A National Inventory Report would be the best tool to evaluate inventory quality since this would provide the flexibility the IPCC Guidelines for National Greenhouse Gas Inventories allow and promote. The inventory reporting tables alone, are not the best mechanism to generate indicators to compare parties performance under the Framework Convention on Climate Change, and definitely not under a future system which will be required under the Kyoto Protocol. There can be many underlying differences in data, definitions, and methods that will not be apparent simply from information provided by the tables of the Common Reporting Format.

Though the Common Reporting Format may be useful for adding functionality to inventory reporting and for comparing country indicators, its format is too detailed and therefore too long. These tables can only be completed if they are shortened and changed as described below. More detailed data as required to evaluate transparency and comparability can only be provided in an inventory report.

At present inventory reporting is broken down into three sections 1) Common Reporting Format, 2) Inventory Report, 3) Archive (record keeping)

**Common Reporting Format**

The amount of paperwork required to complete the Common Reporting Format tables is large. New tables are only required when there is a change in data. However, in actuality all the sectoral background data tables and sectoral tables will most likely need to be completed for every year for each submission since inevitably there will be small changes to each years data. For the 1997 submission using the new common reporting format this will result in well over 300 pages of tables. This is a large amount of data, which will be very time consuming to produce and analyse. Canada is concerned that the large number of tables required each year will be an undue burden and not improve inventory quality. (Note FCCC/SB/1999/1 para 34, states that one of the reasons that the previous worksheets were a failure was due to the large number of worksheets required). Efforts should be made to ensure all the data in the tables are essential and that the tables are concise.

The purpose of the sectoral, trends, CO<sub>2</sub> equivalent, recalculation, and completeness tables is clear. They show details of emission sources, a Party's progress toward meeting its targets and summarize inventory method changes and completeness, which is easy to show in the



standardized format. Canada feels these tables suit their purpose well. The purpose of the background data tables is less clear. It appears as though the background data tables are intended to fulfil FCCC/SB/1999/1 para 32 (improve transparency and comparability). These background data tables fall short as a tool to improve inventory transparency and comparability while at the same time greatly increase the effort required to complete the Common Reporting Tables. A major shortcoming is the requirement for aggregate emission factors and aggregate activity data.

The aggregate emission factors are not emission factors and should not be described as such. They provide little value in terms of reviewing the inventory. The aggregate emission factors will only aid in revealing gross inventory errors as most errors or misunderstandings will be hidden during data aggregation. The aggregate factors are actually indicators and should be described as such. Furthermore, Parties should not be required to submit these. If necessary, they can be easily calculated by the Secretariat, particularly with the submission of data electronically.

The activity data required in the Common Reporting Format Tables is in many cases aggregated into basic types (e.g. coal, oil, and gas in the case of Energy Tables). Inventory transparency is not achieved through aggregating data into groupings that were not necessarily used to estimate emissions. This data will provide a useful tool for providing a performance indicator but aid little in reviewing the inventory quality. All desegregated emission factors and activity data are required to review an inventory, anything less than this will not be effective.

An important element of transparency and comparability is understanding the definitions used by various parties to define the activity data (for example whether or not calves are included in the definition of dairy cows or what vehicles are included in “other” transport). The common tables do not provide this type of information.

The common reporting tables also do not provide any mechanism to show where parties have used country specific methods or significantly different methods from those described in the IPCC reference manual. One of the most important features of the guidelines is their flexibility. Methodologies are not prescriptive, but rather allow for country specific emission factors and methodological details which can be more accurate than the default procedures. Thus, in order to compare inventories it is essential to determine where parties are using different methods. All sections of the Common Reporting Tables should include an option to indicate if a country- specific method was used (as opposed to only country specific emission factors, as is the case with the Common Reporting Tables).

### **Comments on Specific Tables**

#### Table 1 Sheet 2

There should be a clear distinction made between the oil-related emissions and the gas related emissions. There is significant overlap of these two industries and their related infrastructure.

#### Table 1.A

A definition should be provided as to what source propane should be classified as natural gas or oil. In Canada, as well as many other countries, they are from both sources.

#### Table 1.B.2

As mentioned above a definition between oil and gas is required to improve comparability. Also a line should be added for natural gas exploration emissions or exploration emissions should be allocated separately from oil and gas. The activity data for oil and gas production and/or processing can be a combination of many types of data. In Canada's case fugitive oil and gas emissions are estimated from a detailed tier 3-engineered inventory. This involves estimating emissions based on the number, size and, type of equipment used, as well as the production volumes of various hydrocarbons products. Any single source of activity data (e.g. gas produced) would not be related, or used in the inventory calculation.

#### Table 1.C

This table should not be exclusive to feedstocks. Lubricants are not feedstocks. This table should be called Non Energy Use of fossil fuels. Also, the tables should break out LPGs into propane and butane since there is a significant difference between the two.

#### Table 2.(I).A-G

It is misleading to ask for emission factors. Even under the industrial process section these are back calculated indicators (lime, nitric acid, adipic acid etc.).

Like many countries Canada operates integrated iron and steel production facilities, at these facilities it is not useful to separate emission between pig iron and steel production. It would probably be more useful to differentiate between virgin and recycled steel production. It is very doubtful that all countries will have activity data aggregated in the same way for this sector.

#### Tables 4.A-F

This table should have a box asking what tier was used. If tier I was used then most of the data would be NA. This could simplify and ease reporting burden.

#### Table 6.A

The IPCC default method is not appropriate for the Canadian circumstance as we have previously argued, therefore we use the 'Scholl Canyon Model'. This table is not appropriate if the country is using such a model. The tonnes of DOC (Degradable Organic Carbon) degraded is not applicable if a country is using the Scholl Canyon model. The data between parties will not be comparable. This table should be simplified to account for this.

### **Inventory Report**

The inventory report, by framing the inventory in a contextual manner, is a very useful tool for reviewing the transparency, comparability and overall quality of an inventory. The report will describe in words the methods used to estimate emissions and the differences from IPCC methods. The report is a flexible tool, which matches the flexible nature of the IPCC guidelines. While a detailed in-depth review of all data is the only means of comparing

transparency, comparability and quality of inventory methods used by Parties, an annual inventory report is a good and the most appropriate place from which to start a synthesis and review of inventory data.

FCCC/SB/1999/1 para 34(a) states that the national inventory report **shall** be prepared and **should** be updated annually. However, there is no requirement to submit this Inventory Report. Canada feels that it is important that there be a requirement to submit an Inventory Report on an annual basis. It will provide a useful tool to understand the actual methods used to estimate emissions.

However the requirements detailed in FCCC/SB/1999/1 para 34 are excessive. The requirement to provide all national worksheets on an annual basis would provide an undue burden. The detailed national worksheets are available for review by inventory experts during an audit or country review. Also, the requirement to provide all activity data used for every year is excessive. Canada recommends only providing activity data for the baseline and last inventory year.

The inventory report along with common reporting tables should be the tool used by the Secretariat to evaluate the transparency and comparability of inventories. In our view, the Common Reporting Format would form an integral part of the Annual Inventory Report.

#### **Archive (Record Keeping)**

An archive is essential to provide for full inventory transparency of an inventory. All data cannot be provided in Common Reporting Tables or an Inventory Report. As a result details such as intermediate year activity data, emission factor derivations etc need to be documented and made available for review. FCCC/SB/1999/1 para 34 and 35 overlap the requirements of the inventory report and the Archive (record keeping). Paragraph 34 states that **all** inventory data must be reported anyway, including disaggregated emission factors and activity data. Canada feels that the detailed records need to be maintained, but not reported since realistically all data cannot be made available in an annual report (as described earlier). This archive would be used during a detailed inventory review to verify data published in the inventory report. More details need to be provided to distinguish between what will be required in the report and in the archive.

PAPER NO. 3: CZECH REPUBLIC

**SUBMISSION ON COMMON REPORTING FORMAT**

We have read document on proposed “Common Reporting Format” for the National GHGs Inventories very carefully. In general, We are convinced that this concept could really enhance the transparency of presented results and improve prospective QA/QC procedures. From this respect we support especially the intention to provide also information about activity data and basic emission factors used.

We focused only on most important topics, which are closer to our practical interest, which is 1- Energy sector and partly 7-13 (summary tables and other general tables).

Several of these items are discussed in more detailed way in the following paragraphs:

**ENERGY**

**Table 1A (Fuel combustion activities – Sectoral approach)**

To find the optimal format of the presentation of data concerning CO<sub>2</sub> emission, it is surely the crucial task: CO<sub>2</sub> emissions from this sector usually represent more than 60% of the total (GWP weighted) emission. On the other hand, emissions of CH<sub>4</sub> and N<sub>2</sub>O from this sector usually are not so important (Only residential combustion of coal in stoves is indispensable source of methane and fluidised bed combustion and usage of the 3-way catalyst in road traffic could be more significant source of N<sub>2</sub>O). Therefore the presented format with aggregated fuels categories (Coal, Oil, Other fuel) of the table could be perhaps sufficient only for CH<sub>4</sub> and N<sub>2</sub>O emissions (excepting the above-mentioned items, of course).

However, we are afraid that the presented format is not quite satisfactory in case of **CO<sub>2</sub> emission**. The reasons can be summarised in the following items:

It is not quite clear what individual fuel types are exactly involved in the aggregated fuel groups. When considering fuel groups definitions from the chapter 1.2 “Fuel Categories” (table Basic Fuel Hierarchy) of the *Reporting Manual*, it is necessary to divide the existing group “Other fuels” from the “Common Reporting Format” into two categories: (i) Other fuels of fossil origin (e.g. industrial waste) and (ii) Biomass (emissions of CO<sub>2</sub> must be treated separately as “memo items” and not counted to CO<sub>2</sub> total)!!

Besides, some individual fuels included in the same group often have rather different CEFs (CEF = Carbon Emission Factor) and so it is not sufficient to use only aggregated values of EF like EF(coal) and EF(oil). For illustration:

Considering default IPCC values for “Coal” group: CEF(hard coal) = 25.8 t C/TJ, CEF(brown coal-lignite) = 27.6 t C/TJ, CEF(peat) = 28.9 t C/TJ and CEF(coke) = 29.5 t C/TJ.

Considering default IPCC values for “Oil” group: CEF (gasoline) = 18.9 t C/TJ, CEF (gas/diesel) = 20.2 t C/TJ, CEF (residual oil) = 21.1 t C/TJ

In order to improve the transparency from this viewpoint, the presentation of the aggregate CO<sub>2</sub> factors - EF(coal) and EF(oil) - should be complemented by CEF values of main individual fuels (e.g. gasoline, residual fuel oil) including their energy consumption contributions (in TJ or %). Presentation of these additional values is not complicated because the above mentioned individual CEFs are necessary for calculations of CO<sub>2</sub> emissions aside from the approach used (Sectoral Tier 1 or CORINAIR)

#### **Table 1.E and IPCC Worksheet 1-1**

We support the concept of the obligatory presentation the IPCC Reference approach (Worksheet 1-1) as an essential tool for checking others more sophisticated methods of the sectoral (sector-splitted) CO<sub>2</sub> estimation.

The term “National Approach” used in the “Common Reporting Format” seems to be too arbitrary. To our understanding for the EU countries the CORINAIR - *CollectER* approach (using data in standard database format) should be preferred. The transfer of the SNAP nomenclature used in the CORINAR to the IPCC nomenclature used in the “Common Reporting Format” can be provided automatically (so far by *ReportER*).

We prefer methods based on the National Energy Balance - Top-down methods (e.g. IPCC Sectoral Approach - Tier 1) that make possible application of transparent checking procedures). However, bottom-up calculations for large point sources also might be incorporated, but only in combination with other data from the national energy balance (in agreement with “Good Practice Recommendation”).

#### **Summary and other general tables (7-13)**

As far as we can gather, the concept of replenishment of Summary tables 7,8 and introducing other new general tables 9-13 seems to be advantageous. However, finding the optimal way of *Managing uncertainties* is not still complemented by IPCC and so table 8 would have to be adapted later (the present indicator of *Quality* - Levels: High, Medium, Low - is not satisfactory). As well the conclusions of series of the “IPCC Good Practise Meetings” should be incorporated to the UN FCCC “Common Reporting Format”.

PAPER NO. 4: GERMANY

(On behalf of the European Community and its member States)

**COMMON REPORTING FORMAT FOR THE ANNUAL SUBMISSION OF  
GREENHOUSE GAS INVENTORIES BY ANNEX I PARTIES**

Germany, on behalf of the European Community and its Member States, thanks the secretariat for preparing document FCCC/SB/1999/1/Add.1 which includes a draft common reporting format for the annual submission of greenhouse gas inventories by Annex I Parties.

The EU welcomes this document as an important step towards the improvement of annual inventories. Previous EU submissions identified the need for improving formats and tables taking into account requirements under the Kyoto Protocol. The EU now welcomes the work that has been performed by the secretariat regarding this need. The common reporting format will improve comparability and verifiability of inventories, and will help the review process.

The EU notes that revisions to the common reporting format may be needed following the completion of work by IPCC on good practices in inventory management, and the IPCC Special Report on Land-use, Land-use Change and Forestry. Furthermore it will almost certainly be possible to improve the common reporting format in the light of Parties practical experiences with using it. Therefore the EU proposes a test phase, covering the inventories due in years 2000 and 2001, during which Parties could develop the necessary software tools and would use the common reporting format as fully as possible. The extension of the test phase until 2001 also takes into account that some Parties may not be able to submit the 1990-1998 inventory in the revised common reporting format by 15 April 2000. During the test phase Parties should fulfil their existing reporting requirements by completing the tables in the common reporting format which are derived from those in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC Guidelines). After the test phase experiences and views from Parties should be collected and, together with any new work available from IPCC, be used to improve/revise the common reporting format in particular to maximise usability, and to review what reporting requirements should be mandatory.

**Comments to the tables of the draft common reporting format as contained in the annex to FCCC/SB/1999/1/Add.1**

The EU provides its preliminary comments to the tables of the draft common reporting format. Further comments may be provided during SBSTA10. In addition, comments will be provided after the practical experiences in a test phase.

**General**

1. All data tables should include the year for which the data are provided

2. Wherever sectoral background tables refer to particular parts of the IPCC Guidelines the relevant pages of IPCC Reference Manual should be given, otherwise specialist terms such as „VS daily excretion“, „MCF“, „AWMS“ etc. may be difficult to understand.

#### **TABLE 7.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES**

1. CO<sub>2</sub> removals from metal production and other production should be shaded since CO<sub>2</sub> removals do not occur in these categories.
2. Cells N<sub>2</sub>O to SO<sub>2</sub> in row 1.B 1 (Solid Fuels) should not be blanked out, since this category includes emissions from solid fuel processing; also the N<sub>2</sub>O cell under 1.B.2 should not be blanked since oil and gas flaring will emit some of this gas.
3. Box for NO<sub>x</sub> should be shaded since, although agriculture is a small source of NO<sub>x</sub> (as NO). No methodologies are currently available to quantify these emissions.
4. Production of halocarbons and SF<sub>6</sub>. The halocarbons from chemical industry should not be shaded as emissions can occur.

#### **TABLE 7.B SHORT SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES**

Emission of HFCs, PFCs, SF<sub>6</sub> from solvent and other product use should be shaded as in IPCC table and to be consistent with table 3 (sectoral report for solvent and other product use).

#### **TABLE 1 SECTORAL REPORT FOR ENERGY**

1. In category A 5 IPCC sub-categories “a. stationary” and “b. mobile” are lacking (see IPCC Guidelines, Reporting instructions, p. 1.6)
2. Multilateral Operations could be added to Memo Items for consistency with Table 7A and 7C
3. Shading of B.1 (solid fuels) and B.2 (oil and natural gas) is not consistent with table 7.A for N<sub>2</sub>O, NO<sub>x</sub>, CO, NMVOC and SO<sub>2</sub>. For B.1 Solid fuels the boxes for N<sub>2</sub>O, NO<sub>x</sub>, CO, NMVOC and SO<sub>2</sub> should be shaded. N<sub>2</sub>O should be shaded for B.2 oil and natural gas.
4. CO<sub>2</sub> should be unblanked for B.1.a (coal mining) and B.2.a (oil).

#### **TABLE 1.A SECTORAL BACKGROUND DATA FOR ENERGY**

1. The EU believes that the basic split into four fuel types is suitable for calculating aggregate emission factors and will enable useful comparisons to be made. However petroleum dominates transport fuels to such an extent that it would be useful to replace

‘coal’ and ‘oil’ by ‘gasoline’ and ‘diesel’ for this sector. The most useful split of fuel types should be reviewed following the test period.

2. In the table a column for emissions should be added, because Table 1 does not disaggregate by fuel.
3. Footnote (1) is a little unclear; it should be redrafted as follows ‘Activity should normally be specified using net calorific values (NCV), as indicated by the IPCC Guidelines. If gross calorific values (GCV) are entered in this table please indicate this by placing a “G” in this column.’

#### **TABLE 1.B.1 SECTORAL BACKGROUND DATA FOR ENERGY**

1. Under ‘Additional Information’ the 6th box should say ‘Amount of CH<sub>4</sub> recovered and utilised’ since ‘recovered’ could be interpreted as ‘drained’ and some drained methane is vented.
2. The division into coal types in the box “additional information” is unnecessary.
3. The shading could be confusing because for mining activities/ post mining activities, the “activity data” column is shaded, but emission factors and emissions are not shaded. If there is no activity, there should be no emissions. A footnote saying that emissions for these lines are calculated with the activity data in line “underground mines” should be introduced (the same applies for the shading in “surface mines”).

#### **TABLE 1.B.2 SECTORAL BACKGROUND DATA FOR ENERGY**

1. To give some help to the users, all the units for activity data contained in IPCC worksheet 1-7 should be added in brackets as has been done in lines “Oil exploration” and “Oil production”.
2. 1.B.2.b iii.: The differentiation to “non-residential” and “residential” ) in this table should be changed to “leakage at industrial plants and power stations” (for “Non-residential gas consumed”) to “leakage in the residential and commercial sectors” (for “residential gas consumed”) to clarify that “residential” includes “commercial.”
3. Line 1.B.2.c (i): The CO<sub>2</sub> box for Oil should not be blanked out.

#### **TABLE 1.C SECTORAL BACKGROUND DATA FOR ENERGY**

1. The separate table for feedstocks should be placed next to Worksheet 1-1 with the reference approach.
2. The note beginning ‘The table...’ is not clear - either delete the note and the table in the documentation box or provide satisfactory explanation.



3. The “additional information” table should be merged with the main table since the fuel lines carry across. Alternatively add a footnote making this clear.
4. The example in footnote 1 is poor, because there is no simple reference to coal in the main Table, and because the use of coal in the steel industry is handled elsewhere. The example should be deleted or replaced by a better one.

#### **TABLE 1.D SECTORAL BACKGROUND DATA FOR ENERGY**

In footnote 1 insert “where available” after “multilateral operations”, because most Parties cannot separate data for multilateral operations.

#### **TABLE 1.E COMPARISON OF CO<sub>2</sub> EMISSIONS FROM FUEL COMBUSTION**

1. Positive or negative differences should be defined to ensure consistent reporting. The difference should be defined in footnote 2 as (RA-NA)/NA.
2. The EU welcomes the split in the table to four fuel types. As differences between reference approach and national approach will always be documented for Parties with chemical and petrochemical industries for oil, differences between the two approaches for other fuel types will document methodological problems.
3. ‘Other’ should say ‘Other (please specify)’.

#### **TABLE 2.(I) SECTORAL REPORT FOR INDUSTRIAL PROCESSES**

1. Some cells are shaded, but emission data exist. This is the case for NO<sub>x</sub> emissions from glass production and halocarbons from chemical industry
2. CO<sub>2</sub> emissions from food and drink production are not necessarily of biological origin only. However, food and drink production is not mentioned in IPCC Guidelines as source of CO<sub>2</sub> emissions and no methodologies are provided. Further guidance should be provided to Parties with regard to emitting sources, e. g. in a footnote.
3. Table is not consistent with summary report table 7.A: In table 7.A N<sub>2</sub>O emissions from mineral products, metal production are shaded whereas in sectoral table same boxes are not shaded. Shade this source category in Table 7.A

#### **TABLE 2.(I).A-G SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES**

1. Footnote (2) should be redrafted to read ‘...are reduced by mitigation measures such as emissions reduction...’
2. “Emission factors” in title of columns should say “aggregate emission factors”.

3. Add specification D1 “Pulp and paper” and D2 “Food and drink” to line D „other production“. Otherwise the difference between “Other production” and “Other, please specify” could be confusing.

#### **TABLE 2.(II) SECTORAL REPORT FOR INDUSTRIAL PROCESSES**

1. This table needs a confidentiality footnote.
2. On sheet 2 under section F ‘production’ should read as ‘production of new substance’. Also insert a new line for ‘recycled substance’ under the existing ‘production’ line.
3. Last sentence in the note should be changed to “for reasons of transparency, completeness and to document progress in mitigation.”
4. HFC-columns in line “metal production” should be shaded.
5. It would be helpful to add a corresponding table to Table 2.II with GWPs and CO<sub>2</sub>-equivalent emissions to facilitate and enhance transparency with regard to final calculation of CO<sub>2</sub>-equivalents in Table 7.C.

#### **TABLE 2.(II).F SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES**

The refrigeration category could to be more disaggregated because the present system will give widely different aggregate emission factors due to differences in technology mix between countries. We suggest the following scheme to replace the existing one:

Refrigeration

1. domestic refrigeration
2. commercial refrigeration
3. transport refrigeration
4. industrial refrigeration
5. stationary air-conditioning
6. mobile air-conditioning

#### **TABLE 3 SECTORAL REPORT FOR SOLVENT AND OTHER PRODUCT USE**

1. The footnote should say ‘...CO<sub>2</sub> released...’
2. Table 3 is not consistent with Table 3.A-D. In Table 3.A-D line C “Chemical products, manufacture, processing” is shaded for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O whereas in Table 3 this information should be reported. Shade this boxes in Table 3.

#### **TABLE 4 SECTORAL REPORT FOR AGRICULTURE**

1. Agriculture is not a significant source of NMVOC emissions and is not mentioned in IPCC

guidelines in this regard. Boxes for NMVOC should be shaded as long as no methodologies are provided to Parties.

2. Box for  $\text{NO}_x$  should be shaded since, although agriculture is a small source of  $\text{NO}_x$  (as  $\text{NO}$ ) no methodologies are currently available to quantify these emissions.
3. Rice cultivation is not mentioned as source of  $\text{N}_2\text{O}$  in IPCC guidelines. Blank  $\text{N}_2\text{O}$  under rice cultivation, since IPCC Revised Guidelines specify that emissions of  $\text{N}_2\text{O}$  associated with rice cultivation will be accounted under agricultural soils (see Reporting Instructions p 1.12].
4. The shading is incorrect;  $\text{N}_2\text{O}$  from manure should be reported under B10-13, not B1-9 according to IPCC guidelines.

#### **TABLE 4.A SECTORAL BACKGROUND DATA FOR AGRICULTURE**

1. Only population size is an activity data, other columns under “activity data” are conversion factors or calculation factors (same applies for Table 4.B.; 4.C; 4.E; 4.F; 5.A; 5.B; 5.C; 6.B). Tables should therefore be headed ‘Activity data, parameter values and related information’
2. In the Additional Information table, ‘Weight gain’ is not widely used in calculating emissions and may not be needed. If it is included it should say ‘Weight gain averaged over year, or animal life as appropriate’. Then ‘Milk’ should say ‘Milk yield’. We do not understand what ‘Feeding Situation’ means and no units are given - delete unless this can be clarified. Also we do not understand the meaning of ‘Day weighted population mix’. Add a footnote to table “additional information” explaining these data are relevant if Parties do not have data on average feed intake (e.g. for grazing animals).

#### **TABLE 4.B.a SECTORAL BACKGROUND DATA FOR AGRICULTURE**

1. The definition of climate regions needs to be given in a footnote, taken from Table 4.5 in the Reference Manual.
2. The allocation lines to the three climate regions should be deleted but Parties should have the possibility to specify MCFs for different climatic regions according to their system (e.g. US uses four MCF that do not correspond with the three climate regions).

#### **TABLE 4.D SECTORAL BACKGROUND DATA FOR AGRICULTURE**

1. The split in the two sub-tables can cause confusion as the data in “fraction table” is necessary for calculation of individual lines of the other sub-table. Tables should be merged and Fractions introduced as columns in the left table.
2. Delete “(kg N/yr) under column activity data, because this unit is only valid for “synthetic fertilizer” and “animal waste” as the footnote explains. Include correct units for activity data in the relevant rows.

### **TABLE 5 SECTORAL REPORT FOR LAND-USE CHANGE AND FORESTRY**

According to IPCC guidelines forest and grassland conversion results in CO<sub>2</sub> emissions and not in CO<sub>2</sub> removals and Table 5.B confirms this. Therefore the corresponding rows (in section B) of Table 5 should be blanked, and a footnote added saying that removals should be reported in section D.

#### **TABLE 5.A SECTORAL BACKGROUND DATA TABLE FOR LAND-USE CHANGE**

1. All climate categories should split to “establishment and management of commercial plantations”, “management of commercial forests” and “Other”. Blank boxes should be left to specify “other”. Blank boxes should replace boxes with tree species and forest types so that Parties can add their common tree species or forest types. A footnote should explain that tree species should be given in scientific names. A footnote should also refer to IPCC Guidelines, Reference Manual p.5.14 where a definition of “plantation” is provided.
2. Label activity data, emission factors and estimates columns with letters A, B, C, D respectively.
3. Change heading of column C to read ‘Implied carbon uptake factor, ie column D/column A’. Again this removes ambiguity.
4. Further down the Table, beneath the line labelled “Total Annual Fellings” include a new line saying ‘Other Changes in C Stocks’.
5. Include a documentation box for this Table.

#### **TABLE 5.B SECTORAL BACKGROUND DATA TABLE FOR LAND-USE CHANGE AND FORESTRY**

1. The 10 Year average should be modified in column ‘average area converted’ under ‘decay of above-ground biomass’. The 10-year period is a recommended default value, but “this can be varied if the user has data or strong rationale to suggest that a longer or shorter average decay time is more representative of local conditions” (IPCC Guidelines, Reference Manual p.5.31). With different climate regions it is strongly recommended to use an average period suitable for the region. The Table should allow Parties to choose the appropriate period and indicate this in the table.
2. Besides the average period does not only apply to ‘area converted’ but also to calculate ‘average loss of biomass’ and ‘average quantity of biomass left to decay’ and boxes should be inserted in the Table to allow for Parties to specify these quantities
3. The category “mixed broadleaf/Coniferous” should be introduced with temperate climate.

### **TABLE 5.C SECTORAL BACKGROUND DATA TABLE FOR LAND-USE CHANGE AND FORESTRY**

1. According to the methodology, the total area of abandoned land first has to be split in lands with natural re-accumulation and degraded lands and only land which is accumulating carbon and beginning to return to an approximation to its natural state should be counted. Therefore the first column of data should be headed 'Total area abandoned and returning to its natural state'
2. Abandoned lands must be evaluated in the context of natural ecosystems originally occupying them. This should be reflected in the first column and the title "vegetation types" should be replaced by "original natural ecosystem". In the list, possible ecosystems are lacking, e.g. mixed broadleaf/coniferous forests in temperate climates.
3. If lands are regenerating to grasslands, the default assumption of the guidelines is, that there are no significant changes. This should be indicated by a footnote.

### **TABLE 6 SECTORAL REPORT FOR WASTE**

1. According to the table Parties should provide CO<sub>2</sub> emissions of all waste sub-categories, because no cells are shaded. CO<sub>2</sub> emissions from solid waste disposals derive from decomposition of organic materials from biomass sources which are not treated as net emissions from waste in IPCC Methodology. Biomass deposits from non-sustainable production have to be reported under Agriculture and land-use change and forestry categories. Waste incineration is the only category where CO<sub>2</sub> emissions from non-biomass materials occur (combustion of plastics or other products based on fossil fuels). For all other waste subcategories, the CO<sub>2</sub> cells should be shaded.
2. N<sub>2</sub>O emissions from solid waste disposals: IPCC guidelines do not mention N<sub>2</sub>O emissions from solid waste disposals and we suggest this box be blanked for the time being.
3. NO<sub>x</sub> (as NO<sub>2</sub>) emissions we suggest the box be blanked for the time being.
4. The tables should be adapted in order to report SO<sub>2</sub> emissions from waste incineration.

### **TABLE 6.A SECTORAL BACKGROUND DATA FOR WASTE**

1. First column under 'Activity data' should say 'Annual disposal of solid waste at SWDS' (since MSW is only part of solid waste). Same comment applies to 3rd row of 'Additional Information'.
2. Line 2 "unmanaged waste disposal sites" should be without specification of depth, two lines should be added for differentiation in shallow and deep.
3. Then 8th row of additional information should read CH<sub>4</sub> recovered and flared or utilised'.

4. Final row of additional information should be split into Other- inert and Other -organic’.
5. The Table should have a dialogue box.

#### **TABLE 8.A OVERVIEW TABLE FOR NATIONAL GREENHOUSE GAS INVENTORIES**

Parties should be able to use this Table to report quantitative uncertainty estimates. So the Quality columns should all be headed ‘Quality or Quantitative Uncertainty estimate’.

#### **TABLE 9 RECALCULATION**

1. Table 9 summarises different tables that should be labelled as Table 9.a and 9.b.
2. The relation of the two recalculation tables is not clear. It should be clearly noted that in the first table Parties only have to fill in the sectors where recalculations occurred in the relevant year.

#### **TABLE 10 COMPLETENESS**

As the EU noted in previous submissions that it would be very helpful if Parties would identify and document omitted or partial information, at least for essential parts of reporting, the EU welcomes the new tables documenting completeness.

#### **TABLE 11 ANTICIPATED FUTURE IMPROVEMENTS IN METHODOLOGIES**

The table should be deleted as it seems superfluous. There is no reason for comparison of planned improvements of methodologies between Parties in form of a table and more detailed descriptions of planned efforts would be interesting as part of written reports.

#### **TABLE 12 EMISSIONS TRENDS (CO<sub>2</sub>)**

A similar table with percentage differences from base year instead of absolute emissions would be useful to reflect reduction efforts.

PAPER NO. 5: REPUBLIC OF LATVIA

**GENERAL COMMENTS ON DRAFT UNFCCC REPORTING GUIDELINES ON INVENTORIES AND COMMON REPORTING FORMAT**

The documents regarding Draft UNFCCC Reporting Guidelines on Inventories and Common Reporting Format prepared by the secretariat contain the main deliberations of the workshop and submissions of the Parties.

The Government of Latvia agrees that the national inventory reports based on common reporting format and reporting guidelines will improve transparency, verifiability and comparability of the annual GHG emission inventories submitted by the Parties. At the same time there is a concern with respect to implementation of reporting provisions for Latvia as the country that is undergoing the process of transition to a market economy. Mainly it is connected with institutional strengthening, availability of statistical data and financial resources. Experts of Latvia will need technical and financial assistance from Annex II Parties for initial stage of implementation of common reporting format. Therefore we propose for the Parties with economies in transition to start common reporting introductory phase.

PAPER NO. 6: SWITZERLAND

**NATIONAL COMMUNICATIONS BY PARTIES INCLUDED IN  
ANNEX I TO THE CONVENTION**

**DRAFT REPORTING GUIDELINES ON INVENTORIES**

In response to the call for comments on draft guidelines on greenhouse gas inventories as made available by the Convention secretariat in documents FCCC/SB/1999/1 and FCCC/SB/1999/1/Add.1, Switzerland presents the following views.

Suggestions concerning selected parts of the draft reporting guidelines on inventories (other than the common reporting format) as presented in the annex to FCCC/SB/1999/1

Para 4

Comparability means that estimates of emissions and removals reported by Parties in inventories should be *comparable* among Parties. For this purpose, Parties should use the methodologies **and formats** agreed by the COP for estimating and reporting inventories. The allocation of different source/sink categories should follow the split of the Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories, at the level of its summary and sectoral tables;

Completeness means that an inventory covers all sources and sinks, as well as all gases, included in the Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories **for all activities carried out under the jurisdiction of a Party**, as well as other existing relevant source/sink categories which are specific to individual Parties, and therefore may not be included in the IPCC Guidelines;

Para 16

Consistent with decision 2/CP.3, Parties should report actual emissions of HFCs, PFCs and SF<sub>6</sub>, where data are available, providing disaggregated data by chemical species (for example, HFC-143a) and source category in mass units, and in CO<sub>2</sub> equivalents using 1995 IPCC GWP values, as contained in the above-mentioned table. Parties should make every effort to develop the necessary sources of data for reporting actual emissions. ~~Until they have the necessary data,~~ Parties should **also** report disaggregated potential emissions for these chemicals. Even when Parties report actual emissions, they should also report potential emissions for the relevant sources of these gases, for reasons of *transparency* and *comparability*.



Para 20

Recalculations of previously submitted greenhouse gas estimates as a result of changes in methodologies, changes in the manner in which emission factors and activity data are obtained and used or the inclusion of new sources or sinks, which have existed since the base **year** but were not previously reported (...).

Para 22

If Parties estimate emissions and removals from country-specific sources or sinks, or of gases, which are not part of the IPCC Guidelines, they should explicitly describe what source/sink categories these are, as well as what methodologies, emission factors and activity data have been used for their estimation. **These emissions and removals should be reported separately from national totals.**

Para 24

Parties should report on questions raised in the context of any review process<sup>(9)</sup> **in a timely manner. They** should provide adequate information to demonstrate that these questions have been resolved **in a separate section of their annual submission to the Convention.**

Para 34

In addition, Parties shall **undertake preparations for** a national inventory report containing detailed and *complete* information on their inventories for all years from the base year to the year of the current annual inventory submission, in order to ensure the *transparency* of the inventory. The national inventory report should be updated annually to reflect changes, and may be either published in its entirety as a document or made available in its entirety on national Web sites.

It should include (...)

**Para 34 (bis)**

**When submitting annual inventory information in accordance with paragraph 28, Parties should report on progress made in establishing their national inventory report. They shall make available their first complete national inventory report no later than one year after the Kyoto Protocol has entered into force.**

**Para 34 (ter)**

**Parties are encouraged to use 15 October as common reference date for making their national inventory report available. They should notify the Convention secretariat whenever updated national inventory report information becomes publicly accessible in electronic form or in hard copy."**

Comments and suggestions concerning selected parts of the common reporting format as presented in the annex to FCCC/SB/1999/1/Add.1

1. In line with paragraph 21 (d) of the draft inventory guidelines presented in FCCC/SB/1999/1, in all tables referencing should be possible and adequate space should be provided for footnotes and/or annotations.
2. Wherever emissions of the "new gases" are requested in mass units (non CO<sub>2</sub> equivalents), no totals should be requested for HFCs and PFCs, since there is little value in providing mass totals which include chemicals with differing GWPs.
3. Table 13 (Check-List): Add an additional line under 'General Info' for **Activities under the Party's jurisdiction not covered by the submission (if any)**  
A shortened version may be feasible once paragraph 4 of the inventory reporting guidelines could be referenced in line with Switzerland's suggestion (see above for details).

PAPER NO. 7: UNITED STATES OF AMERICA

**GUIDELINES ON INVENTORIES FOR ANNEX I PARTIES  
AND COMMON REPORTING FRAMEWORK  
FCCC/SB/1999/1 AND FCCC/SB/1999/1/Add.1**

The United States wishes to thank the Secretariat for the work of compiling comments from the workshop on generic issues related to UNFCCC reporting guidelines and for preparing a draft common reporting framework. The United States views annual reporting of accurate, complete, and transparent greenhouse gas inventories as a cornerstone for building confidence among Parties in the Convention process. We offer the following comments on the two documents prepared by the FCCC Secretariat, and on the process for moving forward.

**General Comments**

- \* We find that the Common Reporting Framework (CRF), while needing revisions, offers an extremely useful tool for improving the quality, comparability, and consistency of country reports. The CRF offers the potential for countries to standardize and automate their reports and, if successful, will give the Secretariat the ability to manage the large amount of data received annually.
- \* We recognize there is a great deal of work to do in reviewing and testing the CRF. We are providing detailed comments now, but would like the opportunity to provide further comments after a period of testing and use.
- \* We recognize that the best way to assess the usefulness and applicability of the CRF is to use it in the context of our inventory submission. We propose a trial period for the CRF and strongly urge all Parties to use the CRF for their inventory submissions in April 2000.
- \* We recommend a formal review of the Inventory Reporting Guidelines and Common Reporting Format following the trial period. This review will allow countries to evaluate and potentially incorporate new information resulting from the trial period, as well as from the IPCC good practice guidance and IPCC Special Report on Land Use, Land Use Change, and Forestry.
- During the trial period, we recommend that Parties consider the functionality of the detailed tables for different tiers of methods, and give consideration to how to clarify which boxes on various tables must be filled in and which should only be filled in if particular tiers are used. The overall ease, usefulness, and level of detail of the CRF should, of course, also be considered.

**FCCC/SB/1999/1 Draft Guidelines for the Preparation of National Communications by Parties Included in Annex I to the Convention - Part I: Inventories**

Para 4: Transparency is an essential element in review and assessment of inventories.

*"Transparency* means that assumptions and methodologies used for an inventory should be clearly explained to facilitate replication **and assessment** of the inventory by users of the reported information."

The definition of *consistency* in this paragraph is inconsistent with the text in paragraph 10 on Recalculation. In addition to internal consistency, an inventory should be externally consistent with other parts of the National Communications, as well as with other official reports.

*"Consistency* means that an inventory should be internally consistent in all its elements with inventories of other years. An inventory is consistent if the same methodology is used for the base and all subsequent years. **Under certain circumstances referred to in paragraphs 10 and 11, an inventory using different methodologies for different years can be considered to be consistent if it has been recalculated in a transparent manner, using methodologies identified as good practice.**"

The definition of *completeness* should be slightly expanded as follows:

**"Completeness also means full geographic coverage of sources and sinks within a country."**

Para 5: Strengthen language on submission deadlines.

"Inventory information ... ~~should~~ **shall** be submitted on an annual basis by 15 April..."

Para 7: Clarify language on use of Tiers:

"Parties shall use the Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories, referred to below as the IPCC Guidelines, to estimate and report on anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol. In accordance with the IPCC Guidelines, Parties may use different methods (tiers) included in those guidelines, giving priority to those methods which are believed to produce the most *accurate* estimates, depending on the data availability. In accordance with the IPCC

Guidelines, Parties can also use national methodologies, provided they better reflect their national situation and are well documented."

Para 8: Transparent reporting of national emission factors and activity data is not sufficient. These should be developed and used in as rigorous a manner as possible.

"The IPCC Guidelines offer a default methodology which includes default emission factors and in some cases default activity data. As these default data, factors and assumptions may not always be appropriate for specific national contexts, it is preferable that Parties use their own national emission factors and activity data, where available, provided that **they are developed in a manner consistent with good practice, and** the reporting of the emission and removal estimates and their underlying data is *transparent*."

Para 16. This wording is ambiguous. It should be modified to indicate clearly that potential estimates are applicable only to certain sources, and that actual reporting is recommended.

"Consistent with decision 2/CP.3, Parties should report actual emissions of HFCs, PFCs and SF<sub>6</sub>, where data are available, providing disaggregated data by chemical species (for example, HFC-134a) and source category in mass units. Parties should make every effort to develop the necessary sources of data for reporting actual emissions. Where the concept of potential emissions is appropriate for some source categories, and Parties do not yet have the necessary data to calculate actual emissions, Parties should report disaggregated potential emissions for these source categories. Even when Parties report actual emissions, they should also report potential emissions for the relevant sources of these gases, for reasons of *transparency* and *comparability* .

Para 20. Current wording suggests that recalculations be justified as improving accuracy and completeness, even if this was not the original purpose.

"Recalculations of previously submitted greenhouse gas estimates as a result of changes in methodologies, changes in the manner in which emission factors and activity data are obtained and used or the inclusion of new sources or sinks, which have existed since the base but were not previously reported, should be reported for the base year and all subsequent years, up to the year in which the recalculations are made. Recalculations should result in an improvement in the *accuracy* and *completeness* of the inventory and ensure the *consistency* of the time series. In this regard, Parties should report justifications for these changes. The information on the procedures used for performing the recalculations, changes in the calculation methods, emission factors and activity data used, and inclusion of sources or sinks, should be

documented in a *transparent* manner, indicating the relevant changes in each source or sink category where these changes have taken place."

Para 21. The justification commentary is not necessary.

"Where methodological or data gaps in inventories exist, information on these gaps should be presented in a *transparent* manner. Parties should clearly indicate the sources and sinks not ~~considered~~ included in their inventories but considered in the IPCC Guidelines, and explain the reason for the exclusion. In addition, Parties should use the standard indicators presented below to fill the blanks in all the tables of inventories. This approach facilitates assessment of the *completeness* of an inventory. The standard indicators are as follows:"

Para 21 (c). Depending on how the shading is done, Parties may still need to use "NA". For example, if there are currently no methodologies for emissions from a source such as CO<sub>2</sub> from coal mine fires, and the cell is not shaded, should Parties use "NA" or "NE"?

"NA" (not applicable) for activities in a given source/sink category that do not result in emissions or removals of a specific gas (if categories in the common reporting format are shaded for which "NA" is applicable, **they do not need to be filled in**);

Para 21 (e). Emissions per se are not confidential, but the estimates can be used to derive confidential information.

"C" (confidential) for emissions by sources and removals by sinks of greenhouse gases which **could lead to the disclosure of confidential information**, given the provisions of paragraph 19 above; and

Para 30. Delete. Tables on anticipated improvements in methodologies are not useful.

Para 33. Move to 28 bis. The US encourages the UNFCCC Secretariat to develop database software capable of compiling electronic submissions of the Common Reporting Format automatically. This would speed up the compilation and review process.

Para 34. Last sentence change as follows:

"The national inventory report should be updated annually to reflect changes and submitted **in its entirety** to the United Nations by April 15<sup>th</sup> of each year, either as a document **or** transferred **as** an electronic document."

Para 34 (b). Change wording to avoid ambiguity: "Calculation sheets "

Add 34 (j). Add another element to include in inventory submissions:

"Information identifying QA/QC procedures implemented during the domestic preparation and review of the inventory."

### **FCCC/SB/1999/1/Add. 1 Common Reporting Format**

Global comment: The importance of reporting emissions of HFCs, PFCs and SF6 should be reflected in the order of gases in the common reporting format, so that they appear before the precursor gases.

Table 7.A. "Waste Incineration" The table implies that carbon dioxide emissions from both decomposition and incineration of municipal solid waste is included in national totals. The table should be footnoted as follows:

"Note that CO<sub>2</sub> from waste disposal or incineration should only be included if it stems from non-biogenic or inorganic waste streams."

Table 7.C. End note 1 after the word "totals" to avoid ambiguity:

"Memo Items are not included in the national totals, ~~and respectively they are not accounted for in the overall CO<sub>2</sub> equivalent emissions.~~"

Table 1. Lines 2.c. "Venting & Flaring." It is necessary to distinguish between venting and flaring in order to calculate methane emissions. Separate these into two lines.

Table 1. Add a line for multilateral operations as a Memo Item.

Table 1.A Most countries develop emission estimates based on sub-classifications of oil and coal, such as distinguishing between distillate and residual oil. Every line in table 1.A that mentions "oil" actually covers a range of petroleum products with varying emissions factors. Thus, both the "activity data" and the "aggregate emissions factors" must be calculated weighted averages of the actual product and process-specific emissions factors used. Add a footnote that explains that, and change Activity data to Aggregate Activity Data.

Table 1.D. "sub-bituminous coal for marine bunkers." There are few coal burning ocean ships left in operation, and probably none burning in sub-bituminous coal. It would be best to leave this category as "coal. "

TABLE 2.(I.) "SECTORAL REPORT FOR INDUSTRIAL PROCESSES" - global comments:

- All tables in section 2 should be changed to list semiconductor manufacture and electrical equipment as categories 6 and 7 respectively under “consumption of halocarbons and sulfur hexafluoride.” This makes the tables more useful and consistent with earlier tables.
- Add footnote to all tables: “Parties should report HFCs, PFCs, and SF6 in scientific notation if the values are less than 0.5 Gg. [e.g.  $1.4 \times 10^{-3}$ ]
- Move precursors to the far right so that all six GHGs are together

TABLE 2.(I.) "SECTORAL REPORT FOR INDUSTRIAL PROCESSES"

- Lines A.5 and A.6 should be deleted. There are no emissions of GHGs from these activities - all shaded out - and the IPCC default sequestration factor for asphalt is 100%.
- Line B.1 "Ammonia Production." Carbon dioxide emissions from ammonia production are caused by the steam reforming of hydrocarbon fuels; usually natural gas. In order to avoid double counting, the table should footnote the need to make offsetting deductions from fuel consumption, first for feedstock use of the fuel, and then to a sequestering use of the feedstock.
- Line C.1, "Iron & Steel Production." Carbon dioxide emissions from iron & steel have four components: calcining of limestone, fuel combustion, coke manufacture from coal, and use of coke as a reduction agent. A recent good practice workshop developed recommendations for reporting from this category since these categories may potentially involve double counting with feedstock or fuel use of fossil fuels. Additional detail may be required.
- Line C.4 is provided to report SF6 used for aluminum production. Line C. 3 should be shaded for SF6.
- Add E.3 line for "**Production of HCFC22,**" and make E.4 "Other (please specify)"
- Add F.4 “aerosols/**metered dose inhalers**”
- Blank, but should be shaded:
  - Potential emissions for HCFC22 Production
  - Potential emissions for all other by-product sources

TABLE 2.(I).A-G SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES (CO2, CH4, and N2O)

- Footnote #2 should specify that parties should include quantitative information on recovery, oxidation, destruction, and transformation in inventory documentation.



TABLE 2.(II) SECTORAL REPORT FOR INDUSTRIAL PROCESSES

- Blank, but should be shaded:
  - All columns except for HFC-23, for row E.1. Production of HCFC-22

TABLE 2.(II).F SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES

- Table 2.(II).F. should be broken out into **two** tables, reflecting the data requirements for the two main estimation methods recommended by the expert groups for air conditioning, refrigeration, fire suppression, and electrical equipment at the IPCC Meeting on Good Practice in Inventory Preparation in January.
  1. The first table is identical to the original Table 2.(II).F, except it has been retitled “Consumption of Halocarbons and SF<sub>6</sub> (Bottom-up Approach),” to distinguish it from the second table.
  2. The second table, “Consumption of Halocarbons and SF<sub>6</sub> (Sales-Based Approach),” is designed to accommodate the data required for a newer method of calculating emissions that is based on annual equipment and gas sales. Presenting a second table is simpler than expanding the original table to accommodate the new data requirements, especially since some of the data types used in the two approaches sound similar but actually refer to different quantities.

TABLE 4. SECTORAL REPORT FOR AGRICULTURE

- It appears that Parties should report totals in rows A, B, C, and F, but this should be clarified.

Reporting by animal species and management system will lead to double counting of emissions. Delete reporting by management system and take care of it in the sectoral background table.

Add to row D:

**"D.1. Direct Emissions from Agricultural Soil Management"**

**"D.2. Direct Emissions from Pasture, Range, Paddock, Grazing"**

**"D.3. Indirect Emissions from Agricultural Soils"**

Table 4.A. Sectoral Background Data for Agriculture (Enteric Fermentation)

- Additional Information **for Tier 2**: Spelling correction of “**non-dairy** cattle”
- Row “Non-dairy Cows”: This should read "**Dairy Cattle**," not "Dairy Cows," Add footnote 2 “**Including dairy heifers**” [to avoid omitting dairy heifers from this calculation.]
- Footnote #1: The previous version of the CRF offered a table for a detailed population breakdown.

Table 4.B.(a) Sectoral Background Data for Agriculture (CH<sub>4</sub> Emissions from Manure Management)

- Additional Information for Tier 2 - Spelling correction of “**non-dairy** cattle”
- Row “Non-dairy Cows”: This should read "**Dairy Cattle**," not "Dairy Cows," Add footnote 2 “**Including dairy heifers**” [to avoid omitting dairy heifers from this calculation.]
- Additional Information: Change “Dairy Cows” to “**Dairy Cattle**”, consistent with the previous comment.

Table 4.B.(b) Sectoral Background Data for Agriculture (N<sub>2</sub>O) Emissions from Manure Management)

- Non-**Dairy** cattle
- **Dairy** cattle
- Modify footnote 3. Move footnote to chapeau and change “**All animal waste applied to soils are to be used in Sectoral Background Data Table 4.D.**” [consistent with results of good practice workshop - see comment on Table 4.D.]

Table 4.C. Sectoral Background Data for Agriculture (Rice Cultivation)

- Add a column for scaling factors for water management system, and organic amendments.
- Add a column for the seasonally integrated emission factor for continuously flooded fields without organic amendments.
- Add footnote: "**When disaggregating by more than one region within a country, provide additional sectoral background tables for each region.**"
- Add footnote: "**Specify dry weight or wet weight for organic amendments.**"
- Add footnote: "**Where available, provide activity data and scaling factors by soil type and rice cultivar.**"

Table 4 D - Sectoral Background Data for Agriculture (Agricultural Soil)

- Row: “Animal Wastes, Column: “Activity Data”, change unit to “**Animal wastes applied to soils**” [see comment on Table 4.B.(b).]

Table 6 A - Sectoral Background Data for Waste (Solid Waste Disposal)

- Add additional information:
  - “**Fraction of wastes recycled**”
  - “**Oxidation Factor**”

- “**Number of SWDS recovering CH<sub>4</sub>**”
- **Methane generation rate constant (k)**, add footnote “**for countries using Tier 2**”

TABLE 5: SECTORAL REPORT FOR LAND USE CHANGE AND FORESTRY

We have particular concerns with Table 5 and the accompanying land-use change and forestry background data tables. These tables need significant improvements if they are to be useful and operational. Given that these guidelines are being prepared for reporting under the Framework convention, not the Kyoto Protocol, we do not believe that there is a compelling reason to wait for the IPCC Special report on Land Use, Land Use Change and Forestry to make these improvements.

- Add a column for **Net emissions/removals of CO<sub>2</sub>**. Add a footnote that allows countries to simply report in this column when separate data for emissions and removals is not available.
- Table 5.A. Remove the word “woody” from the title
- Table 5.A. Add the following sub-headings: **Agricultural lands, range lands, pasture, savannah, urban/other**
- Table 5.D. Add the following sub-headings: **tropical forests, temperate forests, boreal forests, agricultural lands, range lands, pasture, savannah, urban/other**

TABLE 5.A. SECTORAL BACKGROUND TABLE FOR LAND USE CHANGE AND FORESTRY, “Changes in forest and other woody biomass stocks”

- remove the word “woody” from the title.
- First section. Remove the sub-headings under Tropical, temperate, Boreal. Replace with the following: **tropical forests, temperate forests, boreal forests, agricultural lands, range lands, pasture, savannah, urban/other**. Add a commensurate set of columns to address emissions from these lands.
- second section: Delete
- Third section: Delete

**TABLE 5.B. SECTORAL BACKGROUND DATA TABLE LAND USE CHANGE AND FORESTRY, “Forest and grassland conversion”**

- This table is specific to the default IPCC methodologies. Countries that use nationally specific methodologies may not have access to (or generate) the data requested in this table.

**TABLE 5.C. SECTORAL BACKGROUND DATA TABLE LAND USE CHANGE AND FORESTRY, “Abandonment of managed lands”**

- This table is specific to the default IPCC methodologies. Countries that use nationally specific methodologies may not have access to (or generate) the data requested in this table.

**TABLE 5.D. SECTORAL BACKGROUND DATA TABLE LAND USE CHANGE AND FORESTRY, “CO<sub>2</sub> emissions and removals from soil”**

- Use the list of land uses from Table 5.A.

**Add a TABLE 5.E. SECTORAL BACKGROUND DATA TABLE LAND USE CHANGE AND FORESTRY, “CO<sub>2</sub> emissions and removals from wood products use and disposal”**

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