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Item 5 (b) of the provisional agenda

Methodological issues under the Convention

Common reporting format for land use, land-use change and forestry

**Views from Parties on the tables of the common reporting format for
land use, land-use change and forestry in accordance with
decision 13/CP.9 and on experience with their use**

Submissions from Parties

1. The Conference of the Parties (COP), by its decision 13/CP.9 (FCCC/CP/2003/6/Add.1), invited Parties to submit to the secretariat, by 15 May 2005, their views on the tables of the common reporting format for land use, land-use change and forestry under the Convention and on experience with their use. The COP also requested the secretariat to synthesize the views of Parties for consideration by the Subsidiary Body for Scientific and Technological Advice at its twenty-third session; this synthesis will be contained in document FCCC/SBSTA/2005/7.
2. The secretariat has received five such submissions. In accordance with the procedure for miscellaneous documents, these submissions are attached and reproduced* in the language in which they were received and without formal editing.

* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

FCCC/SBSTA/2005/MISC.7

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* This submission is supported by Bulgaria and Romania.

PAPER NO. 1: AUSTRALIA

Comments on LULUCF Sectoral Tables— Australia

1. Sectoral Report (Table 5)

NMVOC emissions

A column for reporting NMVOC emissions should be included in Table 5. Australia reports NMVOC emissions associated with forest conversion and prescribed burning and wildfires in forests. At present the only place to report NMVOC emissions is under Summary 1A, where these cells are shaded out at the sub sectoral level.

2. Sectoral background tables (Table 5A-F and IV)

Reporting of CO₂ emissions (not carbon stock change emissions)

Currently, the sectoral background tables report emissions/removals and implied emission factors are expressed in units of carbon or carbon stock change. We consider this poor practice and inconsistent with the way greenhouse gas emissions are reported in all other inventory tables. The LULUCF tables should be constructed so that emissions and removals are reported as the full molecular mass of each greenhouse gas.

- When a carbon stock is converted to an emission the greenhouse gas emission can take the form of either carbon dioxide or methane (or even as an indirect greenhouse gas). Thus, a carbon stock change commonly will not equate to a CO₂ emission.
- Currently net CO₂ emissions are only reported for the aggregated land-use categories in the sectoral summary table. The background tables should be changed so that they also present CO₂ emissions for each land-use sub-division. This arrangement will provide consistency within the sectoral tables and would help avoid double counting of carbon between Tables 5A-F and Table 5(V).
- Reporting of emissions and removals in units of CO₂ in all tables will also improve the interpretation and usability of the inventory from both a policy and stakeholder utilization context.

Views on the tables of the Common Reporting Format (CRF) for LULUCF under the Convention and the experience on their use

23 May, 2005

Introduction

The following submission by the Government of Canada is in response to the invitation by the Conference of the Parties at its 9th session (Decision 13/CP.9, Milan, December, 2003) to Parties to submit by 15 May, 2005 their views on the tables of the common reporting format for the land use, land-use change and forestry under the Convention and the experiences on their use.

As part of the trial period referred to in decision 13/CP.9, Canada used for its 15 April 2005 submission of the 1990-2003 GHG inventory the new CRF tables for the LULUCF sector which reflect the adoption of the IPCC Good Practice Guidance for LULUCF. Overall, Canada did not encounter any major problem while applying and using the new CRF tables for LULUCF. However, a number of minor improvements could greatly enhance clarity, transparency and user friendliness of the tables as well as consistency with the rest of the CRF tables such as the Summary tables. Moreover, since the Convention tables were agreed to at COP9, some knowledge was gained from the development of the CRF tables for reporting of greenhouse gases from LULUCF activities under Article 3, paragraphs 3 and 4 of the Kyoto Protocol. The format of the Convention tables can also benefit from that experience.

We also note some minor inconsistencies in the Summary and Recalculation CRF tables which were overlooked in the changes arising from decision 13/CP.9.

Canada therefore is pleased to offer the following technical and editorial comments and suggestions for improvement. Canada is looking forward to hearing other Parties' views on their experience and to working with them and the Secretariat on refining and finalizing the CRF tables at the 23rd session of SBSTA.

TECHNICAL COMMENTS ON THE TABLES

Table 5

Footnote 1 (and each time this footnote appears in Tables 5A to 5F)

For scientific accuracy and to remove potential misinterpretation of the data, we suggest the text of the footnote be augmented with the following sentence:

“Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals”.

Note (without number):

This note is rather confusing. It is trying to say that the totals will not add up with the various line items in this table because other CO₂, CH₄ and N₂O estimates are also rolled up here that come from tables 5(I) to 5(V). Moreover the last sentence is unclear as there is no separate background data table for the category 5.G. We therefore suggest that the note be deleted and replaced with the following text:

“Totals will not add up because CO₂, CH₄ and N₂O estimates reported in Tables 5(I) to 5(V) are also rolled up”.

Footnote 2:

If the change is made to the note (without number) as suggested above, then footnote 2 is not needed and should be deleted.

Footnote 4:

Reporting on conversion of land to Other land is mandatory. The footnote should be moved against category F.2 (instead of F) and should be replaced by the following text:

“Parties do not have to prepare estimates for this category contained in Section 3.7.1 of the IPCC good practice guidance for LULUCF.”

Footnote 6:

The reporting on delayed emissions from harvested wood products is not mandatory and the methodological guidance is provided in the appendix 3a.1 of IPCC good practice guidance. Canada would like to note that reporting of HWP in Table 5 can raise some confusion given that there is no removal from the HWP pool. Another choice could be to report HWP as an additional pool in Table 5A (Forest Land remaining Forest Land).

With this in mind, for transparency purposes, reporting Parties should explain in the NIR or the documentation box how the approach chosen for estimating delayed emissions from harvested wood products relates to the estimation procedures applied to forest harvesting in the category Forest Land remaining Forest Land. Canada suggests therefore that the text of footnote 6 be augmented with such additional guidance:

“Reporting Parties should explain in the NIR or the documentation box how the approach chosen for estimating delayed emissions from harvested wood products relates to the estimation procedures applied to forest harvesting in the category Forest Land remaining Forest Land.”

General cross cutting comments on Tables 5.A to 5.F

1) Format of Tables 5.A to 5.F

Drawing upon the experience gained while developing the CRF tables for Kyoto Protocol reporting of LULUCF, Canada would like to suggest the following edits and modifications to those Tables in order to enhance clarity and user friendliness. In general, columns should clarify whether they refer to CO₂ emissions/removals or C stock changes. Since ultimately Parties have to report GHG emissions and removals, the changes in C stocks in the 5 C pools (reported in these tables) are summed and converted into CO₂ by multiplying C by 44/12 and changing the sign. However, a C stock change in a single pool is not necessarily an emission to, or a removal from, the atmosphere, rather it is the sum of the changes in C stocks in the 5 pools that is a proxy for a net emission or removal. Hence it is suggested that 2 columns be added that will automatically calculate net CO₂ emissions/removals. This will clarify the linkages of C stock changes with emissions/removals, enhance transparency and facilitate the review process, while not adding to the reporting burden. To that effect, Canada offers the following editorial changes:

- Replace the column title “implied emission factors” by “implied carbon stock change factors”;
- Replace the column title “emissions/removals” by “change in carbon stock”;
- Between the 2 columns referred to above, insert a new column entitled “Implied emission/removal factor per area” (Mg CO₂/ha), to which is attached the new proposed footnote below identified with (*);

- To the far right hand side of the tables, insert a new column entitled “Net CO₂ emissions/removals” (GgCO₂), to which is attached the new proposed footnote below identified with (*);
- The titles of the 2 columns “Increase” should be changed to “Gains” and the term “Decrease” should be changed to “Losses”;
- A new footnote (*) should read:
According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to CO₂ by multiplying C by 44/12 and changing the sign for net CO₂ removals to be negative (-) and for net CO₂ emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals”.

Footnote 2 of Tables 5.A and 5.B and Footnote 3 of Tables 5.C, 5.D, 5.E and 5.F:

As mentioned above, a carbon stock increase in a single pool is not necessarily a removal or a decrease in emissions. Conversely, a carbon stock decrease is not necessarily an emission or a decrease in removal. Canada suggests to replace these footnotes by the following language:” In all cases where the good practice guidance methods used give separate estimates of gains and losses, these estimates should be reported.”

Footnote 3 of Tables 5.A and 5.B, Footnote 2 of Table 5.C and Footnote 4 of Table 5.D, 5.E and 5.F:

Replace the term “increases” by “gains” and “decreases” by “losses”.

2) Biomass burning

In the current CRF structure, depending on the methods used by Parties, C losses from biomass burning are either captured in Tables 5A to 5F estimates or are reported separately in table 5(V). However, all C losses reported in Tables 5A to 5F are deemed to occur as CO₂ emissions only (not CO₂ and CH₄). For practical reasons, we will call C losses occurring as CO₂ “CO₂-C” and C losses occurring as CH₄ “CH₄-C”. If Parties’ estimates of C in Tables 5.A to 5.F do include biomass burning, *and* if no CH₄ emissions are reported in addition in Table 5(V), then total CO₂ equivalent emissions from biomass burning are underreported. Conversely, if Parties’ estimates of C in Tables 5A to 5.F do include biomass burning and if CH₄ emissions are reported in addition in Table 5(V), then total CO₂ eq. emissions from biomass burning are overestimated.

In order to avoid an overestimation in the case where CH₄ emissions are reported in Table 5(V) (the second case described above), the CH₄-C should be subtracted from C stock changes before calculating the total CO₂ emissions/removals for that specific land category. We suggest above adding a column to each of the Tables 5.A to 5.F to capture the total CO₂ emissions/removals. This value should then be the sum of the changes in stocks from the 5 C pools (or soil organic emissions where applicable) minus 12/16 of the CH₄ mass reported in Table 5(V). This mass balance reconciliation can be done automatically through the CRF reporter provided Parties indicate whether C estimates reported in Tables 5.A to 5.F include C losses from biomass burning, either as CO₂-C or CH₄-C, or both. It is therefore suggested that 2 boxes be attached to each of the Tables 5.A to 5.F to that effect, as follows:

*Box 1: Do the estimates reported in this table include C losses as CO₂ from biomass burning?
(Answer Yes/No)*

*Box 2: Do the estimates reported in this table include C losses as CH₄ from biomass burning?
(Answer Yes/No)*

Note that if Parties answer yes in the first box, it will also mean that they report IE in the CO₂ column of Table 5(V) (as per footnote 4 of that table). This provides for an additional cross check.

If Parties answer yes in the second box, the subtraction as explained above will be operated automatically.

Specific comment on Table 5.A (Forest land)

Consideration should be given as to whether the reporting should distinguish organic soils from mineral soils (similar to what is suggested in the comment on Tables 5.B and 5.C below). Equation 3.2.15 of the IPCC GPG relates to CO₂ emissions from organic soils on forest lands. If that avenue is pursued, this table will have to be reformatted to provide for additional columns under Activity Data and C stock change in soils (see comment below).

Specific comments on Tables 5.B (Croplands) and 5.C (Grasslands)

On those lands, the estimation methodologies with respect to mineral and organic soils differ, according to IPCC good practice guidance. In fact, on mineral soils, it is a true change in C stocks, whereas on organic soils, it is a true CO₂ emission (with an emission factor). According to the recommended estimation procedure, organic soils cannot be a sink for CO₂. For transparency and accuracy purposes, and drawing upon the experience gained from the CRF tables for reporting activities under Articles 3.3 and 3.4 of the Kyoto Protocol, additional columns for organic soils should be added in a simple manner. The meaning of the “implied C stock change factor” will also be enhanced. The column called “Subdivision” allows Parties to voluntarily breakdown estimates by vegetation, soil types, ecological zones etc. so a Party could report separately organic and mineral soils using these rows. However, the breakdown is voluntary whereas the reporting of mineral and organic separately should be mandatory. It is therefore suggested to do the following changes:

- The column called “Activity Data” should be split into “total area” and “area of organic soils” (to allow the calculation of the specific organic soil implied emission factor);
- The column “Net carbon stock change in soils per area” should be split into “Mineral Soils” and “Organic Soils” with a footnote against “Organic Soils” as follows: “The value reported here is an emission and not a carbon stock change”;
- Similarly, the column “Net carbon stocks change in soil” should be split into “Mineral soils” and “Organic Soils” with the same footnote as above.

Specific comments on Table 5.D (Wetlands)

Notwithstanding the standard terminology of IPCC good practice guidance text, emissions from soils in the wetlands category are not true changes in C stocks but rather are calculated directly as CO₂ emissions since they are organic soils (see equations 3.5.5, 3a.2.1 and 3a.3.6 of GPG). The table 5.D, with the proposed changes as explained above, is focussed on C stock changes therefore a footnote can be added against relevant columns to indicate that we are dealing with organic soils.

Against the column “Net carbon stock change in soils”, we suggest a footnote be added which reads: “The value reported here is an emission and not a carbon stock change”.

Specific comments on Table 5.F (Other land)

Footnote 1

See comment on Footnote 4 of Table 5.

The text of the footnote should be modified as suggested above and the footnote should be moved against category F.2.

Table 5(II) (N₂O emissions from drainage of soils)

General comment

Reporting on this category is not mandatory (as per footnote 1). However, wetlands not only generate N₂O emissions but also soil CH₄ emissions from peat extraction (Wetlands category, see IPCC GPG Appendix 3a.3...) and flooded land remaining flooded land (IPCC GPG Appendix 3a.3). Moreover, CH₄ can also be generated from draining ditches in forest soils or rewetting of drained soils (a small CH₄ sink is also possible) (see Appendix 3a.2). Parties who wish to report on these categories cannot input data in any CRF table as it presently stands. Table 5 allows for reporting of CH₄ but it is automatically computed and draws from the other tables.

Canada therefore suggests that this table be renamed “Non-CO₂ emissions from drained soils and flooded lands” and include both N₂O and CH₄ emissions from drained soils in forest land and wetlands (as it stands) but with the inclusion of flooded lands.

Activity data columns would then be split between area of drained soils and area of flooded lands (kha) (since soil drained for peat extraction remains in the wetland category).

The implied emission factor column would be split between N₂O-N and CH₄-C per area drained or per area flooded.

The emissions column would be split between N₂O and CH₄ (Gg). CH₄ estimates would be rolled up automatically into Table 5 (like N₂O).

Moreover, the GPG does not have a sub-category ‘mineral soils’ under Wetlands; to avoid confusion the Wetlands category (line D) can be simply subdivided into “Organic soils” and “Flooded lands”.

Footnote 1:

The text is not consistent with how other non-mandatory categories are treated in the rest of the CRF tables for LULUCF. Canada suggests deleting the words “...are not addressed in the Revised 1996 IPCC Guidelines, but...” and to add another sentence as follows (on the model of Footnote 3 of Table 5 for example): “Parties do not have to prepare estimates for categories contained in appendices 3a.2, 3a.3 and 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.”

Table 5(V)

Footnote 4:

The text of the Footnote 4 as it appears in Document FCCC/SBSTA/2004/8 was cut. The following words are missing: “...changes in the carbon stock tables (5A, 5B, 5C, 5D, 5E, and 5F) should report IE (included elsewhere) in this column.”

Insert a new footnote after footnote 4 (further to cross cutting comment on Biomass Burning above):

“It is possible that, due to the estimation method used, estimates in Tables 5.A to 5.F include carbon losses as CH₄ due to burning. If so, Parties will have ticked the appropriate box in the corresponding table 5.A to 5.F and the CH₄-C component will be automatically subtracted from the total C to avoid double counting”.

Footnote 5:

Emissions from biomass burning on croplands other than agricultural residues burning should be reported in the Cropland remaining Cropland category. To remove any confusion, the text of the footnote should be replaced by the following: “Agricultural residue burning is reported in the Agriculture Sector”.

Table 8(a) Recalculation – Recalculated Data

According to footnote 2, the “total emissions” used to calculate the impact of recalculations on total emissions *exclude* GHGs from LULUCF. Therefore the cells against rows 5A to 5G (LULUCF) in the 3 columns called “Impact of recalculation on total emissions” should be shaded (for each of the 3 gases). Moreover the title of the column should be rephrased “Impact of recalculation on total emissions excluding LULUCF”.

For consistency purposes with other tables presenting information both “with and without LULUCF sector”, we suggest that this table also contain information on the impact of recalculations on total emissions *including* GHGs from LULUCF. Hence we suggest a column be added for each of the 3 gases called “*Impact of recalculation on total emissions including LULUCF*” (this time the LULUCF cells should not be shaded of course).

Table 10 Emissions Trends (Summary)

This series of tables contains a trend table for each GHG in Gg, a summary table by gas in CO₂ eq. and a summary table by sector in CO₂ eq (Sheet 5). The treatment of the LULUCF sector in these tables raises some consistency issues, in particular further to the adoption of 13/CP.9 and the new CRF tables for LULUCF (sector 5). Canada is of the view that the reporting of non-CO₂ gases from LULUCF should be made consistent with that of CO₂ from this sector. In Sheet 1 of Table 10, total net CO₂ emissions are reported *both with and without* LULUCF. In Sheet 2 and 3 however, total CH₄ and N₂O emissions, respectively, are reported *with* the LULUCF sector only. They should also be reported *without* LULUCF as well.

Moreover, the reporting of LULUCF in Sheet 5 – especially non-CO₂ gases – is inconsistent with other summary tables such as Summary 1.A, 1.B and Summary 2, as well as the recalculation table (Table 8(a)). In the total line of Tables Summary 1.A and 1.B, GHGs from all sectors, including LULUCF and including the 3 gases, are added up. Summary 2 presents GHG totals both *with and without* LULUCF, but always with the 3 gases considered together and in the same way. We believe GHG trends should be presented in a similar fashion.

As pointed at in footnote 3 of Table 10, it is deemed useful, in order to facilitate the comparison of inventories between countries, to present Parties’ total emissions *with and without net CO₂ from LULUCF*. The reason invoked is the wide range of approaches and methods used by Parties to report CO₂ emissions and removals from LULUCF. However, the adoption of IPCC Good Practice Guidance (2003) leads to the inclusion of an increasing number of sources of CH₄ and N₂O in LULUCF inventories, for which Parties report (or are starting to report) using an equally large range of approaches and methods than for CO₂. Moreover, the interannual variability of those non-CO₂ emissions can be as high, if not higher, than that of CO₂ emission/removals (e.g. forest fires emit not only CO₂ but CH₄ and N₂O as well). Therefore, we believe that the trends would be more meaningful if they were presented *with and without LULUCF* (i.e. net CO₂ equivalent), rather than only *with and without net CO₂ from LULUCF*. Not only the analysis of Parties’ emissions and removals would be easier and more meaningful, but also consistency, comparability and transparency of reporting would be greatly enhanced.

Therefore we suggest the following changes:

Sheet 2 of Table 10:

- delete the top row “Total CH₄ emissions”
- after row 7 (Other), insert 2 rows entitled:
 - o “Total CH₄ emissions including CH₄ from LULUCF”
 - o “Total CH₄ emissions excluding CH₄ from LULUCF”

Sheet 3 of Table 10:

- delete the top row "Total N₂O emissions"
- after row 7 (Other), insert 2 rows entitled:
 - o "Total N₂O emissions including N₂O from LULUCF"
 - o "Total N₂O emissions excluding N₂O from LULUCF"

Sheet 5 of Table 10:

- Split the CH₄ row into 2 rows entitled:
 - o *CH₄ emissions including CH₄ from LULUCF*
 - o *CH₄ emissions excluding CH₄ from LULUCF*

- Split the N₂O row into 2 rows entitled:
 - o *N₂O emissions including N₂O from LULUCF*
 - o *N₂O emissions excluding N₂O from LULUCF*

- Still in the top table, the first Total row should read: "*Total (including LULUCF)*" and the second Total row should read: "*Total (excluding LULUCF)*".

Footnote 3 of Table 10:

This footnote could be either deleted or kept with the following modification: delete "CO₂".

Footnote 6 of Table 10:

Delete (because non-CO₂ would be treated the same way as CO₂).

Similarly, Footnote 5 of Table Summary 2 would need to be deleted as well.

PAPER NO. 3: LUXEMBOURG ON BEHALF OF THE EUROPEAN COMMUNITY
AND ITS MEMBER STATES

**SUBMISSION BY LUXEMBOURG ON BEHALF OF THE EUROPEAN
COMMUNITY AND ITS MEMBER STATES**

This submission is supported by Bulgaria and Romania

Bonn, 18 May 2005

Subject: Views on the tables of the common reporting format (CRF) for land use, land-use change and forestry under the Convention and the experiences on their use

The Conference of the Parties in its decision 13/CP.9 *Good practice guidance and other information on land-use, land-use change and forestry issues* (FCCC/CP/2003/6/Add.1) decided to use, for a trial period covering inventory submissions due in 2005, the tables of the common reporting format for the land use, land-use change and forestry categories contained in annex I of the decision. It also invited Parties to submit to the secretariat, by 15 May 2005, their views on the tables and the experiences on their use, and requested the secretariat to synthesize the views of the Parties for consideration by SBSTA 23.

The EU is pleased to take this opportunity to share the experiences gained with other Parties and submits some proposals for the further development of the tables.

General comments

The EU (whilst not wishing to reopen negotiations on the document agreed at COP 9) believes that some clarifications would facilitate LULUCF reporting in future. It would also be very useful to provide further explanations on how to fill in the tables.

The EU believes that the transparency of reporting could benefit from the additional information provided in the NIR. In particular although the EU recognises that this is not mandatory under the UNFCCC, the EU encourages Parties to include in the NIR information on territorial coverage of land area. This could be achieved by preparing, as part of the QA/QC procedures, tables similar to **2.3.1** (Available land-Use data with complete territorial coverage) or **2.3.2** in the LULUCF Good Practice Guidance.

Recalculations in the LULUCF sector at present are documented in table 8(a)s1, which follows the structure of the old CRF and includes all sectors. Due to the important changes introduced in LULUCF sector, it would be helpful to separate recalculation information in a supplementary table based on the new LULUCF-CRF. This should enable transparent reporting of recalculations, and should have provision for comparing totals with those calculated and reported using the old table 5 CRF. In addition Parties should explain the differences in the NIR.

Issues identified in specific tables

Table 5

Table 5 is a summary table, however, e.g. for Cropland the sum of B1 and B2 is not equal to B when liming has taken place on cropland, because liming is included in line B (from table (IV)). This is rather confusing.

Furthermore, whilst the content of footnote 3 is correct in substance, it may be misleading as it stands, because Parties could interpret it as meaning that they do not need to report on forest and grassland conversions to settlements and wetlands. Such an interpretation is inconsistent with the GPG, which points out that land-use conversions may be a significant source of emissions e.g. as a result of deforestation. Under these circumstances the preparation of relevant estimates is required. The methods for estimating emissions from land converted to settlements and land converted to wetlands are described in chapters 3.5 and 3.6 of the GPG, while appendices 3.a.3 and 3.a.4. deal with settlements *remaining* settlements and wetlands *remaining* wetlands.

Similarly footnote 4 states that *Parties do not have to prepare estimates for this category contained in chapter 3.7 of the IPCC good practice guidance on LULUCF*. This is inconsistent with paragraph 3.7.2 of the GPG. This paragraph states that it is good practice to estimate the change in carbon stocks associated with the conversion of all types of managed land to other land.

Tables 5.A to 5.F

Experts providing data who were not involved in the development of the tables may find it unclear whether they have to include the total area of the categories *xxland converted to...* or only changes in area occurring during the reporting year (note that old CRF asked for the insertion of *average yearly change in area*). Furthermore, there may be a lack of transparency in reporting on delayed emissions from soil if the period during which land is kept in *land converted to...*-categories differs from the period during which delayed emissions occur.

According to table 5D (Wetland remaining Wetland) stock changes in peatland should be reported, but according to the IPCC guidelines extracted peat used for energy should not be incorporated in the LULUCF part of the inventory, and hence no reporting is required on soil stock changes except for degradation of organic matter at the surface in the peat extraction areas. However, the EU notes that peat dug for horticultural uses loses carbon perhaps 100 times more rapidly than carbon loss from the surface degradation and is not included in reporting in the energy sector either. This should be a matter for methodological consideration by the IPCC.

In each of tables 5A to 5F a footnote states that aggregate data can be reported for areas that have changed land type but there is no specific place in the tables to allow this to be done. The EU suggests that to allow parties to report aggregate data for areas that have changed land type, the shading should be removed from the subheading rows A.2, B.2, C.2, D.2, E.2 and F.2, and a button facility added to permit insertion of additional rows, if required to subdivide the data by other classifications such as ecosystem type, geographical or administrative region.

Tables 5(I-V)

The convention is that emissions are reported as positive in these tables whereas in tables 5A-5B *emissions = decrease in C stock* are reported as negative. The relevant footnotes could be used to clarify this further.

Table 5.F

Footnote 1, stating that Parties do not have to prepare estimates for this category, is inconsistent with the GPG. The GPG points out that Land converted to Other may be a significant source of emissions e.g. as a result of deforestation, and therefore preparation of relevant estimates is required, and the corresponding methodology appears in Chapter 3.7.2 of LULUCF-GPG.

Table 7

Problems may arise in combining Sector 5 data with other Sectors for analyses of Key Categories where net flux may have a positive or a negative sign.

Table 10

This table is potentially confusing because so many different things have been combined in the same table: The headline says *Emission trends (CO₂)*, but CH₄ and N₂O have to be reported in the same table and it is unclear whether to report Gg of the respective gases or Gg CO₂-equivalents. In the last row, where Gg CO₂-equivalents are to be reported, the reference to Summary 1.A in footnote 2 appears incorrect (see last section below). Note that in the general CRF tables, table 10 is split in several sheets. In the first sheets, trends are reported in absolute amounts (Gg) of the respective gases while the last sheet gives an overview on all gases in GgCO₂-Equivalents.

Proposed solutions for the issues identified above

Table 5

This would benefit from clear indications in the explanatory notes what is summarized in each column in table 5 by amending footnote 2 to say: *CO₂ emissions from liming and biomass burning as reported in tables 5(IV) and 5(V) are included in this column. Therefore, totals included in main categories 5.A to 5.F may exceed the sum of the respective subcategories 5.A.1-5.F.2.*

It would be useful to move footnote 3 from categories D. and E. to subcategories D.1 and E.1 respectively.

Footnote 4 should be moved from category F to subcategory F.1 and amended as follows: *Parties do not have to prepare estimates for this category contained in Chapter 3.7.1 of the IPCC good practice guidance for LULUCF.*

Tables 5A to 5F

More explanations on how to fill in area information should be provided for the transition-categories - *land converted to...*. For this purpose, the following footnote should be added to categories ...-*land converted to...*-land:

Include total area falling under the category in the reporting year and specify in the NIR how long land is kept in the "land converted to..."-category. Note that that IPCC default value for forest land conversion is 20 years. If land is kept in the transition category for a shorter time span, Parties should explain in the NIR how delayed emissions from soil have been taken into account.

Table 5.D

No solution can currently be proposed for the problem of peat dug for horticultural use. IPCC should be asked to consider this issue in its further work.

Table 5.F

Footnote 1 should be moved from the headline to subcategory F.1 and amended as follows: *Parties do not have to prepare estimates for this category contained in Chapter 3.7.1 of the IPCC good practice guidance for LULUCF.*

Tables 5(I)-5(V)

To help avoid mistakes, a note of sign rule should be included in a new footnote: *emissions are reported as positive*.

Table 7

Problems in combining Sector 5 data with other Sectors for analyses of key categories where net flux may have a positive or a negative sign should be resolved when the new format Sector 5 tables are combined with the existing CRF tables for other Sectors. It may be sensible to integrate the new CRF and the CRF software for the other sectors.

Table 10

Delete (CO_2) in the headline after *Emission trends* and correct footnote 2 to the last row (see below).

It might be helpful to follow the structure of the old CRF-table 10 and split table 10 into two separate sheets, sheet 1 for reporting Gg of the different gases (from summary 1) and sheet 2 for reporting Gg of CO_2 -equivalent. This need not increase the reporting burden for Parties, if the values of sheet 2 are calculated automatically from the emissions included in sheet 1.

Errors detected by EU users in the tables

Table 5

Table 5 Information Items state that data on Forest Land converted to Other Land-Use Categories and Grassland converted to Other Land-Use Categories. The use of Other with capitalisation is incorrect. These items refer to all categories other than Forest Land and Grassland respectively not just the Other Land category as defined in the LULUCF GPG. Forest Land converted to other Land-Use Categories and Grassland converted to other Land-Use Categories.

Table 5(III)

The formula included in cell D10 is: $D10 = \text{SUM}(D11;D14;D17;D20;D23)$. This is wrong and results in double counting of the emissions. The total N_2O emissions under B2 (lands converted to cropland) and under B Cropland must be the same, i.e. cell D10 should just repeat the result from cell D11.

Table 10

In the last row of table 10 (emission summary measured in CO_2 -eqv) there is a reference to table Summary 1.A. This gives an error if the figures are copied, because the figures in Summary 1.A are given in gG of the gases not in gG CO_2 -equivalent. Correct footnote as follows: Fill in net emissions/removals as reported in table Summary 2.

PAPER NO. 4: NEW ZEALAND

**New Zealand submission on LULUCF CRF tables
22 May 2005**

New Zealand appreciates this opportunity to be able to contribute to the finalisation of the tables before they are incorporated in the CRF Reporter software. We have trialled the new LULUCF CRF tables in our national greenhouse gas inventory submitted in April 2005.

Comments on the tables:

1. The tables aren't exactly self-explanatory. The footnotes help, but some of the critical information is "hidden" in the footnotes. For example, where tables are optional (e.g. tables 5D, 5E and 5F) this should be clearly stated at the top of the table rather than recorded in a footnote. Similarly, parts of some tables are optional (e.g. table 5V) and this should somehow be more clearly indicated. This will help both Parties and reviewers.
2. In table 5(V), entering burnt biomass in kg dm in doesn't seem like the logical choice of units.
3. In the integration of the LULUCF tables into the CRF Reporter, it would be helpful to somehow highlight potential cells where double-counting between LULUCF and the Agriculture sector could occur.
4. The Information items on "Forest Land converted to Other Land-Use Categories" and "Grassland converted to Other Land-Use Categories" in Table 5 should be populated automatically where Parties have filled in area estimates in Tables 5A-F.
5. Table 5 appears to be a pure summary table but entries for NO_x and CO for land use categories must be entered directly in this Table. It would be preferable if NO_x and CO could be entered on the respective land use tables (5A-F) alongside the changes in C stocks. This would enable Table 5 to be a pure summary of the other Tables.
6. Table 5I would be named more accurately as "Direct N₂O emissions from N fertilization of forest land". Similarly, table 5II would be named more accurately as "N₂O emissions from drainage of forest soils". This would reduce confusion between the Agriculture and LULUCF tables.
7. New Zealand assumes that Table 7 "Key categories" and 9 "Recalculations" in the LULUCF will be deleted when the tables are included in the CRF Reporter.

PAPER NO. 5: UNITED STATES OF AMERICA

Views on the LULUCF Common Reporting Format Tables
May 13, 2005

The United States has used the new LULUCF CRF tables for one Inventory submission (April 8, 2005). The CRF Tables accurately reflect the revised structure from IPCC Good Practice 2003, and as such require Annex I Parties to disaggregate estimates of CO₂ emissions and removals by land area and land area conversions. The United States believes that any further revisions to the LULUCF tables should take into consideration that developing data systems for this disaggregation of estimates along land areas and conversions is resource-intensive multi-year task.

In addition, the United States has the following detailed comments on individual CRF Tables. Some of these comments relate to the transposition of the Tables into Excel worksheets rather than their structure and content, and therefore do not require actual changes to the Tables agreed upon at COP9:

Table 5: Sectoral Report for LULUCF

There are no format changes recommended for this table, but the Secretariat should check the formulae for NO_x, CO to ensure that the inclusion of notation keys does not trigger 0 total emissions, which linked in to Summary 1.A.

Table 5.A: Sectoral Background Data for LULUCF, Forest Land

There are no format changes recommended for this table, but the Secretariat should check the Excel formulae for total area to ensure that areas for different pools are not added together. Currently, the formula appears to be double-counting areas.

Table 5(I) and 5(III): These tables should be merged to simplify reporting, and to fix problems created by presenting only "A Forestland" and "G Other (please specify)" in Table 5(1).

- For example, in the case of the US, because there is no 'Settlements' row provided in Table 5(I), N₂O emissions from Settlements could only be entered in the 'Other' row. This leads to these emissions being listed under 'Other' in the summary sheets Summary 1.A and Summary 2. Since only Forest and Other are included, all the N₂O from any other category is reported in the "Other" category rather than the category it is actually reported in.
- Since countries may chose to estimate their direct N₂O by a variety of land use/conversion categories, Table 5(I) should be updated to include all IPCC LULUCF categories. If this is done, then Table 5(III) is no longer necessary.

Summary Table 3

The HFC/PFC/SF₆ columns for methods and emission factors for LULUCF should be blacked out because they are not relevant.

Summary Table 10:

Footnote 1 indicates that the "Base year" column should be filled in only by those Parties with economies in transition that use a base year different from 1990, but the formula in the column for Change from 1990 to Latest Reported Year calculates this change from the Base Year column. Therefore, the base year column had to be set equal to the 1990 column in order to prevent an error in the Changes column. Either the footnote or the formula should be changed.