

# Suggestions on possible improvements of the CRF: Energy Sector

## **Table 1.A(a) Fuel combustion activities (Sectoral approach)**

Classification of fuels under general categories to be added in the instruction to the Energy sector included in the Manual to the CRF. Parties are encouraged to ask the Secretariat for the inclusion of any fuels not included in the list.

The purpose of the table is not to produce individual emission factors. Supposedly they are already included in the NIR. The Table to be kept in its current format without split to individual fuels, in order not to increase the number of data points in the CRF. This will still allow for a general look for outliers.

A detailed national energy balance (with as much fuel detail as possible) is useful for detailed country reviews and may be included in the NIR if it is available.

Shade out biomass CO<sub>2</sub> only in Table 1A Fuel combustion total (H12). Put a footnote reminding that biomass CO<sub>2</sub> is not included in the total of this table, but in the corresponding row for CO<sub>2</sub> emissions from biomass Table 1s2.

Sheet 3 (1.A.3 Transport) of the table should be revised in a way to allow for reporting of disaggregated fuels under the subcategories, while for the total of transport these fuels to be grouped consistently with the other parts of the table (i.e. Liquid, Solid, Gaseous Fuels, Biomass, Other Fuels). LPG row should be added to Road Transportation.

For "1.A.5 Other (Not elsewhere specified)" split fuel categories between stationary and mobile so that they can be aggregated up for Table 1 and Key Source categories.

## **Table 1.A(b) CO<sub>2</sub> from fuel combustion activities - Reference approach (IPCC Worksheet 1-1)**

In the current table for the reference approach the list of some fuel types is insufficiently disaggregated and does not offer the option of reporting "other". In order to solve this problem, rows to add "Other (please specify)" under Liquid, Solid and Gaseous fuels to be added with buttons for adding individual fuels.

Normally the way the Reference approach works, the energy data cannot be compared with the national approach data because the stored carbon adjustment is done directly to the emissions. One option would be to remove the energy consumption comparison from Table 1.A(c). However, the group felt that this comparison could be useful if the energy consumption were adjusted to take into account feedstocks and non-energy use of fuels.

In additions three rows are to be added, namely:

- Liquid Fossil Totals – Adjusted
- Solid Fuels Total – Adjusted
- Gaseous Fossil Total – Adjusted,

They are to be used to compare energy consumption for the comparisons in Table 1A(c) and will be shaded starting with carbon emission factor.

To facilitate the filling of the tables and the comparisons of National and Reference Approaches a clear guidance on the way to treat the feedstocks and non-energy use of fuels has to be provided.

### **Table 1.A(c) Comparison of CO<sub>2</sub> emissions from fuel combustion**

The overall comment regarding this table is that the meaning of “Sectoral Approach” and “Reference Approach” is not always the same for all Parties, and therefore the comparison of the two could lead to different values and different interpretations under the review process. Experts who participated in the review process and the experts at the workshop indicate the need for more precise guidance in assessing the results of the comparison between the reference and the national approach. The suggestion for a text for this guidance is to be developed later by the group using e-mail.

### **Table 1.A(d) Feedstocks and non-energy use of fuels**

The issue of the treatment of feedstocks and non-energy use of fuels, continues in the suggestions made for Table 1A(d). Experts at the workshop consider that it is easy to accept the suggestion to provide sum of the amount of carbon stored and a calculation and summation of the total amount of CO<sub>2</sub> from non-energy use, which is included as emitted CO<sub>2</sub> in the CO<sub>2</sub> Reference Approach.

The suggestion for splitting the table in two sections 1) feedstock fuels and 2) non-energy use fuel, could be adopted only if technically appropriate.

### **Table 1.B.1 Fugitive emissions from solid fuels**

Some of the information in the additional tables could be requested by the NIR. Any other additional indicators could be requested in the NIR. Only the row on recovery is to stay in a form of a separate column in the main table. The CH<sub>4</sub> column will be divided into “actually emitted” and “recovered”.

The format of the table is kept with all additional sources (such as flaring) to be included under Other.

The formula for IEF is kept as final emissions / activity data in order to be consistent with the approach for IEF adopted in the CRF. A footnote could provide some clarification on the issue.

### **Table 1.B.2 Fugitive emissions from oil and natural gas**

Additional information tables could disappear and the information in it should be requested by the NIR.

For fugitive emissions from oil and natural gas activities, experts involved in the review process and some of the Parties noted that the current flexibility in the use of different units hampers an efficient review and comparison of data from this subsector. In order to make the comparisons across Parties easier, the Secretariat should fix a list of units after reviewing the units used by Parties in the submitted CRF and provide a drop list in the software.

Table 1.B.2 does not allow for reporting of some emissions of N<sub>2</sub>O under source category *1.B.2.a Oil*. Minor emissions of N<sub>2</sub>O do occur from flaring under *iv. Refining/ Storage* and to a minor extent under *i. Exploration*. The comment is taken into consideration and the cells are to be deshaded.

The overall layout of the table is to be kept. Parties using Tier 2 and 3, could provide additional information and formats in the NIR.

Formulas for Emissions from “Natural gas” have to be revised in order to avoid double counting under “Other leakage”.

**Table 1.C International bunkers and multilateral operations**

The importance of explaining how the consumption of international marine and aviation bunker fuels was estimated and separated from domestic consumption should be stressed. It should be provided and/or referenced in the documentation box.

The order of the marine and aviation bunkers to be changed to be consistent with Table 1s2. The change will not affect the results, but it will require changes in formulas in Table 1.A.(b) and Table 1s1.

It was decided not to change the current fuel list since there is already an “other” button where fuels can be added.