



联合国



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附属科学技术咨询机构

第二十三届会议

2005年11月28日至12月6日，蒙特利尔

议程项目5(b)

《公约》之下的方法学问题

土地利用、土地利用的变化和林业通用报告格式

## 土地利用、土地利用的变化和林业通用报告格式表

主席提出的结论草案

增 编

附属科学技术咨询机构的建议

附属科学技术咨询机构第二十三届会议决定，建议缔约方会议第十一届会议通过下列决定草案：

**决定草案-/CP.11**

土地利用、土地利用的变化和林业通用报告格式表

缔约方会议，

回顾《公约》第四条第1款、第十条第2款和第十二条第1款，

进一步回顾缔约方会议第18/CP.8号和第13/CP.9号决定，

1. 通过本决定附件所载的通用报告格式表及其说明，以便利提供关于土地利用、土地利用变化和林业的年度清单信息；

2. 决定《公约》附件一所列各缔约方均采用这些表格来提供 2007 年及以后年度应提交的年度清单；

3. 请秘书处把这些表格及其说明和由于第 13/CP.9 号决定而在技术上所作的修改内容列入第 18/CP.8 号决定通过的“《公约》附件一所列缔约方国家信息通报编制指南，第一部分：《气候公约》年度清单报告指南”，并在附属科学技术咨询机构第二十五届会议(2006 年 11 月)之前编写一份载有经过更新的《气候公约》年度清单报告指南的文件。

## 附 件

### 通用报告格式表及其说明

#### 关于通用报告格式的说明

1. 通用报告格式是国家清单报告的组成部分。设计这个格式，是为了确保《公约》附件一所列缔约方(附件一缔约方)以标准格式报告定量数据，并便利比较附件一缔约方的清单数据。与任何非定量信息有关的细节应在国家清单报告中提供。

2. 通用报告格式中提供的信息目的在于提高清单的可比性和透明度，其途径除其他外包括便利对照比较附件一缔约方的活动数据和隐含排放系数或碳储量变化系数，并易于找出清单中可能存在的差错、误解和缺漏。

3. 如报告指南所述，通用报告格式包括从修订的 1996 年气专委国家温室气体清单指南(气专委指南)中摘出的概要报告和部门报告表格，加上新近制定的分部门背景数据表格，以及其他符合气专委指南和气专委良好做法指导意见和国家温室气体清单的不确定性管理的表格。

4. 有些部门背景表格要求计算隐含排放系数或碳储量变化系数。这些是附件一缔约方排放或清除量估计数和总计活动数据二者之间自上而下的比率。隐含排放系数或碳储量变化系数仅仅用于比较。它们不一定是原始排放估计中实际使用的排放/清除系数，除非这只是用于计算隐含排放系数或碳储量变化系数时以同样的总计活动数据为基础的简单乘法运算。

5. 与修订的 1996 年气专委指南相一致，备忘项，如来自国际海运和航空舱载燃料的排放量估计数、生物质 CO<sub>2</sub> 排放量和多边作业排放量，应在适当的表格中填报，不列入国别的总数。

6. 在需要提供特定部门/类别的全面详细资料时，附件一缔约方应使用表格之下的文件资料框具体指明国家清单报告的有关章节。

7. 附件一缔约方应填写所有要求填报排放量或清除量估计数、活动数据或排放系数的单元格。在没有填写数据的情况下，应当使用报告指南第 28 段所述的标记符号。

8. 在类别“其他”之下的部门背景表格中，可增加一个标明具体国别类别的空行。这些类别将被自动纳入部门报告表格。

9. 附件一缔约方应在额外信息框中填入数据。如果所要求的信息因附件一缔约方所用方法学层级而不适合，应在对应的单元格中填写标记符号“NA”。

10. 表格的顺序以及栏、行和单元格名称不应改动，否则会造成数据汇编的复杂化。对源和汇类别现有划分的任何增补信息应酌情在“其他”之下提供。

11. 为了简化表格的结构和明确说明每个表格的具体报告要求，只有需要附件一缔约方填写的单元格才留空。浅灰色阴影单元格表示要用秘书处提供的软件填报。然而，选择不使用软件填报通用报告格式的附件一缔约方则需要填写这些单元格。

12. 如同目前版本的通用报告格式一样，对于估计不会收到任何信息的单元格一律使用深灰色阴影。

13. 在土地利用、土地利用的变化和林业部门背景数据表格中，应该将碳的增减情况分别列出，但因所使用的方法而在技术不可能将增减信息分开的情况除外。

14. 各附件一缔约方应根据上述报告指南第 18 段的规定，通报按《蒙特利尔议定书》未予管制的所有温室气体人为源排放量和汇清除量排列的国家温室气体清单。

15. 根据修订的 1996 年气专委指南的规定，为提供报告的目的，清除量始终采用负号标记(-)，排放量始终采用正号标记(+)。将碳储存量的净变化转换成 CO<sub>2</sub> 时使用 44/12 乘以 C，并把 CO<sub>2</sub> 净清除量的标记改为负号(-)，把 CO<sub>2</sub> 净排放量的标记改为正号(+).

**Tables of the common reporting format for land use, land-use change and forestry and related tables (tables Summary 2, table 8 (a) (recalculations) and table 10 (trends))**

**TABLE 5 SECTORAL REPORT FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
(Sheet 1 of 1)

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Net CO <sub>2</sub> emissions/ removals <sup>(1), (2)</sup>	CH <sub>4</sub> <sup>(2)</sup>	N <sub>2</sub> O <sup>(2)</sup>	NO <sub>x</sub>	CO	NM VOC
	(Gg)					
<b>Total Land-Use Categories</b>						
<b>A. Forest Land</b>						
1. Forest Land remaining Forest Land						
2. Land converted to Forest Land						
<b>B. Cropland</b>						
1. Cropland remaining Cropland						
2. Land converted to Cropland						
<b>C. Grassland</b>						
1. Grassland remaining Grassland						
2. Land converted to Grassland						
<b>D. Wetlands</b>						
1. Wetlands remaining Wetlands <sup>(3)</sup>						
2. Land converted to Wetlands						
<b>E. Settlements</b>						
1. Settlements remaining Settlements <sup>(3)</sup>						
2. Land converted to Settlements						
<b>F. Other Land</b>						
1. Other Land remaining Other Land <sup>(4)</sup>						
2. Land converted to Other Land						
<b>G. Other (please specify)<sup>(5)</sup></b>						
<i>Harvested Wood Products<sup>(6)</sup></i>						
<b>Information items<sup>(7)</sup></b>						
Forest Land converted to other Land-Use Categories						
Grassland converted to other Land-Use Categories						

- <sup>(1)</sup> According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).
- <sup>(2)</sup> For each land-use category and sub-category, this table sums net CO<sub>2</sub> emissions and removals shown in tables 5.A to 5.F, and the CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions showing in tables 5(I) to 5(V).
- <sup>(3)</sup> Parties may decide not to prepare estimates for these categories contained in appendices 3a.3 and 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.
- <sup>(4)</sup> This land-use category is to allow the total of identified land area to match the national area.
- <sup>(5)</sup> The total for category 5.G Other includes items specified only under category 5.G in this table as well as sources and sinks specified in category 5.G in tables 5(I) to 5(V).
- <sup>(6)</sup> Parties may decide not to prepare estimates for this category contained in appendix 3a.1 of the IPCC good practice guidance for LULUCF, although they may do so if they wish and report in this row.
- <sup>(7)</sup> These items are listed for information only and will not be added to the totals, because they are already included in subcategories 5.A.2 to 5.F.2.

**Documentation box:**

? Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.  
? If estimates are reported under 5.G Other, use this documentation box to provide information regarding activities covered under this category and to provide reference to the section in the NIR where background information can be found.





- <sup>(1)</sup> Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.
- <sup>(2)</sup> Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.
- <sup>(3)</sup> The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).
- <sup>(4)</sup> A Party may report aggregate estimates for all conversions of land to forest land when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for grassland conversion should be provided in table 5 as an information item.
- <sup>(5)</sup> The value reported for organic soils is estimated as a flux. For consistency with other entries in this column, these fluxes should be expressed in the unit required in this column, i.e. in Gg C.
- <sup>(6)</sup> The total area of the subcategories, in accordance with the sub-division used, should be entered here. For Lands converted to Forest Lands report the cumulative area remaining in the category in the reporting year.
- <sup>(7)</sup> 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 CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.
- <sup>(8)</sup> Implied carbon-stock-change factors for mineral soils are calculated by dividing the C stock change estimate for mineral soil by the difference between the area and the area of organic soil.
- <sup>(9)</sup> When Parties are estimating fluxes for organic soils but cannot separate these fluxes from mineral soils, these fluxes should be reported under mineral soils.
- <sup>(10)</sup> Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions directly in this column and use notation keys in the stock change columns.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.



- <sup>(1)</sup> Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.
- <sup>(2)</sup> Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.
- <sup>(3)</sup> The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).
- <sup>(4)</sup> For category 5.B.1 Cropland remaining Cropland this column only includes changes in perennial woody biomass.
- <sup>(5)</sup> No reporting on dead organic matter pools is required for category 5.B.1. Cropland remaining Cropland.
- <sup>(6)</sup> A Party may report aggregate estimates for all land conversions to cropland, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.
- <sup>(7)</sup> The value reported for organic soils is estimated as a flux. For consistency with other entries in this column, these fluxes should be expressed in the unit required in this column, i.e. in Gg C.
- <sup>(8)</sup> The total area of the subcategories, in accordance with the sub-division used, should be entered here. For Lands converted to Croplands report the cumulative area remaining in the category in the reporting year.
- <sup>(9)</sup> 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 CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.
- <sup>(10)</sup> Implied carbon-stock-change factors for mineral soils are calculated by dividing the C stock change estimate for mineral soil by the difference between the area and the area of organic soil.
- <sup>(11)</sup> When Parties are estimating fluxes for organic soils but cannot separate these fluxes from mineral soils, these fluxes should be reported under mineral soils.
- <sup>(12)</sup> Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions directly in this column and use notation keys in the stock change columns.

**Documentation box:**  
 Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.



- <sup>(1)</sup> Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.
- <sup>(2)</sup> The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).
- <sup>(3)</sup> Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.
- <sup>(4)</sup> For category 5.C.1 Grassland remaining Grassland this column only includes changes in perennial woody biomass.
- <sup>(5)</sup> No reporting on dead organic matter pools is required for category 5.C.1 Grassland remaining Grassland.
- <sup>(6)</sup> A Party may report aggregate estimates for all land conversions to grassland, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land conversion should be provided in table 5 as an information item.
- <sup>(7)</sup> The value reported for organic soils is estimated as a flux. For consistency with other entries in this column, these fluxes should be expressed in the unit required in this column, i.e. in Gg C.
- <sup>(8)</sup> The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Grasslands report the cumulative area remaining in the category in the reporting year.
- <sup>(9)</sup> 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 CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.
- <sup>(10)</sup> Implied carbon-stock-change factors for mineral soils are calculated by dividing the C stock change estimate for mineral soil by the difference between the area and the area of organic soil.
- <sup>(11)</sup> When Parties are estimating fluxes for organic soils but cannot separate these fluxes from mineral soils, these fluxes should be reported under mineral soils.
- <sup>(12)</sup> Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions directly in this column and use notation keys in the stock change columns.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

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- <sup>(1)</sup> Parties may decide not to prepare estimates for this category contained in appendix 3a.3 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.
- <sup>(2)</sup> Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.
- <sup>(3)</sup> Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.
- <sup>(4)</sup> The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).
- <sup>(5)</sup> A Party may report aggregate estimates for all land conversions to wetlands, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.
- <sup>(6)</sup> The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Wetlands report the cumulative area remaining in the category in the reporting year.
- <sup>(7)</sup> 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 CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.
- <sup>(8)</sup> Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions directly in this column and use notation keys in the stock change columns.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.





- <sup>(1)</sup> Parties may decide not to prepare estimates for this category contained in appendix 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.
- <sup>(2)</sup> Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.
- <sup>(3)</sup> Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.
- <sup>(4)</sup> The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).
- <sup>(5)</sup> For category 5.E.1 Settlements remaining Settlements this column only includes changes in perennial woody biomass.
- <sup>(6)</sup> A Party may report aggregate estimates for all land conversions to settlements, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.
- <sup>(7)</sup> The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Settlements report the cumulative area remaining in the category in the reporting year.
- <sup>(8)</sup> 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 CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.
- <sup>(9)</sup> Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions directly in this column and use notation keys in the stock change columns.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.



- <sup>(1)</sup> This land-use category is to allow the total of identified land area to match the national area.
- <sup>(2)</sup> Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.
- <sup>(3)</sup> Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.
- <sup>(4)</sup> The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).
- <sup>(5)</sup> A Party may report aggregate estimates for all land conversions to other land, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.
- <sup>(6)</sup> The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Other land report the cumulative area remaining in the category in the reporting year.
- <sup>(7)</sup> 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 CO<sub>2</sub> by multiplying C by 44/12 and changing the sign for net CO<sub>2</sub> removals to be negative (-) and for net CO<sub>2</sub> emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.
- <sup>(8)</sup> Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions directly in this column and use notation keys in the stock change columns.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

**TABLE 5 (I) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**Direct N<sub>2</sub>O emissions from N fertilization<sup>(1)</sup> of Forest Land and Other**  
 (Sheet 1 of 1)

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	EMISSIONS <sup>(6)</sup>
Land-Use Category <sup>(2)</sup>	Total amount of fertilizer applied (Gg N/yr)	N <sub>2</sub> O-N emissions per unit of fertilizer (kg N <sub>2</sub> O-N/kg N) <sup>(3)</sup>	N <sub>2</sub> O (Gg)
<b>Total for all Land Use Categories</b>			
<b>A. Forest Land <sup>(4), (5)</sup></b>			
1. Forest Land remaining Forest Land			
2. Land converted to Forest Land			
<b>G. Other (please specify)</b>			

<sup>(1)</sup> Direct N<sub>2</sub>O emissions from fertilization are estimated using equations 3.2.17 and 3.2.18 of the IPCC good practice guidance for LULUCF based on the amounts of fertilizers applied to forest land.

<sup>(2)</sup> N<sub>2</sub>O emissions from N fertilization of cropland and grassland are reported in the Agriculture sector; therefore only forest land is included in this table.

<sup>(3)</sup> In the calculation of the implied emission factor, N<sub>2</sub>O emissions are converted to N<sub>2</sub>O-N by multiplying by 28/44.

<sup>(4)</sup> If a Party is not able to separate the fertilizer applied to forest land from that applied to agriculture, it may report all N<sub>2</sub>O emissions from fertilization in the Agriculture sector. This should be explicitly indicated in the documentation box.

<sup>(5)</sup> A Party may report aggregate estimates for all N fertilization on forest land in the category Forest Land remaining Forest Land when data are not available to report Forest Land remaining Forest Land and Land converted to Forest Land separately.

<sup>(6)</sup> Emissions are reported with a positive sign.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

**TABLE 5 (II) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**

Year

**Non-CO<sub>2</sub> emissions from drainage of soils and wetlands (1)**  
(Sheet 1 of 1)

Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED EMISSION FACTORS		EMISSIONS <sup>(5)</sup>	
Land-Use Category <sup>(2)</sup>	Sub-division <sup>(3)</sup>	Area	N <sub>2</sub> O-N per area <sup>(4)</sup>	CH <sub>4</sub> per area	N <sub>2</sub> O	CH <sub>4</sub>
		(kha)	(kg N <sub>2</sub> O-N/ha)	(kg CH <sub>4</sub> /ha)	(Gg)	
<b>Total all Land-Use Categories</b>						
<b>A. Forest Land <sup>(6)</sup></b>						
	Organic Soil					
	Mineral Soil					
<b>D. Wetlands</b>						
	Peatland <sup>(7)</sup>					
	Flooded Lands <sup>(7)</sup>					
<b>G. Other (please specify)</b>						

<sup>(1)</sup> Parties may decide not to prepare estimates for these categories contained in appendices 3a.2 and 3a.3 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.

<sup>(2)</sup> N<sub>2</sub>O emissions from drained cropland and grassland soils are covered in the Agriculture tables of the CRF under Cultivation of Histosols.

<sup>(3)</sup> A Party should report further disaggregations of drained soils corresponding to the methods used. Tier 1 disaggregates soils into "nutrient rich" and "nutrient poor" areas, whereas higher-tier methods can further disaggregate into different peatland types, soil fertility or tree species.

<sup>(4)</sup> In the calculation of the implied emission factor, N<sub>2</sub>O emissions are converted to N<sub>2</sub>O-N by multiplying by 28/44.

<sup>(5)</sup> Emissions are reported with a positive sign.

<sup>(6)</sup> In table 5, these emissions will be added to 5.A.1 Forest Land remaining Forest Land.

<sup>(7)</sup> In table 5, these emissions will be added to 5.D.2 Land converted to Wetlands.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

**TABLE 5 (III) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**N<sub>2</sub>O emissions from disturbance associated with land-use conversion to cropland <sup>(1)</sup>**  
 (Sheet 1 of 1)

Year  
 Submission  
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	EMISSIONS <sup>(7)</sup>
	Land area converted (kha)	N <sub>2</sub> O-N emissions per area converted <sup>(3)</sup> (kg N <sub>2</sub> O-N/ha)	N <sub>2</sub> O (Gg)
<b>Land-Use Category <sup>(2)</sup></b>			
<b>Total all Land-Use Categories <sup>(4)</sup></b>			
<b>B. Cropland</b>			
2. Lands converted to Cropland <sup>(5)</sup>			
Organic Soils			
Mineral Soils			
2.1 Forest Land converted to Cropland			
Organic Soils			
Mineral Soils			
2.2 Grassland converted to Cropland			
Organic Soils			
Mineral Soils			
2.3 Wetlands converted to Cropland <sup>(6)</sup>			
Organic Soils			
Mineral Soils			
2.5 Other Land converted to Cropland			
Organic Soils			
Mineral Soils			
<b>G. Other (please specify)</b>			

<sup>(1)</sup> Methodologies for N<sub>2</sub>O emissions from disturbance associated with land-use conversion are based on equations 3.3.14 and 3.3.15 of the IPCC good practice guidance for LULUCF. N<sub>2</sub>O emissions from fertilization in the preceding land use and new land use should not be reported.

<sup>(2)</sup> According to the IPCC good practice guidance for LULUCF N<sub>2</sub>O emissions from disturbance of soils are only relevant for land conversions to cropland. N<sub>2</sub>O emissions from Cropland remaining Cropland are included in the Agriculture sector of the good practice guidance. The good practice guidance provides methodologies only for mineral soils.

<sup>(3)</sup> In the calculation of the implied emission factor, N<sub>2</sub>O emissions are converted to N<sub>2</sub>O-N by multiplying by 28/44.

<sup>(4)</sup> Parties can separate between organic and mineral soils, if they have data available.

<sup>(5)</sup> If activity data cannot be disaggregated to all initial land uses, Parties may report some initial land uses aggregated under Other Land converted to Cropland (indicate in the documentation box what this category includes).

<sup>(6)</sup> Parties should avoid double counting with N<sub>2</sub>O emissions from drainage and from cultivation of organic soils reported in Agriculture under Cultivation of Histosols.

<sup>(7)</sup> Emissions are reported with a positive sign.

**Documentation box:**  
 Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF Sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

**TABLE 5 (IV) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**CO<sub>2</sub> emissions from agricultural lime application <sup>(1)</sup>**  
**(Sheet 1 of 1)**

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	EMISSIONS <sup>(6)</sup>
Land-Use Category	Total amount of lime applied (Mg/yr)	CO <sub>2</sub> -C per unit of lime <sup>(7)</sup> (Mg CO <sub>2</sub> -C /Mg)	CO <sub>2</sub> (Gg)
<b>Total all Land-Use Categories</b> <sup>(2), (3), (4)</sup>			
<b>B. Cropland</b> <sup>(4) (8)</sup>			
Limestone CaCO <sub>3</sub>			
Dolomite CaMg(CO <sub>3</sub> ) <sub>2</sub>			
<b>C. Grassland</b> <sup>(4)(9)</sup>			
Limestone CaCO <sub>3</sub>			
Dolomite CaMg(CO <sub>3</sub> ) <sub>2</sub>			
<b>G. Other (please specify)</b> <sup>(4, 5)</sup>			

- <sup>(1)</sup> CO<sub>2</sub> emissions from agricultural lime application are addressed in equation 3.3.6 and 3.4.11 of the IPCC good practice guidance for LULUCF.
- <sup>(2)</sup> If Parties are not able to separate liming application for different land-use categories, they should include liming for all land-use categories in the category 5.G Other.
- <sup>(3)</sup> Parties that are able to provide data for lime application to forest land should provide this information under 5.G Other and specify in the documentation box that forest land application is included in this category.
- <sup>(4)</sup> A Party may report aggregate estimates for total lime applications when data are not available for limestone and dolomite.
- <sup>(5)</sup> If a Party has data broken down to limestone and dolomite at national level, it can report these data under 5.G Other.
- <sup>(6)</sup> Emissions are reported with a positive sign.
- <sup>(7)</sup> The implied emission factor is expressed in unit of carbon to facilitate comparison with published emission factors
- <sup>(8)</sup> In table 5, these CO<sub>2</sub> emissions will be added to 5.B.1 Cropland remaining Cropland.
- <sup>(9)</sup> In table 5, these CO<sub>2</sub> emissions will be added to 5.C.1 Grassland remaining Grassland.

**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

**TABLE 5 (V) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**Biomass Burning** <sup>(1)</sup>  
(Sheet 1 of 1)

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA			IMPLIED EMISSION FACTOR			EMISSIONS <sup>(9)</sup>		
	Description <sup>(3)</sup>	Unit	Values	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> <sup>(4)</sup>	CH <sub>4</sub>	N <sub>2</sub> O
Land-Use Category <sup>(2)</sup>	(ha or kg dm)			(Mg/activity data unit)			(Gg)		
<b>Total for Land-Use Categories</b>									
<b>A. Forest Land</b>									
1. Forest land remaining Forest Land									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2. Land converted to Forest Land									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
<b>B. Cropland</b>									
1. Cropland remaining Cropland <sup>(5)</sup>									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2. Land converted to Cropland									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2.1. Forest Land converted to Cropland									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
<b>C. Grassland</b>									
1. Grassland remaining grassland <sup>(6)</sup>									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2. Land converted to Grassland									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2.1. Forest Land converted to Grassland									
<i>Controlled Burning</i>									
<i>Wildfires</i>									



<b>D. Wetlands</b>									
1. Wetlands remaining Wetlands <sup>(7)</sup>									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2. Land converted to Wetlands									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
2.1. Forest Land converted to Wetlands									
<i>Controlled Burning</i>									
<i>Wildfires</i>									
<b>E. Settlements <sup>(7)</sup></b>									
<b>F. Other Land <sup>(8)</sup></b>									
<b>G. Other (please specify)</b>									

- <sup>(1)</sup> Methodological guidance on burning can be found in sections 3.2.1.4 and 3.4.1.3 of the IPCC good practice guidance for LULUCF.
- <sup>(2)</sup> Parties should report both controlled/prescribed burning and wildfires emissions, where appropriate, in a separate manner.
- <sup>(3)</sup> For each category activity data should be selected between area burned or biomass burned. Units for area will be ha and for biomass burned kg dm. The implied emission factor will refer to the selected activity data with an automatic change in the units.
- <sup>(4)</sup> If CO<sub>2</sub> emissions from biomass burning are not already included in tables 5.A - 5.F, they should be reported here. This should be clearly documented in the documentation box and in the NIR. Double counting should be avoided. Parties that include all carbon stock changes in the carbon stock tables (5.A, 5.B, 5.C, 5.D, 5.E and 5.F), should report IE (included elsewhere) in this column.
- <sup>(5)</sup> In-situ above-ground woody biomass burning is reported here. Agricultural residue burning is reported in the Agriculture sector
- <sup>(6)</sup> Includes only emissions from controlled biomass burning on grasslands outside the tropics (prescribed savanna burning is reported under the Agriculture sector).
- <sup>(7)</sup> Parties may decide not to prepare estimates for these 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.
- <sup>(8)</sup> This land-use category is to allow the total of identified land area to match the national area.
- <sup>(9)</sup> Emissions are reported with a positive sign.

**Documentation box:**  
Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

**SUMMARY 2 SUMMARY REPORT FOR CO<sub>2</sub> EQUIVALENT EMISSIONS**  
 (Sheet 1 of 1)

Year  
 Submission  
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO <sub>2</sub> <sup>(1)</sup>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs <sup>(2)</sup>	PFCs <sup>(2)</sup>	SF <sub>6</sub> <sup>(2)</sup>	Total
	CO <sub>2</sub> equivalent (Gg)						
<b>Total (Net Emissions)<sup>(1)</sup></b>							
<b>1. Energy</b>							
A. Fuel Combustion (Sectoral Approach)							
1. Energy Industries							
2. Manufacturing Industries and Construction							
3. Transport							
4. Other Sectors							
5. Other							
B. Fugitive Emissions from Fuels							
1. Solid Fuels							
2. Oil and Natural Gas							
<b>2. Industrial Processes</b>							
A. Mineral Products							
B. Chemical Industry							
C. Metal Production							
D. Other Production							
E. Production of Halocarbons and SF <sub>6</sub>							
F. Consumption of Halocarbons and SF <sub>6</sub> <sup>(2)</sup>							
G. Other							
<b>3. Solvent and Other Product Use</b>							
<b>4. Agriculture</b>							
A. Enteric Fermentation							
B. Manure Management							
C. Rice Cultivation							
D. Agricultural Soils <sup>(3)</sup>							
E. Prescribed Burning of Savannas							
F. Field Burning of Agricultural Residues							
G. Other							

<b>5. Land Use, Land-Use Change and Forestry<sup>(1)</sup></b>							
A. Forest Land							
B. Cropland							
C. Grassland							
D. Wetlands							
E. Settlements							
F. Other Land							
G. Other							
<b>6. Waste</b>							
A. Solid Waste Disposal on Land							
B. Waste-water Handling							
C. Waste Incineration							
D. Other							
<b>7. Other (as specified in Summary I.A)</b>							
<b>Memo Items:<sup>(4)</sup></b>							
<b>International Bunkers</b>							
Aviation							
Marine							
<b>Multilateral Operations</b>							
<b>CO<sub>2</sub> Emissions from Biomass</b>							
Total CO <sub>2</sub> Equivalent Emissions without Land Use, Land-Use Change and Forestry							
Total CO <sub>2</sub> Equivalent Emissions with Land Use, Land-Use Change and Forestry							

<sup>(1)</sup> For CO<sub>2</sub> from Land Use, Land-use Change and Forestry the net emissions/removals are to be reported. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

<sup>(2)</sup> Actual emissions should be included in the national totals. If no actual emissions were reported, potential emissions should be included.

<sup>(3)</sup> Parties which previously reported CO<sub>2</sub> from soils in the Agriculture sector should note this in the NIR.

<sup>(4)</sup> See footnote 8 to table Summary 1.A.

**TABLE 8(a) RECALCULATION - RECALCULATED DATA**

(Sheet 1 of 4) Recalculated year:

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO <sub>2</sub>						CH <sub>4</sub>						N <sub>2</sub> O					
	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>
	CO <sub>2</sub> equivalent (Gg)			(%)			CO <sub>2</sub> equivalent (Gg)			(%)			CO <sub>2</sub> equivalent (Gg)			(%)		
<b>Total National Emissions and Removals</b>																		
<b>1. Energy</b>																		
1.A. Fuel Combustion Activities																		
1.A.1. Energy Industries																		
1.A.2. Manufacturing Industries and Construction																		
1.A.3. Transport																		
1.A.4. Other Sectors																		
1.A.5. Other																		
1.B. Fugitive Emissions from Fuels																		
1.B.1. Solid fuel																		
1.B.2. Oil and Natural Gas																		
<b>2. Industrial Processes</b>																		
2.A. Mineral Products																		
2.B. Chemical Industry																		
2.C. Metal Production																		
2.D. Other Production																		
2.G. Other																		

Note: All footnotes for this table are given at the end of the table on sheet 4.

**TABLE 8(a) RECALCULATION - RECALCULATED DATA**  
 (Sheet 2 of 4) Recalculated year:

Year  
 Submission  
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO <sub>2</sub>						CH <sub>4</sub>						N <sub>2</sub> O					
	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>
	CO <sub>2</sub> equivalent (Gg)			%			CO <sub>2</sub> equivalent (Gg)			%			CO <sub>2</sub> equivalent (Gg)			%		
Total National Emissions and Removals																		
3. Solvent and Other Product Use																		
4. Agriculture																		
4.A. Enteric Fermentation																		
4.B. Manure Management																		
4.C. Rice Cultivation																		
4.D. Agricultural Soils <sup>(3)</sup>																		
4.E. Prescribed Burning of Savannas																		
4.F. Field Burning of Agricultural Residues																		
4.G. Other																		
5. Land Use, Land-Use Change and Forestry (net) <sup>(4)</sup>																		
5.A. Forest Land																		
5.B. Cropland																		
5.C. Grassland																		
5.D. Wetlands																		
5.E. Settlements																		
5.F. Other Land																		
5.G. Other																		

Note: All footnotes for this table are given at the end of the table on sheet 4.

**TABLE 8(a) RECALCULATION - RECALCULATED DATA**  
(Sheet 3 of 4)      Recalculated year:

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO <sub>2</sub>						CH <sub>4</sub>						N <sub>2</sub> O					
	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>
	CO <sub>2</sub> equivalent (Gg)			(%)			CO <sub>2</sub> equivalent (Gg)			(%)			CO <sub>2</sub> equivalent (Gg)			(%)		
6. Waste																		
6.A. Solid Waste Disposal on Land																		
6.B. Waste-water Handling																		
6.C. Waste Incineration																		
6.D. Other																		
7. Other (as specified in Summary I.A)																		
Memo Items:																		
International Bunkers																		
Multilateral Operations																		
CO <sub>2</sub> Emissions from Biomass																		

Note: All footnotes for this table are given at the end of the table on sheet 4.

**TABLE 8(a) RECALCULATION - RECALCULATED DATA**  
 (Sheet 4 of 4)      Recalculated year:

Year  
 Submission  
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	HFCs						PFCs						SF <sub>6</sub>																									
	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>	Impact of recalculation on total emissions excluding LULUCF <sup>(2)</sup>	Impact of recalculation on total emissions including LULUCF <sup>(5)</sup>																				
	CO <sub>2</sub> equivalent (Gg)			(%)			CO <sub>2</sub> equivalent (Gg)			(%)			CO <sub>2</sub> equivalent (Gg)			(%)																						
Total Actual Emissions																																						
2.C.3. Aluminium Production																																						
2.E. Production of Halocarbons and SF <sub>6</sub>																																						
2.F. Consumption of Halocarbons and SF <sub>6</sub>																																						
2.G. Other																																						
Potential Emissions from Consumption of HFCs/PFCs and SF <sub>6</sub>																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Previous submission</th> <th>Latest submission</th> <th>Difference</th> <th>Difference<sup>(1)</sup></th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2">CO<sub>2</sub> equivalent (Gg)</td> <td></td> <td>(%)</td> </tr> <tr> <td>Total CO<sub>2</sub> Equivalent Emissions with Land Use, Land-Use Change and Forestry</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total CO<sub>2</sub> Equivalent Emissions without Land Use, Land-Use Change and Forestry</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																				Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>		CO <sub>2</sub> equivalent (Gg)			(%)	Total CO <sub>2</sub> Equivalent Emissions with Land Use, Land-Use Change and Forestry					Total CO <sub>2</sub> Equivalent Emissions without Land Use, Land-Use Change and Forestry				
	Previous submission	Latest submission	Difference	Difference <sup>(1)</sup>																																		
	CO <sub>2</sub> equivalent (Gg)			(%)																																		
Total CO <sub>2</sub> Equivalent Emissions with Land Use, Land-Use Change and Forestry																																						
Total CO <sub>2</sub> Equivalent Emissions without Land Use, Land-Use Change and Forestry																																						

<sup>(1)</sup> Estimate the percentage change due to recalculation with respect to the previous submission (percentage change =  $100 \times [(LS-PS)/PS]$ , where LS = latest submission and PS = previous submission. All cases of recalculation of the estimate of the source/sink category should be addressed and explained in table 8(b).

<sup>(2)</sup> Total emissions refer to total aggregate GHG emissions expressed in terms of CO<sub>2</sub> equivalent, excluding GHGs from the LULUCF sector. The impact of the recalculation on the total emissions is calculated as follows: impact of recalculation (%) =  $100 \times [(source (LS) - source (PS))/total emissions (LS)]$ , where LS = latest submission, PS = previous submission.

<sup>(3)</sup> Parties which previously reported CO<sub>2</sub> from soils in the Agriculture sector should note this in the NIR.

<sup>(4)</sup> Net CO<sub>2</sub> emissions/removals to be reported.

<sup>(5)</sup> Total emissions refer to total aggregate GHG emissions expressed in terms of CO<sub>2</sub> equivalent, including GHGs from the LULUCF sector. The impact of the recalculation on the total emissions is calculated as follows: impact of recalculation (%) =  $100 \times [(source (LS) - source (PS))/total emissions (LS)]$ , where LS = latest submission, PS = previous submission.

**Documentation box:**

Parties should provide detailed information on recalculations in Chapter 10: Recalculations and Improvements, and in the relevant sections of Chapters 3 to 9 (see section 2.5 of each of Chapters 3 - 9) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and further details are needed to understand the content of this table.



**TABLE 8(b) RECALCULATION - EXPLANATORY INFORMATION**  
**(Sheet 1 of 1)**

Year  
 Submission  
 Country

Specify the sector and source/sink category <sup>(1)</sup> where changes in estimates have occurred:	GHG	RECALCULATION DUE TO				
		CHANGES IN:			Addition/removal/ reallocation of source/sink categories	Other changes in data (e.g. statistical or editorial changes, correction of errors)
		Methods <sup>(2)</sup>	Emission factors <sup>(2)</sup>	Activity data <sup>(2)</sup>		

<sup>(1)</sup> Enter the identification code of the source/sink category (e.g. 1.B.1) in the first column and the name of the category (e.g. Fugitive Emissions from Solid Fuels) in the second column of the table. Note that the source categories entered in this table should match those used in table 8(a).

<sup>(2)</sup> Explain changes in methods, emission factors and activity data that have resulted in recalculation of the estimate of the source/sink as indicated in table 8(a). Include changes in the assumptions and coefficients in the Methods column.

**Documentation box:**  
 Parties should provide the full information on recalculations in Chapter 10: Recalculations and Improvements, and in the relevant sections of Chapters 3 to 9 (see section 2.5 of each of Chapters 3 to 9) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and further details are needed to understand the content of this table. References should point particularly to the sections of the NIR in which justifications of the changes as to improvements in the accuracy, completeness and consistency of the inventory are reported.

**TABLE 10 EMISSIONS TRENDS**  
**CO<sub>2</sub>**  
**(Sheet 1 of 5)**

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year <sup>(1)</sup>	1990	(Years 1991 to latest reported year)	Change from base to latest reported year
	(Gg)			%
<b>1. Energy</b>				
A. Fuel Combustion (Sectoral Approach)				
1. Energy Industries				
2. Manufacturing Industries and Construction				
3. Transport				
4. Other Sectors				
5. Other				
B. Fugitive Emissions from Fuels				
1. Solid Fuels				
2. Oil and Natural Gas				
<b>2. Industrial Processes</b>				
A. Mineral Products				
B. Chemical Industry				
C. Metal Production				
D. Other Production				
E. Production of Halocarbons and SF <sub>6</sub>				
F. Consumption of Halocarbons and SF <sub>6</sub>				
G. Other				
<b>3. Solvent and Other Product Use</b>				
<b>4. Agriculture</b>				
A. Enteric Fermentation				
B. Manure Management				
C. Rice Cultivation				
D. Agricultural Soils				
E. Prescribed Burning of Savannas				
F. Field Burning of Agricultural Residues				
G. Other				

<b>5. Land Use, Land-Use Change and Forestry<sup>(2)</sup></b>				
A. Forest Land				
B. Cropland				
C. Grassland				
D. Wetlands				
E. Settlements				
F. Other Land				
G. Other				
<b>6. Waste</b>				
A. Solid Waste Disposal on Land				
B. Waste-water Handling				
C. Waste Incineration				
D. Other				
<b>7. Other (as specified in Summary I.A)</b>				
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>				
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>				
<b>Memo Items:</b>				
<b>International Bunkers</b>				
Aviation				
Marine				
<b>Multilateral Operations</b>				
<b>CO<sub>2</sub> Emissions from Biomass</b>				

**Note:** All footnotes for this table are given at the end of the table on sheet 5.

**TABLE 10 EMISSIONS TRENDS**

**CH<sub>4</sub>**

(Sheet 2 of 5)

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year <sup>(1)</sup>	1990	(Years 1991 to latest reported year)	Change from base to latest reported year
	(Gg)			%
<b>1. Energy</b>				
A. Fuel Combustion (Sectoral Approach)				
1. Energy Industries				
2. Manufacturing Industries and Construction				
3. Transport				
4. Other Sectors				
5. Other				
B. Fugitive Emissions from Fuels				
1. Solid Fuels				
2. Oil and Natural Gas				
<b>2. Industrial Processes</b>				
A. Mineral Products				
B. Chemical Industry				
C. Metal Production				
D. Other Production				
E. Production of Halocarbons and SF <sub>6</sub>				
F. Consumption of Halocarbons and SF <sub>6</sub>				
G. Other				
<b>3. Solvent and Other Product Use</b>				
<b>4. Agriculture</b>				
A. Enteric Fermentation				
B. Manure Management				
C. Rice Cultivation				
D. Agricultural Soils				
E. Prescribed Burning of Savannas				
F. Field Burning of Agricultural Residues				
G. Other				

<b>5. Land Use, Land-Use Change and Forestry</b>				
A. Forest Land				
B. Cropland				
C. Grassland				
D. Wetlands				
E. Settlements				
F. Other Land				
G. Other				
<b>6. Waste</b>				
A. Solid Waste Disposal on Land				
B. Waste-water Handling				
C. Waste Incineration				
D. Other				
<b>7. Other (as specified in Summary 1.A)</b>				
Total CH <sub>4</sub> emissions including CH <sub>4</sub> from LULUCF				
Total CH <sub>4</sub> emissions excluding CH <sub>4</sub> from LULUCF				
<b>Memo Items:</b>				
<b>International Bunkers</b>				
Aviation				
Marine				
<b>Multilateral Operations</b>				
<b>CO<sub>2</sub> Emissions from Biomass</b>				

**Note:** All footnotes for this table are given at the end of the table on sheet 5.

**TABLE 10 EMISSIONS TRENDS**  
**N<sub>2</sub>O**  
 (Sheet 3 of 5)

Year  
 Submission  
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year <sup>(1)</sup>	1990	(Years 1991 to latest reported year)	Change from base to latest reported year
	(Gg)			%
<b>1. Energy</b>				
A. Fuel Combustion (Sectoral Approach)				
1. Energy Industries				
2. Manufacturing Industries and Construction				
3. Transport				
4. Other Sectors				
5. Other				
B. Fugitive Emissions from Fuels				
1. Solid Fuels				
2. Oil and Natural Gas				
<b>2. Industrial Processes</b>				
A. Mineral Products				
B. Chemical Industry				
C. Metal Production				
D. Other Production				
E. Production of Halocarbons and SF <sub>6</sub>				
F. Consumption of Halocarbons and SF <sub>6</sub>				
G. Other				
<b>3. Solvent and Other Product Use</b>				
<b>4. Agriculture</b>				
A. Enteric Fermentation				
B. Manure Management				
C. Rice Cultivation				
D. Agricultural Soils				
E. Prescribed Burning of Savannas				
F. Field Burning of Agricultural Residues				
G. Other				

<b>5. Land Use, Land-Use Change and Forestry</b>				
A. Forest Land				
B. Cropland				
C. Grassland				
D. Wetlands				
E. Settlements				
F. Other Land				
G. Other				
<b>6. Waste</b>				
A. Solid Waste Disposal on Land				
B. Waste-water Handling				
C. Waste Incineration				
D. Other				
<b>7. Other (as specified in Summary I.A)</b>				
Total N <sub>2</sub> O emissions including N <sub>2</sub> O from LULUCF				
Total N <sub>2</sub> O emissions excluding N <sub>2</sub> O from LULUCF				
<b>Memo Items:</b>				
<b>International Bunkers</b>				
Aviation				
Marine				
<b>Multilateral Operations</b>				
<b>CO<sub>2</sub> Emissions from Biomass</b>				

**Note:** All footnotes for this table are given at the end of the table on sheet 5.

**TABLE 10 EMISSION TRENDS**  
**HFCs, PFCs and SF<sub>6</sub>**  
 (Sheet 4 of 5)

Year  
 Submission  
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year <sup>(1)</sup>	1990	(Years 1991 to latest reported year)	Change from base to latest reported year
		(Gg)		%
<b>Emissions of HFCs<sup>(3)</sup> - (Gg CO<sub>2</sub> equivalent)</b>				
HFC-23				
HFC-32				
HFC-41				
HFC-43-10mee				
HFC-125				
HFC-134				
HFC-134a				
HFC-152a				
HFC-143				
HFC-143a				
HFC-227ea				
HFC-236fa				
HFC-245ca				
Unspecified mix of listed HFCs <sup>(4)</sup> - (Gg CO <sub>2</sub> equivalent)				
<b>Emissions of PFCs<sup>(3)</sup> - (Gg CO<sub>2</sub> equivalent)</b>				
CF <sub>4</sub>				
C <sub>2</sub> F <sub>6</sub>				
C <sub>3</sub> F <sub>8</sub>				
C <sub>4</sub> F <sub>10</sub>				
c-C <sub>4</sub> F <sub>8</sub>				
C <sub>5</sub> F <sub>12</sub>				
C <sub>6</sub> F <sub>14</sub>				
Unspecified mix of listed PFCs <sup>(4)</sup> - (Gg CO <sub>2</sub> equivalent)				
<b>Emissions of SF<sub>6</sub><sup>(3)</sup> - (Gg CO<sub>2</sub> equivalent)</b>				
SF <sub>6</sub>				

**Note:** All footnotes for this table are given at the end of the table on sheet 5.



**TABLE 10 EMISSION TRENDS  
SUMMARY  
(Sheet 5 of 5)**

Year  
Submission  
Country

GREENHOUSE GAS EMISSIONS	Base year <sup>(1)</sup>	1990	(Years 1991 to latest reported year)	Change from base to latest reported year
	CO <sub>2</sub> equivalent (Gg)			(%)
CO <sub>2</sub> emissions including net CO <sub>2</sub> from LULUCF				
CO <sub>2</sub> emissions excluding net CO <sub>2</sub> from LULUCF				
CH <sub>4</sub> emissions including CH <sub>4</sub> from LULUCF				
CH <sub>4</sub> emissions excluding CH <sub>4</sub> from LULUCF				
N <sub>2</sub> O emissions including N <sub>2</sub> O from LULUCF				
N <sub>2</sub> O emissions excluding N <sub>2</sub> O from LULUCF				
HFCs				
PFCs				
SF <sub>6</sub>				
<b>Total (including LULUCF)</b>				
<b>Total (excluding LULUCF)</b>				

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year <sup>(1)</sup>	1990	(Years 1991 to latest reported year)	Change from 1990 <sup>(1)</sup> to latest reported year
	CO <sub>2</sub> equivalent (Gg)			(%)
1. Energy				
2. Industrial Processes				
3. Solvent and Other Product Use				
4. Agriculture				
5. Land Use, Land-Use Change and Forestry <sup>(5)</sup>				
6. Waste				
7. Other				
<b>Total (including LULUCF)<sup>(5)</sup></b>				

<sup>(1)</sup> The column "Base year" should be filled in only by those Parties with economies in transition that use a base year different from 1990 in accordance with the relevant decisions of the COP. For these Parties, this different base year is used to calculate the percentage change in the final column of this table.

<sup>(2)</sup> Fill in net emissions/removals as reported in table Summary 1.A. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

<sup>(3)</sup> Enter actual emissions estimates. If only potential emissions estimates are available, these should be reported in this table and an indication for this be provided in the documentation box. Only in these rows are the emissions expressed as CO<sub>2</sub> equivalent emissions.

<sup>(4)</sup> In accordance with the UNFCCC reporting guidelines, HFC and PFC emissions should be reported for each relevant chemical. However, if it is not possible to report values for each chemical (i.e. mixtures, confidential data, lack of disaggregation), this row could be used for reporting aggregate figures for HFCs and PFCs, respectively. Note that the unit used for this row is Gg of CO<sub>2</sub> equivalent and that appropriate notation keys should be entered in the cells for the individual chemicals.

<sup>(5)</sup> Includes net CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O from LULUCF.

**Documentation box:**

? Parties should provide detailed explanations on emissions trends in Chapter 2: Trends in Greenhouse Gas Emissions and, as appropriate, in the corresponding Chapters 3 - 9 of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and further details are needed to understand the content of this table.

? Use the documentation box to provide explanations if potential emissions are reported.

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