



联合国



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方法问题

《公约》附件一所列缔约方温室气体清单报告和审评指南
(第 3/CP.5 和第 6/CP.5 号决定的执行情况)

《气候公约》报告和审评指南使用经验评估专家会议的报告

秘书处的说明

增 编

关于修订《公约》附件一所列缔约方国家信息通报编制指南的
建议，第一部分：《公约》年度清单报告指南

附件：通用报告格式表

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一、导 言

A. 任 务

1. 缔约方会议在第 3/CP.5 号决定中通过了《公约》附件一所列缔约方国家信息通报编制指南：《公约》年度清单报告指南(下称“报告指南”)。

2. 会议决定，“对这些指南的修改、特别是对通用报告格式的修改由附属科学技术咨询机构在其第十五届会议上审议，以便将一项决定提交缔约方会议第七届会议通过”(FCCC/CP/1999/6 和 Add.1)。

3. 在同一决定中，缔约方会议请秘书处编写一份有关使用指南、特别是使用通用报告格式的情况报告，同时除其他外应考虑到各缔约方使用指南获得的经验，以及秘书处在处理通用报告格式过程中获得的经验，供附属科学技术咨询机构在第十五届会议上审议可能对报告指南进行的修改。科技咨询机构第十二届会议请秘书处在关于报告指南使用情况的报告中考虑是否需要对手指南作任何修改以反映良好做法指导意见¹(FCCC/SBSTA/2000/5, 第 40(f)段)。

4. 缔约方会议在第 34/CP.7 号决定中决定将报告指南的修订工作推迟到科技咨询机构第十六届会议，以期第八届缔约方会议通过一项决定(FCCC/CP/2001/13/Add.4)。

5. 科技咨询机构在第十五届会议上表示欢迎秘书处将于 2001 年 12 月 4 日至 6 日在波恩举办一次专家会议，讨论关于使用报告指南等方面的方法和业务问题。此外，科技咨询机构请秘书处编写专家会议报告，以便其第十六届会议审议(FCCC/SBSTA/2001/8, 第 15(b)段)。

6. 在专家会议上，科技咨询机构主席提议，由秘书处在其指导下编写修订的报告指南草案，同时考虑到各缔约方使用指南获得的经验和秘书处在处理通用报告格式过程中获得的经验，以及专家会议的结果(FCCC/SBSTA/2002/2)，以利两个附属机构第十六届会议审议修订的报告格式。

B. 本说明的范围

7. 本说明是依照上文第 6 段所述任务编写的。其中载有修订的通用报告格式，该格式是报告指南的一个组成部分。编写本说明是为了便利科技咨询机构第十六届会议审议这个问题。阅读本说明，应联系专家会议的报告(FCCC/SBSTA/2002/2)，以及关于修订《公约》年度清单报告指南的建议(FCCC/SBSTA/2002/2/Add.2)。

8. 本说明附件所载修订的通用报告格式草案的编写主要依据了第 3/CP.5 号决定(FCCC/CP/1999/7)所通过的报告指南中的通用报告格式。秘书处注意到缔约方在使用报告指南方面，包括在使用报告格式方面所取得的经验，以及秘书处在处理通用报告格式和协调 FCCC/SBSTA/2001/MISC.4、FCCC/SBSTA/2001/MISC.5、FCCC/SBSTA/

¹ 良好做法指导意见就是指政府间气候变化专门委员会(气专委)题为“关于国家温室气体清单方面的良好做法的指导意见和不确定性的掌握”的报告。这个指导意见在本文件中称为“气专委良好做法指导意见”。

2001/5 和 Add.1 号文件所述技术审评工作方面的经验，此外还考虑到专家会议的与会者所提出的建议(见 FCCC/SBSTA/2002/2)。

9. 通用报告格式是报告指南的组成部分。由于技术原因，本说明的叙述将修订的通用报告格式(表格)草案与报告指南草案(FCCC/SBSTA/2002/2/Add.2)分开处理。通用报告格式是报告指南草案的附件二。²

C. 科技咨询机构可采取的行动

10. 科技咨询机构不妨考虑到本说明中的资料，并核可或修改通用报告格式的拟议更改。科技咨询机构还不妨将修订的通用报告格式转交附属履行机构(履行机构)审议并提出可能的建议，请第八届缔约方会议予以通过。

D. 做法

11. 修订的报告指南草案，包括本说明所载通用报告格式，是在科技咨询机构主席的指导下编写的，编写中得到专家会议联合主席(William Kojo Agyemang-Bonsu 先生(加纳)、Dina Kruger 女士(美利坚合众国)、Newton Paciornik 先生(巴西)和 Jim Penman 先生(大不列颠及北爱尔兰联合王国))的协助。此外，一些在清单审评方面具有丰富经验、在试验阶段担任主导审评员并参加了专家会议的专家也接受的科技咨询机构主席的邀请，协助他详细编拟修订的指南草案。这些专家是：Ayite-Lo Ajavon 先生(多哥)、Samir Amous 先生(突尼斯)、Katarina Mareckova 女士(斯洛伐克)、Klaus Radunsky 先生(奥地利)、Audun Rosland 先生(挪威)、Jose Villarin 先生(菲律宾)。

12. 为了处理通用报告格式部门表格可能要做的任何修改，专家会议上设立了三个部门小组：一个是能源问题小组，一个是工业加工、溶剂和其他产品使用及废弃物问题小组，还有一个是农业问题小组，分别有在这些部门具有公认经验的若干专家参加。每个小组的讨论结果技术性很强，很详细。由于时间限制，报告指南问题工作组没有详细审议每一项讨论的结果。主席请专家以个人身份或在各自所属缔约方同意下就这些部门小组的讨论结果提出意见。这些讨论结果和所收到的意见可查阅秘书处网站(<http://unfccc.int/sessions/workshop/010412/index.html>)。

13. 此外，秘书处在编写以上第 8 段所述修订的通用报告格式表草案过程中还注意到三个部门小组的建议以及各方对专家会议结果所提出的反馈意见。本说明所载就通用报告格式提出的具体的拟议更改意见在第二节中按照各个表格逐项加以说明(见下文第 18 至 125 段)。

14. 关于土地使用的变化和林业，专家会议的与会者建议先等待气专委目前关于为土地使用、土地使用的变化和林业部门拟订良好做法指导意见的工作区的结果，然

² 所提议的修订的报告指南有两个附件：附件一题为“国家清单报告——拟议的结构”，附件二题为“通用报告格式表”(分别见(英文)FCCC/SBSTA/2002/2/Add.2 第 16 页和第 22 页)。修订的报告指南和修订的通用报告格式表将在两个附属机构第十六届会议之后编为一份文件印发。

后再就通用报告格式有关土地使用的变化和林业的部门背景表格 5.A-D 提出可考虑采用的其他格式。³

二、通用报告格式的拟议更改

15. 修订的通用报告格式草案在下列方面没有重大更改：需报告的源、气体和活动，包括隐含排放系数的计算，以及大多数表格的内容都没有改变。以下提出一些目的在于便利缔约方进行报告的修改意见，提出这些修改是为了使通用报告格式在许多方面与气专委良好做法指导意见取得一致，并且提高报告的准确性和一致性和改进质量控制。

16. 对通用报告格式的拟议修改要加强国家清单报告中提供的信息与通用报告格式中提供的信息之间的联系。国家清单报告和通用报告格式两者的划分所依据的原则是，通用报告格式是用于以标准的格式总合报告量性的清单数据，以利进行电子数据处理和在各缔约方之间进行比较，而国家清单报告则应包含能够保证足够透明度和对清单进行审评而需要的所有信息。就通用报告格式提出的其他改动目的，在于改进表格的结构和提高这些表格与气专委良好做法指导意见的一致性。就通用报告格式提出的修改意见还在于便利纳入任何可能开发的报告软件。

17. 以下各节进一步详细介绍就本说明附件所载通用报告格式提出的修改意见。

A. 所有表格的共同更改

1. “其他”类别的报告

18. 遵循避免数据填报栏目重复的原则，在“其他”类别之下报告的活动应在级别最低的数据填报栏目之下指明，这个级别对于大多数部门就是部门背景表格。任何具体指明的“其他”类别要转入对应的部门报告。因此，部门报告中“其他—请具体说明”类别标示用语已改为“其他一如表 x.y 所示”，此处的表 x.y 就是指对应的部门背景表格。在每一项“其他”条目之下留了一个空行，标示这些类别中可能存在的各行。

2. 额外信息框

19. 规定应在额外信息框内提供的信息量已经减少。修订的通用报告格式中保留了额外信息框的报告要求，但需要提供的信息应是直接用于使用气专委缺省计算方法计算排放量估计数。有助于审评清单但并不直接用于计算排放量估计数的其他信息应在国家清单报告中提供。修订的通用报告格式草案额外信息框中删去的所有报告要求都归纳在报告指南附件一的一个附录中(见拟议的国家清单报告结构)，以确保为审评目

³ 科技咨询机构第十二届会议请气专委将关于这个部门的良好做法指导意见纳入工作计划。缔约方会议第七届会议第 11/CP.7 号决定请气专委编写一份关于良好做法指导意见和不确定性的掌握问题的报告，涉及土地使用、土地使用的变化和林业部门计量、估计，评估不确定性、监测和报告碳储存量的净变化和温室气体人为源排放量和汇清除量。

的在国家清单报告中作为额外信息继续报告这些内容。额外信息框中涉及具体部门的更改见下文第 27 段至 125 段。

3. 文件资料框和脚注

20. 所有表格都增加了文件资料框(每个表格有一个文件资料框), 包括部门报告以及大多数简表⁴和其他表格。

21. 文件资料框一般都注明国家清单报告的部门章节(假定国家清单报告采用 FCCC/SBSTA/2002/2/Add.2 号文件第 16 至 18 页中的提议结构), 其中要提供某个部门的全部细节。然而, 如果必须具备某种信息才便于理解某个表格的内容, 缔约方还是可以使用文件资料框具体指明国家清单报告中含有全部细节的章节。

22. 脚注中关于具体表格需在文件资料框内提供信息的要求现已转入文件资料框本身。如果所需要的信息涉及面过多过广, 无法在这些框各种提供, 就应当在国家清单报告中提供, 并在文件资料框中注明有关的章节。

23. 相关情况下, 表格每页都重复印出与表格相关的脚注和注释, 以利阅读表格。

4. 阴影部分

24. 为了简化表格并清楚标明每个表格的具体报告要求, 只有要求缔约方填写的单元格才是空白的。有浅灰色阴影的单元格表示需要用秘书处提供的软件填报(例如, 隐含排放系数、小计和合计等等的计算)。⁵ 然而, 决定不使用任何软件填报通用报告格式的缔约方则还需要在这些单元格内自行填报。

25. 在当前的通用报告格式中, 不准备填入任何信息的单元格使用深灰色阴影。深灰色阴影主要用于不会发生某种温室气体排放/清除的源/汇类别, 或用于某种信息(例如, 总合程度很高的隐含排放系数)并非必要或有用的单元格。因此, 这种单元格不需要缔约方填入任何数据, 也不必用秘书处提供的软件填入数据。

26. 与具体源/汇类别中的深灰色阴影相关的更改在下文中按照各个表格加以叙述。

B. 简表和其他表格的更改

27. 建议在阅读本解释联系本说明附件所载修订的通用报告格式表格草案和目前版本的通用报告格式中的表格。

简表 1.A—国家温室气体清单简要报告(气专委表 7A)

28. 参照通用报告格式部门表格 5 的更改, 现已取消了 5.B 森林和草原的作业变

⁴ 简表 1.A、1.B 和 2 不设文件资料框。

⁵ 在当前的通用报告格式电子版(CRF V1.01 和 CRF V1.2)中, 不需要用户直接输入数据的单元格(因为是使用 Excel 应用软件所填)是彩色的; 这样, 只有需要人工填入数据的单元格才留空。这样做是为了便于将数据填入通用报告格式。这些彩色的单元格对应于本文件中的浅灰色单元格。

更所涉二氧化碳(CO₂)清除量单元格的灰色阴影标示。

29. 脚注 4 第三句作了修改。现在的行文是，表 4.D 中的文件资料框应当用于说明如何核算土壤排出的 CO₂ (而不再要求在简表 1.A 和 1.B 对应单元格中填写解释说明)。

30. 此表第 2 页脚注 5 提到，只应在“排放量”或“清除量”栏下提供土地使用的变化和林业的净估计数，并说明了在该表格中如何使用符号(-/+), 这个脚注现已加入 4.D 农业土壤排出的 CO₂ 这个单元格。

31. 此表第 2 页脚注 6 增加了内容，其中说明在废弃物部门仅需要报告不进行能源回收的废弃物焚烧产生的排放量，进行能源回收的废弃物焚烧产生的排放量在能源部门中报告。

32. 部门“7.其他”中增加了新的脚注 7，其中说明与这个部门之下报告的任何源类别相关的信息应在国家清单报告中提供。

33. 此表第 3 页脚注 8(目前版本的通用报告格式脚注 7)增加了解释“备忘项”性质的内容。

34. 此表第 1 页中提到通用报告格式脚注编号的注释现已删去。

简表 2 — CO₂ 当量排放量

35. “HFCs”、“PFCs”、“SF₆”⁶ 以及源类别“2.F. 卤化碳和 SF₆ 消耗量”标题下增加了一个脚注，说明实际排放量应纳入国家合计数。如果没有与源类别 2.F. 卤化碳和 SF₆ 消耗量相关的实际排放量估计数，应在国家合计数内纳入潜在排放量。

简表 3 — 所用方法和排放系数简要报告

36. 这个表格保持目前的样式。其中增加的一个文件资料框，目的是，在缔约方在气专委源类别内使用不同方法的情况下，能够指明需要填报多种数据的源类别的方法(层级)和排放系数。

37. 为了与简表 1.A 中所用灰色阴影部分保持一致，源类别“4.G 其他” CO₂ 排放量和清除量单元格也使用了灰色阴影。

表 7(a)(新表) — 关键源概览

38. 这个表格是联系气专委良好做法指导意见而新编的，目的是用于在通用报告格式中报告源类别。考虑到要由缔约方在使用估算排放量方法的类别分列层次上指明关键源，各缔约方的关键源类别分列可能不同。因此，这个表格不包含界定的类别层次，所以缔约方可以按照自己的分列层次加以报告。所指明的关键源应按照各自在本国合计数内的相对比重加以排列。

39. 拟议的表 7(a)还要求提供信息说明是否执行了与源具体相关的质量保证/质量控制程序。

⁶ 氢氟碳化物(HFCs)、全氟碳化物(PFCs)、六氟化硫(SF₆)。

表 7(b)(新表) — 关键源的不确定性

40. 新的表 7(b)取代目前版本的通用报告格式中的表 7。之所以要从通用报告格式中删去目前的表 7, 原因是这个表格在通用报告格式中仅仅保留到气专委完成关于良好做法指导意见和不确定性的掌握问题的的工作。

41. 关于所有源的不确定性的性质和数量方面的信息主要应在国家清单报告中提供。关键源不确定性的量值也要填在通用报告格式表 7(b)中。

42. 设置表 7(b)是为了帮助确定旨在提高今后国家清单准确性的努力的轻重缓急, 并指导就方法的选择作出决定。这个表格不是为了用于比较不同缔约方所报不确定性的量值, 因为这种信息是无法比较的。

43. 这个表格与气专委良好做法指导意见表 6.1 相符的一个新的特点, 是除了要报告关键源类别的总合不确定性以外, 还要报告与活动数据和排放系数相关的关键源不确定性估计数。

44. 由于不确定性需要在使用不同排放系数和活动数据源的分列层次上加以确定, 因此, 表 7(b)的源类别(关键源)清单应当与表 7(a)的关键源清单保持一致。表 7(a)和表 7(b)都没有确定的类别分类层次。

表 8(a) — 重新计算、重新计算的数据

45. 在每一种气体之下增加了栏目, 首先是为了表明以千兆克(Gg) CO₂ 当量标示的估计数之间的差异,⁷ 第二是为了表明由于国家合计清单(不包括土地使用的变化和林业)的重新计算而形成的本年度和以往年度估计数之间的差异的相对影响。相应增加了脚注。

表 8(b) — 重新计算、说明

46. 增加了一栏, 用以报告由于统计或编辑方面的变动、纠正错误等与方法无关的其他变动而对数据的修改。

表 10 第 1-3 页 — 排放趋势(CO₂、CH₄、N₂O)⁸

47. 一些源类别使用了灰色阴影, 以便于简表 1.A 的灰色阴影部分保持一致。

表 10 第 4 页 — 排放趋势(HFCs、PFCs、SF₆)

48. 为了与表 2(II)中关于报告总合的“其他 HFCs”和“其他 PFCs”的规定保持一致, 在这个表格中增加了“其他 HFCs”和“其他 PFCs”各行。相应还增加了一个解释这项规定的脚注。

49. 这个表格中增加了一个文件资料框, 以便缔约方具体指明在这个表格中仅报告潜在排放量的情况。

⁷ 在目前版本的通用报告格式中, 这种差异仅仅用百分比表示。

⁸ 甲烷(CH₄)、一氧化二氮(N₂O)。

表 11——所报告的清单信息的核对表

50. 表 11 已从通用报告格式中删去，因为这个表格不提供任何可能用于审评工作的信息；而且这个表格已经是多余的，因为作为审评工作一部分正在编制的状况报告中要报告有关信息。

C. 部门报告和部门背景数据表格的更改

51. 建议在阅读本节时联系本说明附件所载修订的通用报告格式表草案和目前版本通用报告格式中的表格。

1. 能源

表 1——能源的部门报告

52. 1.A.5 其他：“固定”和“移动”活动在表 1.A(a)第 4 页具体指明。在表 1 第 2 页，仅报告“固定”和“移动”活动每一种气体(CO₂、CH₄、N₂O)的合计排放量。对于前体气体，仅按照“固定”和“移动”报告合计排放量估计数。

53. 1.B.2.a. 石油：N₂O 单元格中的灰色阴影现已取消。

54. 目前版本通用报告格式脚注 1：“包括本类之下军事燃料使用”字样现已删除。同一个脚注已见于更为相关的表 1A(a)，因为数据要填在部门背景数据表中。

55. 目前版本通用报告格式脚注 2(修订的通用报告格式脚注 1)增加了解释“备忘项”性质的内容。

表 1.A(a)——能源部门背景数据表：燃料燃烧活动——部门办法

56. 1.A(a)第 1 页——生物质产生的 CO₂：生物质燃料燃烧产生的 CO₂ 合计数单元格使用了灰色阴影。生物质燃料燃烧产生的 CO₂ 合计数计入表 1 第 2 页“备忘项”之下。增加了一个脚注，说明在何处记录这个数值。

57. 1.A(a)第 2 页——源类别“f. 其他”之下增加了一行，其中应列出这种源所涉及的所有活动。

58. 1.A(a)第 3 页——运输：燃料类型清单作了如下修改：

- (a) 各类运输总合燃料类型(1.A.3)现在分为：液体燃料、固体燃料、气体燃料、生物质和其他燃料；
- (b) 在 1.A.3.b 公路运输项下，增加了燃料类别“液化石油气”和“其他液体燃料——请具体说明”、燃料类别“天然气”改为“气体燃料”；
- (c) 在 1.A.3.c 铁路运输项下，增加了燃料类别“气体燃料”；
- (d) 在 1.A.3.d 航行项下，增加了燃料类别“汽油”、“其他液体燃料——请具体说明”和“气体燃料”；燃料类别“煤炭”改为“固体燃料”；
- (e) 在 1.A.3.e 其他运输项下，增加了燃料类别“生物质”和“其他燃料”。此外，增加了一行，用以列出 1.A.3.e 其他运输项涵盖的所有活动。

59. 1.A(a)第 4 页——其他：需要在这个表格中分别按照固定和移动性质具体填报“1.A.5 其他”所涵盖的各种活动，而不是如目前版本通用报告格式所要求的那样在表 1(第 2 页)中填报。

表 1.A(b)—参比做法

60. 在液体、固体、气体燃料类别之下分别增加了一行，用以填报“其他——请具体说明”。此外还增加了一行，用以填报气体矿物燃料合计数。

表 1.A(c) — 燃料燃烧所产生 CO₂ 排放量比较

61. 目前的“国家做法”标题已改为“部门做法”。
62. 目前参比做法之下的“能源消耗量”标题已改为“表观能源消耗量”。
63. 由于填写参比做法与部门做法能源消耗量百分比差异的一栏已删除。⁹

表 1.A(d) — 原料及燃料的非能源使用

64. 在目前版本通用报告格式脚注 2 中增加了“原料”和“非能源使用”的简明定义。

65. 此表之下增加了两行，用以填写：(1)包含在参比做法内计作已排放 CO₂ 的原料/燃料非能源使用所涉碳和 CO₂ 的总量，以及(2) 原料/燃料非能源使用所涉没有排放的碳和 CO₂ 的总量。

66. 目前版本通用报告格式此表中脚注 1 “不同行业使用燃料的，请分行填写”已删去。

表 1.B.1 — 固态燃料

67. “其他信息”框现已删去。仅保留了关于填报所消耗(回收)和使用或燃烧(千兆克)CH₄ 总量的要求，这个要求已纳入主表。

68. 在“排放量”标题之下，“CH₄”栏现已分为“CH₄—回收/燃烧”和“CH₄净排放量”。相应增加了脚注。

69. CH₄ 隐含排放系数按照 CH₄ 总排放量(CH₄ 最终(净)排放量加 CH₄ 回收/燃烧量)计算。按照总排放量计算的隐含排放系数可以更为一致地比较各国的情况和比较缺省排放系数。¹⁰

⁹ 一些专家认为，对于报告目的而言，以标准方式比较两种做法的能源消耗量数据并无助益。删除这一栏并不排除专家审评组深入分析两种做法能源消耗量的差异，这种深入分析要考虑到音像两种做法差异的所有因素。气专委指南仅要求在两种做法之间比较二氧化碳排放量。

¹⁰ 由于这个分部门的一些特点，诸如不同国家回收的某种温室气体数量的巨大差异，以及一个国家回收量各年度的差异，按照“最终(净)排放量”计算的隐含排放系数会在审评过程中限制可比性作为一种工具的作用。这并不排除审评组深入分析回收评估意见。

表 1.B.2—石油和天然气

70. 这个表格的标题改为“石油、天然气和其他源的散逸性排放”。

71. 在目前版本的通用报告格式中，活动数据的填报单位由缔约方自选，在修订的版本中，必须从一个确定的单位一览表中选定一个活动数据单位。相应修改了脚注 1，列明缔约方可选择用于报告活动数据的单位。

72. 表 1.B.2.a. 石油：钻探和炼油/储存， N_2O 排放量和 N_2O 隐含排放系数单元格去除了灰色阴影。

73. 表 1.B.2.b. 天然气：这个源的各项之下增加了连续编号的(i)至(v)项。

74. 表 1.B.2.b.iii. 其他渗漏：(按照以上第 73 段所示编号，对应于修订的通用报告格式中的 1.B.2.b.v)：对于排放量估计数(CO_2 和 CH_4)，本行所填的内容是源分项“工厂和电站”与“居民和商业部门”的总和。

75. “其他信息”框现已删去。

表 1.C—舱载燃料

76. 按照“备忘项”之下表 1 中的顺序改变了航空和航海的顺序(额外信息框内也是如此)。

77. 在本表格的脚注 1 中，排放系数一语之前增加了“隐含”字样。

2. 工业加工

表 2(I) — 工业加工的部门报告

78. 2.B.1. 氨生产： N_2O 排放量单元格去除了的灰色阴影(与表 2.A-G 保持一致)。

79. 2.B.4. 碳化物生产： NO_x 排放量单元格去除了的灰色阴影。

80. 2.F. 卤化碳和 SF_6 消耗量：按照气专委良好做法指导意见，在这个源类别内增加了一个新的源分项，题为“6. 使用臭氧层消耗物质替代品的其他应用”。相应改变了在此之后的各个源分项的编号。增加这个新的源分项，可以单独报告使用臭氧层消耗物质(ODS)替代品的“其他”活动，与“F.9. 其他—如表 2(II)所示”(目前的 F.8. 其他—请具体说明)之下报告的“其他”活动分开。

表 2(I).A-G — 工业加工的部门背景数据表

81. CO_2 、 CH_4 和 N_2O 排放量的栏目标题中增加了“净”字。

82. 按照目前版本通用报告格式在脚注 2(修订的通用报告格式脚注 3)第二句中所用的“经调整的排放量”已改为“最终(净)排放量”。

83. 隐含排放系数按照总排放量(最终(净)排放量加回收量、氧化量、销毁量或转化量)计算，这是因为可以更为一致地比较各国的情况和比较缺省排放系数。相应增加了一个脚注。

表 2(II) — HFCs、PFCs 和 SF₆ 部门报告

84. 2.F(a). 卤化碳和 SF₆ 消耗量：按照气专委良好做法指导意见，在这个源类别内增加了一个新的源分项，题为“6. 使用臭氧层消耗物质替代品的其他应用”。相应改变了在此之后的各个源分项的编号。增加这个新的源分项，可以单独报告使用臭氧层消耗物质(ODS)替代品的“其他”活动，与“F.9. 其他——如表 2(II)所示”之下报告的“其他”活动分开(另见表 2(I)中的更改)。

85. 增加了两栏，分别题为“其他 HFCs”和“其他 PFCs”，用于主要在保密的情况下填报合计的 HFCs 和 PFCs。增加了一个脚注，说明添加这两栏的目的。

86. 按照文件资料框和脚注中的总体做法以及表格的改动修改了表格的脚注和注释并重排了编号。

表 2(II).C、E — 部门背景数据表(金属生产；卤化碳和 SF₆ 生产)

87. 重新编排了这个表格的某些部分：

- (a) 按照所涵盖的两个类别(2.C. 金属生产排放的 PFCs 和 SF₆, 2.E. 卤化碳和 SF₆ 生产)，本表现已分成两个半独立的表格；
- (b) 按照通用报告格式所有其他表格的结构，关于气体的说明移至“排放量”栏标题之下。这个更改意味着，对于 2.E. 卤化碳和 SF₆ 生产，有关的活动应在这个类别的主要源分项(诸如副产品和散逸性排放)之下填明，而对应的气体及其数值则填在“HFCs/PFCs”栏内。

表 2(II).F — 卤化碳和 SF₆ 的消耗量

88. 这个源类别内增加了一个用于报告实际排放量的新的源分项，题为“6. 使用臭氧层消耗物质替代品的其他应用”。相应改变了在此之后的各个源分项的编号(改动也反映在表 2(I)和 2(II)中)。

89. 按照上文“文件资料框和脚注”所述的总体办法修改了这个表格中的注释。

3. 溶剂和其他产品使用

表 3 — 溶剂和其他产品使用的部门报告

90. 作了下列修改：

- (a) 3.A. 颜料的使用：N₂O 单元格使用了灰色阴影；
- (b) 3.C. 化工产品、制造和加工：用于报告 CO₂ 排放量的单元格去除了灰色阴影；
- (c) 3.D. 其他：所有与 N₂O 相关的源分项都使用了填报 CO₂ 和 NMVOCs 的灰色阴影；以及
- (d) 3.D. 其他：目前作为示例的源分项现已编号排列。增加了一个源分项“5. 其他”，用于填报除已经在“3.D. 其他”所列之外的“其他”源。

表 3 A-D—溶剂和其他产品使用的部门背景数据

91. 作了下列修改：

- (a) 3.A. 颜料的使用：N₂O 的隐含排放系数单元格使用了灰色阴影；
- (b) 3.C. 化工产品、制造和加工：用于报告 CO₂ 活动数据和隐含排放系数的单元格去除了灰色阴影；
- (c) 3.D. 其他：所有与 N₂O 相关的源分项都使用了填报 CO₂ 隐含排放系数的灰色阴影；以及
- (d) 3.D. 其他：目前作为示例的源分项现已编号排列。增加了一个源分项“5. 其他”，用于填报除已经在“3.D. 其他”所列之外的“其他”源。

4. 农 业

交叉问题：牲畜(牛)的分列

92. 关于牛的分列，保留目前的奶牛和非奶牛的区分(在修订的通用报告格式中称为“备选 A”)。然而，为了便于按照气专委良好做法指导意见第 2 级方法报告牲畜存栏数，缔约方也可按照下列划分报告牛存栏数：成年奶牛、成年非奶牛和幼牛，在修订的通用报告格式中称为“备选 B”)。通用报告格式中，所有要求分列报告牛的表格均列出了两种备选办法，这方面考虑到缔约方可能使用其中的一种方法收集这个源类别的活动数据。

表 4—农业的部门报告

93. 如上文第 92 段所述，牛存栏数分列方式已更改。

94. 对于源类别 4.B 粪肥管理，增加了一个类别，题为“4.B.10. 其他牲畜—请具体说明”。因此，相应改动了在此之后各个源类别(粪肥管理系统)的编号(从 4.B.11 至 4.B.13)。

95. 4.D.2: 这个源类别不再称为“畜牧生产”，改称“牧场、放牧地和围场”。

96. 4.D.2: CH₄ 排放量单元格使用了灰色阴影。

97. 4.D.2: 增加了一个脚注，其中提及气专委良好做法指导意见第 4.4 章，目的是澄清粪肥产生的 N₂O 排放量哪些应在 4.B 之下报告，哪些应在 4.D 之下报告。

表 4.A—肠内发酵

98. 如上文第 92 段所述，牛存栏数分列方式已更改。

99. 关于活动数据和有关信息，“饲料日均摄入量”现已改为“总能量平均摄入量(GE)”，使之更加符合气专委良好做法指导意见；对应的单位从“兆焦尔/日”改为“兆焦尔/头/日”。

100. “CH₄ 转化”一语现已改为“CH₄ 平均转化率(Y_m)”；保留了单位“%”。相应增加了一个脚注。

101. 额外信息：“额外信息”框之上的标题现注明“仅需填报使用第 2 级方法情况下所涉的牲畜种类”，以确保在这个框格中提供的信息限于使用第 2 级方法情况

下所涉的牲畜种类，而不是包括在肠内发酵栏之下涉及的所有各类牲畜。

表 4.B(a) — 粪肥管理产生的 CH₄ 排放量

102. 如上文第 92 段所述，牛存栏数分列方式已更改。

103. 为了与表 4 的更改保持一致，增加了一个类别，题为“其他牲畜——请具体说明”。

104. 关于活动数据和有关的信息，VS 日排泄量从千克干物质/头/年改为千克干物质/头/日。如隐含排放系数栏标题所示，隐含排放系数单位仍是“(每)年”。

105. 标题“牲畜典型体重”、“VS 日排泄量”和“Bo”中增加了“平均”字样。相应修改了脚注 3。

106. 额外信息框：“固体储存和干料”栏现分为“固体储存”栏和“干料”栏。

107. 额外信息框：增加了除本框所列之外填报其他牲畜的可能性。

表 4.B(b) — 粪肥管理产生的 N₂O 排放量

108. 如上文第 92 段所述，牛存栏数分列方式已更改。

表 4.C — 水稻种植

109. “活动”数据之下的“收获面积”单位现已改为 10⁹ 米²/年。

表 4.D — 农业土壤

110. 4.D.1 — 土壤直接排放量

(a) 这个源类别之下增加了一个类别，题为“4.D.1.6. 其他直接排放量——请具体说明”。

(b) 对于源类别 4.D.1.1. 化肥，关于活动数据的说明文字改为“施用化肥的氮投入量”。

(c) 源类别 4.D.1.2. 不再称为“在土壤中施用的动物废弃物”，改为“在土壤中施用的动物粪肥”。

(d) 对于源类别 4.D.1.3. 固氮作物，所用单位从“千克干生物质/年”改为“千克氮/年”；关于活动数据的说明文字从“所生产的干豆和大豆”改为“所种固氮作物的年度固氮量”；相应更改了隐含排放系数单位。

(e) 对于源类别 4.D.1.4. 作物残余物，所用单位从“千克干生物质/年”改为“千克氮/年”；关于活动数据的说明文字从“其他作物的干重产量”改为“返回土壤的作物残余物的含氮量”；相应更改了隐含排放系数单位。

(f) 由于上述更改，除有机土的种植外，其他所有隐含排放系数的单位现在都改为千克 N₂O-氮/千克氮。这样就不再需要写明每一个源类别的隐含排放系

数单位。因此，这个单位在隐含排放系数标题中写明，同时加一个脚注，说明有机土的种植采用不同的单位(千克 N₂O-氮/公顷)。

111. 4.D.2 — 畜牧生产

112. 为了与表 4 的更改保持一致，源类别 4.D.2 不再称为“畜牧生产”，改称“牧场、放牧地和围场”。

113. 4.D.3 — 间接排放量

114. 两个源分项的说明文字分别改为“肥料、动物粪肥和其他物质挥发的氮”和“肥料、动物粪肥和其他物质浸出和流失的氮”。

115. 额外信息框

116. 本框中增加了一个备选项，用以填报其他参数。

表 4.F — 农业残余物的田间焚烧

117. 下列活动数据用语和其他有关信息作了修改：

- (a) “干物质组分”改为“残余物的干物质组分”；
- (b) 增加了“氧化组分”栏；
- (c) “焚烧的生物物质”改为“焚烧的生物物质总量”；
- (d) “残余物生物物质中的氮组分”改为生物物质残余物中的 N-C 比率”；以及
- (e) 增加了“残余物的 C 组分”栏。

118. 目前版本通用报告格式行文为“用语本通用报告格式表 4.D 中”的脚注 1 现已删去。

5. 土地使用的变化和林业

表 5 — 土地使用的变化和林业的部门报告

119. 如上文第 14 段所述，目前阶段没有提出修改土地使用的变化和林业部门背景数据表 5.A-D。然而，对于土地使用的变化和林业的部门报告(通用报告格式表 5)，为便利这个表格中的报告，作了如下修改：在用于报告类别 5.B 森林和草原的作业变更的 CO₂ 清除量的单元格中，去除了灰色阴影。相应还去除了这个源/汇类别“净”CO₂ 排放量/清除量单元格的灰色阴影。目前版本通用报告格式中对应的脚注 2 也已删除。

6. 废弃物

表 6.A 和 C — 固体废弃物处置和废弃物焚烧的部门背景数据

120. 表 6.A. 固体废弃物处置作了如下修改：

- (a) 活动数据和有关的信息：经过降解的可降解有机碳(DOC)以%表示；
- (b) 题为“CH₄ 回收量”的一栏移至“排放量”标题之下(以便与报告回收量的其他表格保持一致，诸如散逸性排放量和工业加工)；
- (c) “排放量”之下的“CH₄”栏改为“CH₄(净)”，使之更加明确；
- (d) CH₄ 隐含排放系数按照 CH₄ 总排放量(CH₄ 最终(净)排放量加 CH₄ 回收量)计算。这样符合其他部门的做法(散逸性排放量和工业加工，见第 69 段

和第 83 段以及脚注 10)，在这些部门，可能会有使最终排放量减少的回收、燃烧或其他措施。相应增加了一个脚注说明 CH₄ 隐含排放系数是如何计算的；

- (e) 源类别分项“6.A.2. 无管理措施的废弃物处置场”分别改为“6.A.2.a. 深”和“6.A.2.b. 浅”。

121. 表 6.C. 废弃物焚烧作了如下修改：

- (a) 目前作为示例的源分项“塑料和其他非生物源废弃物”现改称“其他(非生物源)——请具体说明”。增加了一个脚注，说明各种类型的非生物源废弃物，诸如塑料等，应予报告，并在这个源分项之下列明。用于报告生物源废弃物这一行与之分开，以便能够从总数中排除生物源废弃物的 CO₂ 排放量；
- (b) 文件资料框中增加了说明“焚烧废弃物量”是否与湿物质或干物质相关的文字；
- (c) 增加了一个注释，说明仅需在废弃物部门报告没有能源回收措施的废弃物焚烧所产生的排放量，而由能源回收措施的焚烧所产生的排放料则在能源部门报告。

122. 额外信息框：须报告的信息量已经减少。通用报告格式中的下列报告要求已经删除，转入国家清单报告：焚烧废弃物的组分、回收废弃物的组分、回收 CH₄ 的固体废弃物处置场数目，以及填埋废弃物的构成成分。

表 6.B.— 废水处理的部门背景

123. 这个表格已重新编排：目前题为“废水”和“污水”的栏目已移动位置，分别改为类别分项“工业废水”、“生活废水和商业废水”以及“其他”之下的各行。

124. 目前在“活动数据”标题之下的“回收和/或燃烧的 CH₄”的栏目现已移到“排放量”之下(另见表 6.A.的改动)。CH₄ 排放量的两栏现已分别改为“CH₄ (净)”和“CH₄ 回收/燃烧”。

125. CH₄ 隐含排放系数按照 CH₄ 总排放量(CH₄ 最终(净)排放量加 CH₄ 回收/燃烧量)计算。这样符合其他部门的做法(散逸性排放量和工业加工，见第 69 段和第 83 段以及脚注 10)，在这些部门，可能会有使最终排放量减少的回收、燃烧或其他措施。相应增加了一个脚注说明 CH₄ 隐含排放系数是如何计算的。

附件

通用报告格式¹¹

(本附件是 FCCC/SBSTA/2002/2/Add.2 号文件所载报告指南的附件二)

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，是为了确保缔约方以标准格式报告定量数据，并便利比较各缔约方的清单数据。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. 如 FCCC/CP/1999/7 号文件所述，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的表格。

3. 有些部门背景表格要求计算隐含排放系数。这些是缔约方排放量估计数和总计活动数据二者之间的自上而下的比率。隐含排放系数仅仅用于比较。它们不一定是原始排放估计中实际使用的排放系数，除非这只是用于计算隐含排放系数时以同样的总计活动数据为基础的简单乘法运算。

4. 与气专委指南相一致，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 CO₂ 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。

5. 在需要提供特定部门/源类别的全面详细资料时，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。

6. 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 24 段所述的说明代号。

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

8. 缔约方应在额外信息框中填入数据。如果所要求的信息由于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代号“NA”。

9. 缔约方应填写表 5(土地使用的变化和林业的部门报告)。对应的部门背景表格 5.A-D 与气专委指南相符，缔约方应使用气专委缺省方法填写这些表格。如果缔约方不使用气专委缺省方法，最好能在国家清单报告中提供估计土地使用的变化和林业部门时所用方法的背景数据和说明，以提高透明度。在气专委就土地使用、土地使用的变化和林业部门拟出良好做法指导意见之后，将考虑表格 5.A-D 的替代格式。

10. 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缔约方则需要填写这些单元格。

¹¹ 由于技术原因，以下表格没有经过正式编辑。

11. 如同目前版本的通用报告格式一样，不准备包含任何信息的单元格一律使用深灰色阴影。

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说 明:

为避免改动通用报告格式各种复杂表格的外观, 这些表格一律未翻译。由于技术上的限制, 本文件印出的通用报告格式的外观(例如, 表格的尺寸和字体)无法使用统一标准。本文件所载的表格清单与电子版本通用报告格式各表顺序相同。

通用报告格式是一种标准格式, 供附件一缔约方用于以电子方式报告温室气体排放量和清除量估计数以及任何其他有关信息。

TABLE 1 SECTORAL REPORT FOR ENERGY
(Sheet 1 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NMVOC	SO ₂
	(Gg)						
Total Energy							
A. Fuel Combustion Activities (Sectoral Approach)							
1. Energy Industries							
a. Public Electricity and Heat Production							
b. Petroleum Refining							
c. Manufacture of Solid Fuels and Other Energy Industries							
2. Manufacturing Industries and Construction							
a. Iron and Steel							
b. Non-Ferrous Metals							
c. Chemicals							
d. Pulp, Paper and Print							
e. Food Processing, Beverages and Tobacco							
f. Other (as specified in table 1.A(a)s2)							
3. Transport							
a. Civil Aviation							
b. Road Transportation							
c. Railways							
d. Navigation							
e. Other Transportation (as specified in table 1.A(a)s3)							

TABLE 1 SECTORAL REPORT FOR ENERGY
(Sheet 2 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NM VOC	SO ₂
	(Gg)						
4. Other Sectors							
a. Commercial/Institutional							
b. Residential							
c. Agriculture/Forestry/Fisheries							
5. Other (as specified in table 1.A(a)s4) ⁽¹⁾							
a. Stationary							
b. Mobile							
B. Fugitive Emissions from Fuels							
1. Solid Fuels							
a. Coal Mining							
b. Solid Fuel Transformation							
c. Other (as specified in table 1.B.1)							
2. Oil and Natural Gas							
a. Oil							
b. Natural Gas							
c. Venting and Flaring							
Venting							
Flaring							
d. Other (as specified in table 1.B.2)							
Memo Items: ⁽¹⁾							
International Bunkers							
Aviation							
Marine							
Multilateral Operations							
CO₂ Emissions from Biomass							

⁽¹⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass under Memo Items. These emissions should not be included in the national total emissions from the energy sector. Amounts of biomass used as a fuel are included in the total national energy consumption, while CO emissions from the combustion of biomass are accounted for in the land-use change and forestry sector, if the wood has been produced in an unsustainable manner.

<p>Documentation Box: Detailed explanations on the energy sector can be found in section 5.1 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.</p>

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 1 of 4)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	⁽¹⁾	(t/TJ)	(kg/TJ)		(Gg)		
I.A. Fuel Combustion		NCV						
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass						⁽⁴⁾		
Other Fuels								
I.A.1. Energy Industries								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass						⁽³⁾		
Other Fuels								
a. Public Electricity and Heat Production								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass						⁽³⁾		
Other Fuels								
b. Petroleum Refining								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass						⁽³⁾		
Other Fuels								
c. Manufacture of Solid Fuels and Other Energy Industries								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass						⁽³⁾		
Other Fuels								

⁽¹⁾ Activity data should be calculated using net calorific values (NCV) as specified by the IPCC Guidelines. If gross calorific values (GCV) were used, please indicate this by replacing "NCV" with "GCV" in this column.

⁽²⁾ Accurate estimation of CH₄ and N₂O emissions depends on combustion conditions, technology, and emission control policy, as well as fuel characteristics. Therefore, caution should be used when comparing the implied emission factors across countries.

⁽³⁾ Carbon dioxide emissions from biomass are not included in the total CO₂ emissions from fuel combustion.

⁽⁴⁾ Carbon dioxide emissions from biomass are not included in the total CO₂ emissions from fuel combustion. The value for total CO₂ from biomass is recorded in Table 1s2 under the Memo Items.

Note: For the coverage of fuel categories, refer to the IPCC Guidelines (Volume 1. Reporting Instructions - Common Reporting Framework, section 1.2, p. 1.19). If some derived gases (e.g. gas work gas, coke oven gas, blast gas, oxygen steel furnace gas, etc.) are considered, Parties should provide information on the allocation of these derived gases under the above fuel categories (liquid, solid, gaseous, biomass, other fuels) in the NIR (see also documentation box at the end of sheet 4 of this table).

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 2 of 4)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	(1)	(t/TJ)	(kg/TJ)		(Gg)		
I.A.2 Manufacturing Industries and Construction		NCV						
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								
a. Iron and Steel								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								
b. Non-Ferrous Metals								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								
c. Chemicals								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								
d. Pulp, Paper and Print								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								
e. Food Processing, Beverages and Tobacco								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								
f. Other (please specify)								
<i>(this cell is to be used to list all activities covered under "f other".</i>								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass					(3)			
Other Fuels								

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 3 of 4)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	(1)	(t/TJ)	(kg/TJ)		(Gg)		
I.A.3 Transport		NCV						
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								
Other Fuels						(3)		
a. Civil Aviation								
Aviation Gasoline								
Jet Kerosene								
b. Road Transportation								
Gasoline								
Diesel Oil								
LPG								
Other Liquid Fuels (please specify)								
Gaseous Fuels								
Biomass						(3)		
Other Fuels (please specify)								
c. Railways								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
d. Navigation								
Residual Oil (Residual fuel oil)								
Gas/Diesel Oil								
Gasoline								
Other Liquid Fuels (please specify)								
Solid Fuels								
Gaseous Fuels								
e. Other Transportation (please specify)								
(this cell is to be used to list all activities covered under "e. other")								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								
Other Fuels								

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
 (Sheet 4 of 4)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	⁽¹⁾	(t/TJ)	(kg/TJ)		(Gg)		
I.A.4 Other Sectors		NCV						
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								⁽³⁾
Other Fuels								
a. Commercial/Institutional								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								⁽³⁾
Other Fuels								
b. Residential								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								⁽³⁾
Other Fuels								
c. Agriculture/Forestry/Fisheries								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								⁽³⁾
Other Fuels								
I.A.5 Other (Not elsewhere specified)⁽⁵⁾								
a. Stationary (please specify)								
<i>this cell is to be used to list activities covered under "other-stationary"</i>								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								⁽³⁾
Other Fuels								
b. Mobile (please specify)								
<i>this cell is to be used to list all activities covered under "other-mobile"</i>								
Liquid Fuels								
Solid Fuels								
Gaseous Fuels								
Biomass								⁽³⁾
Other Fuels								

⁽⁵⁾ Include military fuel use under this category.

Documentation Box:

* Detailed explanations on the fuel combustion sub-sector can be found in section 5.1.1 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant sections of the NIR where further details can be found.

* If estimates are based on GCV, use this documentation box to provide reference to the relevant section of the NIR where the necessary information to allow the calculation of the activity data based on NCV can be found.

* If some derived gases (e.g. gas work gas, coke oven gas, blast gas, oxygen steel furnace gas, etc.) are considered, use this documentation box to provide reference to the relevant section of the NIR where information on the allocation of these derived gases under the above fuel categories (liquid, solid, gaseous, biomass, other fuels) can be found.

TABLE I.A(b) SECTORAL BACKGROUND DATA FOR ENERGY
CO₂ from Fuel Combustion Activities - Reference Approach (IPCC Worksheet 1-1)
 (Sheet 1 of 1)

Country
 Year
 Submission

FUEL TYPES			Unit	Production	Imports	Exports	International bunkers	Stock change	Apparent consumption	Conversion factor ⁽¹⁾ (TJ/Unit)	⁽¹⁾	Apparent consumption (TJ)	Carbon emission factor (t C/TJ)	Carbon content (Gg C)	Carbon stored (Gg C)	Net carbon emissions (Gg C)	Fraction of carbon oxidized	Actual CO ₂ emissions (Gg CO ₂)	
Liquid Fossil	Primary Fuels	Crude Oil									NCV								
		Orimulsion																	
		Natural Gas Liquids																	
	Secondary Fuels	Gasoline																	
		Jet Kerosene																	
		Other Kerosene																	
		Shale Oil																	
		Gas / Diesel Oil																	
		Residual Fuel Oil																	
		LPG																	
		Ethane																	
		Naphtha																	
		Bitumen																	
		Lubricants																	
		Petroleum Coke																	
Refinery Feedstocks																			
Other Oil																			
Other Liquid Fossil																			
Liquid Fossil Totals																			
Solid Fossil	Primary Fuels	Anthracite ⁽²⁾																	
		Coking Coal																	
		Other Bit. Coal																	
		Sub-bit. Coal																	
		Lignite																	
		Oil Shale																	
		Peat																	
	Secondary Fuels	BKB & Patent Fuel																	
		Coke Oven/Gas Coke																	
		Other Solid Fossil																	
Solid Fuel Totals																			
Gaseous Fossil	Natural Gas (Dry)																		
Other Gaseous Fossil																			
Gaseous Fossil Fuel Totals																			
Total																			
Biomass total																			
		Solid Biomass																	
		Liquid Biomass																	
		Gas Biomass																	

⁽¹⁾ To convert quantities expressed in natural units to energy units, use net calorific values (NCV). If gross calorific values (GCV) are used in this table, please indicate this by replacing "NCV" with "GCV" in this column.

⁽²⁾ If Anthracite is not separately available, include with Other Bituminous Coal.

Documentation Box:

Detailed explanations on the energy sector, including information related to CO₂ from the Reference Approach, can be found in section 5.1.1 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 1.A(c) COMPARISON OF CO₂ EMISSIONS FROM FUEL COMBUSTION
(Sheet 1 of 1)

Country
Year
Submission

FUEL TYPES	Reference approach		Sectoral approach ⁽¹⁾		Difference ⁽²⁾
	Apparent energy consumption	CO ₂ emissions	Energy consumption	CO ₂ emissions	CO ₂ emissions
	(PJ)	(Gg)	(PJ)	(Gg)	(%)
Liquid Fuels (excluding international bunkers)					
Solid Fuels (excluding international bunkers)					
Gaseous Fuels					
Other ⁽³⁾					
<i>Total</i> ⁽³⁾					

⁽¹⁾ "Sectoral approach" is used to indicate the approach (if different from the Reference approach) used by the Party to estimate CO₂ emissions from fuel combustion as reported in table 1.A(a), s1-s4.

⁽²⁾ Difference of CO₂ emissions from the Reference approach over the Sectoral approach (i.e. difference = 100% x ((RA-SA)/SA), where SA = Sectoral approach and RA = Reference approach).

⁽³⁾ Emissions from biomass are not included.

Note: The Reporting Instructions of the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories ask that estimates of CO₂ emissions from fuel combustion, derived using a detailed sectoral approach, be compared to those from the Reference Approach (Worksheet 1-1 of the IPCC Guidelines, Volume 2, Workbook). This comparison is to assist in verifying the sectoral data.

Documentation Box:

* Detailed explanations on the energy sector, including information related to the comparison of CO₂ emissions calculated using the sectoral approach to the Reference Approach can be found in section 5.1.1 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* If the CO₂ emission estimates from the two approaches differ by more than 2 percent, Parties should briefly explain the cause of this difference in this documentation box and provide a reference to the relevant section of the NIR where this difference is explained in more detail.

**TABLE 1.A(d) SECTORAL BACKGROUND DATA FOR ENERGY
Feedstocks and Non-Energy Use of Fuels
(Sheet 1 of 1)**

Country
Year
Submission

FUEL TYPE	ACTIVITY DATA AND RELATED INFORMATION		IMPLIED EMISSION FACTOR	ESTIMATE
	Fuel quantity (TJ)	Fraction of carbon stored	Carbon emission factor (t C/TJ)	of carbon stored in non-energy use of fuels (Gg C)
Naphtha ⁽¹⁾				
Lubricants				
Bitumen				
Coal Oils and Tars (from Coking Coal)				
Natural Gas ⁽¹⁾				
Gas/Diesel Oil ⁽¹⁾				
LPG ⁽¹⁾				
Ethane ⁽¹⁾				
Other (please specify)				

Additional information (a)

CO ₂ not emitted (Gg CO ₂)	Subtracted from energy sector (specify source category)

Total	
Total amount of C/CO ₂ from feedstocks and non-energy use of fuels that is included as emitted CO ₂ in the Reference approach	

⁽¹⁾ Enter data for those fuels that are used as feedstocks (fuel used as raw materials for manufacture of products such as plastics, fertilizers) or for other non-energy use (fuels not used as fuel or transformed into another fuel (e.g. bitumen for road construction, lubricants)).

^(a) The fuel lines continue from the table to the left.

Documentation box: A fraction of energy carriers is stored in such products as plastics or asphalt. The non-stored fraction of the carbon in the energy carrier or product is oxidized, resulting in carbon dioxide emissions, either during the use of the energy carriers in the industrial production (e.g. fertilizer production), or during the use of the products (e.g. solvents, lubricants), or in both (e.g. monomers). To report associated emissions use the above table, filling an extra "Additional information" table, as shown below.

Associated CO₂ emissions (Gg)	Allocated under (Specify source category) ^(a)	^(a) e.g. Industrial Processes, Waste Incineration, etc.

* Detailed explanations on the energy sector, including information related to feedstocks can be found in section 5.1.1 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.
* The above table is consistent with the IPCC Guidelines. Parties that take into account the emissions associated with the use and disposal of these feedstocks could continue to use their methodology, but indicate this in this documentation box and provide a reference to the relevant section of the NIR where further explanation can be found.

TABLE 1.B.1 SECTORAL BACKGROUND DATA FOR ENERGY
Fugitive Emissions from Solid Fuels
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTOR		EMISSIONS		
	Amount of fuel produced	CH ₄ ⁽³⁾	CO ₂	CH ₄		CO ₂
				Recovery/ Flaring ⁽⁴⁾	Net emissions ⁽⁵⁾	
	(Mt)	(kg/t)		(Gg)		
I. B. 1. a. Coal Mining and Handling						
i. Underground Mines ⁽¹⁾						
Mining Activities						
Post-Mining Activities						
ii. Surface Mines ⁽¹⁾						
Mining Activities						
Post-Mining Activities						
I. B. 1. b. Solid Fuel Transformation						
I. B. 1. c. Other (please specify)⁽²⁾						

⁽¹⁾ In accordance with the IPCC Guidelines, emissions from Mining Activities and Post-Mining Activities are calculated using the activity data of the amount of fuel produced for Underground Mines and Surface Mines, respectively.

⁽²⁾ This category is to be used for reporting any other solid fuel related activities resulting in fugitive emissions, such as emissions from abandoned mines and waste piles.

⁽³⁾ The CH₄ IEFs are estimated on the basis of gross emissions as follows: (net CH₄ emissions + amounts of CH₄ flared/recovered) / activity data.

⁽⁴⁾ Amount of CH₄ drained (recovered) and utilized or flared (Gg).

⁽⁵⁾ Final CH₄ emissions after subtracting the amounts of CH₄ utilized or recovered.

Note: There are no clear references to the coverage of 1.B.1.b. and 1.B.1.c. in the IPCC Guidelines. Make sure that the emissions entered here are not reported elsewhere. If they are reported under another source category, indicate this by using notation key IE and making the necessary reference in Table 9 (completeness).

Documentation box:

* Detailed explanations on the fugitive emissions from solid fuels can be found in section 5.1.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Regarding data on the amount of fuel produced entered in the above table, specify in this documentation box whether the fuel amount is based on the run-of-mine (ROM) production or on the saleable production.

* If entries are made for "Recovery/Flaring", indicate in this documentation box, whether CH₄ is flared or recovered and provide a reference to the relevant section in the NIR where further details on recovery/flaring can be found.

* If estimates are reported under 1.B.1.b. and 1.B.1.c., use this documentation box to provide information regarding activities covered under these categories.

TABLE 1.B.2 SECTORAL BACKGROUND DATA FOR ENERGY
Fugitive Emissions from Oil, Natural Gas and Other Sources
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA (1)			IMPLIED EMISSION FACTORS			EMISSIONS		
	Description ⁽¹⁾	Unit ⁽¹⁾	Value	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
				<i>(kg/unit)</i> ⁽²⁾			<i>(Gg)</i>		
1. B. 2. a. Oil ⁽³⁾									
i. Exploration	<i>(e.g. number of wells drilled)</i>	PJ							
ii. Production ⁽⁴⁾	<i>(e.g. PJ of oil produced)</i>	PJ							
iii. Transport	<i>(e.g. PJ oil loaded in tankers)</i>	PJ							
iv. Refining / Storage	<i>(e.g. PJ oil refined)</i>	PJ							
v. Distribution of oil products	<i>(e.g. PJ oil refined)</i>	PJ							
vi. Other		PJ							
1. B. 2. b. Natural Gas									
i. Exploration		PJ							
ii. Production ⁽⁴⁾ / Processing	<i>(e.g. PJ gas produced)</i>	PJ							
iii. Transmission	<i>(e.g. PJ gas consumed)</i>	PJ							
iv. Distribution	<i>(e.g. PJ gas consumed)</i>	PJ							
v. Other Leakage	<i>(e.g. PJ gas consumed)</i>	PJ							
<i>at industrial plants and power stations</i>		PJ							
<i>in residential and commercial sectors</i>		PJ							
1. B. 2. c. Venting ⁽⁵⁾									
i. Oil	<i>(e.g. PJ oil produced)</i>	PJ							
ii. Gas	<i>(e.g. PJ gas produced)</i>	PJ							
iii. Combined		PJ							
Flaring									
i. Oil	<i>(e.g. PJ gas consumption)</i>	PJ							
ii. Gas	<i>(e.g. PJ gas consumption)</i>	PJ							
iii. Combined		PJ							
1.B.2.d. Other (please specify) ⁽⁶⁾									

⁽¹⁾ Specify the activity data used by filling in the activity data description column, as given in the examples in parentheses.

Specify the unit of the activity data in the unit column using one of the following units: PJ, Tg, 10⁶ m³, 10⁶ bbl/yr, bill_ft³_yr, km, number of sources (e.g. wells).

⁽²⁾ The unit of the implied emission factor will depend on the unit of the activity data used, and is therefore not specified in this column.

⁽³⁾ Use the category also to cover emissions from combined oil and gas production fields. Natural gas processing and distribution from these fields should be included under 1.B.2.b.ii and 1.B.2.b.iii, respectively.

⁽⁴⁾ If using default emission factors these categories will include emissions from production other than venting and flaring.

⁽⁵⁾ If using default emission factors, emissions from Venting and Flaring from all oil and gas production should be accounted for under Venting.

⁽⁶⁾ For example, fugitive CO₂ emissions from production of geothermal power could be reported here.

Documentation box:

* Detailed explanations on the fugitive fuel emissions sub-sector can be found in section 5.1.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Regarding data on the fuel amount produced entered in the above table, specify in this documentation box whether the fuel amount is based on the raw material production or on the saleable production. Note cases where more than one type of activity data is used to estimate emissions.

* Venting and flaring: Parties using the IPCC software could report venting and flaring emissions together, indicating this in this documentation box.

TABLE 1.C SECTORAL BACKGROUND DATA FOR ENERGY
International Bunkers and Multilateral Operations
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS			EMISSIONS		
	Consumption (TJ)	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
		(t/TJ)			(Gg)		
Aviation Bunkers							
Jet Kerosene							
Gasoline							
Marine Navigation							
Gasoline							
Gas/Diesel Oil							
Residual Fuel Oil							
Lubricants							
Coal							
Other <i>(please specify)</i>							
Multilateral Operations ⁽¹⁾							

Additional information

Fuel consumption	Allocation ^(a) (percent)	
	Domestic	International
Aviation		
Marine		

^(a) For calculating the allocation of fuel consumption, the sums of fuel consumption for domestic navigation and aviation (Table 1.A(a)) and for international bunkers (Table 1.C) are used.

⁽¹⁾ Parties may choose to report or not report the activity data and implied emission factors for multilateral operation consistent with the principle of confidentiality stated in the UNFCCC reporting guidelines. In any case, Parties should report the emissions from multilateral operations, where available, under the Memo Items section of the Summary tables and in the Sectoral report table for energy.

Note: In accordance with the IPCC Guidelines, international aviation and marine bunker fuel emissions from fuel sold to ships or aircraft engaged in international transport should be excluded from national totals and reported separately for informational purposes only.

<p>Documentation box:</p> <p>* Detailed explanations on the fuel combustion sub-sector, including international bunker fuels, can be found in section 5.1.1 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.</p> <p>* Provide in this documentation box a brief explanation on how the consumption of international marine and aviation bunker fuels was estimated and separated from domestic consumption and include a reference to the relevant section of the NIR where the explanation is provided in more detail.</p>
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TABLE 2(I) SECTORAL REPORT FOR INDUSTRIAL PROCESSES
(Sheet 1 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
				P	A	P	A	P	A				
	(Gg)			CO ₂ equivalent (Gg)				(Gg)					
Total Industrial Processes													
A. Mineral Products													
1. Cement Production													
2. Lime Production													
3. Limestone and Dolomite Use													
4. Soda Ash Production and Use													
5. Asphalt Roofing													
6. Road Paving with Asphalt													
7. Other (as specified in table 2(I)A-G)													
B. Chemical Industry													
1. Ammonia Production													
2. Nitric Acid Production													
3. Adipic Acid Production													
4. Carbide Production													
5. Other (as specified in table 2(I)A-G)													
C. Metal Production													
1. Iron and Steel Production													
2. Ferroalloys Production													
3. Aluminium Production													
4. SF ₆ Used in Aluminium and Magnesium Foundries													
5. Other (as specified in table 2(I)A-G)													

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines. A = Actual emissions based on Tier 2 approach of the IPCC Guidelines. This only applies for source categories where methods exist for both tiers.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

TABLE 2(I) SECTORAL REPORT FOR INDUSTRIAL PROCESSES
(Sheet 2 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NM VOC	SO ₂
				P	A	P	A	P	A				
	(Gg)			CO ₂ equivalent (Gg)				(Gg)					
D. Other Production													
1. Pulp and Paper													
2. Food and Drink ⁽²⁾													
E. Production of Halocarbons and SF₆													
1. By-product Emissions													
Production of HCFC-22													
Other													
2. Fugitive Emissions													
3. Other (as specified in table 2(II))													
F. Consumption of Halocarbons and SF₆													
1. Refrigeration and Air Conditioning Equipment													
2. Foam Blowing													
3. Fire Extinguishers													
4. Aerosols/ Metered Dose Inhalers													
5. Solvents													
6. Other applications using ODS substitutes													
7. Semiconductor Manufacture													
8. Electrical Equipment													
9. Other (as specified in table 2(II))													
G. Other (please specify)													

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines. A = Actual emissions based on Tier 2 approach of the IPCC Guidelines. This only applies for source categories where methods exist for both tiers.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ CO₂ from Food and Drink Production (e.g. gasification of water) can be of biogenic or non-biogenic origin. Only information on CO₂ emissions of non-biogenic origin should be reported.

<p>Documentation box: Detailed explanations on the industrial processes sector can be found in section 5.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.</p>
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TABLE 2(I).A-G SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES

Emissions of CO₂, CH₄ and N₂O

(Sheet 1 of 2)

Country

Year

Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS					
	Production/Consumption quantity		CO ₂	CH ₄	N ₂ O	CO ₂		CH ₄		N ₂ O	
						(net) ⁽³⁾	(4)	(net) ⁽³⁾	(4)	(net) ⁽³⁾	(4)
	Description ⁽¹⁾	(kt)	(t/t)			(Gg)					
A. Mineral Products											
1. Cement Production	<i>(e.g. cement or clinker production)</i>										
2. Lime Production											
3. Limestone and Dolomite Use											
4. Soda Ash											
Soda Ash Production											
Soda Ash Use											
5. Asphalt Roofing											
6. Road Paving with Asphalt											
7. Other <i>(please specify)</i>											
Glass Production											
B. Chemical Industry											
1. Ammonia Production ⁽⁵⁾											
2. Nitric Acid Production											
3. Adipic Acid Production											
4. Carbide Production											
Silicon Carbide											
Calcium Carbide											
5. Other <i>(please specify)</i>											
Carbon Black											
Ethylene											
Dichloroethylene											
Styrene											
Methanol											

⁽¹⁾ Where the IPCC Guidelines provide options for activity data, e.g. cement production or clinker production for estimating the emissions from Cement Production, specify the activity data used (as shown in the example in parentheses) in order to make the choice of emission factor more transparent and to facilitate comparisons of implied emission factors.

⁽²⁾ The IEFs are estimated on the basis of gross emissions as follows: IEF = (net emissions + amounts recovered, oxidized, destroyed or transformed) / activity data.

⁽³⁾ Final (net) emissions are to be reported (after subtracting the amounts of emission recovery, oxidation, destruction or transformation).

⁽⁴⁾ Enter amounts of emission recovery, oxidation, destruction or transformation.

⁽⁵⁾ To avoid double counting make offsetting deductions from fuel consumption (e.g. natural gas) in Ammonia Production, first for feedstock use of the fuel, and then to a sequestering use of the feedstock.

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

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS					
	Production/Consumption quantity		CO ₂	CH ₄	N ₂ O	CO ₂		CH ₄		N ₂ O	
	Description ⁽¹⁾	(kt)				(t/t)	(net) ⁽³⁾	⁽⁴⁾	(net) ⁽³⁾	⁽⁴⁾	(net) ⁽³⁾
(Gg)											
C. Metal Production											
1. Iron and Steel Production											
Steel											
Pig Iron											
Sinter											
Coke											
Other <i>(please specify)</i>											
2. Ferroalloys Production											
3. Aluminium Production											
4. SF ₆ Used in Aluminium and Magnesium Foundries											
5. Other <i>(please specify)</i>											
D. Other Production											
1. Pulp and Paper											
2. Food and Drink											
G. Other <i>(please specify)</i>											

⁽¹⁾ Where the IPCC Guidelines provide options for activity data, e.g. cement production or clinker production for estimating the emissions from Cement Production, specify the activity data used (as shown in the example in parenthesis) in order to make the choice of emission factor more transparent and to facilitate comparisons of implied emission factors.

⁽²⁾ The IEFs are estimated on the basis of gross emissions as follows: IEF = (net emissions + amounts recovered, oxidized, destroyed or transformed) / activity data.

⁽³⁾ Final (net) emissions are to be reported (after subtracting the amounts of emission recovery, oxidation, destruction or transformation).

⁽⁴⁾ Enter amounts of emission recovery, oxidation, destruction or transformation.

Documentation box:

* Detailed explanations on the industrial processes sector can be found in section 5.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* In relation to metal production, more specific information (e.g. data on virgin and recycled steel production) could be provided in this documentation box, or in the NIR together with a reference to the relevant section.

* Confidentiality: In case of confidentiality of the activity data information, a note indicating whether activity data have been aggregated should be included in this documentation box .

TABLE 2(II) SECTORAL REPORT FOR INDUSTRIAL PROCESSES - EMISSIONS OF HFCs, PFCs AND SF₆
(Sheet 1 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	HFC-23	HFC-32	HFC-41	HFC-43-10mice	HFC-125	HFC-134	HFC-134a	HFC-152a	HFC-143	HFC-143a	HFC-227ea	HFC-236fa	HFC-245ca	Other HFCs ⁽¹⁾	Total HFCs ⁽²⁾	CF ₄	C ₂ F ₆	C ₃ F ₈	C ₄ F ₁₀	c-C ₄ F ₈	C ₃ F ₁₂	C ₆ F ₁₄	Other PFCs ⁽¹⁾	Total PFCs ⁽¹⁾⁽²⁾	SF ₆		
	(t) ⁽³⁾														CO ₂ equivalent (Gg)	(t) ⁽³⁾							CO ₂ equivalent (Gg)	(t) ⁽³⁾			
Total Actual Emissions of Halocarbons (by chemical) and SF₆																											
C. Metal Production																											
Aluminium Production																											
SF ₆ Used in Aluminium Foundries																											
SF ₆ Used in Magnesium Foundries																											
E. Production of Halocarbons and SF₆																											
1. By-product Emissions																											
Production of HCFC-22																											
Other																											
2. Fugitive Emissions																											
3. Other (as specified in table 2(II)E)																											
F(a). Consumption of Halocarbons and SF₆ (actual emissions - Tier 2)																											
1. Refrigeration and Air Conditioning Equipment																											
2. Foam Blowing																											
3. Fire Extinguishers																											
4. Aerosols/Metered Dose Inhalers																											
5. Solvents																											
6. Other applications using ODS substitutes																											
7. Semiconductor Manufacture																											
8. Electrical Equipment																											
9. Other (as specified in table 2(II)F)																											
G. Other (please specify)																											

⁽¹⁾ 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 column could be used for reporting aggregate figures for HFCs and PFCs, respectively. Note that the unit used for these columns is Gg of CO₂ equivalent. See also reporting instruction in the documentation box to this table.

⁽²⁾ The columns for total HFCs and total PFCs in sheet 1 are kept for consistency with sheet 2 of the table.

⁽³⁾ Note that the units used in this table differ from those used in the rest of the Sectoral report tables, i.e. t instead of Gg.

Note: Gases with GWP values not yet agreed upon by the COP should be reported in Table 9 (Completeness), sheet 2.

TABLE 2(II) SECTORAL REPORT FOR INDUSTRIAL PROCESSES - EMISSIONS OF HFCs, PFCs AND SF₆
(Sheet 2 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	HFC-23	HFC-32	HFC-41	HFC-43-10msee	HFC-125	HFC-134	HFC-134a	HFC-152a	HFC-143	HFC-143a	HFC-227ea	HFC-245fa	HFC-245ca	Other HFCs ⁽¹⁾	Total HFCs	CF ₄	C ₂ F ₆	C ₃ F ₈	C ₄ F ₁₀	e-C ₄ F ₈	C ₃ F ₁₂	C ₆ F ₁₄	Other PFCs ⁽¹⁾	Total PFCs	SF ₆	
	(t) ⁽³⁾													CO ₂ equivalent (Gg)	(t) ⁽³⁾						CO ₂ equivalent (Gg)	(t) ⁽³⁾				
F(p). Total Potential Emissions of Halocarbons (by chemical) and SF₆⁽⁴⁾																										
Production ⁽⁵⁾																										
Import:																										
In bulk																										
In products ⁽⁶⁾																										
Export:																										
In bulk																										
In products ⁽⁶⁾																										
Destroyed amount																										
GWP values used	11700	650	150	1300	2800	1000	1300	140	300	3800	2900	6300	560			6500	9200	7000	7000	8700	7500	7400			23900	
Total Actual Emissions⁽⁷⁾ (CO₂ equivalent (Gg))																										
C. Metal Production																										
E. Production of Halocarbons and SF ₆																										
F(a). Consumption of Halocarbons and SF ₆																										
G. Other																										
Ratio of Potential/Actual Emissions from Consumption of Halocarbons and SF₆																										
Actual emissions - F(a) (Gg CO ₂ eq.)																										
Potential emissions - F(p) ⁽⁸⁾ (Gg CO ₂ eq.)																										
Potential/Actual emissions ratio																										

⁽⁴⁾ Potential emissions of each chemical of halocarbons and SF₆ estimated using Tier 1a or Tier 1b of the IPCC Guidelines (Volume 3, Reference Manual, pp. 2.47-2.50). Where potential emission estimates are available in a disaggregated manner for the source categories F.1 to F.9, these should be reported in the NIR and a reference be provided in the documentation box. Use Summary 3 of this common reporting format to indicate whether Tier 1a or Tier 1b was used.

⁽⁵⁾ Production refers to production of new chemicals. Recycled substances could be included here, but it should be ensured that double counting of emissions is avoided. Relevant explanations should be provided as a comment to the corresponding cell.

⁽⁶⁾ Relevant only for Tier 1b

⁽⁷⁾ Total actual emissions equal the sum of the actual emissions of each chemical of halocarbons and SF₆ from the source categories given in sheet 1 of the table multiplied by the corresponding GWP values.

⁽⁸⁾ Potential emissions of each chemical of halocarbons and SF₆ taken from row F(p) multiplied by the corresponding GWP values.

Note: As stated in the UNFCCC reporting guidelines, Parties should report actual emissions of HFCs, PFCs and SF₆ where data are available, providing disaggregated data by chemical and source category in units of mass and in CO₂ equivalent. Parties reporting actual emissions should also report potential emissions for the sources where the concept of potential emissions applies, for reasons of transparency and comparability.

Documentation box:

* Detailed explanations on the industrial processes sector can be found in section 5.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Where only aggregate figures are provided, e.g. due to reasons of confidentiality (see footnote 1 to this table), a note indicating this should be provided in this documentation box.

TABLE 2(II). C, E SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Metal Production; Production of Halocarbons and SF₆
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS					
			CF ₄	C ₂ F ₆	SF ₆	CF ₄		C ₂ F ₆		SF ₆	
	Description ⁽¹⁾	(t)	(kg/t)			(net) ⁽³⁾	⁽⁴⁾	(net) ⁽³⁾	⁽⁴⁾	(net) ⁽³⁾	⁽⁴⁾
C. PFCs and SF₆ from Metal Production											
PFCs from Aluminium Production											
SF ₆ used in Aluminium and Magnesium Foundries											
Aluminium Foundries	(SF ₆ consumption)										
Magnesium Foundries	(SF ₆ consumption)										

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS					
			HFC-23	SF ₆	HFCs/PFCs (as specified)	HFC-23		SF ₆		HFCs/PFCs	
	Description ⁽¹⁾	(t)	(kg/t)			(net) ⁽³⁾	⁽⁴⁾	(net) ⁽³⁾	⁽⁴⁾	(specify chemical)	(net) ⁽³⁾
E. Production of Halocarbons and SF₆											
1. By-product Emissions											
Production of HCFC-22											
Other (specify activity)											
2. Fugitive Emissions (please specify activity)											
3. Other (please specify activity)											

- ⁽¹⁾ Specify the activity data used as shown in the examples within parentheses.
- ⁽²⁾ The IEFs are estimated on the basis of gross emissions as follows: IEF = (net emissions + amounts recovered, oxidized, destroyed or transformed) / activity data.
- ⁽³⁾ Final (net) emissions are to be reported (after subtracting the amounts of emission recovery, oxidation, destruction or transformation).
- ⁽⁴⁾ Enter amounts of emission recovery, oxidation, destruction or transformation.

Documentation box:

* Detailed explanations on the industrial processes sector can be found in section 5.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Where only aggregate figures for activity data are provided, e.g. due to reasons of confidentiality (see footnote 1 to table 2(II)), a note indicating this should be provided in this documentation box.

* Where applying Tier 1b (for source category 2.C), Tier 2 (for source category 2.E) and country specific methods, specify any other relevant activity data used in this documentation box including a reference to the relevant section of the NIR where more detailed information can be found.

* Use this documentation box for providing clarification on emission recovery, oxidation, destruction and/or transformation, and provide a reference to the relevant section of the NIR where more detailed information can be found

TABLE 2(II).F SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Consumption of Halocarbons and SF₆
(Sheet 1 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA <i>Amount of fluid</i>			IMPLIED EMISSION FACTORS			EMISSIONS		
	Filled in new manufactured products	In operating systems (average annual stocks)	Remained in products at decommissioning	Product manufacturing factor	Product life factor	Disposal loss factor	From manufacturing	From stocks	From disposal
	(t)			(% per annum)			(t)		
1 Refrigeration									
Air Conditioning Equipment									
Domestic Refrigeration <i>(Specify chemical)</i> ⁽¹⁾									
Commercial Refrigeration									
Transport Refrigeration									
Industrial Refrigeration									
Stationary Air-Conditioning									
Mobile Air-Conditioning									
2 Foam Blowing									
Hard Foam									
Soft Foam									

⁽¹⁾ Specify the chemical consumed, by using one row per chemical.

Note: Table 2.(II).F provides for reporting of the activity data and emission factors used to calculate actual emissions from consumption of halocarbons and SF₆ using the "bottom-up approach" (based on the total stock of equipment and estimated emission rates from this equipment). Some Parties may prefer to estimate actual emissions following the alternative "top-down approach" (based on annual sales of equipment and/or gas). These Parties should provide the activity data used in the current format and any other relevant information needed to understand the content of the table in the documentation box at the end of Table2(II)Fs2, including a reference to the relevant section of the NIR where further details can be found. These Parties should provide in the NIR the following data:

- (1) the amount of fluid used to fill new products,
- (2) the amount of fluid used to service existing products,
- (3) the amount of fluid originally used to fill retiring products (the total nameplate capacity of retiring products),
- (4) the product lifetime, and
- (5) the growth rate of product sales, if this has been used to calculate the amount of fluid originally used to fill retiring products.

In the NIR, Parties may provide alternative formats for reporting equivalent information with a similar level of detail.

TABLE 2(II).F SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Consumption of Halocarbons and SF₆
 (Sheet 2 of 2)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA <i>Amount of fluid</i>			IMPLIED EMISSION FACTORS			EMISSIONS		
	Filled in new manufactured products	In operating systems (average annual stocks)	Remained in products at decommissioning ⁽¹⁾	Product manufacturing factor	Product life factor	Disposal loss factor	From manufacturing	From stocks	From disposal
	(t)			(% per annum)			(t)		
3 Fire Extinguishers									
4 Aerosols									
Metered Dose Inhalers									
Other									
5 Solvents									
6 Other applications using ODS substitutes									
7 Semiconductors									
8 Electric Equipment									
9 Other (please specify)									

Documentation box:

* Detailed explanations on the industrial processes sector can be found in section 5.2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Where only aggregate figures for activity data are provided, e.g. due to reasons of confidentiality (see footnote 1 to table 2(II)), a note indicating this should be provided in this documentation box.

* With regard to data on the amounts of fluid that remained in retired products at decommissioning, use this documentation box to provide a reference to the relevant section of the NIR where information on the amount of the chemical recovered (recovery efficiency) and other relevant information used in the emission estimation can be found.

* Parties that estimate their actual emissions following the alternative top-down approach might not be able to report emissions using this table. In these cases, Parties should, in the NIR, provide alternative formats for reporting equivalent information with a similar level of detail. References to the relevant section of the NIR should be provided in this documentation box.

**TABLE 3 SECTORAL REPORT FOR SOLVENT AND OTHER PRODUCT USE
(Sheet 1 of 1)**

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	N ₂ O	NM VOC
	(Gg)		
Total Solvent and Other Product Use			
A. Paint Application			
B. Degreasing and Dry Cleaning			
C. Chemical Products, Manufacture and Processing			
D. Other			
1. Use of N ₂ O for Anaesthesia			
2. N ₂ O from Fire Extinguishers			
3. N ₂ O from Aerosol Cans			
4. Other Use of N ₂ O			
5. Other (as specified in table 3.A-D)			

The quantity of carbon released in the form of NMVOCs should be accounted for in both the NMVOC and the CO₂ columns.

Documentation box:

* Detailed explanations on the solvent use sector can be found in section 5.3 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* The IPCC Guidelines do not provide methodologies for the calculation of emissions of N₂O from Solvent and Other Product Use. If reporting such data, Parties should provide additional information (activity data and emission factors) used to derive these estimates in the NIR, and provide in this documentation box a reference to the relevant section of the NIR where this information can be found.

TABLE 3.A-D SECTORAL BACKGROUND DATA FOR SOLVENT AND OTHER PRODUCT USE
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾	
	Description	(kt)	CO ₂ (t/t)	N ₂ O (t/t)
A. Paint Application				
B. Degreasing and Dry Cleaning				
C. Chemical Products, Manufacture and Processing				
D. Other (please specify)				
1. Use of N ₂ O for Anaesthesia				
2. N ₂ O from Fire Extinguishers				
3. N ₂ O from Aerosol Cans				
4. Other Use of N ₂ O				
5. Other (please specify) ⁽¹⁾				

⁽¹⁾ Some probable sources to be reported under "other" are listed in this table. Complement the list with other relevant sources, as appropriate. The order of categories in this table and table 3 must be the same.

⁽²⁾ The implied emission factors will not be calculated until the corresponding emission estimates are entered directly into Table 3.

<p>Documentation box: Detailed explanations on the solvent use sector are can be found in section 5.3 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.</p>

TABLE 4 SECTORAL REPORT FOR AGRICULTURE
(Sheet 1 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CH ₄	N ₂ O	NO _x (Gg)	CO	NMVOG
Total Agriculture					
A. Enteric Fermentation					
1. Cattle ⁽¹⁾					
<i>Option A:</i>					
Dairy Cattle					
Non-Dairy Cattle					
<i>Option B:</i>					
Mature Dairy Cattle					
Mature Non-Dairy Cattle					
Young Cattle					
2. Buffalo					
3. Sheep					
4. Goats					
5. Camels and Llamas					
6. Horses					
7. Mules and Asses					
8. Swine					
9. Poultry					
10. Other (as specified in table 4.A)					
B. Manure Management					
1. Cattle					
<i>Option A:</i>					
Dairy Cattle					
Non-Dairy Cattle					
<i>Option B:</i>					
Mature Dairy Cattle					
Mature Non-Dairy Cattle					
Young Cattle					
2. Buffalo					
3. Sheep					
4. Goats					
5. Camels and Llamas					
6. Horses					
7. Mules and Asses					
8. Swine					
9. Poultry					
10. Other livestock (as specified in table 4.B(a))					

⁽¹⁾ The sum for cattle would be calculated either on the basis of entries made under option A (dairy and non-dairy cattle) or option B (mature dairy cattle, mature non-dairy cattle and young cattle).

TABLE 4 SECTORAL REPORT FOR AGRICULTURE
(Sheet 2 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CH ₄	N ₂ O	NO _x (Gg)	CO	NM VOC
B. Manure Management (continued)					
11. Anaerobic Lagoons					
12. Liquid Systems					
13. Solid Storage and Dry Lot					
14. Other (please specify)					
C. Rice Cultivation					
1. Irrigated					
2. Rainfed					
3. Deep Water					
4. Other (as specified in table 4.C)					
D. Agricultural Soils⁽¹⁾					
1. Direct Soil Emissions					
2. Pasture, range and paddock manure ⁽²⁾					
3. Indirect Emissions					
4. Other (as specified in table 4.D)					
E. Prescribed Burning of Savannas					
F. Field Burning of Agricultural Residues					
1. Cereals					
2. Pulse					
3. Tuber and Root					
4. Sugar Cane					
5. Other (as specified in table 4.F)					
G. Other (please specify)					

⁽¹⁾ See footnote 4 to Summary 1.A of this common reporting format. Parties which choose to report CO₂ emissions and removals from agricultural soils under 4.D. Agricultural Soils of the sector Agriculture should report the amount (in Gg) of these emissions or removals in table Summary 1.A of the CRF. References to additional information (activity data, emissions factors) reported in the NIR should be provided in the documentation box to table 4.D. In line with the corresponding table in the IPCC Guidelines (i.e. IPCC Sectoral Report for Agriculture), this table does not include provisions for reporting CO₂ estimates.

⁽²⁾ Direct N₂O emissions from pasture, range and paddock manure are to be reported in the "4.D Agricultural Soils" category. All other N₂O emissions from animal manure are to be reported in the "4.B Manure Management" category. See also chapter 4.4 of the IPCC good practice guidance report.

Note: The IPCC Guidelines do not provide methodologies for the calculation of CH₄ emissions and CH₄ and N₂O removals from agricultural soils, CO₂ emissions from prescribed burning of savannas and field burning of agricultural residues. Parties that have estimated such emissions should provide, in the NIR, additional information (activity data and emission factors) used to derive these estimates and include a reference to the relevant section of the NIR in the documentation box of the corresponding Sectoral background data tables.

Documentation box:

* Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Provide reference to the relevant section in the NIR, in particular with regard to:

- (a) background information on precursor gas estimates reported in this table;
- (b) background information on any estimates reported under 4.G Other.

TABLE 4.A SECTORAL BACKGROUND DATA FOR AGRICULTURE
Enteric Fermentation
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA ⁽¹⁾ AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTORS ⁽⁴⁾
	Population size ⁽²⁾ (1000 head)	Average gross energy intake (GE) (MJ/head/day)	Average CH ₄ conversion rate (Y _m) ⁽⁵⁾ (%)	CH ₄ (kg CH ₄ /head/yr)
1. Cattle				
<i>Option A:</i>				
Dairy Cattle ⁽³⁾				
Non-Dairy Cattle				
<i>Option B:</i>				
Mature Dairy Cattle				
Mature Non-Dairy Cattle				
Young Cattle				
2. Buffalo				
3. Sheep				
4. Goats				
5. Camels and Llamas				
6. Horses				
7. Mules and Asses				
8. Swine				
9. Poultry				
10. Other (<i>please specify</i>)				

Additional information (only for those livestock types for which the tier 2 was used)^(a)

Disaggregated list of animals ^(b)	Dairy Cattle	Non-Dairy Cattle	Other (<i>specify</i>)	
Indicators:				
Weight	(kg)			
Feeding situation ^(c)				
Milk yield	(kg/day)			
Work	(hrs/day)			
Pregnant	(%)			
Digestibility of feed	(%)			

^(a) See also Tables A-1 and A-2 of the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.31-4.34). These data are relevant if Parties do not have data on average feed intake.

^(b) Disaggregate to the split actually used. Add columns to the table if necessary.

^(c) Specify feeding situation as pasture, stall fed, confined, open range, etc.

⁽¹⁾ In the documentation boxes to all Sectoral background data tables for Agriculture, Parties should provide information on whether the activity data are one year estimates or a three year average.

⁽²⁾ Parties are encouraged to provide detailed livestock population data by animal type and region, if available, in the NIR and provide reference to the relevant section in the documentation box below. Parties should use the same animal population statistics to estimate CH₄ emissions from enteric fermentation, CH₄ and N₂O from manure management, N₂O direct emissions from soil and N₂O emissions associated with manure production, as well as emissions from the use of manure as fuel, and sewage-related emissions reported in the waste sector.

⁽³⁾ Including data on dairy heifers, if available.

⁽⁴⁾ The implied emission factors will not be calculated until the corresponding emission estimates are entered directly into Table 4.

⁽⁵⁾ Y_m refers to the fraction of gross energy in feed converted to methane and should be given in per cent in this table.

Documentation box:

* Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Provide reference to the relevant section in the NIR, in particular with regard to:

- (a) disaggregation of livestock population (e.g. according to the classification recommended in the IPCC good practice guidance);
- (b) parameters relevant to the application of IPCC good practice guidance;
- (c) information on whether the activity data are one year estimates or a three year average.

TABLE 4.B(a) SECTORAL BACKGROUND DATA FOR AGRICULTURE
CH₄ Emissions from Manure Management
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION						IMPLIED EMISSION FACTORS CH ₄ ⁽⁵⁾ (kg CH ₄ /head/yr)	
	Population size ⁽¹⁾ (1000 head)	Allocation by climate region ⁽²⁾			Typical animal mass (average) (kg)	VS ⁽³⁾ daily excretion (average) (kg dm/head/day)		CH ₄ producing potential (Bo) ⁽³⁾ (average)
		Cool	Temperate	Warm				
		(%)						
1. Cattle								
<i>Option A:</i>								
Dairy Cattle ⁽⁴⁾								
Non-Dairy Cattle								
<i>Option B:</i>								
Mature Dairy Cattle								
Mature Non-Dairy Cattle								
Young Cattle								
2. Buffalo								
3. Sheep								
4. Goats								
5. Camels and Llamas								
6. Horses								
7. Mules and Asses								
8. Swine								
9. Poultry								
10. Other livestock (please specify)								

⁽¹⁾ See footnote 1 to Table 4.A of this common reporting format.

⁽²⁾ Climate regions are defined in terms of annual average temperature as follows: Cool=less than 15°C; Temperate=15°C to 25°C inclusive; and Warm=greater than 25°C (see Table 4.2 of the IPCC Guidelines (Volume 3, Reference Manual, p. 4.8)).

⁽³⁾ VS=Volatile Solids; Bo=maximum methane producing capacity for manure IPCC Guidelines (Volume 3, Reference Manual, p.4.23 and p.4.15) Provide average values, where original calculations were made at a more disaggregated level of these livestock categories.

⁽⁴⁾ Including data on dairy heifers, if available.

⁽⁵⁾ The implied emission factors will not be calculated until the corresponding emission estimates are entered directly into Table 4.

Additional information (for tier 2)^(a)

Animal category	Indicator	Climate region	Animal waste management system							
			Anaerobic lagoon	Liquid system	Daily spread	Solid storage	Dry lot	Pasture range paddock	Other	
Dairy Cattle	Allocate	Cool								
		Temperate								
		Warm								
Dairy Cattle	MCF ^(b)	Cool								
		Temperate								
		Warm								
Non-Dairy Cattle	Allocate	Cool								
		Temperate								
		Warm								
Non-Dairy Cattle	MCF ^(b)	Cool								
		Temperate								
		Warm								
Swine	Allocate	Cool								
		Temperate								
		Warm								
Swine	MCF ^(b)	Cool								
		Temperate								
		Warm								
other livestock (please specify)	Allocate	Cool								
		Temperate								
		Warm								
other livestock (please specify)	MCF ^(b)	Cool								
		Temperate								
		Warm								

^(a) The information required in this table may not be directly applicable to country-specific methods developed for MCF calculations. In such cases, information on MCF derivation should be described in the NIR and references to the relevant sections of the NIR should be provided in the documentation box.

^(b) MCF = Methane Conversion Factor (IPCC Guidelines, (Volume 3, Reference Manual, p. 4.9)). In the case of using another climate region categorization, replace the entries in the cells with the climate regions for which the MCFs are specified.

Documentation Box:

* Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Provide reference to the relevant section in the NIR, in particular with regard to:

- (a) disaggregation of livestock population (e.g. according to the classification recommended in the IPCC good practice guidance);
- (b) parameters relevant to the application of IPCC good practice guidance;
- (c) information on whether the activity data are one year estimates or a three year average;
- (d) information on how the MCF are derived, if relevant data could not be provided in the additional information box.

TABLE 4.B(b) SECTORAL BACKGROUND DATA FOR AGRICULTURE
N₂O Emissions from Manure Management
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION								IMPLIED EMISSION FACTORS ⁽³⁾	
	Population size ⁽¹⁾ (1000s)	Nitrogen excretion (kg N/head/yr)	Nitrogen excretion per animal waste management system (kg N/yr)						Emission factor per animal waste management system	
			Anaerobic lagoon	Liquid system	Daily spread	Solid storage and dry lot	Pasture range and paddock	Other	(kg N ₂ O-N/kg N)	
Cattle									Anaerobic lagoon	
Option A:									Liquid system	
Dairy Cattle									Solid storage and dry lot	
Non-Dairy Cattle									Other AWMS	
Option B:										
Mature Dairy Cattle										
Mature Non-Dairy Cattle										
Young Cattle										
Sheep										
Swine										
Poultry										
Other livestock (<i>please specify</i>)										
Total per AWMS⁽²⁾										

⁽¹⁾ See footnote 1 to Table 4.A of this common reporting format.

⁽²⁾ AWMS - Animal Waste Management System.

⁽³⁾ The implied emission factor will not be calculated until the emissions are entered directly into Table 4.

Documentation box:
* Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.
* Provide reference to the relevant section in the NIR, in particular with regard to:
(a) disaggregation of livestock population (e.g. according to the classification recommended in the IPCC good practice guidance);
(b) information on whether the activity data are one year estimates or a three year average;
(c) information on other AWMS, if reported.

TABLE 4.C SECTORAL BACKGROUND DATA FOR AGRICULTURE
Rice Cultivation
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION		IMPLIED EMISSION FACTOR ⁽¹⁾	EMISSIONS	
	Harvested area ⁽²⁾ (10 ⁹ m ² /yr)	Organic amendments added ⁽³⁾ :		CH ₄ (g/m ²)	CH ₄ (Gg)
		type	(t/ha)		
1. Irrigated					
Continuously Flooded					
Intermittently Flooded	Single Aeration				
	Multiple Aeration				
2. Rainfed					
Flood Prone					
Drought Prone					
3. Deep Water					
Water Depth 50-100 cm					
Water Depth > 100 cm					
4. Other (please specify)					
Upland Rice ⁽⁴⁾					
Total ⁽⁴⁾					

⁽¹⁾ The implied emission factor implicitly takes account of all relevant corrections for continuously flooded fields without organic amendment, the correction for the organic amendments and the effect of different soil characteristics, if considered in the calculation of methane emissions.

⁽²⁾ Harvested area is the cultivated area multiplied by the number of cropping seasons per year.

⁽³⁾ Specify dry weight or wet weight for organic amendments.

⁽⁴⁾ These rows are included to allow comparison with international statistics. Upland rice emissions are assumed to be zero.

Documentation box:

* Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* When disaggregating by more than one region within a country, and/or by growing season, provide additional information on disaggregation and related data in the NIR and provide reference to the relevant section in the NIR.

* Where available, provide activity data and scaling factors by soil type and rice cultivar in the NIR.

TABLE 4.D SECTORAL BACKGROUND DATA FOR AGRICULTURE
Agricultural Soils⁽¹⁾
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION		IMPLIED EMISSION FACTORS kg N ₂ O-N/kg N ⁽²⁾	EMISSIONS (Gg N ₂ O)
	Description	Value kg N/yr		
1. Direct Soil Emissions	N input to soils			
1. Synthetic Fertilizers	Nitrogen input from application of synthetic fertilizers			
2. Animal Manure Applied to Soils	Nitrogen input from manure applied to soils			
3. N-fixing Crops	Nitrogen fixed by N-fixing crops cultivated annually			
4. Crop Residue	Nitrogen in crop residues returned to soils			
5. Cultivation of Histosols ⁽²⁾	Area of cultivated organic soils (ha/yr)			
6. Other direct emissions (please specify)				
2. Pasture, Range and Paddock Manure	N excretion on pasture range and paddock			
3. Indirect Emissions				
1. Atmospheric Deposition	Volatized N from fertilizers, animal manures and other			
2. Nitrogen Leaching and Run-off	N from fertilizers, animal manures and other that is lost through leaching and run off			
4. Other (please specify)				

Additional information

Fraction ^(a)	Description	Value
Frac _{BURN}	Fraction of crop residue burned	
Frac _{FUEL}	Fraction of livestock N excretion in excrements burned for fuel	
Frac _{GASF}	Fraction of synthetic fertilizer N applied to soils that volatilizes as NH ₃ and NO _x	
Frac _{GASM}	Fraction of livestock N excretion that volatilizes as NH ₃ and NO _x	
Frac _{GRAZ}	Fraction of livestock N excreted and deposited onto soil during grazing	
Frac _{LEACH}	Fraction of N input to soils that is lost through leaching and runoff	
Frac _{NCRBF}	Fraction of total aboveground biomass of N-fixing crop that is N	
Frac _{NCRG}	Fraction of residue dry biomass that is N	
Frac _R	Fraction of total aboveground crop biomass that is removed from the field as crop product	
Other (please specify)		

^(a) Use the fractions as specified in the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.92 - 4.113) as elaborated by the IPCC good practice guidance (pp. 4.54 - 4.74).

⁽¹⁾ See footnote 4 to Summary 1.A. of this common reporting format. Parties which choose to report CQ emissions and removals from agricultural soils under 4.D. Agricultural Soils category should indicate the amount (in Gg) of these emissions or removals and relevant additional information (activity data, implied emissions factors) in the documentation box.

⁽²⁾ To convert from N₂O-N to N₂O emissions, multiply by 44/28. Note that for cultivation of histosols the unit of the IEF is kg N₂O-N/ha.

Documentation box:
* Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.
* Provide reference to the relevant section in the NIR, in particular with regard to: (a) Background information on CO ₂ emissions and removals estimates from agricultural soils, if accounted for under the agriculture sector; (b) Background information on CH ₄ emissions from agricultural soils, if accounted for under the agriculture sector; (c) Disaggregated values for Frac _{GRAZ} according to animal type, and for Frac _{BURN} according to crop types; (d) Full list of assumptions and fractions used.

TABLE 4.E SECTORAL BACKGROUND DATA FOR AGRICULTURE
Prescribed Burning of Savannas
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION					IMPLIED EMISSION FACTORS		EMISSIONS	
	Area of savanna burned (k ha/yr)	Average aboveground biomass density (t dm/ha)	Fraction of savanna burned	Biomass burned (Gg dm)	Nitrogen fraction in biomass	CH ₄	N ₂ O	CH ₄	N ₂ O
						(kg/t dm)		(Gg)	
(specify ecological zone)									

Additional information

	Living	Dead
Fraction of aboveground biomass		
Fraction oxidized		
Carbon fraction		

Documentation box:

Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 4.F. SECTORAL BACKGROUND DATA FOR AGRICULTURE
Field Burning of Agricultural Residues
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION								IMPLIED EMISSION FACTORS		EMISSIONS	
	Crop production	Residue/ Crop ratio	Dry matter fraction of residue	Fraction burned in fields	Fraction oxidized	Total biomass burned (Gg dm)	C fraction of residue	N-C ratio in biomass residues	CH ₄	N ₂ O	CH ₄	N ₂ O
	(t)								(kg/t dm)		(Gg)	
1. Cereals												
Wheat												
Barley												
Maize												
Oats												
Rye												
Rice												
Other (please specify)												
2. Pulse												
Dry bean												
Peas												
Soybeans												
Other (please specify)												
3 Tuber and Root												
Potatoes												
Other (please specify)												
4 Sugar Cane												
5 Other (please specify)												

Documentation Box:
 Detailed explanations on the agricultural sector can be found in section 5.4 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

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

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	Net CO ₂ emissions/ removals	CH ₄	N ₂ O	NO _x	CO
	(Gg)						
Total Land-Use Change and Forestry							
A. Changes in Forest and Other Woody Biomass Stocks							
1. Tropical Forests							
2. Temperate Forests							
3. Boreal Forests							
4. Grasslands/Tundra							
5. Other (please specify)							
Harvested Wood ⁽¹⁾							
B. Forest and Grassland Conversion							
1. Tropical Forests							
2. Temperate Forests							
3. Boreal Forests							
4. Grasslands/Tundra							
5. Other (please specify)							
C. Abandonment of Managed Lands							
1. Tropical Forests							
2. Temperate Forests							
3. Boreal Forests							
4. Grasslands/Tundra							
5. Other (please specify)							
D. CO₂ Emissions and Removals from Soil							
Cultivation of Mineral Soils							
Cultivation of Organic Soils							
Liming of Agricultural Soils							
Forest Soils							
Other (please specify) ⁽²⁾							
E. Other (please specify)							

⁽¹⁾ Following the IPCC Guidelines, the harvested wood should be reported under Changes in Forest and Other Woody Biomass Stocks (Volume 3. Reference Manual, p.5.17).

⁽²⁾ Include emissions from soils not reported under sections A, B and C.

Note: See footnote 4 to Summary 1.A of this common reporting format.

Documentation box:
Detailed explanations on the LUCF sector can be found in section 5.5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 5.A SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
Changes in Forest and Other Woody Biomass Stocks
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES			ACTIVITY DATA		IMPLIED EMISSION FACTORS	ESTIMATES
			Area of forest/biomass stocks (kha)	Average annual growth rate (t dm/ha)	Implied carbon uptake factor (t C/ha)	Carbon uptake increment (Gg C)
Tropical	Plantations	<i>Acacia spp.</i>				
		<i>Eucalyptus spp.</i>				
		<i>Tectona grandis</i>				
		<i>Pinus spp</i>				
		<i>Pinus caribaea</i>				
		Mixed Hardwoods				
		Mixed Fast-Growing Hardwoods				
	Other Forests	Moist				
		Seasonal				
		Dry				
Other (<i>specify</i>)						
Temperate	Plantations					
	Commercial	Evergreen				
		Deciduous				
Other (<i>specify</i>)						
Boreal						
			Number of trees (1000s of trees)	Annual growth rate (kt dm/1000 trees)	Carbon uptake factor (t C/tree)	Carbon uptake increment (Gg C)
Non-Forest Trees (<i>specify type</i>)						
			Total annual growth increment (Gg C)			
			Gg CO ₂			
			Amount of biomass removed (kt dm)	Carbon emission factor (t C/t dm)	Carbon release (Gg C)	
Total biomass removed in Commercial Harvest						
Traditional Fuelwood Consumed						
Total Other Wood Use						
			Total Biomass Consumption from Stocks ⁽¹⁾ (Gg C)			
			Other Changes in Carbon Stocks ⁽²⁾ (Gg C)			
			Gg CO ₂			
			Net annual carbon uptake (+) or release (-) (Gg C)			
			Net CO ₂ emissions (-) or removals (+) (Gg CO ₂)			

⁽¹⁾ Make sure that the quantity of biomass burned off-site is subtracted from this total.

⁽²⁾ The net annual carbon uptake/release is determined by comparing the annual biomass growth versus annual harvest, including the decay of forest products and slash left during harvest. The IPCC Guidelines recommend default assumption that all carbon removed in wood and other biomass from forests is oxidized in the year of removal. The emissions from decay could be included under Other Changes in Carbon Stocks.

Note: Sectoral background data tables on Land-Use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner in the NIR.

Documentation box:

Detailed explanations on the LUCF sector can be found in section 5.5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 5.B SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
Forest and Grassland Conversion
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA AND OTHER RELATED INFORMATION						IMPLIED EMISSION FACTORS					EMISSIONS						
		On and off site burning				Decay of above-ground biomass ⁽¹⁾			Burning			Decay	Burning				Decay		
		Area converted annually (kha)	Annual net loss of biomass (kt dm)	Quantity of biomass burned		Average area converted (kha)	Average annual net loss of biomass (t dm/ha)	Average quantity of biomass left to decay (kt dm)	On site				Off site	On site				Off site	
				On site (kt dm)	Off site (kt dm)				CO ₂	CH ₄	N ₂ O	CO ₂		CO ₂	CO ₂	CH ₄	N ₂ O		CO ₂
Vegetation types								(t/ha)					(Gg)						
Tropical	Wet/Very Moist																		
	Moist, short dry season																		
	Moist, long dry season																		
	Dry																		
	Montane Moist																		
	Montane Dry																		
Tropical Savanna/Grasslands																			
Temperate	Coniferous																		
	Broadleaf																		
	Mixed Broadleaf/Coniferous																		
Grasslands																			
Boreal	Mixed Broadleaf/Coniferous																		
	Coniferous																		
	Forest-tundra																		
Grasslands/Tundra																			
Other (please specify)																			
Total																			

⁽¹⁾ Activity data are by default 10-year averages. Specify the average decay time which is appropriate for the local conditions, if other than 10 years.

Emissions/Removals	On site	Off site
Immediate carbon release from burning		
Total On site and Off site (Gg C)		
Delayed emissions from decay (Gg C)		
Total annual carbon release (Gg C)		
Total annual CO ₂ emissions (Gg CO ₂)		

Additional information

Fractions	On site	Off site
Fraction of biomass burned (average)		
Fraction which oxidizes during burning (average)		
Carbon fraction of aboveground biomass (average)		
Fraction left to decay (average)		
Nitrogen-carbon ratio		

Note: Sectoral background data tables on Land-Use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner in the NIR.

Documentation box:

Detailed explanations on the LUCF sector can be found in section 5.5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 5.C SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
Abandonment of Managed Lands
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA AND OTHER RELATED INFORMATION						IMPLIED EMISSION FACTORS		ESTIMATES	
		Total area abandoned and regrowing ⁽¹⁾		Annual rate of aboveground biomass growth		Carbon fraction of aboveground biomass		Rate of aboveground biomass carbon uptake		Annual carbon uptake in aboveground biomass	
		first 20 years (kha)	>20 years (kha)	first 20 years (t dm/ha)	>20 years (t dm/ha)	first 20 years	>20 years	first 20 years (t C/ha/yr)	>20 years (t C/ha/yr)	first 20 years (Gg C/yr)	>20 years (Gg C/yr)
Original natural ecosystems											
Tropical	Wet/Very Moist										
	Moist, short dry season										
	Moist, long dry season										
	Dry										
	Montane Moist										
	Montane Dry										
Tropical Savanna/Grasslands											
Temperate	Mixed Broadleaf/Coniferous										
	Coniferous										
	Broadleaf										
Grasslands											
Boreal	Mixed Broadleaf/Coniferous										
	Coniferous										
	Forest-tundra										
Grasslands/Tundra											
Other (please specify)											
									Total annual carbon uptake (Gg C)		
									Total annual CO ₂ removal (Gg CO ₂)		

⁽¹⁾ If lands are regenerating to grassland, then the default assumption is that no significant changes in above-ground biomass occur.

Note: Sectoral background data tables on Land-use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner in the NIR.

Documentation box:
 Detailed explanations on the LUCF sector can be found in section 5.5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 5.D SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
CO₂ Emissions and Removals from Soil
 (Sheet 1 of 1)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	ESTIMATES
	Land area (Mha)	Average annual rate of soil carbon uptake/removal (Mg C/ha/yr)	Net change in soil carbon in mineral soils (Tg C over 20 yr)
Cultivation of Mineral Soils ⁽¹⁾			
High Activity Soils			
Low Activity Soils			
Sandy			
Volcanic			
Wetland (Aquic)			
Other (please specify)			
	Land area (ha)	Annual loss rate (Mg C/ha/yr)	Carbon emissions from organic soils (Mg C/yr)
Cultivation of Organic Soils			
Cool Temperate			
Upland Crops			
Pasture/Forest			
Warm Temperate			
Upland Crops			
Pasture/Forest			
Tropical			
Upland Crops			
Pasture/Forest			
	Total annual amount of lime (Mg)	Carbon conversion factor	Carbon emissions from liming (Mg C)
Liming of Agricultural Soils			
Limestone Ca(CO ₃)			
Dolomite CaMg(CO ₃) ₂			
Total annual net carbon emissions from agriculturally impacted soils (Gg C)			
Total annual net CO ₂ emissions from agriculturally impacted soils (Gg CO ₂)			

		Additional information						
Year	Climate ^(a)	land-use/ management system ^(a)	Soil type					
			High activity soils	Low activity soils	Sandy	Volcanic	Wetland (Aquic)	Organic soil
		percent distribution (%)						
20 years prior	(e.g. tropical, dry)	(e.g. savanna)						
		(e.g. irrigated cropping)						
inventory year								

^(a) These should represent the major types of land management systems per climate regions present in the country as well as ecosystem types which were either converted to agriculture (e.g., forest, savanna, grassland) or have been derived from previous agricultural land-use (e.g., abandoned lands, reforested lands). Systems should also reflect differences in soil carbon stocks that can be related to differences in management (IPCC Guidelines (Volume 2. Workbook, Table 5-9, p. 5.26, and Appendix (pp. 5-31 - 5.38)).

⁽¹⁾ The information to be reported under Cultivation of Mineral Soils aggregates data per soil type over all land-use/management systems. This refers to land area data and to the emission estimates and implied emissions factors accordingly.

Note: Sectoral background data tables on Land-Use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner in the NIR.

Documentation Box:
 Detailed explanations on the LUCF sector can be found in section 5.5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 6 SECTORAL REPORT FOR WASTE
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ ⁽¹⁾	CH ₄	N ₂ O	NO _x	CO	NMVOC	SO ₂
	(Gg)						
Total Waste							
A. Solid Waste Disposal on Land							
1. Managed Waste Disposal on Land							
2. Unmanaged Waste Disposal Sites							
3. Other (as specified in table 6.A)							
B. Wastewater Handling							
1. Industrial Wastewater							
2. Domestic and Commercial Wastewater							
3. Other (as specified in table 6.B)							
C. Waste Incineration							
D. Other (please specify)							

⁽¹⁾ Note that CO₂ emissions from Waste Disposal and Incineration source categories should only be included if they derive from non-biological or inorganic waste sources.

Documentation box:

Detailed explanations on the waste sector can be found in section 5.6 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

TABLE 6.A SECTORAL BACKGROUND DATA FOR WASTE
Solid Waste Disposal
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTOR		EMISSIONS		
	Annual MSW at the SWDS (Gg)	MCF	DOC degraded %	CH ₄ ⁽¹⁾	CO ₂	CH ₄ (net) ⁽²⁾	CH ₄ recovery ⁽³⁾	CO ₂ ⁽⁴⁾
				(t/t MSW)		(Gg)		
1 Managed Waste Disposal on Land								
2 Unmanaged Waste Disposal Sites								
a. Deep (>5 m)								
b. Shallow (<5 m)								
3 Other (please specify)								

Additional information

Description	Value
Total population (1000s) ^(a)	
Urban population (1000s) ^(a)	
Waste generation rate (kg/capita/day)	
Fraction of MSW disposed to SWDS	
Fraction of DOC in MSW	
CH ₄ oxidation factor ^(b)	
CH ₄ fraction in landfill gas	
CH ₄ generation rate constant (k) ^(c)	
Time lag considered (yr) ^(c)	

MSW - Municipal Solid Waste, SWDS - Solid Waste Disposal Site, MCF - Methane Correction Factor, DOC - Degradable Organic Carbon (IPCC Guidelines (Volume 3. Reference Manual, section 6.2.4)). MSW includes household waste, yard/garden waste, commercial/market waste and organic industrial solid waste. MSW should not include inorganic industrial waste such as construction or demolition materials.

⁽¹⁾ The CH₄ IEF is calculated on the basis of gross CH₄ emissions, as follows: IEF = (net CH₄ emissions + CH₄ recovered) / annual MSW at the SWDS.

⁽²⁾ Actual emissions (after recovery).

⁽³⁾ CH₄ recovered and flared or utilized.

⁽⁴⁾ Under Waste Disposal, CO₂ emissions should be reported only when the disposed waste is combusted at the disposal site as a management practice. CO₂ emissions from non-biogenic wastes are included in the total emissions, while the CO₂ emissions from biogenic wastes are not included in the total emissions.

^(a) Specify whether total or urban population is used and the rationale for doing so.

^(b) See IPCC Guidelines (Volume 3. Reference Manual, p. 6.9).

^(c) Only for Parties using Tier 2 methods.

TABLE 6.C SECTORAL BACKGROUND DATA FOR WASTE
Waste Incineration
(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA Amount of incinerated wastes (Gg)	IMPLIED EMISSION FACTOR			EMISSIONS		
		CO ₂	CH ₄	N ₂ O	CO ₂ ⁽¹⁾	CH ₄	N ₂ O
		(kg/t waste)			(Gg)		
Waste Incineration (please specify)							
a. Biogenic ⁽¹⁾							
b. Other (non-biogenic - please specify) ^{(1),(2)}							

⁽¹⁾ Under Waste Disposal, CO₂ emissions should be reported only when the disposed waste is combusted at the disposal site as a management practice. CO₂ emissions from non-biogenic wastes are included in the total emissions, while the CO₂ emissions from biogenic wastes are not included in the total emissions.

⁽²⁾ Enter under this source category all types of non-biogenic wastes, such as plastics.

Note: Only emissions from waste incineration without energy recovery are to be reported in the waste sector. Emissions from incineration with energy recovery are to be reported in the energy sector, as other fuels (see IPCC good practice guidance, page 5.23).

Documentation box:

* Detailed explanations on the waste sector can be found in section 5.6 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Parties that use country specific models should provide a reference in the documentation box to the relevant section in the NIR where these models are described, and fill in only the relevant cells of tables 6.A and 6.C.

* Provide reference to the relevant section in the NIR, in particular with regard to:

- (a) population size (total or urban population) used in the calculations and the rationale for doing so;
- (b) the composition of landfilled waste;
- (c) In relation to the amount of incinerated wastes, specify whether the reported data relate to wet or dry matter.

**TABLE 6.B SECTORAL BACKGROUND DATA FOR WASTE
Wastewater Handling
(Sheet 1 of 1)**

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND RELATED INFORMATION ⁽¹⁾		IMPLIED EMISSION FACTOR		EMISSIONS		
	Total organic product (Gg DC ⁽¹⁾ /yr)		CH ₄ ⁽²⁾	N ₂ O ⁽³⁾	CH ₄		N ₂ O ⁽³⁾
					CH ₄ (net) ⁽⁴⁾	CH ₄ recovered and/or flared ⁽⁵⁾	
		(kg/kg DC)		(Gg)			
1. Industrial Wastewater							
a. Wastewater							
b. Sludge							
2. Domestic and Commercial Wastewater							
a. Wastewater							
b. Sludge							
3. Other (please specify)							
a. Wastewater (please specify)							
b. Sludge (please specify)							

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTOR	EMISSIONS
	Population (1000s)	Protein consumption (protein in kg/person/yr)	N fraction (kg N/kg protein)	N ₂ O (kg N ₂ O-N/kg sewage N produced)	N ₂ O (Gg)
N ₂ O from human sewage ⁽³⁾					

Additional information

	Domestic	Industrial
Total wastewater (m ³):		
Treated wastewater (%):		

Wastewater streams:	Wastewater output (m ³)	DC (kgCOD/m ³)
Industrial wastewater		
Non-ferrous		
Fertilizers		
Food and beverage		
Paper and pulp		
Organic chemicals		
Other (specify)		
DC (kg BOD/1000 person/yr)		
Domestic and Commercial		
Other		

Handling systems:	Industrial wastewater treated (%)	Ind. sludge treated (%)	Domestic wastewater treated (%)	Domestic sludge treated (%)
Aerobic				
Anaerobic				
Other (specify)				

⁽¹⁾ DC - degradable organic component. DC indicators are COD (Chemical Oxygen Demand) for industrial wastewater and BOD (Biochemical Oxygen Demand) for Domestic/Commercial wastewater/sludge (IPCC Guidelines (Volume 3. Reference Manual, pp. 6.14, 6.18)).

⁽²⁾ The CH₄ IEF is calculated on the basis of gross CH₄ emissions, as follows: IEF = (net CH₄ emissions + CH₄ recovered or flared) / total organic product.

⁽³⁾ Parties using methods other than those from the IPCC for estimating N₂O emissions from human sewage or wastewater treatment should provide aggregate data in table 6.B.

⁽⁴⁾ Actual emissions (after recovery).

⁽⁵⁾ CH₄ recovered and flared or utilized.

Documentation box:

* Detailed explanations on the waste sector can be found in section 5.6 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Regarding the estimates for N₂O from human sewage, specify whether total or urban population is used in the calculations and the rationale for doing so. Provide explanation in the documentation box.

* Parties using methods other than those from the IPCC for estimating N₂O emissions from human sewage or wastewater treatment should provide, in the NIR, corresponding information on methods, activity data and emission factors used, and should provide a reference to the relevant section of the NIR in this documentation box.

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7A)

(Sheet 1 of 3)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
					P	A	P	A	P	A				
	(Gg)					CO ₂ equivalent (Gg)				(Gg)				
Total National Emissions and Removals														
1. Energy														
A. Fuel Combustion	Reference Approach ⁽²⁾													
	Sectoral Approach ⁽²⁾													
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														
2. Industrial Processes														
A. Mineral Products														
B. Chemical Industry														
C. Metal Production														
D. Other Production ⁽³⁾														
E. Production of Halocarbons and SF ₆														
F. Consumption of Halocarbons and SF ₆														
G. Other														

A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked to report the results of their calculations using the Reference approach and to explain any differences with the Sectoral approach in the documentation box to Table 1.A.(c). For estimating national total emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7A)

(Sheet 2 of 3)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
	emissions	removals			P	A	P	A	P	A				
	(Gg)				CO ₂ equivalent (Gg)						(Gg)			
3. Solvent and Other Product Use														
4. Agriculture														
A. Enteric Fermentation														
B. Manure Management														
C. Rice Cultivation														
D. Agricultural Soils	(4), (5)	(4), (5)												
E. Prescribed Burning of Savannas														
F. Field Burning of Agricultural Residues														
G. Other														
5. Land-Use Change and Forestry	(5)	(5)												
A. Changes in Forest and Other Woody Biomass Stock	(5)	(5)												
B. Forest and Grassland Conversion	(5)	(5)												
C. Abandonment of Managed Lands	(5)	(5)												
D. CO ₂ Emissions and Removals from Soil	(5)	(5)												
E. Other	(5)	(5)												
6. Waste														
A. Solid Waste Disposal on Land	(6)													
B. Wastewater Handling														
C. Waste Incineration	(6)													
D. Other														
7. Other (please specify)⁽⁷⁾														

⁽⁴⁾ According to the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.2, 4.87), CO₂ emissions from agricultural soils are to be included under Land-Use Change and Forestry (LUCF). At the same time, the Summary Report 7A (Volume 1. Reporting Instructions, Tables.27) allows for reporting CO₂ emissions or removals from agricultural soils, either in the Agriculture sector, under D. Agricultural Soils or in the Land-Use Change and Forestry sector under D. Emissions and Removals from Soil. Parties may choose either way to report emissions or removals from this source in the common reporting format, but the way they have chosen to report should be clearly indicated, by providing a brief explanation in the documentation boxes to table 4D of the agriculture sector. Double-counting of these emissions or removals should be avoided. Parties should include these emissions or removals consistently in Table 8(a) (Recalculation - Recalculated data) and Table 10 (Emission trends).

⁽⁵⁾ Please do not provide an estimate of both CO₂ emissions and CO₂ removals. "Net" emissions (emissions - removals) of CO₂ should be estimated and a single number placed in either the CO₂ emissions or CO₂ removals column, as appropriate. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

⁽⁶⁾ Note that CO₂ from Waste Disposal and Incineration source categories should only be included if it stems from non-biogenic or inorganic waste streams. Note that only emissions from waste incineration without energy recovery are to be reported in the waste sector, while emissions from incineration with energy recovery are to be reported in the energy sector.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations are to be provided in section 5 of the NIR.

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7A)
(Sheet 3 of 3)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	CH ₄	N ₂ O	HFCs		PFCs		SF ₆		NO _x	CO	NMVOc	SO ₂
	(Gg)				CO ₂ equivalent (Gg)						(Gg)			
	P	A	P	A	P	A	P	A	P	A				
Memo Items: ⁽⁸⁾														
International Bunkers														
Aviation														
Marine														
Multilateral Operations														
CO₂ Emissions from Biomass														

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass under Memo Items. These emissions should not be included in the national total emissions from the energy sector. Amounts of biomass used as a fuel are included in the total national energy consumption, while CO₂ emissions from the combustion of biomass are accounted for in the land-use change and forestry sector, if the wood has been produced in an unsustainable manner.

SUMMARY 1.B SHORT SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7B)

(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
					P	A	P	A	P	A				
	(Gg)			CO ₂ equivalent (Gg)						(Gg)				
Total National Emissions and Removals														
1. Energy														
A. Fuel Combustion	Reference Approach ⁽²⁾													
	Sectoral Approach ⁽²⁾													
B. Fugitive Emissions from Fuels														
2. Industrial Processes														
3. Solvent and Other Product Use														
4. Agriculture⁽³⁾														
5. Land-Use Change and Forestry	⁽⁴⁾	⁽⁴⁾												
6. Waste														
7. Other														
Memo Items:														
International Bunkers														
Aviation														
Marine														
Multilateral Operations														
CO₂ Emissions from Biomass														

A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked to report the results of their calculations using the Reference approach and to explain any differences with the Sectoral approach in the documentation box to Table 1.A.(c). For estimating national total emissions, the result from the Sectoral approach should be used, where possible.

⁽³⁾ See footnote 4 to Summary 1.A.

⁽⁴⁾ Please do not provide an estimate of both CO₂ emissions and CO₂ removals. "Net" emissions (emissions - removals) of CO₂ should be estimated and a single number placed in either the CO₂ emissions or CO₂ removals column, as appropriate. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

SUMMARY 2 SUMMARY REPORT FOR CO₂ EQUIVALENT EMISSIONS
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ ⁽¹⁾	CH ₄	N ₂ O	HFCs ⁽²⁾	PFCs ⁽²⁾	SF ₆ ⁽²⁾	Total
	CO ₂ equivalent (Gg)						
Total (Net Emissions)⁽¹⁾							
1. Energy							
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							
2. Industrial Processes							
A. Mineral Products							
B. Chemical Industry							
C. Metal Production							
D. Other Production							
E. Production of Halocarbons and SF ₆							
F. Consumption of Halocarbons and SF ₆ ⁽²⁾							
G. Other							
3. Solvent and Other Product Use							
4. Agriculture							
A. Enteric Fermentation							
B. Manure Management							
C. Rice Cultivation							
D. Agricultural Soils ⁽³⁾							
E. Prescribed Burning of Savannas							
F. Field Burning of Agricultural Residues							
G. Other							
5. Land-Use Change and Forestry⁽¹⁾							
6. Waste							
A. Solid Waste Disposal on Land							
B. Wastewater Handling							
C. Waste Incineration							
D. Other							
7. Other (as specified in Summary 1.A)							
Memo Items:							
International Bunkers							
Aviation							
Marine							
Multilateral Operations							
CO₂ Emissions from Biomass							

⁽¹⁾ For CO₂ emissions from Land-Use Change and Forestry the net emissions are to be reported. Note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

⁽²⁾ Actual emissions should be included in the national totals. In the case that for category 2.F Consumption of halocarbons and SF₆ no actual emissions were reported, potential emissions should be included.

⁽³⁾ See footnote 4 to Summary 1.A of this common reporting format.

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	Net CO ₂ emissions / removals	CH ₄	N ₂ O	Total emissions
	CO ₂ equivalent (Gg)					
Land-Use Change and Forestry						
A. Changes in Forest and Other Woody Biomass Stocks						
B. Forest and Grassland Conversion						
C. Abandonment of Managed Lands						
D. CO ₂ Emissions and Removals from Soil						
E. Other						
Total CO ₂ Equivalent Emissions from Land-Use Change and Forestry						
Total CO ₂ Equivalent Emissions without Land-Use Change and Forestry ^(a)						
Total CO ₂ Equivalent Emissions with Land-Use Change and Forestry ^(a)						

^(a) The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report emissions and removals from Land-Use Change and Forestry. Note that these totals will differ from the totals reported in Table 10s5 if Parties report non-CO₂ emissions from LUCF.

SUMMARY 3 SUMMARY REPORT FOR METHODS AND EMISSION FACTORS USED
 (Sheet 1 of 2)

Country
 Year
 Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆	
	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾
1. Energy												
A. Fuel Combustion												
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												
2. Industrial Processes												
A. Mineral Products												
B. Chemical Industry												
C. Metal Production												
D. Other Production												
E. Production of Halocarbons and SF ₆												
F. Consumption of Halocarbons and SF ₆												
G. Other												

⁽¹⁾ Use the following notation keys to specify the method applied:

D (IPCC default),
RA (Reference Approach),
T1 (IPCC Tier 1),

T1a, T1b, T1c (IPCC Tier 1a, Tier 1b and Tier 1c, respectively),
T2 (IPCC Tier 2),
T3 (IPCC Tier 3),

C (CORINAIR),
CS (Country Specific).

If using more than one method within one source category, enumerate the relevant methods. Explanations regarding country-specific methods or any modifications to the default IPCC methods, as well as information regarding the use of different methods per source category where more than one method is indicated, should be provided in the documentation box.

⁽²⁾ Use the following notation keys to specify the emission factor used:

D (IPCC default),
C (CORINAIR),

CS (Country Specific),
PS (Plant Specific).

Where a mix of emission factors has been used, use different notations in one and the same cells with further explanations in the documentation box.

SUMMARY 3 SUMMARY REPORT FOR METHODS AND EMISSION FACTORS USED
(Sheet 2 of 2)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆	
	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾
3. Solvent and Other Product Use												
4. Agriculture												
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												
5. Land-Use Change and Forestry												
A. Changes in Forest and Other Woody Biomass Stocks												
B. Forest and Grassland Conversion												
C. Abandonment of Managed Lands												
D. CO ₂ Emissions and Removals from Soil												
E. Other												
6. Waste												
A. Solid Waste Disposal on Land												
B. Wastewater Handling												
C. Waste Incineration												
D. Other												
7. Other (as specified in Summary I.A)												

⁽¹⁾ Use the following notation keys to specify the method applied:

D (IPCC default), **T1a, T1b, T1c** (IPCC Tier 1a, Tier 1b and Tier 1c, respectively), **C** (CORINAIR),
RA (Reference Approach), **T2** (IPCC Tier 2), **CS** (Country Specific).
T1 (IPCC Tier 1), **T3** (IPCC Tier 3).

If using more than one method within one source category, enumerate the relevant methods. Explanations regarding country-specific methods or any modifications to the default IPCC methods, as well as information regarding the use of different methods per source category where more than one method is indicated, should be provided in the documentation box.

⁽²⁾ Use the following notation keys to specify the emission factor used:

D (IPCC default), **CS** (Country Specific),
C (CORINAIR), **PS** (Plant Specific).

Where a mix of emission factors has been used, use different notations in one and the same cells with further explanations in the documentation box.

Documentation box:

* The full information on methodological issues, such as methods and emission factors used, can be found in the relevant sector sections of chapter 5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Where a mix of methods/ emission factors has been used within one source category, use this documentation box to specify those methods/emission factors for the various sub-sources where they have been applied (see also footnotes 1 and 2 to this table).

TABLE 7(a) SUMMARY OVERVIEW FOR KEY SOURCES
(Sheet 1 of 1)

Country
Year
Submission

Year: latest reported inventory year

GREENHOUSE GAS SOURCE AND SINK CATEGORIES: KEY SOURCES	GAS	Criteria used for key source identification (e.g. tier) ⁽¹⁾	Level assessment (%) ⁽²⁾	Cumulative total of level assessment (%) ⁽³⁾	Contribution to trend (%) ⁽⁴⁾	Method applied to estimate emissions ⁽⁵⁾	Output box ⁽⁶⁾	Type of emission factor ⁽⁷⁾	Is source specific QA/QC implemented (Yes/No) ⁽⁸⁾	Comments
Specify key sources according to the national level of disaggregation used: <i>For example:</i>										
Stationary - coal	CO ₂									
Stationary - oil	CO ₂									
Mobile: Road vehicles	CO ₂									
Mobile: Road vehicles	N ₂ O									

⁽¹⁾ L1= Level using Tier 1 method, L2= Level using Tier 2 method, T1 = Trend using Tier 1 method, T2 = Trend using Tier 2 method.

Q1 = mitigation techniques and technology applied to the source,

Q2 = High expected emission growth,

Q3 = High uncertainty,

Q4 = Unexpectedly high or low emission

⁽²⁾ Level assessment refers to the emission level of a given source category calculated as described in the IPCC good practice guidance (table 7.2).

⁽³⁾ Rank identified key sources according to their relative contribution to the national total emissions

⁽⁴⁾ As calculated following the IPCC good practice guidance (table 7.3)

⁽⁵⁾ Use the following notation keys to specify the method applied

D (IPCC default),

RA (Reference Approach),

T1 (IPCC Tier 1),

T1a, T1b, T1c (IPCC Tier 1a, Tier 1b and Tier 1c, respectively),

T2 (IPCC Tier 2),

T3 (IPCC Tier 3),

C (CORINAIR),

CS (Country Specific).

If using more than one method within one source category, enumerate the relevant methods. Explanations regarding country-specific methods or any modifications to the default IPCC methods, as well as information regarding the use of different methods per source category where more than one method is indicated, should be provided in the documentation box.

⁽⁶⁾ Reference is made to figure (decision tree) and output box in IPCC good practice guidance in the format x,y-z; for example: output box 3 in figure 2.1 will be noted 2.1-3

⁽⁷⁾ Use the following notation keys to specify the emission factor used

D (IPCC default),

C (CORINAIR),

CS (Country Specific),

PS (Plant Specific).

Where a mix of emission factors has been used, use different notations in one and the same cells with further explanations in the documentation box.

⁽⁸⁾ As specified in sectoral good practice guidance

Documentation box:

* The full information on methodological issues, such as methods and emission factors used, can be found in the relevant sector sections of chapter 5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* Where a mix of methods/ emission factors has been used within one source category, use this documentation box to specify those methods/emission factors for the various sub-sources where they have been applied (see also footnotes 5 and 7 to this table).

TABLE 7(b) UNCERTAINTIES FOR KEY SOURCES ⁽¹⁾
(Sheet 1 of 1)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Gas	Activity data uncertainty ⁽²⁾ %	Emission factor uncertainty ⁽²⁾ %	Source category uncertainty %	Specific reference to NIR ⁽³⁾	Comment
Specify key sources according to the national level of disaggregation used ⁽⁴⁾ :						
<i>For example:</i>						
Stationary - coal	CO ₂					
Stationary - oil	CO ₂					
Mobile: Road vehicles	CO ₂					
Mobile: Road vehicles	N ₂ O					

⁽¹⁾ For non-key sources, information on uncertainties can be found in the NIR.

⁽²⁾ If the uncertainty value is based on analysis of direct measurement of the emissions, the notation "M" should be filled in in the relevant cells for activity data and emission factor uncertainty, respectively.

⁽³⁾ Provide specific reference to the NIR, where for the respective source category further details on how the uncertainty estimates were derived, including methods used and underlying assumptions or any departures from the IPCC good practice guidance, can be found.

⁽⁴⁾ The level of category disaggregation should follow the national source categorization (e.g. when using tier 2 or other methodologies in addition to IPCC tier 1) and should be the same as reported in Table 7(a).

Documentation box:

* The full information on uncertainties for key sources and non-key sources can be found in the relevant sector sections of chapter 5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.

* References to the NIR as indicated in footnote 3 to this table, should also be provided in this documentation box, as appropriate.

TABLE 8(a) RECALCULATION - RECALCULATED DATA
(Sheet 1 of 2)

Recalculated year:

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂					CH ₄					N ₂ O				
	Previous submission	Latest submission	Difference	Difference ⁽¹⁾	Impact of recalculation on total emissions ⁽⁴⁾⁽⁵⁾	Previous submission	Latest submission	Difference	Difference ⁽¹⁾	Impact of recalculation on total emissions ⁽⁴⁾⁽⁵⁾	Previous submission	Latest submission	Difference	Difference ⁽¹⁾	Impact of recalculation on total emissions ⁽⁴⁾⁽⁵⁾
	CO ₂ equivalent (Gg)			(%)	(%)	CO ₂ equivalent (Gg)			(%)	(%)	CO ₂ equivalent (Gg)			(%)	(%)
Total National Emissions and Removals															
1. Energy															
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															
2. Industrial Processes															
2.A. Mineral Products															
2.B. Chemical Industry															
2.C. Metal Production															
2.D. Other Production															
2.G. Other															
3. Solvent and Other Product Use															
4. Agriculture															
4.A. Enteric Fermentation															
4.B. Manure Management															
4.C. Rice Cultivation															
4.D. Agricultural Soils ⁽²⁾															
4.E. Prescribed Burning of Savannas															
4.F. Field Burning of Agricultural Residues															
4.G. Other															
5. Land-Use Change and Forestry (net)⁽³⁾															
5.A. Changes in Forest and Other Woody Biomass Stocks															
5.B. Forest and Grassland Conversion															
5.C. Abandonment of Managed Lands															
5.D. CO ₂ Emissions and Removals from Soil															
5.E. Other															

⁽¹⁾ Estimate the percentage change due to recalculation with respect to the previous submission (Percentage change = 100% x [(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) of this common reporting format.

⁽²⁾ See footnote 4 to Summary 1.A of this common reporting format.

⁽³⁾ Net CO₂ emissions/removals to be reported.

⁽⁴⁾ Total emissions refer to total aggregate GHG emissions expressed in terms of CO₂equivalent, excluding GHGs from the LUCF sector. The impact of the recalculation on the total emissions is calculated as follows: impact of recalculation (%) = 100% x [(source (LS) - source (PS))/total emissions (LS)], where LS = Latest submission, PS = Previous submission.

⁽⁵⁾ The relative impact of recalculations of the LUCF sector is not considered in this table, until the IPCC completes its work on good practices for this sector and methods for estimating key sources from this sector are available.

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

Country
Year
Submission

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

⁽¹⁾ 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. Entries in columns A and B should match those used in Table 8(a).

⁽²⁾ 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 relevant changes in the assumptions and coefficients under the "Methods" column.

Documentation box:

The full information on recalculations can be found in the relevant sector sections of chapter 5 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found. References should particularly point to the relevant 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 9 COMPLETENESS - INFORMATION ON NOTATION KEYS
(Sheet 1 of 2)

Country
Year
Submission

Sources and sinks not reported (NE) ⁽¹⁾				
GHG	Sector ⁽²⁾	Source/sink category ⁽²⁾	Explanation	
CO ₂				
CH ₄				
N ₂ O				
HFCs				
PFCs				
SF ₆				
Sources and sinks reported elsewhere (IE) ⁽³⁾				
GHG	Source/sink category	Allocation as per IPCC Guidelines	Allocation used by the Party	Explanation
CO ₂				
CH ₄				
N ₂ O				
HFCs				
PFCs				
SF ₆				

⁽¹⁾ Clearly indicate sources and sinks which are considered in the IPCC Guidelines but are not considered in the submitted inventory. Explain the reason for excluding these sources and sinks, in order to avoid arbitrary interpretations. An entry should be made for each source/sink category for which the indicator "NE" is entered in the sectoral tables.

⁽²⁾ Indicate omitted source/sink following the IPCC source/sink category structure (e.g. sector: Waste, source category: Wastewater Handling)

⁽³⁾ Clearly indicate sources and sinks in the submitted inventory that are allocated to a sector other than that indicated by the IPCC Guidelines. Show the sector indicated in the IPCC Guidelines and the sector to which the source or sink is allocated in the submitted inventory. Explain the reason for reporting these sources and sinks in a different sector. An entry should be made for each source/sink for which the indicator "IE" is used in the sectoral tables.

TABLE 9 COMPLETENESS
(Sheet 2 of 2)

Country
Year
Submission

Additional GHG emissions reported ⁽⁴⁾						
GHG	Source category	Emissions (Gg)	Estimated GWP value (100-year horizon)	Emissions CO ₂ equivalent (Gg)	Reference to the source of GWP value	Explanation

⁽⁴⁾ Parties are encouraged to provide information on emissions of greenhouse gases whose GWP values have not yet been agreed upon by the COP. Please include such gases in this table if they are considered in the submitted inventory. Provide additional information on the estimation methods used.

<p>Documentation box: Detailed information regarding completeness of the inventory should be provided the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant sections of the NIR where further details can be found.</p>

TABLE 10 EMISSIONS TRENDS (CO₂)
(Sheet 1 of 5)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	(Gg)											
1. Energy												
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												
2. Industrial Processes												
A. Mineral Products												
B. Chemical Industry												
C. Metal Production												
D. Other Production												
E. Production of Halocarbons and SF ₆												
F. Consumption of Halocarbons and SF ₆												
G. Other												
3. Solvent and Other Product Use												
4. Agriculture												
A. Enteric Fermentation												
B. Manure Management												
C. Rice Cultivation												
D. Agricultural Soils ⁽²⁾												
E. Prescribed Burning of Savannas												
F. Field Burning of Agricultural Residues												
G. Other												
5. Land-Use Change and Forestry⁽³⁾												
A. Changes in Forest and Other Woody Biomass Stocks												
B. Forest and Grassland Conversion												
C. Abandonment of Managed Lands												
D. CO ₂ Emissions and Removals from Soil												
E. Other												
6. Waste												
A. Solid Waste Disposal on Land												
B. Waste-water Handling												
C. Waste Incineration												
D. Other												
7. Other (as specified in Summary I.A)												
Total Emissions/Removals with LUCF⁽⁴⁾												
Total Emissions without LUCF⁽⁴⁾												
Memo Items:												
International Bunkers												
Aviation												
Marine												
Multilateral Operations												
CO₂ Emissions from Biomass												

⁽¹⁾ This column 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.

⁽²⁾ See footnote 4 to Summary I.A of this common reporting format.

⁽³⁾ Fill in net emissions as reported in Summary I.A of this common reporting format. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

⁽⁴⁾ The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report CO₂ emissions and removals from Land-Use Change and Forestry.

TABLE 10 EMISSIONS TRENDS (CH₄)
(Sheet 2 of 5)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	(Gg)											
Total Emissions												
1. Energy												
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												
2. Industrial Processes												
A. Mineral Products												
B. Chemical Industry												
C. Metal Production												
D. Other Production												
E. Production of Halocarbons and SF ₆												
F. Consumption of Halocarbons and SF ₆												
G. Other												
3. Solvent and Other Product Use												
4. Agriculture												
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												
5. Land-Use Change and Forestry												
A. Changes in Forest and Other Woody Biomass Stocks												
B. Forest and Grassland Conversion												
C. Abandonment of Managed Lands												
D. CO ₂ Emissions and Removals from Soil												
E. Other												
6. Waste												
A. Solid Waste Disposal on Land												
B. Waste-water Handling												
C. Waste Incineration												
D. Other												
7. Other (as specified in Summary 1A)												
Memo Items:												
International Bunkers												
Aviation												
Marine												
Multilateral Operations												
CO₂ Emissions from Biomass												

TABLE 10 EMISSIONS TRENDS (N₂O)
(Sheet 3 of 5)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	(Gg)											
Total Emissions												
1. Energy												
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												
2. Industrial Processes												
A. Mineral Products												
B. Chemical Industry												
C. Metal Production												
D. Other Production												
E. Production of Halocarbons and SF ₆												
F. Consumption of Halocarbons and SF ₆												
G. Other												
3. Solvent and Other Product Use												
4. Agriculture												
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												
5. Land-Use Change and Forestry												
A. Changes in Forest and Other Woody Biomass Stocks												
B. Forest and Grassland Conversion												
C. Abandonment of Managed Lands												
D. CO ₂ Emissions and Removals from Soil												
E. Other												
6. Waste												
A. Solid Waste Disposal on Land												
B. Waste-water Handling												
C. Waste Incineration												
D. Other												
7. Other (as specified in Summary I.A)												
Memo Items:												
International Bunkers												
Aviation												
Marine												
Multilateral Operations												
CO₂ Emissions from Biomass												

TABLE 10 EMISSION TRENDS (HFCs, PFCs and SF₆)
(Sheet 4 of 5)

Country
Year
Submission

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
(Gg)												
Emissions of HFCs⁽⁵⁾ - Gg CO₂ equivalent												
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												
Other HFCs⁽⁶⁾ - Gg CO₂ equivalent												
Emissions of PFCs⁽⁵⁾ - Gg CO₂ equivalent												
CF ₄												
C ₂ F ₆												
C ₃ F ₈												
C ₄ F ₁₀												
c-C ₄ F ₈												
C ₃ F ₁₂												
C ₆ F ₁₄												
Other PFCs⁽⁶⁾ - Gg CO₂ equivalent												
Emissions of SF₆⁽⁵⁾ - Gg CO₂ equivalent												
SF ₆												

Chemical	GWP
HFCs	
HFC-23	11700
HFC-32	650
HFC-41	150
HFC-43-10mee	1300
HFC-125	2800
HFC-134	1000
HFC-134a	1300
HFC-152a	140
HFC-143	300
HFC-143a	3800
HFC-227ea	2900
HFC-236fa	6300
HFC-245ca	560
PFCs	
CF ₄	6500
C ₂ F ₆	9200
C ₃ F ₈	7000
C ₄ F ₁₀	7000
c-C ₄ F ₈	8700
C ₃ F ₁₂	7500
C ₆ F ₁₄	7400
SF ₆	23900

⁽⁵⁾ 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. Note that only in these rows the emissions are expressed as CO₂ equivalent emissions.

⁽⁶⁾ 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 CO₂ equivalent and that appropriate notation keys should be entered in the cells for the individual chemicals.

Documentation box:

* Detailed explanations on emissions trends can be found in section 2 of the NIR. If any additional information is needed to understand the content of this table, use this documentation box to provide references to the relevant section of the NIR where further details can be found.
* Use the documentation box to provide explanations, if potential emissions are reported.

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

Country
Year
Submission

GREENHOUSE GAS EMISSIONS	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	CO ₂ equivalent (Gg)											
Net CO ₂ emissions/removals												
CO ₂ emissions (without LUCF) ⁽⁷⁾												
CH ₄												
N ₂ O												
HFCs												
PFCs												
SF ₆												
Total (with net CO₂ emissions/removals)												
Total (without CO₂ from LUCF)⁽⁷⁾												

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	CO ₂ equivalent (Gg)											
1. Energy												
2. Industrial Processes												
3. Solvent and Other Product Use												
4. Agriculture												
5. Land-Use Change and Forestry ⁽⁸⁾												
6. Waste												
7. Other												

⁽⁷⁾The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report CO₂ emissions and removals from Land-Use Change and Forestry. Note that these totals will differ from the totals reported in Table Summary 2 if Parties report non-CO₂ emissions from LUCF.

⁽⁸⁾ Net (CO₂) emissions.