COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 3.12.2009
SEC(2009) 1652 final
Partie 2a

**COMMISSION STAFF WORKING DOCUMENT**

***Accompanying the***

**COMMUNICATION FROM THE COMMISSION**

# FIFTH NATIONAL COMMUNICATION FROM THE EUROPEAN COMMUNITY UNDER THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

**(required under Article 12 of the United Nations Framework Convention on Climate Change)**
**Part 2a**

**[COM(2009) 667 final]**

**DIFFUSION ELECTRONIQUE UNIQUEMENT**

## Appendix A Summary GHG emissions inventory tables for the EU-15

A1 EU-15, 1990

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | $HFCs^{(1)}$ | | $PFCs^{(1)}$ | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Total National Emissions and Removals** | **3,137,561.92** | **20,740.59** | **1,249.83** | **965.02** | **28,013.65** | **106.81** | **16,824.70** | **2.34** | **0.46** | **13,448.34** | **52,273.09** | **15,877.49** | **16,463.84** |
| **1. Energy** | **3,130,761.92** | **4,561.14** | **97.23** | | | | | | | **13,065.19** | **47,336.72** | **9,002.26** | **15,922.49** |
| A. Fuel Combustion — Reference Approach [2] | 3,119,422.48 | | | | | | | | | | | | |
| A. Fuel Combustion — Sectoral Approach [2] | 3,111,335.73 | 860.21 | 96.90 | | | | | | | 13,028.24 | 47,199.01 | 7,594.30 | 15,573.55 |
| 1. Energy Industries | 1,151,379.53 | 41.23 | 30.47 | | | | | | | 2,883.49 | 521.08 | 55.82 | 10,223.23 |
| 2. Manufacturing Industries and Construction | 612,761.21 | 61.55 | 22.48 | | | | | | | 1,854.10 | 3,748.73 | 136.94 | 2,872.31 |
| 3. Transport | 688,170.13 | 206.91 | 19.92 | | | | | | | 6,818.05 | 32,185.26 | 5,874.70 | 765.20 |
| 4. Other Sectors | 637,798.09 | 538.68 | 21.84 | | | | | | | 1,358.04 | 10,308.40 | 1,320.25 | 1,628.79 |
| 5. Other | 21,226.77 | 11.85 | 2.19 | | | | | | | 114.55 | 435.53 | 206.60 | 84.02 |
| B. Fugitive Emissions from Fuels | 19,426.19 | 3,700.92 | 0.33 | | | | | | | 36.95 | 137.70 | 1,407.96 | 348.93 |
| 1. Solid Fuels | 2,074.39 | 2,206.31 | 0.01 | | | | | | | 3.22 | 76.71 | 17.79 | 64.48 |
| 2. Oil and Natural Gas | 17,351.80 | 1,494.61 | 0.31 | | | | | | | 33.74 | 61.00 | 1,390.17 | 284.46 |
| **2. Industrial Processes** | **215,299.79** | **34.81** | **324.71** | **965.02** | **28,013.65** | **106.81** | **16,824.70** | **2.34** | **0.46** | **182.06** | **2,886.19** | **803.05** | **514.26** |
| A. Mineral Products | 109,705.56 | 1.16 | IE,NA,NE,NO | | | | | | | 32.91 | 18.85 | 109.77 | 76.90 |
| B. Chemical Industry | 27,819.97 | 26.39 | 324.45 | NA,NE,NO | C,NA,NE,NO | NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | 111.99 | 169.49 | 392.39 | 262.18 |
| C. Metal Production | 77,419.59 | 5.00 | 0.04 | | | | 13,341.03 | | 0.07 | 20.04 | 2,678.36 | 19.87 | 96.85 |
| D. Other Production [3] | 72.98 | 0.24 | 0.21 | | | | | | | 15.62 | 12.58 | 246.65 | 77.56 |
| E. Production of Halocarbons and $SF_6$ | | | | | 27,458.66 | | 2,898.36 | | 0.08 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | 965.02 | 554.99 | 106.81 | 585.31 | 2.34 | 0.30 | | | | |
| G. Other | 281.69 | 2.01 | 0.01 | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | 0.01 | 1.50 | 6.91 | 34.37 | 0.77 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs [1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **9,530.74** | | **13.52** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **4,172.59** | **NA,NO,NE** |
| **4. Agriculture** | | **8,597.71** | **768.88** | | | | | | | **146.94** | **752.36** | **595.36** | **4.41** |
| A. Enteric Fermentation | | 6,373.04 | | | | | | | | | | | |
| B. Manure Management | | 2,116.55 | 78.76 | | | | | | | | | 327.99 | |
| C. Rice Cultivation | | 104.08 | | | | | | | | | | 0.13 | |
| D. Agricultural Soils [4] | | -31.80 | 689.35 | | | | | | | | | 177.43 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 35.84 | 0.77 | | | | | | | 27.96 | 752.36 | 88.86 | 4.41 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 118.98 | NA,NO | 0.94 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-222,684.76** | **93.94** | **13.29** | | | | | | | **24.25** | **830.16** | **1,217.29** | **1.45** |
| A. Forest Land | [5] -302,550.27 | 61.17 | 0.86 | | | | | | | 17.26 | 583.96 | 63.15 | |
| B. Cropland | [5] 73,117.05 | 10.92 | 12.09 | | | | | | | 2.71 | 95.57 | NA,NE,NO | |
| C. Grassland | [5] -14,708.10 | 11.12 | 0.08 | | | | | | | 2.76 | 97.23 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,979.47 | 5.03 | 0.20 | | | | | | | 0.10 | 3.55 | NA,NE,NO | |
| E. Settlements | [5] 18,021.02 | 5.53 | 0.04 | | | | | | | 1.37 | 48.36 | NA,NE,NO | |
| F. Other Land | [5] 1,257.42 | 0.17 | 0.00 | | | | | | | 0.04 | 1.49 | NA,NE,NO | |
| G. Other | [5] -1,801.35 | NA,NE,NO | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,154.14 | 1.45 |
| **6. Waste** | **4,654.23** | **7,453.00** | **32.20** | | | | | | | **29.90** | **467.66** | **86.95** | **21.23** |
| A. Solid Waste Disposal on Land | [6] 218.47 | 6,811.50 | 0.05 | | | | | | | 0.90 | 28.05 | 48.29 | 0.79 |
| B. Waste-water Handling | | 600.79 | 30.87 | | | | | | | NA,NE,NO | NA,NE,NO | 3.71 | |
| C. Waste Incineration | [6] 4,435.76 | 22.72 | 0.85 | | | | | | | 25.10 | 437.68 | 26.47 | 16.27 |
| D. Other | NA,NO | 17.98 | 0.43 | | | | | | | 3.91 | 1.93 | 8.49 | 4.17 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | (Gg) | | | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **164,047.68** | **5.05** | **5.81** | | | | | | | **1,448.15** | **222.55** | **72.91** | **922.44** |
| Aviation | 61,228.32 | 1.25 | 1.64 | | | | | | | 227.13 | 108.81 | 25.96 | 15.22 |
| Marine | 102,819.36 | 3.80 | 4.18 | | | | | | | 1,221.01 | 113.73 | 46.95 | 907.22 |
| **Multilateral Operations** | **0.05** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **155,138.80** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 2 EU-15 1991

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | $HFCs^{(1)}$ | | $PFCs^{(1)}$ | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | P | A | P | A | P | A | | | | |
| | | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Total National Emissions and Removals** | | **3,122,085.42** | **20,585.45** | **1,235.30** | **1,089.95** | **27,699.45** | **137.38** | **15,411.15** | **2.40** | **0.47** | **13,389.74** | **50,562.50** | **15,229.71** | **14,984.29** |
| **1. Energy** | | **3,163,904.51** | **4,509.93** | **99.27** | | | | | | | **13,027.67** | **45,614.92** | **8,573.36** | **14,550.90** |
| A. Fuel Combustion | Reference Approach [2] | 3,146,503.45 | | | | | | | | | | | | |
| | Sectoral Approach [2] | 3,144,412.94 | 854.64 | 98.94 | | | | | | | 12,993.12 | 45,456.11 | 7,228.34 | 14,261.49 |
| 1. Energy Industries | | 1,156,707.29 | 41.34 | 31.33 | | | | | | | 2,855.75 | 496.48 | 56.28 | 9,680.02 |
| 2. Manufacturing Industries and Construction | | 591,531.86 | 58.77 | 21.71 | | | | | | | 1,816.42 | 3,485.04 | 132.86 | 2,507.45 |
| 3. Transport | | 701,915.74 | 195.94 | 21.51 | | | | | | | 6,841.66 | 31,200.71 | 5,529.01 | 739.90 |
| 4. Other Sectors | | 677,075.04 | 550.83 | 22.34 | | | | | | | 1,381.94 | 9,952.91 | 1,368.89 | 1,280.57 |
| 5. Other | | 17,183.01 | 7.76 | 2.05 | | | | | | | 97.36 | 320.96 | 141.29 | 53.55 |
| B. Fugitive Emissions from Fuels | | 19,491.58 | 3,655.29 | 0.33 | | | | | | | 34.55 | 158.82 | 1,345.02 | 289.41 |
| 1. Solid Fuels | | 1,913.54 | 2,155.33 | 0.01 | | | | | | | 2.54 | 68.29 | 15.29 | 24.33 |
| 2. Oil and Natural Gas | | 17,578.04 | 1,499.96 | 0.32 | | | | | | | 32.01 | 90.53 | 1,329.74 | 265.08 |
| **2. Industrial Processes** | | **205,630.63** | **33.94** | **323.63** | **1,089.95** | **27,699.45** | **137.38** | **15,411.15** | **2.40** | **0.47** | **164.09** | **2,753.23** | **768.78** | **408.33** |
| A. Mineral Products | | 104,546.19 | 0.96 | IE,NA,NE,NO | | | | | | | 31.74 | 17.66 | 107.00 | 58.98 |
| B. Chemical Industry | | 27,216.46 | 26.19 | 323.36 | NA,NE,NO | C,NA,NE,NO | NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | 96.23 | 160.00 | 367.37 | 211.97 |
| C. Metal Production | | 73,443.75 | 4.51 | 0.03 | | | | 11,944.20 | | 0.07 | 18.99 | 2,556.76 | 19.00 | 71.11 |
| D. Other Production [3] | | 49.68 | 0.26 | 0.23 | | | | | | | 15.86 | 12.73 | 242.98 | 63.58 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 27,115.60 | | 2,830.52 | | 0.07 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 1,089.95 | 583.85 | 137.38 | 636.42 | 2.40 | 0.32 | | | | |
| G. Other | | 374.56 | 2.02 | 0.01 | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | 0.01 | 1.28 | 6.08 | 32.44 | 2.69 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs [1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **9,398.64** | | **13.12** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **4,054.53** | **NA,NO,NE** |
| **4. Agriculture** | | **8,414.44** | **753.62** | | | | | | | **137.75** | **745.05** | **545.43** | **4.62** |
| A. Enteric Fermentation | | 6,236.45 | | | | | | | | | | | |
| B. Manure Management | | 2,071.94 | 77.29 | | | | | | | | | 287.07 | |
| C. Rice Cultivation | | 100.99 | | | | | | | | | | 0.13 | |
| D. Agricultural Soils [4] | | -30.43 | 675.60 | | | | | | | | | 169.12 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 35.50 | 0.73 | | | | | | | 26.36 | 745.05 | 88.25 | 4.62 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 111.39 | NA,NO | 0.86 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-261,399.13** | **95.71** | **13.07** | | | | | | | **23.19** | **812.81** | **1,189.64** | **0.30** |
| A. Forest Land | [5] -341,579.07 | 60.81 | 0.67 | | | | | | | 15.69 | 548.77 | 56.32 | |
| B. Cropland | [5] 72,144.61 | 11.86 | 12.05 | | | | | | | 2.95 | 103.79 | NA,NE,NO | |
| C. Grassland | [5] -14,500.80 | 12.52 | 0.09 | | | | | | | 3.11 | 109.46 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,775.51 | 5.00 | 0.20 | | | | | | | 0.07 | 2.48 | NA,NE,NO | |
| E. Settlements | [5] 17,632.06 | 5.24 | 0.04 | | | | | | | 1.30 | 45.85 | NA,NE,NO | |
| F. Other Land | [5] 1,504.07 | 0.28 | 0.00 | | | | | | | 0.07 | 2.46 | NA,NE,NO | |
| G. Other | [5] -375.50 | NA,NE,NO | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,133.33 | 0.30 |
| **6. Waste** | **4,550.76** | **7,531.44** | **32.59** | | | | | | | **37.04** | **636.49** | **97.97** | **20.13** |
| A. Solid Waste Disposal on Land | [6] 266.64 | 6,890.98 | 0.06 | | | | | | | 1.09 | 31.72 | 49.98 | 0.97 |
| B. Waste-water Handling | | 586.75 | 30.95 | | | | | | | NA,NE,NO | NA,NE,NO | 3.83 | |
| C. Waste Incineration | [6] 4,284.12 | 30.35 | 1.05 | | | | | | | 32.34 | 603.14 | 34.25 | 15.78 |
| D. Other | NA,NO | 23.36 | 0.52 | | | | | | | 3.60 | 1.62 | 9.91 | 3.39 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **163,435.56** | **4.78** | **5.78** | | | | | | | **1,406.76** | **214.67** | **70.53** | **886.51** |
| Aviation | 61,383.15 | 1.16 | 1.63 | | | | | | | 226.18 | 106.77 | 24.75 | 15.92 |
| Marine | 102,052.41 | 3.61 | 4.16 | | | | | | | 1,180.58 | 107.91 | 45.78 | 870.59 |
| **Multilateral Operations** | **0.05** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **165,038.06** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 3 EU-15, 1992

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | 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** | | **3,050,511.63** | **20,284.77** | **1,212.41** | **1,416.05** | **29,146.12** | **175.53** | **13,217.35** | **2.49** | **0.51** | **13,071.81** | **48,264.61** | **14,831.53** | **13,700.66** |
| **1. Energy** | | **3,095,250.07** | **4,345.84** | **99.02** | | | | | | | **12,741.79** | **43,809.99** | **8,328.22** | **13,311.42** |
| A. Fuel Combustion | Reference Approach [2] | 3,065,906.90 | | | | | | | | | | | | |
| | Sectoral Approach [2] | 3,075,741.36 | 802.79 | 98.68 | | | | | | | 12,707.81 | 43,684.50 | 7,011.58 | 13,028.33 |
| 1. Energy Industries | | 1,120,285.80 | 40.01 | 30.78 | | | | | | | 2,639.28 | 473.64 | 55.91 | 8,908.64 |
| 2. Manufacturing Industries and Construction | | 566,427.70 | 55.54 | 21.24 | | | | | | | 1,730.26 | 3,426.24 | 130.12 | 2,275.39 |
| 3. Transport | | 726,429.87 | 194.74 | 23.27 | | | | | | | 6,903.97 | 30,620.79 | 5,460.04 | 757.51 |
| 4. Other Sectors | | 647,603.70 | 507.15 | 21.43 | | | | | | | 1,342.57 | 8,898.77 | 1,272.92 | 1,051.19 |
| 5. Other | | 14,994.30 | 5.34 | 1.97 | | | | | | | 91.72 | 265.07 | 92.59 | 35.60 |
| B. Fugitive Emissions from Fuels | | 19,508.71 | 3,543.05 | 0.34 | | | | | | | 33.98 | 125.49 | 1,316.65 | 283.10 |
| 1. Solid Fuels | | 1,655.39 | 2,010.95 | 0.01 | | | | | | | 2.15 | 60.83 | 12.80 | 22.44 |
| 2. Oil and Natural Gas | | 17,853.32 | 1,532.10 | 0.33 | | | | | | | 31.83 | 64.66 | 1,303.84 | 260.66 |
| **2. Industrial Processes** | | **197,034.71** | **34.37** | **313.25** | **1,416.05** | **29,146.12** | **175.53** | **13,217.35** | **2.49** | **0.51** | **146.46** | **2,548.92** | **763.81** | **365.29** |
| A. Mineral Products | | 102,894.83 | 0.88 | IE,NA,NE,NO | | | | | | | 28.52 | 17.46 | 104.04 | 57.05 |
| B. Chemical Industry | | 26,347.90 | 26.97 | 312.97 | NA,NE,NO | C,NA,NE,NO | NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | 83.77 | 153.89 | 364.64 | 186.71 |
| C. Metal Production | | 67,337.43 | 4.26 | 0.03 | | | | 9,677.89 | | 0.07 | 17.94 | 2,359.64 | 18.57 | 67.27 |
| D. Other Production [3] | | 54.42 | 0.26 | 0.23 | | | | | | | 15.18 | 12.67 | 246.05 | 51.67 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 28,370.10 | | 2,850.25 | | 0.08 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 1,416.05 | 776.03 | 175.53 | 689.21 | 2.49 | 0.34 | | | | |
| G. Other | | 400.13 | 2.00 | 0.02 | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | 0.01 | 1.05 | 5.25 | 30.51 | 2.60 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1992 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs [1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **9,081.10** | | **13.00** | | | | | | | NA,NO,NE | NA,NO,NE | **3,922.61** | NA,NO,NE |
| **4. Agriculture** | | **8,354.34** | **741.63** | | | | | | | **130.41** | **649.54** | **532.69** | **4.41** |
| A. Enteric Fermentation | | 6,172.55 | | | | | | | | | | | |
| B. Manure Management | | 2,081.85 | 75.67 | | | | | | | | | 281.83 | |
| C. Rice Cultivation | | 99.43 | | | | | | | | | | 0.08 | |
| D. Agricultural Soils [4] | | -30.45 | 665.32 | | | | | | | | | 170.62 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 30.95 | 0.64 | | | | | | | 23.27 | 649.54 | 79.25 | 4.41 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 107.14 | NA,NO | 0.91 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-255,448.49** | **82.81** | **12.78** | | | | | | | **19.83** | **693.00** | **1,187.82** | **0.46** |
| A. Forest Land | [5] -332,261.81 | 48.49 | 0.52 | | | | | | | 12.52 | 435.85 | 55.32 | |
| B. Cropland | [5] 68,911.69 | 11.49 | 11.90 | | | | | | | 2.85 | 100.50 | NA,NE,NO | |
| C. Grassland | [5] -14,532.30 | 12.12 | 0.08 | | | | | | | 3.01 | 105.93 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,823.86 | 5.21 | 0.21 | | | | | | | 0.07 | 2.49 | NA,NE,NO | |
| E. Settlements | [5] 17,681.91 | 5.23 | 0.03 | | | | | | | 1.30 | 45.75 | NA,NE,NO | |
| F. Other Land | [5] 1,514.32 | 0.28 | 0.00 | | | | | | | 0.07 | 2.49 | NA,NE,NO | |
| G. Other | [5] -586.16 | NA,NE,NO | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,132.50 | 0.46 |
| **6. Waste** | **4,594.23** | **7,467.42** | **32.73** | | | | | | | **33.32** | **563.16** | **96.38** | **19.09** |
| A. Solid Waste Disposal on Land | [6] 306.55 | 6,830.22 | 0.07 | | | | | | | 1.26 | 34.49 | 50.52 | 1.11 |
| B. Waste-water Handling | | 582.86 | 31.08 | | | | | | | NA,NE,NO | NA,NE,NO | 3.74 | |
| C. Waste Incineration | [6] 4,287.68 | 26.61 | 0.96 | | | | | | | 28.77 | 527.35 | 30.79 | 15.37 |
| D. Other | NA,NO | 27.73 | 0.61 | | | | | | | 3.29 | 1.32 | 11.33 | 2.61 |
| **7. Other** *(please specify)* [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1992 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **169,853.40** | **4.87** | **5.95** | | | | | | | **1,450.45** | **223.47** | **72.75** | **875.73** |
| Aviation | 66,806.43 | 1.22 | 1.79 | | | | | | | 249.36 | 114.45 | 26.44 | 18.60 |
| Marine | 103,046.97 | 3.65 | 4.16 | | | | | | | 1,201.09 | 109.02 | 46.31 | 857.13 |
| **Multilateral Operations** | **0.05** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **164,882.83** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 4 EU-15, 1993

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | $HFCS^{(1)}$ | | $PFCS^{(1)}$ | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | P | A | P | A | P | A | | | | |
| | | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Total National Emissions and Removals** | | **3,003,864.90** | **20,148.93** | **1,169.87** | **5,595.78** | **31,467.57** | **219.14** | **12,297.12** | **2.66** | **0.55** | **12,488.37** | **45,998.71** | **14,174.82** | **12,468.36** |
| **1. Energy** | | **3,048,182.61** | **4,284.06** | **99.43** | | | | | | | **12,190.66** | **41,846.49** | **7,832.00** | **12,118.76** |
| A. Fuel Combustion | Reference Approach [2] | 3,014,918.21 | | | | | | | | | | | | |
| | Sectoral Approach [2] | 3,027,913.76 | 777.80 | 99.07 | | | | | | | 12,145.31 | 41,727.18 | 6,622.20 | 11,810.33 |
| 1. Energy Industries | | 1,072,428.17 | 41.91 | 29.39 | | | | | | | 2,380.27 | 454.05 | 54.04 | 7,994.78 |
| 2. Manufacturing Industries and Construction | | 548,856.64 | 54.06 | 20.28 | | | | | | | 1,626.75 | 3,559.16 | 122.92 | 2,071.38 |
| 3. Transport | | 733,718.25 | 185.38 | 25.81 | | | | | | | 6,703.33 | 28,838.71 | 5,144.87 | 752.12 |
| 4. Other Sectors | | 659,148.42 | 492.71 | 21.62 | | | | | | | 1,348.61 | 8,646.61 | 1,237.56 | 968.03 |
| 5. Other | | 13,762.28 | 3.74 | 1.96 | | | | | | | 86.34 | 228.65 | 62.81 | 24.00 |
| B. Fugitive Emissions from Fuels | | 20,268.85 | 3,506.26 | 0.36 | | | | | | | 45.35 | 119.31 | 1,209.80 | 308.43 |
| 1. Solid Fuels | | 1,532.59 | 1,963.01 | 0.01 | | | | | | | 1.85 | 52.71 | 9.96 | 16.80 |
| 2. Oil and Natural Gas | | 18,736.27 | 1,543.25 | 0.35 | | | | | | | 43.50 | 66.60 | 1,199.84 | 291.63 |
| **2. Industrial Processes** | | **190,595.93** | **33.42** | **294.24** | **5,595.78** | **31,467.57** | **219.14** | **12,297.12** | **2.66** | **0.55** | **124.07** | **2,404.17** | **756.72** | **328.54** |
| A. Mineral Products | | 99,210.78 | 0.74 | IE,NA,NE,NO | | | | | | | 24.48 | 17.15 | 99.65 | 50.73 |
| B. Chemical Industry | | 25,512.18 | 25.86 | 293.96 | NA,NE,NO | C,NA,NE,NO | NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | 67.59 | 163.64 | 368.31 | 168.01 |
| C. Metal Production | | 65,484.57 | 4.61 | 0.03 | | | | 8,500.34 | | 0.08 | 15.85 | 2,206.03 | 18.11 | 60.33 |
| D. Other Production [3] | | 50.63 | 0.27 | 0.23 | | | | | | | 15.31 | 12.93 | 242.08 | 46.96 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 28,223.37 | | 3,019.00 | | 0.08 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 5,595.78 | 3,244.20 | 219.14 | 777.79 | 2.66 | 0.38 | | | | |
| G. Other | | 337.77 | 1.94 | 0.01 | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | 0.01 | 0.83 | 4.42 | 28.58 | 2.51 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1993 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs[1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,779.53** | | **12.75** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,799.47** | **NA,NO,NE** |
| **4. Agriculture** | | **8,356.28** | **717.72** | | | | | | | **120.77** | **497.39** | **520.72** | **4.57** |
| A. Enteric Fermentation | | 6,160.83 | | | | | | | | | | | |
| B. Manure Management | | 2,104.45 | 75.09 | | | | | | | | | 281.74 | |
| C. Rice Cultivation | | 97.56 | | | | | | | | | | 0.05 | |
| D. Agricultural Soils[4] | | -30.28 | 642.14 | | | | | | | | | 173.28 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 23.71 | 0.49 | | | | | | | 17.61 | 497.39 | 64.80 | 4.57 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 103.16 | NA,NO | 0.84 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-248,113.75** | **81.85** | **12.96** | | | | | | | **19.57** | **683.28** | **1,167.84** | **0.90** |
| A. Forest Land | [5] -328,266.12 | 48.05 | 0.49 | | | | | | | 12.42 | 431.65 | 55.97 | |
| B. Cropland | [5] 70,318.43 | 11.26 | 12.11 | | | | | | | 2.80 | 98.54 | NA,NE,NO | |
| C. Grassland | [5] -11,751.32 | 11.70 | 0.08 | | | | | | | 2.90 | 102.29 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,862.63 | 5.31 | 0.22 | | | | | | | 0.07 | 2.51 | NA,NE,NO | |
| E. Settlements | [5] 16,546.48 | 5.24 | 0.04 | | | | | | | 1.30 | 45.88 | NA,NE,NO | |
| F. Other Land | [5] 1,528.86 | 0.28 | 0.00 | | | | | | | 0.07 | 2.41 | NA,NE,NO | |
| G. Other | [5] -352.70 | NA,NE,NO | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,111.87 | 0.90 |
| **6. Waste** | **4,420.56** | **7,393.32** | **32.78** | | | | | | | **33.31** | **567.39** | **98.08** | **15.60** |
| A. Solid Waste Disposal on Land | [6] 296.21 | 6,757.42 | 0.07 | | | | | | | 1.22 | 33.57 | 50.25 | 1.08 |
| B. Waste-water Handling | | 577.72 | 31.03 | | | | | | | NA,NE,NO | NA,NE,NO | 3.91 | |
| C. Waste Incineration | [6] 4,124.35 | 26.39 | 0.98 | | | | | | | 29.10 | 532.81 | 31.17 | 12.69 |
| D. Other | NA,NO | 31.79 | 0.70 | | | | | | | 2.99 | 1.01 | 12.75 | 1.83 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1993 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | (Gg) | | | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **177,719.89** | **5.09** | **6.27** | | | | | | | **1,501.57** | **232.22** | **74.33** | **937.33** |
| Aviation | 70,838.06 | 1.21 | 1.90 | | | | | | | 265.89 | 121.52 | 27.43 | 18.62 |
| Marine | 106,881.83 | 3.88 | 4.37 | | | | | | | 1,235.68 | 110.70 | 46.91 | 918.71 |
| **Multilateral Operations** | **0.32** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **168,966.92** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 5 EU-15, 1994

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | 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** | | **2,995,174.32** | **19,700.79** | **1,192.06** | **9,823.35** | **35,725.21** | **282.51** | **11,574.92** | **2.83** | **0.60** | **12,173.18** | **43,462.44** | **13,459.74** | **11,254.75** |
| **1. Energy** | | **3,036,678.85** | **3,813.24** | **102.41** | | | | | | | **11,880.49** | **38,920.49** | **7,286.85** | **10,906.60** |
| A. Fuel Combustion | Reference Approach [2] | 3,006,600.63 | | | | | | | | | | | | |
| | Sectoral Approach [2] | 3,015,759.49 | 716.80 | 102.05 | | | | | | | 11,844.42 | 38,819.71 | 6,114.42 | 10,636.72 |
| 1. Energy Industries | | 1,080,342.17 | 47.02 | 29.60 | | | | | | | 2,286.67 | 495.61 | 55.57 | 7,196.78 |
| 2. Manufacturing Industries and Construction | | 559,689.60 | 56.01 | 20.64 | | | | | | | 1,631.44 | 3,704.26 | 125.18 | 1,890.25 |
| 3. Transport | | 737,226.02 | 175.41 | 29.15 | | | | | | | 6,523.66 | 26,631.31 | 4,774.28 | 721.07 |
| 4. Other Sectors | | 625,331.05 | 436.19 | 20.76 | | | | | | | 1,320.66 | 7,801.73 | 1,120.58 | 812.52 |
| 5. Other | | 13,170.65 | 2.18 | 1.90 | | | | | | | 81.99 | 186.80 | 38.81 | 16.11 |
| B. Fugitive Emissions from Fuels | | 20,919.36 | 3,096.44 | 0.36 | | | | | | | 36.08 | 100.78 | 1,172.44 | 269.87 |
| 1. Solid Fuels | | 1,838.30 | 1,590.44 | 0.01 | | | | | | | 1.92 | 49.61 | 8.65 | 15.55 |
| 2. Oil and Natural Gas | | 19,081.06 | 1,506.00 | 0.34 | | | | | | | 34.15 | 51.18 | 1,163.78 | 254.32 |
| **2. Industrial Processes** | | **202,902.62** | **35.67** | **307.92** | **9,823.35** | **35,725.21** | **282.51** | **11,574.92** | **2.83** | **0.60** | **121.23** | **2,707.47** | **756.22** | **330.12** |
| A. Mineral Products | | 104,472.08 | 0.83 | IE,NA,NE,NO | | | | | | | 22.72 | 17.68 | 101.45 | 52.52 |
| B. Chemical Industry | | 27,598.67 | 27.82 | 307.63 | NA,NE,NO | C,NA,NE,NO | NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | C,NA,NE,NO | 65.72 | 173.34 | 363.51 | 171.05 |
| C. Metal Production | | 70,449.74 | 4.77 | 0.04 | | | | 7,443.99 | | 0.08 | 16.55 | 2,500.64 | 18.64 | 63.63 |
| D. Other Production [3] | | 29.79 | 0.26 | 0.23 | | | | | | | 15.54 | 12.05 | 245.97 | 41.33 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 30,837.94 | | 3,327.66 | | 0.09 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 9,823.35 | 4,887.28 | 282.51 | 803.27 | 2.83 | 0.41 | | | | |
| G. Other | | 352.33 | 1.98 | 0.01 | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | 0.03 | 0.70 | 3.77 | 26.65 | 1.59 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1994 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs[1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,102.91** | | **12.40** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,559.73** | **NA,NO,NE** |
| **4. Agriculture** | | **8,369.80** | **722.54** | | | | | | | **117.96** | **489.35** | **519.55** | **4.44** |
| A. Enteric Fermentation | | 6,162.98 | | | | | | | | | | | |
| B. Manure Management | | 2,108.01 | 75.91 | | | | | | | | | 271.42 | |
| C. Rice Cultivation | | 106.07 | | | | | | | | | | 0.10 | |
| D. Agricultural Soils[4] | | -30.59 | 646.13 | | | | | | | | | 184.11 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 23.33 | 0.49 | | | | | | | 17.79 | 489.35 | 62.89 | 4.43 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 100.17 | NA,NO | 1.03 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-256,775.09** | **180.62** | **13.42** | | | | | | | **22.93** | **801.82** | **1,241.06** | **0.48** |
| A. Forest Land | [5] -337,341.19 | 63.38 | 0.62 | | | | | | | 16.21 | 565.25 | 57.61 | |
| B. Cropland | [5] 69,328.02 | 10.43 | 12.45 | | | | | | | 2.59 | 91.26 | NA,NE,NO | |
| C. Grassland | [5] -10,646.09 | 10.77 | 0.07 | | | | | | | 2.67 | 94.12 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,903.54 | 5.48 | 0.22 | | | | | | | 0.07 | 2.52 | NA,NE,NO | |
| E. Settlements | [5] 16,636.52 | 5.28 | 0.04 | | | | | | | 1.31 | 46.23 | NA,NE,NO | |
| F. Other Land | [5] 1,498.89 | 0.28 | 0.00 | | | | | | | 0.07 | 2.44 | NA,NE,NO | |
| G. Other | [5] -154.76 | 85.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,183.45 | 0.48 |
| **6. Waste** | **4,265.03** | **7,301.46** | **33.37** | | | | | | | **30.56** | **543.31** | **96.32** | **13.11** |
| A. Solid Waste Disposal on Land | [6] 239.97 | 6,662.65 | 0.06 | | | | | | | 0.99 | 28.76 | 49.13 | 0.87 |
| B. Waste-water Handling | | 576.48 | 31.48 | | | | | | | NA,NE,NO | NA,NE,NO | 3.59 | |
| C. Waste Incineration | [6] 4,025.06 | 24.13 | 0.94 | | | | | | | 26.89 | 513.84 | 30.30 | 11.14 |
| D. Other | NA,NO | 38.20 | 0.89 | | | | | | | 2.68 | 0.71 | 13.31 | 1.10 |
| **7. Other** *(please specify)* [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1994 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **178,350.05** | **4.98** | **6.43** | | | | | | | **1,504.60** | **242.41** | **74.88** | **907.47** |
| Aviation | 74,727.49 | 1.22 | 2.00 | | | | | | | 283.68 | 128.08 | 28.59 | 20.88 |
| Marine | 103,622.56 | 3.76 | 4.42 | | | | | | | 1,220.91 | 114.33 | 46.29 | 886.58 |
| **Multilateral Operations** | **0.32** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **168,681.14** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 6 EU-15, 1995

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | $HFCs^{(1)}$ | | $PFCs^{(1)}$ | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Total National Emissions and Removals** | **3,023,502.28** | **19,580.31** | **1,195.66** | **18,706.01** | **41,291.94** | **411.21** | **10,949.57** | **651.28** | **0.65** | **11,869.91** | **41,592.63** | **12,940.84** | **9,940.57** |
| **1. Energy** | **3,065,410.67** | **3,796.75** | **106.27** | | | | | | | **11,568.33** | **36,992.08** | **6,836.10** | **9,595.96** |
| A. Fuel Combustion — Reference Approach [2] | 3,044,692.44 | | | | | | | | | | | | |
| A. Fuel Combustion — Sectoral Approach [2] | 3,043,873.69 | 702.32 | 105.93 | | | | | | | 11,533.22 | 36,879.24 | 5,783.31 | 9,340.27 |
| 1. Energy Industries | 1,089,721.91 | 52.15 | 29.75 | | | | | | | 2,204.80 | 467.28 | 59.57 | 6,362.89 |
| 2. Manufacturing Industries and Construction | 559,977.93 | 54.94 | 20.82 | | | | | | | 1,588.57 | 3,648.79 | 125.04 | 1,677.45 |
| 3. Transport | 746,260.40 | 167.30 | 33.05 | | | | | | | 6,326.85 | 25,097.69 | 4,464.69 | 608.83 |
| 4. Other Sectors | 635,700.45 | 426.61 | 20.59 | | | | | | | 1,330.80 | 7,499.67 | 1,119.17 | 678.25 |
| 5. Other | 12,212.99 | 1.32 | 1.72 | | | | | | | 82.20 | 165.81 | 14.84 | 12.85 |
| B. Fugitive Emissions from Fuels | 21,536.98 | 3,094.43 | 0.34 | | | | | | | 35.11 | 112.84 | 1,052.79 | 255.69 |
| 1. Solid Fuels | 1,866.46 | 1,650.58 | 0.01 | | | | | | | 1.80 | 49.54 | 8.28 | 11.98 |
| 2. Oil and Natural Gas | 19,670.52 | 1,443.85 | 0.33 | | | | | | | 33.31 | 63.30 | 1,044.51 | 243.71 |
| **2. Industrial Processes** | **208,515.81** | **33.77** | **303.88** | **18,706.01** | **41,291.94** | **411.21** | **10,949.57** | **651.28** | **0.65** | **129.68** | **2,876.75** | **697.84** | **328.41** |
| A. Mineral Products | 108,312.10 | 0.84 | IE,NA,NE,NO | | | | | | | 33.08 | 17.40 | 105.81 | 53.63 |
| B. Chemical Industry | 28,983.19 | 25.85 | 303.59 | NA,NO | C,NA,NO | NA,NO | C,NA,NO | C,NA,NO | C,NA,NO | 63.73 | 179.58 | 309.82 | 189.18 |
| C. Metal Production | 70,880.01 | 4.80 | 0.03 | | | | 7,059.71 | | 0.08 | 16.57 | 2,664.20 | 18.49 | 47.87 |
| D. Other Production [3] | 22.80 | 0.27 | 0.23 | | | | | | | 15.91 | 12.82 | 239.01 | 37.41 |
| E. Production of Halocarbons and $SF_6$ | | | | | 32,864.47 | | 2,814.47 | | 0.10 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | 18,706.01 | 8,427.46 | 411.21 | 1,075.39 | 651.28 | 0.44 | | | | |
| G. Other | 317.71 | 2.01 | 0.02 | NA,NE,NO | NA,NO | NA,NO | NA,NO | NA,NO | 0.03 | 0.39 | 2.76 | 24.71 | 0.31 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1995 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs [1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,214.70** | | **12.25** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,533.27** | **NA,NO,NE** |
| **4. Agriculture** | | **8,404.56** | **727.14** | | | | | | | **121.54** | **469.63** | **518.85** | **4.26** |
| A. Enteric Fermentation | | 6,180.54 | | | | | | | | | | | |
| B. Manure Management | | 2,128.61 | 76.35 | | | | | | | | | 270.82 | |
| C. Rice Cultivation | | 103.65 | | | | | | | | | | 0.09 | |
| D. Agricultural Soils [4] | | -30.63 | 650.31 | | | | | | | | | 186.47 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 22.39 | 0.48 | | | | | | | 17.18 | 469.63 | 60.44 | 4.26 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 104.36 | NA,NO | 1.04 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-262,552.65** | **177.68** | **12.97** | | | | | | | **20.04** | **697.77** | **1,260.43** | **0.39** |
| A. Forest Land | [5] -344,241.78 | 50.42 | 0.52 | | | | | | | 13.34 | 461.72 | 60.33 | |
| B. Cropland | [5] 71,050.08 | 10.49 | 12.08 | | | | | | | 2.61 | 91.75 | NA,NE,NO | |
| C. Grassland | [5] -10,742.52 | 10.67 | 0.07 | | | | | | | 2.65 | 93.27 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,919.24 | 5.57 | 0.23 | | | | | | | 0.07 | 2.52 | NA,NE,NO | |
| E. Settlements | [5] 16,526.52 | 5.27 | 0.04 | | | | | | | 1.31 | 46.13 | NA,NE,NO | |
| F. Other Land | [5] 1,402.07 | 0.27 | 0.00 | | | | | | | 0.07 | 2.39 | NA,NE,NO | |
| G. Other | [5] -466.25 | 95.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,200.10 | 0.39 |
| **6. Waste** | **3,913.75** | **7,167.54** | **33.15** | | | | | | | **30.31** | **556.40** | **94.34** | **11.56** |
| A. Solid Waste Disposal on Land | [6] 99.89 | 6,523.42 | 0.02 | | | | | | | 0.42 | 17.45 | 45.70 | 0.36 |
| B. Waste-water Handling | | 574.75 | 31.06 | | | | | | | 0.00 | 0.00 | 3.57 | |
| C. Waste Incineration | [6] 3,813.86 | 24.94 | 0.96 | | | | | | | 27.52 | 538.54 | 31.20 | 10.93 |
| D. Other | NA,NO | 44.44 | 1.10 | | | | | | | 2.38 | 0.40 | 13.87 | 0.26 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

**Note:** All footnotes for this table are given at the end of the table on sheet 3.

EU-15, 1995 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | (Gg) | | | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **184,216.73** | **5.20** | **6.37** | | | | | | | **1,568.39** | **252.21** | **77.94** | **925.99** |
| Aviation | 79,044.74 | 1.29 | 2.10 | | | | | | | 298.75 | 132.10 | 29.75 | 17.60 |
| Marine | 105,171.98 | 3.91 | 4.27 | | | | | | | 1,269.64 | 120.11 | 48.19 | 908.38 |
| **Multilateral Operations** | **0.32** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **171,849.07** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 7 EU-15, 1996

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | $HFCs^{(1)}$ | | $PFCs^{(1)}$ | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | P | A | P | A | P | A | | | | |
| | | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Total National Emissions and Removals** | | **3,080,030.21** | **19,319.09** | **1,211.11** | **29,126.07** | **47,133.43** | **574.98** | **10,504.33** | **673.80** | **0.64** | **11,610.25** | **40,007.85** | **12,440.82** | **8,913.93** |
| **1. Energy** | | **3,152,056.35** | **3,675.55** | **107.29** | | | | | | | **11,332.63** | **35,907.69** | **6,550.91** | **8,631.57** |
| A. Fuel Combustion | Reference Approach [2] | 3,140,972.95 | | | | | | | | | | | | |
| | Sectoral Approach [2] | 3,130,207.86 | 723.13 | 106.94 | | | | | | | 11,300.70 | 35,789.01 | 5,562.18 | 8,382.46 |
| 1. Energy Industries | | 1,105,023.46 | 57.61 | 30.88 | | | | | | | 2,141.34 | 464.16 | 60.24 | 5,700.17 |
| 2. Manufacturing Industries and Construction | | 551,654.04 | 54.98 | 20.14 | | | | | | | 1,508.16 | 3,553.72 | 123.99 | 1,465.86 |
| 3. Transport | | 762,985.53 | 161.70 | 32.72 | | | | | | | 6,205.79 | 24,008.80 | 4,216.33 | 529.92 |
| 4. Other Sectors | | 699,592.42 | 447.89 | 21.52 | | | | | | | 1,375.50 | 7,622.10 | 1,150.02 | 674.56 |
| 5. Other | | 10,952.42 | 0.96 | 1.69 | | | | | | | 69.91 | 140.23 | 11.60 | 11.94 |
| B. Fugitive Emissions from Fuels | | 21,848.49 | 2,952.42 | 0.35 | | | | | | | 31.93 | 118.69 | 988.73 | 249.11 |
| 1. Solid Fuels | | 1,986.71 | 1,524.39 | 0.01 | | | | | | | 1.76 | 48.86 | 8.06 | 12.60 |
| 2. Oil and Natural Gas | | 19,861.78 | 1,428.03 | 0.34 | | | | | | | 30.17 | 69.83 | 980.66 | 236.51 |
| **2. Industrial Processes** | | **199,417.13** | **32.55** | **308.82** | **29,126.07** | **47,133.43** | **574.98** | **10,504.33** | **673.80** | **0.64** | **107.61** | **2,466.68** | **673.00** | **268.25** |
| A. Mineral Products | | 104,306.38 | 0.78 | IE,NA,NE,NO | | | | | | | 30.48 | 17.48 | 104.64 | 56.52 |
| B. Chemical Industry | | 28,850.16 | 25.04 | 308.54 | NA,NO | C,NA,NO | NA,NO | C,NA,NO | C,NA,NO | C,NA,NO | 44.66 | 178.15 | 290.50 | 125.30 |
| C. Metal Production | | 65,885.93 | 4.50 | 0.04 | | | | 6,674.07 | | 0.09 | 16.47 | 2,256.29 | 16.75 | 49.10 |
| D. Other Production [3] | | 49.75 | 0.26 | 0.23 | | | | | | | 15.69 | 12.77 | 242.23 | 37.03 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 34,073.46 | | 2,573.63 | | 0.09 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 29,126.07 | 13,059.97 | 574.98 | 1,256.62 | 673.80 | 0.43 | | | | |
| G. Other | | 324.91 | 1.96 | 0.02 | NA,NE,NO | NA,NO | NA,NE,NO | NA,NE,NO | NA,NE,NO | 0.03 | 0.31 | 1.98 | 18.88 | 0.29 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1996 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs[1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,214.70** | | **12.25** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,533.27** | **NA,NO,NE** |
| **4. Agriculture** | | **8,404.56** | **727.14** | | | | | | | **121.54** | **469.63** | **518.85** | **4.26** |
| A. Enteric Fermentation | | 6,180.54 | | | | | | | | | | | |
| B. Manure Management | | 2,128.61 | 76.35 | | | | | | | | | 270.82 | |
| C. Rice Cultivation | | 103.65 | | | | | | | | | | 0.09 | |
| D. Agricultural Soils[4] | | -30.63 | 650.31 | | | | | | | | | 186.47 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 22.39 | 0.48 | | | | | | | 17.18 | 469.63 | 60.44 | 4.26 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 104.36 | NA,NO | 1.04 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-262,552.65** | **177.68** | **12.97** | | | | | | | **20.04** | **697.77** | **1,260.43** | **0.39** |
| A. Forest Land | [5] -344,241.78 | 50.42 | 0.52 | | | | | | | 13.34 | 461.72 | 60.33 | |
| B. Cropland | [5] 71,050.08 | 10.49 | 12.08 | | | | | | | 2.61 | 91.75 | NA,NE,NO | |
| C. Grassland | [5] -10,742.52 | 10.67 | 0.07 | | | | | | | 2.65 | 93.27 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,919.24 | 5.57 | 0.23 | | | | | | | 0.07 | 2.52 | NA,NE,NO | |
| E. Settlements | [5] 16,526.52 | 5.27 | 0.04 | | | | | | | 1.31 | 46.13 | NA,NE,NO | |
| F. Other Land | [5] 1,402.07 | 0.27 | 0.00 | | | | | | | 0.07 | 2.39 | NA,NE,NO | |
| G. Other | [5] -466.25 | 95.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,200.10 | 0.39 |
| **6. Waste** | **3,913.75** | **7,167.54** | **33.15** | | | | | | | **30.31** | **556.40** | **94.34** | **11.56** |
| A. Solid Waste Disposal on Land | [6] 99.89 | 6,523.42 | 0.02 | | | | | | | 0.42 | 17.45 | 45.70 | 0.36 |
| B. Waste-water Handling | | 574.75 | 31.06 | | | | | | | 0.00 | 0.00 | 3.57 | |
| C. Waste Incineration | [6] 3,813.86 | 24.94 | 0.96 | | | | | | | 27.52 | 538.54 | 31.20 | 10.93 |
| D. Other | NA,NO | 44.44 | 1.10 | | | | | | | 2.38 | 0.40 | 13.87 | 0.26 |
| **7. Other *(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1996 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs [1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,158.10** | | **12.49** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,493.39** | **NA,NO,NE** |
| **4. Agriculture** | | **8,470.47** | **736.92** | | | | | | | **125.52** | **501.22** | **499.16** | **4.57** |
| A. Enteric Fermentation | | 6,231.82 | | | | | | | | | | | |
| B. Manure Management | | 2,133.24 | 76.80 | | | | | | | | | 272.61 | |
| C. Rice Cultivation | | 112.13 | | | | | | | | | | 0.11 | |
| D. Agricultural Soils [4] | | -30.61 | 659.61 | | | | | | | | | 160.90 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 23.89 | 0.51 | | | | | | | 18.51 | 501.22 | 64.72 | 4.57 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 107.01 | NA,NO | 0.82 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-283,407.33** | **162.01** | **12.13** | | | | | | | **17.11** | **595.68** | **1,132.17** | **0.32** |
| A. Forest Land | [5] -362,947.98 | 38.46 | 0.43 | | | | | | | 10.14 | 350.01 | 46.18 | |
| B. Cropland | [5] 70,348.09 | 10.88 | 11.33 | | | | | | | 2.70 | 95.19 | NA,NE,NO | |
| C. Grassland | [5] -13,043.88 | 11.29 | 0.08 | | | | | | | 2.80 | 98.68 | IE,NA,NE,NO | |
| D. Wetlands | [5] 3,968.59 | 5.75 | 0.23 | | | | | | | 0.07 | 2.53 | NA,NE,NO | |
| E. Settlements | [5] 17,697.43 | 5.35 | 0.04 | | | | | | | 1.33 | 46.85 | NA,NE,NO | |
| F. Other Land | [5] 1,341.34 | 0.28 | 0.00 | | | | | | | 0.07 | 2.41 | NA,NE,NO | |
| G. Other | [5] -770.92 | 90.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,085.99 | 0.32 |
| **6. Waste** | **3,805.95** | **6,978.51** | **33.45** | | | | | | | **27.38** | **536.58** | **92.19** | **9.22** |
| A. Solid Waste Disposal on Land | [6] 67.18 | 6,343.05 | 0.02 | | | | | | | 0.28 | 14.45 | 44.46 | 0.24 |
| B. Waste-water Handling | | 561.29 | 31.20 | | | | | | | 0.00 | 0.00 | 3.47 | |
| C. Waste Incineration | [6] 3,738.77 | 24.13 | 0.91 | | | | | | | 25.49 | 521.86 | 29.97 | 8.66 |
| D. Other | NA,NO | 50.04 | 1.33 | | | | | | | 1.60 | 0.27 | 14.30 | 0.31 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

A 8 EU-15, 1997

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | 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** | | **3,024,636.30** | **18,783.44** | **1,207.22** | **40,854.94** | **53,170.98** | **825.39** | **9,515.42** | **698.28** | **0.57** | **11,208.85** | **38,061.73** | **12,230.39** | **8,162.51** |
| **1. Energy** | | **3,087,989.73** | **3,526.02** | **106.94** | | | | | | | **10,930.33** | **33,604.73** | **6,161.21** | **7,874.28** |
| A. Fuel Combustion | Reference Approach [2] | 3,074,000.32 | | | | | | | | | | | | |
| | Sectoral Approach [2] | 3,067,209.26 | 684.79 | 106.60 | | | | | | | 10,905.93 | 33,511.86 | 5,174.94 | 7,629.79 |
| 1. Energy Industries | | 1,069,829.58 | 56.95 | 29.37 | | | | | | | 1,968.61 | 397.88 | 54.99 | 5,175.46 |
| 2. Manufacturing Industries and Construction | | 561,892.07 | 56.89 | 20.60 | | | | | | | 1,516.12 | 3,623.91 | 123.81 | 1,467.06 |
| 3. Transport | | 772,039.33 | 150.98 | 34.25 | | | | | | | 6,014.40 | 22,087.70 | 3,917.06 | 375.41 |
| 4. Other Sectors | | 652,907.95 | 419.11 | 20.72 | | | | | | | 1,335.03 | 7,276.45 | 1,067.74 | 600.23 |
| 5. Other | | 10,540.32 | 0.86 | 1.67 | | | | | | | 71.78 | 125.92 | 11.34 | 11.63 |
| B. Fugitive Emissions from Fuels | | 20,780.47 | 2,841.23 | 0.34 | | | | | | | 24.39 | 92.88 | 986.27 | 244.49 |
| 1. Solid Fuels | | 1,864.97 | 1,469.01 | 0.01 | | | | | | | 1.58 | 48.79 | 7.95 | 12.51 |
| 2. Oil and Natural Gas | | 18,915.51 | 1,372.22 | 0.33 | | | | | | | 22.82 | 44.09 | 978.32 | 231.98 |
| **2. Industrial Processes** | | **208,506.35** | **31.56** | **298.52** | **40,854.94** | **53,170.98** | **825.39** | **9,515.42** | **698.28** | **0.57** | **108.91** | **2,669.02** | **661.69** | **275.57** |
| A. Mineral Products | | 107,331.62 | 0.79 | IE,NA,NE,NO | | | | | | | 30.01 | 15.92 | 105.35 | 54.36 |
| B. Chemical Industry | | 29,087.11 | 23.82 | 298.22 | NA,NO | C,NA,NO | NA,NO | C,NA,NO | C,NA,NO | C,NA,NO | 44.60 | 175.55 | 272.77 | 126.23 |
| C. Metal Production | | 71,740.35 | 4.71 | 0.04 | | | | 6,484.86 | | 0.08 | 17.34 | 2,460.48 | 18.83 | 53.20 |
| D. Other Production [3] | | 48.70 | 0.28 | 0.25 | | | | | | | 16.62 | 13.59 | 246.16 | 34.21 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 36,630.01 | | 1,552.01 | | 0.03 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 40,854.94 | 16,540.97 | 825.39 | 1,478.54 | 698.28 | 0.43 | | | | |
| G. Other | | 298.57 | 1.96 | 0.02 | NA,NE,NO | NA,NO | NA,NO | NA,NO | NA,NO | 0.03 | 0.34 | 3.48 | 18.57 | 7.57 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1997 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs[1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,289.87** | | **12.26** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,524.14** | **NA,NO,NE** |
| **4. Agriculture** | | **8,430.47** | **743.33** | | | | | | | **124.96** | **545.49** | **516.29** | **5.06** |
| A. Enteric Fermentation | | 6,163.29 | | | | | | | | | | | |
| B. Manure Management | | 2,157.95 | 77.04 | | | | | | | | | 269.90 | |
| C. Rice Cultivation | | 113.83 | | | | | | | | | | 0.11 | |
| D. Agricultural Soils[4] | | -30.59 | 665.77 | | | | | | | | | 174.18 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 26.00 | 0.53 | | | | | | | 19.17 | 545.49 | 71.14 | 5.06 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 105.78 | NA,NO | 0.95 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-283,396.37** | **152.81** | **12.21** | | | | | | | **18.58** | **645.03** | **1,273.34** | **0.65** |
| A. Forest Land | [5] -363,644.13 | 44.98 | 0.49 | | | | | | | 11.83 | 407.18 | 55.20 | |
| B. Cropland | [5] 69,846.09 | 10.36 | 11.35 | | | | | | | 2.57 | 90.63 | NA,NE,NO | |
| C. Grassland | [5] -9,381.61 | 10.84 | 0.07 | | | | | | | 2.69 | 94.70 | IE,NA,NE,NO | |
| D. Wetlands | [5] 4,007.50 | 5.93 | 0.24 | | | | | | | 0.07 | 2.53 | NA,NE,NO | |
| E. Settlements | [5] 16,490.72 | 5.43 | 0.04 | | | | | | | 1.35 | 47.55 | NA,NE,NO | |
| F. Other Land | [5] 1,320.58 | 0.28 | 0.00 | | | | | | | 0.07 | 2.45 | NA,NE,NO | |
| G. Other | [5] -2,035.51 | 75.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,218.15 | 0.65 |
| **6. Waste** | **3,246.71** | **6,642.57** | **33.95** | | | | | | | **26.07** | **597.46** | **93.72** | **6.94** |
| A. Solid Waste Disposal on Land | [6] 54.30 | 6,006.50 | 0.01 | | | | | | | 0.23 | 13.05 | 42.24 | 0.20 |
| B. Waste-water Handling | | 559.86 | 31.70 | | | | | | | NA,NE,NO | NA,NE,NO | 3.87 | |
| C. Waste Incineration | [6] 3,192.41 | 23.17 | 0.91 | | | | | | | 25.01 | 584.27 | 32.83 | 6.12 |
| D. Other | NA,NO | 53.04 | 1.32 | | | | | | | 0.83 | 0.14 | 14.77 | 0.62 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1997 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **210,171.35** | **5.60** | **7.68** | | | | | | | **1,810.96** | **271.67** | **89.21** | **1,071.04** |
| Aviation | 88,063.35 | 1.39 | 2.34 | | | | | | | 336.00 | 144.45 | 31.81 | 20.98 |
| Marine | 122,108.00 | 4.21 | 5.34 | | | | | | | 1,474.96 | 127.22 | 57.40 | 1,050.06 |
| **Multilateral Operations** | **0.32** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **187,689.90** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 9 EU-15, 1998

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | 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** | | **3,076,549.42** | **18,324.97** | **1,142.68** | **57,947.67** | **54,095.09** | **912.57** | **8,865.11** | **721.81** | **0.54** | **11,038.53** | **36,409.74** | **11,806.39** | **7,622.77** |
| **1. Energy** | | **3,134,491.30** | **3,320.08** | **108.99** | | | | | | | **10,726.44** | **32,032.59** | **5,822.10** | **7,337.47** |
| A. Fuel Combustion | Reference Approach[2] | 3,134,284.36 | | | | | | | | | | | | |
| | Sectoral Approach[2] | 3,114,636.66 | 671.28 | 108.66 | | | | | | | 10,700.00 | 31,940.90 | 4,901.41 | 7,083.54 |
| 1. Energy Industries | | 1,103,456.70 | 59.77 | 30.43 | | | | | | | 1,891.96 | 424.73 | 53.79 | 4,899.15 |
| 2. Manufacturing Industries and Construction | | 551,497.47 | 56.83 | 20.23 | | | | | | | 1,470.52 | 3,567.54 | 124.77 | 1,245.30 |
| 3. Transport | | 795,915.03 | 143.89 | 35.90 | | | | | | | 5,942.13 | 20,771.64 | 3,658.61 | 384.60 |
| 4. Other Sectors | | 653,616.45 | 409.93 | 20.55 | | | | | | | 1,333.69 | 7,056.17 | 1,053.60 | 545.11 |
| 5. Other | | 10,151.01 | 0.85 | 1.55 | | | | | | | 61.71 | 120.82 | 10.63 | 9.38 |
| B. Fugitive Emissions from Fuels | | 19,854.64 | 2,648.80 | 0.33 | | | | | | | 26.44 | 91.69 | 920.69 | 253.93 |
| 1. Solid Fuels | | 1,512.38 | 1,279.37 | 0.01 | | | | | | | 1.45 | 48.16 | 7.62 | 10.53 |
| 2. Oil and Natural Gas | | 18,342.26 | 1,369.43 | 0.32 | | | | | | | 24.98 | 43.52 | 913.07 | 243.40 |
| **2. Industrial Processes** | | **209,351.61** | **29.80** | **230.94** | **57,947.67** | **54,095.09** | **912.57** | **8,865.11** | **721.81** | **0.54** | **142.37** | **2,588.06** | **647.96** | **273.44** |
| A. Mineral Products | | 109,462.59 | 0.80 | IE,NA,NE,NO | | | | | | | 68.26 | 14.56 | 112.44 | 58.15 |
| B. Chemical Industry | | 30,216.56 | 22.24 | 230.65 | NA,NO | C,NA,NO | NA,NO | C,NA,NO | C,NA,NO | C,NA,NO | 40.78 | 161.64 | 247.68 | 133.39 |
| C. Metal Production | | 69,320.41 | 4.62 | 0.03 | | | | 6,429.82 | | 0.09 | 17.07 | 2,396.29 | 20.40 | 50.69 |
| D. Other Production[3] | | 41.69 | 0.27 | 0.24 | | | | | | | 16.11 | 13.42 | 244.54 | 30.95 |
| E. Production of Halocarbons and $SF_6$ | | | | | | 33,375.69 | | 1,033.84 | | 0.01 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | | 57,947.67 | 20,719.39 | 912.57 | 1,401.45 | 721.81 | 0.41 | | | | |
| G. Other | | 310.37 | 1.86 | 0.02 | NA,NE,NO | NA,NO | NA,NO | NA,NO | NA,NO | 0.03 | 0.15 | 2.15 | 22.91 | 0.26 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1998 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs[1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,420.66** | | **12.41** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,559.32** | **NA,NO,NE** |
| **4. Agriculture** | | **8,438.12** | **742.72** | | | | | | | **125.44** | **484.16** | **502.13** | **4.43** |
| A. Enteric Fermentation | | 6,152.96 | | | | | | | | | | | |
| B. Manure Management | | 2,183.61 | 77.58 | | | | | | | | | 271.30 | |
| C. Rice Cultivation | | 109.13 | | | | | | | | | | 0.11 | |
| D. Agricultural Soils[4] | | -30.66 | 664.65 | | | | | | | | | 166.99 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 23.07 | 0.49 | | | | | | | 17.53 | 484.16 | 62.86 | 4.43 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 107.91 | NA,NO | 0.87 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-278,782.98** | **151.07** | **13.34** | | | | | | | **20.73** | **721.77** | **1,183.62** | **0.67** |
| A. Forest Land | [5] -360,665.58 | 52.49 | 0.54 | | | | | | | 13.82 | 478.62 | 55.40 | |
| B. Cropland | [5] 70,196.37 | 10.61 | 12.41 | | | | | | | 2.64 | 92.82 | NA,NE,NO | |
| C. Grassland | [5] -8,308.23 | 11.18 | 0.08 | | | | | | | 2.78 | 97.79 | IE,NA,NE,NO | |
| D. Wetlands | [5] 4,033.45 | 6.09 | 0.25 | | | | | | | 0.07 | 2.62 | NA,NE,NO | |
| E. Settlements | [5] 16,717.64 | 5.51 | 0.04 | | | | | | | 1.37 | 48.25 | NA,NE,NO | |
| F. Other Land | [5] 1,100.88 | 0.19 | 0.00 | | | | | | | 0.05 | 1.67 | NA,NE,NO | |
| G. Other | [5] -1,857.50 | 65.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,128.22 | 0.67 |
| **6. Waste** | **3,068.82** | **6,385.90** | **34.28** | | | | | | | **23.54** | **583.16** | **91.25** | **6.75** |
| A. Solid Waste Disposal on Land | [6] 48.65 | 5,753.97 | 0.01 | | | | | | | 0.21 | 12.30 | 40.98 | 0.18 |
| B. Waste-water Handling | | 555.83 | 31.79 | | | | | | | 0.00 | 0.00 | 3.56 | |
| C. Waste Incineration | [6] 3,020.17 | 22.29 | 0.95 | | | | | | | 23.28 | 570.84 | 31.90 | 6.04 |
| D. Other | NA,NO | 53.82 | 1.52 | | | | | | | 0.06 | 0.01 | 14.81 | 0.53 |
| **7. Other** ***(please specify)*** [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1998 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **222,957.51** | **5.92** | **8.14** | | | | | | | **1,938.91** | **289.11** | **95.70** | **1,166.90** |
| Aviation | 95,093.00 | 1.45 | 2.53 | | | | | | | 365.51 | 154.60 | 33.96 | 22.83 |
| Marine | 127,864.51 | 4.47 | 5.61 | | | | | | | 1,573.40 | 134.51 | 61.73 | 1,144.07 |
| **Multilateral Operations** | **0.32** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **190,773.64** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

A 10 EU-15, 1999

Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | 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** | **3,036,911.33** | **17,912.83** | **1,076.77** | **72,436.41** | **47,113.67** | **1,342.32** | **8,682.74** | **868.13** | **0.45** | **10,761.01** | **34,027.62** | **11,332.97** | **6,756.04** |
| **1. Energy** | **3,110,912.14** | **3,242.99** | **109.01** | | | | | | | **10,453.15** | **29,921.67** | **5,381.03** | **6,485.12** |
| A. Fuel Combustion — Reference Approach[2] | 3,085,770.29 | | | | | | | | | | | | |
| Sectoral Approach[2] | 3,092,550.45 | 649.66 | 108.61 | | | | | | | 10,428.15 | 29,847.58 | 4,536.84 | 6,267.10 |
| 1. Energy Industries | 1,082,585.79 | 58.64 | 29.16 | | | | | | | 1,791.72 | 421.68 | 54.34 | 4,318.36 |
| 2. Manufacturing Industries and Construction | 546,546.54 | 55.92 | 20.04 | | | | | | | 1,448.75 | 3,431.34 | 124.84 | 1,097.16 |
| 3. Transport | 815,321.31 | 132.94 | 37.35 | | | | | | | 5,792.45 | 18,975.89 | 3,331.92 | 359.04 |
| 4. Other Sectors | 638,513.01 | 401.36 | 20.58 | | | | | | | 1,334.88 | 6,896.36 | 1,016.08 | 483.03 |
| 5. Other | 9,583.80 | 0.80 | 1.48 | | | | | | | 60.36 | 122.30 | 9.67 | 9.50 |
| B. Fugitive Emissions from Fuels | 18,361.69 | 2,593.33 | 0.40 | | | | | | | 25.00 | 74.09 | 844.19 | 218.01 |
| 1. Solid Fuels | 1,434.72 | 1,274.74 | 0.01 | | | | | | | 1.36 | 39.20 | 7.12 | 9.00 |
| 2. Oil and Natural Gas | 16,926.97 | 1,318.59 | 0.39 | | | | | | | 23.63 | 34.90 | 837.07 | 209.01 |
| **2. Industrial Processes** | **205,895.57** | **28.98** | **168.47** | **72,436.41** | **47,113.67** | **1,342.32** | **8,682.74** | **868.13** | **0.45** | **136.95** | **2,442.40** | **603.21** | **260.82** |
| A. Mineral Products | 110,692.89 | 0.66 | IE,NA,NE,NO | | | | | | | 65.61 | 12.81 | 110.66 | 56.18 |
| B. Chemical Industry | 29,040.24 | 21.54 | 168.17 | NA,NO | C,NA,NO | NA,NO | C,NA,NO | C,NA,NO | C,NA,NO | 38.05 | 154.17 | 209.96 | 114.06 |
| C. Metal Production | 65,800.49 | 4.61 | 0.03 | | | | 6,246.71 | | 0.09 | 16.63 | 2,258.72 | 19.45 | 52.03 |
| D. Other Production[3] | 51.79 | 0.28 | 0.24 | | | | | | | 16.34 | 13.34 | 245.53 | 28.04 |
| E. Production of Halocarbons and $SF_6$ | | | | | 23,062.36 | | 697.89 | | 0.01 | | | | |
| F. Consumption of Halocarbons and $SF_6$ | | | | 72,436.41 | 24,051.30 | 1,342.32 | 1,738.14 | 868.13 | 0.32 | | | | |
| G. Other | 310.16 | 1.89 | 0,03 | NA,NE,NO | NA,NO | NA,NO | NA,NO | NA,NO | 0.03 | 0.33 | 3.35 | 17.60 | 10,52 |

**Note:** **A** = Actual emissions based on Tier 2 approach of the IPCC Guidelines.
**P** = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 1999 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 2 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs [1] | | PFCs [1] | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | | | (Gg) | | | |
| **3. Solvent and Other Product Use** | **8,420.66** | | **12.41** | | | | | | | **NA,NO,NE** | **NA,NO,NE** | **3,559.32** | **NA,NO,NE** |
| **4. Agriculture** | | **8,438.12** | **742.72** | | | | | | | **125.44** | **484.16** | **502.13** | **4.43** |
| A. Enteric Fermentation | | 6,152.96 | | | | | | | | | | | |
| B. Manure Management | | 2,183.61 | 77.58 | | | | | | | | | 271.30 | |
| C. Rice Cultivation | | 109.13 | | | | | | | | | | 0.11 | |
| D. Agricultural Soils [4] | | -30.66 | 664.65 | | | | | | | | | 166.99 | |
| E. Prescribed Burning of Savannas | | NA,NE,NO | NA,NE,NO | | | | | | | NO,NE | NO,NE | NO,NE | |
| F. Field Burning of Agricultural Residues | | 23.07 | 0.49 | | | | | | | 17.53 | 484.16 | 62.86 | 4.43 |
| G. Other | | NA,NO | NA,NE,NO | | | | | | | 107.91 | NA,NO | 0.87 | 0.00 |
| **5. Land Use, Land-Use Change and Forestry** | [5] **-278,782.98** | **151.07** | **13.34** | | | | | | | **20.73** | **721.77** | **1,183.62** | **0.67** |
| A. Forest Land | [5] -360,665.58 | 52.49 | 0.54 | | | | | | | 13.82 | 478.62 | 55.40 | |
| B. Cropland | [5] 70,196.37 | 10.61 | 12.41 | | | | | | | 2.64 | 92.82 | NA,NE,NO | |
| C. Grassland | [5] -8,308.23 | 11.18 | 0.08 | | | | | | | 2.78 | 97.79 | IE,NA,NE,NO | |
| D. Wetlands | [5] 4,033.45 | 6.09 | 0.25 | | | | | | | 0.07 | 2.62 | NA,NE,NO | |
| E. Settlements | [5] 16,717.64 | 5.51 | 0.04 | | | | | | | 1.37 | 48.25 | NA,NE,NO | |
| F. Other Land | [5] 1,100.88 | 0.19 | 0.00 | | | | | | | 0.05 | 1.67 | NA,NE,NO | |
| G. Other | [5] -1,857.50 | 65.00 | 0.02 | | | | | | | NA,NE,NO | NA,NE,NO | 1,128.22 | 0.67 |
| **6. Waste** | **3,068.82** | **6,385.90** | **34.28** | | | | | | | **23.54** | **583.16** | **91.25** | **6.75** |
| A. Solid Waste Disposal on Land | [6] 48.65 | 5,753.97 | 0.01 | | | | | | | 0.21 | 12.30 | 40.98 | 0.18 |
| B. Waste-water Handling | | 555.83 | 31.79 | | | | | | | 0.00 | 0.00 | 3.56 | |
| C. Waste Incineration | [6] 3,020.17 | 22.29 | 0.95 | | | | | | | 23.28 | 570.84 | 31.90 | 6.04 |
| D. Other | NA,NO | 53.82 | 1.52 | | | | | | | 0.06 | 0.01 | 14.81 | 0.53 |
| **7. Other** *(please specify)* [7] | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** | **NA,NO** |
| Other non-specified | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO | NA,NO |

EU-15, 1999 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 3 of 3)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES | Net $CO_2$ emissions/removals | $CH_4$ | $N_2O$ | HFCs | | PFCs | | $SF_6$ | | $NO_x$ | CO | NMVOC | $SO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | A | P | A | P | A | | | | |
| | (Gg) | | | $CO_2$ equivalent (Gg) | | | | (Gg) | | | | | |
| **Memo Items:** [8] | | | | | | | | | | | | | |
| **International Bunkers** | **222,957.51** | **5.92** | **8.14** | | | | | | | **1,938.91** | **289.11** | **95.70** | **1,166.90** |
| Aviation | 95,093.00 | 1.45 | 2.53 | | | | | | | 365.51 | 154.60 | 33.96 | 22.83 |
| Marine | 127,864.51 | 4.47 | 5.61 | | | | | | | 1,573.40 | 134.51 | 61.73 | 1,144.07 |
| **Multilateral Operations** | **0.32** | **0.00** | **0.00** | | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |
| **$CO_2$ Emissions from Biomass** | **190,773.64** | | | | | | | | | | | | |

[1] The emissions of HFCs and PFCs are to be expressed as $CO_2$ 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.

[4] Parties which previously reported $CO_2$ from soils in the Agriculture sector should note this in the NIR.

[5] For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[6] $CO_2$ from source categories Solid Waste Disposal on Land and Waste Incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from Waste Incineration Without Energy Recovery are to be reported in the Waste sector, whereas 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 should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

[8] Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as $CO_2$ 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 fuel are included in the national energy consumption but the corresponding $CO_2$ emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net $CO_2$ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.