

Annex 1 – Key categories

Description of methodology used

The key category analysis has been performed according to the provisions in Chapter 7 of IPCC GPG 2000 and to those in Chapter 5 of IPCC GPG 2003.

Distinct key category analysis was conducted taking into account both the exclusion and inclusion of LULUCF and also level and trend criteria.

The key category analysis followed a Tier 1 approach.

Reference to the key categories tables in the CRF

The same key categories analysis was done both for completing the CRF tables and the relevant section of National Inventory Report.

Information on level of disaggregation

All IPCC sectors and categories, sources and sinks (as suggested in Table 7.1 of IPCC GPG 2000 and in Table 5.4.1 of IPCC GPG 2003), and gases were considered.

Tables 7A1 – 7A3 of the IPCC GPG 2000

Tier 1 Analysis – Level Assessment, 1989, excluding LULUCF (Table 7A1 of IPCC GPG 2000)				
A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Energy Industries-solid fuels	CO ₂	46.03	0.16	0.16
Energy Industries-gaseous fuels	CO ₂	42.12	0.15	0.31
Fugitive emissions-oil and natural gas	CH ₄	21.81	0.08	0.39
Direct N ₂ O emissions from agricultural soils	N ₂ O	19.50	0.07	0.46
Energy Industries-liquid fuels	CO ₂	17.86	0.06	0.52
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	16.59	0.06	0.58
CO ₂ emissions from Iron and steel production	CO ₂	15.80	0.06	0.64
Manufacturing Industries and Constructions-solid fuels	CO ₂	10.64	0.04	0.67
CH ₄ emissions from enteric fermentation	CH ₄	10.62	0.04	0.71
Manufacturing Industries and Constructions-liquid fuels	CO ₂	10.20	0.04	0.75
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.53	0.03	0.77
Fugitive emissions-solid fuels	CH ₄	6.38	0.02	0.80
CO ₂ emissions from Cement production	CO ₂	5.57	0.02	0.82
N ₂ O emissions from Nitric acid production	N ₂ O	5.46	0.02	0.83
CO ₂ emissions from Ammonia production	CO ₂	5.01	0.02	0.85
Road transport	CO ₂	4.57	0.02	0.87
CH ₄ emissions from manure management	CH ₄	4.26	0.02	0.88
CO ₂ emissions from Lime production	CO ₂	3.81	0.01	0.90
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	3.65	0.01	0.91
PFC emissions from Aluminium production	PFC	3.35	0.01	0.92
N ₂ O emissions from manure management	N ₂ O	3.17	0.01	0.93
Agricultural soils: animal production	N ₂ O	2.99	0.01	0.94
Residential-gaseous fuels	CO ₂	2.82	< 0.01	0.95
CH ₄ emissions from solid waste disposal sites	CH ₄	2.35	< 0.01	0.96
CO ₂ emissions from Limestone and dolomite use	CO ₂	1.71	< 0.01	0.97

Tier 1 Analysis – Level Assessment, 1989, excluding LULUCF
(Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Residential-solid fuels	CO ₂	1.70	< 0.01	0.97
Railways	CO ₂	0.92	< 0.01	0.98
N ₂ O emissions from Adipic acid production	N ₂ O	0.68	< 0.01	0.98
CO ₂ emissions from Solvent and other product use	CO ₂	0.65	< 0.01	0.98
Residential-liquid fuels	CO ₂	0.60	< 0.01	0.98
Commercial/Institutional-liquid fuels	CO ₂	0.53	< 0.01	0.99
CO ₂ emissions from Ferroalloys production	CO ₂	0.47	< 0.01	0.99
Commercial/Institutional-solid fuels	CO ₂	0.41	< 0.01	0.99
CH ₄ from wastewater handling	CH ₄	0.40	< 0.01	0.99
CO ₂ emission from Aluminium production	CO ₂	0.40	< 0.01	0.99
Commercial/Institutional-gaseous fuels	CO ₂	0.32	< 0.01	0.99
Navigation	CO ₂	0.26	< 0.01	0.99
CO ₂ emissions from Carbide production	CO ₂	0.20	< 0.01	0.99
Energy Industries-solid fuels	N ₂ O	0.19	< 0.01	0.99
N ₂ O emissions from wastewater handling	N ₂ O	0.17	< 0.01	1.00
CO ₂ emissions from Soda ash production and use	CO ₂	0.14	< 0.01	1.00
Residential-biomass	CH ₄	0.12	< 0.01	1.00
Residential-solid fuels	CH ₄	0.11	< 0.01	1.00
CO ₂ emissions from Mineral products - other	CO ₂	0.11	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	0.11	< 0.01	1.00
CH ₄ from field burning of agricultural residues	CH ₄	0.10	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	0.07	< 0.01	1.00
CH ₄ emissions from rice production	CH ₄	0.06	< 0.01	1.00
Energy Industries-liquid fuels	N ₂ O	0.04	< 0.01	1.00
CH ₄ emissions from Chemical industry-other	CH ₄	0.04	< 0.01	1.00
N ₂ O emissions from field burning of agricultural residues	N ₂ O	0.04	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	N ₂ O	0.03	< 0.01	1.00
Manufacturing Industries and	CH ₄	0.03	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 1989, excluding LULUCF
(Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Constructions-gaseous fuels				
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	0.03	< 0.01	1.00
Civil Aviation	CO ₂	0.03	< 0.01	1.00
Residential-biomass	N ₂ O	0.02	< 0.01	1.00
Commercial/Institutional- biomass	CH ₄	0.02	< 0.01	1.00
Energy Industries-gaseous fuels	N ₂ O	0.02	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	CH ₄	0.02	< 0.01	1.00
Energy Industries-gaseous fuels	CH ₄	0.02	< 0.01	1.00
Energy Industries-liquid fuels	CH ₄	0.01	< 0.01	1.00
Road transport	CH ₄	0.01	< 0.01	1.00
Road transport	N ₂ O	0.01	< 0.01	1.00
Agriculture/Forestry/Fisheries- liquid fuels	CH ₄	0.01	< 0.01	1.00
Agriculture/Forestry/Fisheries- liquid fuels	N ₂ O	0.01	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	0.01	< 0.01	1.00
Energy Industries-solid fuels	CH ₄	0.01	< 0.01	1.00
Residential-solid fuels	N ₂ O	0.01	< 0.01	1.00
Other transports-pipeline	CO ₂	0.01	< 0.01	1.00
Agriculture/Forestry/Fisheries- solid fuels	CH ₄	0.01	< 0.01	1.00
Agriculture/Forestry/Fisheries- biomass	CH ₄	0.01	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	CH ₄	0.01	< 0.01	1.00
Residential-gaseous fuels	CH ₄	0.01	< 0.01	1.00
Commercial/Institutional- biomass	N ₂ O	0.00	< 0.01	1.00
Railways	N ₂ O	0.00	< 0.01	1.00
Residential-liquid fuels	CH ₄	0.00	< 0.01	1.00
Commercial/Institutional-solid fuels	N ₂ O	0.00	< 0.01	1.00
Residential-liquid fuels	N ₂ O	0.00	< 0.01	1.00
Residential-gaseous fuels	N ₂ O	0.00	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	N ₂ O	0.00	< 0.01	1.00
Commercial/Institutional-liquid fuels	CH ₄	0.00	< 0.01	1.00
Railways	CH ₄	0.00	< 0.01	1.00
Commercial/Institutional-liquid fuels	N ₂ O	0.00	< 0.01	1.00
Energy Industries-biomass	N ₂ O	0.00	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 1989, excluding LULUCF
(Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Agriculture/Forestry/Fisheries-biomass	N ₂ O	0.00	< 0.01	1.00
Commercial/Institutional-solid fuels	CH ₄	0.00	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	CH ₄	0.00	< 0.01	1.00
Energy Industries-biomass	CH ₄	0.00	< 0.01	1.00
Navigation	N ₂ O	0.00	< 0.01	1.00
Commercial/Institutional-gaseous fuels	CH ₄	0.00	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	0.00	< 0.01	1.00
Navigation	CH ₄	0.00	< 0.01	1.00
Civil Aviation	N ₂ O	0.00	< 0.01	1.00
Commercial/Institutional-gaseous fuels	N ₂ O	0.00	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	0.00	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	0.00	< 0.01	1.00
Civil Aviation	CH ₄	0.00	< 0.01	1.00
CH ₄ emissions from Silicon Carbide production	CH ₄	0.00	< 0.01	1.00
CH ₄ emissions from prescribed burning of savannas	CH ₄	0.00	< 0.01	1.00
CO ₂ emissions from Silicon carbide production	CO ₂	0.00	< 0.01	1.00
CO ₂ emissions from solid waste disposal sites	CO ₂	0.00	< 0.01	1.00
CO ₂ emissions from waste incineration	CO ₂	0.00	< 0.01	1.00
Emission from Consumption of halocarbons	HFCs, PFCs, SF ₆	0.00	< 0.01	1.00
Fugitive emissions-oil and natural gas	CO ₂	0.00	< 0.01	1.00
N ₂ O emissions from prescribed burning of savannas	N ₂ O	0.00	< 0.01	1.00
Other transports-pipeline	CH ₄	0.00	< 0.01	1.00
Other transports-pipeline	N ₂ O	0.00	< 0.01	1.00
TOTAL		282.99	1.00	

Tier 1 Analysis – Level Assessment, 2009, excluding LULUCF (Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Energy Industries-solid fuels	CO ₂	46.0	26.1	0.20	0.20
Road transport	CO ₂	4.6	14.4	0.11	0.31
Direct N ₂ O emissions from agricultural soils	N ₂ O	19.5	10.2	0.08	0.39
Energy Industries-gaseous fuels	CO ₂	42.1	8.5	0.07	0.46
Fugitive emissions-oil and natural gas	CH ₄	21.8	8.1	0.06	0.52
CH ₄ emissions from enteric fermentation	CH ₄	10.6	6.1	0.05	0.57
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	16.6	6.1	0.05	0.62
Residential-gaseous fuels	CO ₂	2.8	5.0	0.04	0.66
Energy Industries-liquid fuels	CO ₂	17.9	4.6	0.04	0.69
CO ₂ emissions from Iron and steel production	CO ₂	15.8	3.7	0.03	0.72
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.5	3.6	0.03	0.75
CH ₄ emissions from solid waste disposal sites	CH ₄	2.3	3.3	0.03	0.77
CO ₂ emissions from Cement production	CO ₂	5.6	3.1	0.02	0.80
Manufacturing Industries and Constructions-liquid fuels	CO ₂	10.2	2.9	0.02	0.82
Manufacturing Industries and Constructions-solid fuels	CO ₂	10.6	2.8	0.02	0.84
Fugitive emissions-solid fuels	CH ₄	6.4	2.4	0.02	0.86
Commercial/Institutional-gaseous fuels	CO ₂	0.3	2.2	0.02	0.88
CH ₄ emissions from manure management	CH ₄	4.3	2.0	0.02	0.89
CO ₂ emissions from Ammonia production	CO ₂	5.0	1.7	0.01	0.91
Agricultural soils: animal production	N ₂ O	3.0	1.7	0.01	0.92
CO ₂ emissions from Lime production	CO ₂	3.8	1.6	0.01	0.93
N ₂ O emissions from manure management	N ₂ O	3.2	1.6	0.01	0.94
Residential-biomass	CH ₄	0.1	0.9	< 0.01	0.95
CH ₄ emissions from waste water handling	CH ₄	0.4	0.9	< 0.01	0.96
Residential-liquid fuels	CO ₂	0.6	0.8	< 0.01	0.97
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	3.6	0.7	< 0.01	0.97
N ₂ O emissions from Nitric acid production	N ₂ O	5.5	0.5	< 0.01	0.97
Commercial/Institutional-liquid fuels	CO ₂	0.5	0.5	< 0.01	0.98
Railways	CO ₂	0.9	0.4	< 0.01	0.98

Tier 1 Analysis – Level Assessment, 2009, excluding LULUCF (Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
CO ₂ emissions from Limestone and dolomite use	CO ₂	1.7	0.4	< 0.01	0.98
Road transport	N ₂ O	0.0	0.3	< 0.01	0.99
CO ₂ emissions from Aluminium production	CO ₂	0.4	0.3	< 0.01	0.99
N ₂ O emissions from waste water handling	N ₂ O	0.2	0.3	< 0.01	0.99
Residential-biomass	N ₂ O	0.0	0.2	< 0.01	0.99
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	0.1	0.1	< 0.01	0.99
CO ₂ emissions from Solvent and other product use	CO ₂	0.6	0.1	< 0.01	0.99
Energy Industries-solid fuels	N ₂ O	0.2	0.1	< 0.01	1.00
Residential-solid fuels	CO ₂	1.7	0.1	< 0.01	1.00
CO ₂ emissions from Soda ash production and use	CO ₂	0.1	0.1	< 0.01	1.00
Road transport	CH ₄	0.0	0.1	< 0.01	1.00
Civil Aviation	CO ₂	0.0	0.0	< 0.01	1.00
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	0.0	0.0	< 0.01	1.00
Commercial/Institutional-biomass	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from rice production	CH ₄	0.1	0.0	< 0.01	1.00
Fugitive emissions-oil and natural gas	CO ₂	0.0	0.0	< 0.01	1.00
Navigation	CO ₂	0.3	0.0	< 0.01	1.00
Other transports-pipeline	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Mineral products - other	CO ₂	0.1	0.0	< 0.01	1.00
Energy Industries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Ferroalloys production	CO ₂	0.5	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
Residential-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CO ₂ emissions from waste incineration	CO ₂	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
PFC emissions from Aluminium production	PFC	3.3	0.0	< 0.01	1.00
Commercial/Institutional-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Silicon Carbide	CH ₄	0.0	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 2009, excluding LULUCF (Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
production					
Energy Industries-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Chemical industry-other	CH ₄	0.0	0.0	< 0.01	1.00
Energy Industries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Commercial/Institutional-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Energy Industries-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Residential-solid fuels	CH ₄	0.1	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Energy Industries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Residential-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Residential-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries- biomass	CH ₄	0.0	0.0	< 0.01	1.00
Residential-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Energy Industries-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Commercial/Institutional-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Railways	N ₂ O	0.0	0.0	< 0.01	1.00
Energy Industries-biomass	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	CO ₂	0.4	0.0	< 0.01	1.00
Railways	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries- biomass	N ₂ O	0.0	0.0	< 0.01	1.00
Civil Aviation	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries- gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Residential-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries- gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Navigation	N ₂ O	0.0	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 2009, excluding LULUCF (Table 7A1 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	0.1	0.0	< 0.01	1.00
Navigation	CH ₄	0.0	0.0	< 0.01	1.00
Civil Aviation	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CH ₄ emissions from field burning of agricultural residues	CH ₄	0.1	0.0	< 0.01	1.00
CH ₄ emissions from prescribed burning of savannas	CH ₄	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Silicon carbide production	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Carbide production	CO ₂	0.2	0.0	< 0.01	1.00
CO ₂ emissions from solid waste disposal sites	CO ₂	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Adipic acid production	N ₂ O	0.7	0.0	< 0.01	1.00
N ₂ O emissions from field burning of agricultural residues	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from prescribed burning of savannas	N ₂ O	0.0	0.0	< 0.01	1.00
Other transports-pipeline	CH ₄	0.0	0.0	< 0.01	1.00
Other transports-pipeline	N ₂ O	0.0	0.0	< 0.01	1.00
TOTAL		283.0	128.7	1.00	

Tier 1 Analysis – Trend Assessment, 2009, excluding LULUCF (Table 7A2 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Road transport	CO ₂	4.6	14.4	0.21	18.71	0.19
Energy Industries-gaseous fuels	CO ₂	42.1	8.5	0.18	16.28	0.35
Energy Industries-solid fuels	CO ₂	46.0	26.1	0.09	7.84	0.43
Residential-gaseous fuels	CO ₂	2.8	5.0	0.06	5.68	0.49
CO ₂ emissions from Iron and steel production	CO ₂	15.8	3.7	0.06	5.33	0.54
Energy Industries-liquid fuels	CO ₂	17.9	4.6	0.06	5.30	0.59
CH ₄ emissions from solid waste disposal sites	CH ₄	2.3	3.3	0.04	3.43	0.63
Manufacturing Industries and Constructions-solid fuels	CO ₂	10.6	2.8	0.04	3.15	0.66
Commercial/Institutional-gaseous fuels	CO ₂	0.3	2.2	0.03	3.08	0.69
N ₂ O emissions from Nitric acid production	N ₂ O	5.5	0.5	0.03	2.99	0.72
Fugitive emissions-oil and natural gas	CH ₄	21.8	8.1	0.03	2.76	0.75
Manufacturing Industries and Constructions-liquid fuels	CO ₂	10.2	2.9	0.03	2.65	0.77
PFC emissions from Aluminium production	PFC	3.3	0.0	0.03	2.31	0.80
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	16.6	6.1	0.02	2.19	0.82
CH ₄ emissions from enteric fermentation	CH ₄	10.6	6.1	0.02	2.01	0.84
Direct N ₂ O emissions from agricultural soils	N ₂ O	19.5	10.2	0.02	1.99	0.86
Agriculture/Forestry/Fisheries -liquid fuels	CO ₂	3.6	0.7	0.02	1.43	0.87
Residential-biomass	CH ₄	0.1	0.9	0.01	1.28	0.88
Residential-solid fuels	CO ₂	1.7	0.1	0.01	1.09	0.89
CH ₄ emissions from waste water handling	CH ₄	0.4	0.9	0.01	1.08	0.91
CO ₂ emissions from Ammonia production	CO ₂	5.0	1.7	< 0.01	< 1	0.91
Residential-liquid fuels	CO ₂	0.6	0.8	< 0.01	< 1	0.92
CO ₂ emissions from Cement production	CO ₂	5.6	3.1	< 0.01	< 1	0.93
Fugitive emissions-solid fuels	CH ₄	6.4	2.4	< 0.01	< 1	0.94
CO ₂ emissions from Limestone and dolomite use	CO ₂	1.7	0.4	< 0.01	< 1	0.94
Road transport	N ₂ O	0.0	0.3	< 0.01	< 1	0.95
Agricultural soils : animal production	N ₂ O	3.0	1.7	< 0.01	< 1	0.96
N ₂ O emissions from Adipic acid production	N ₂ O	0.7	0.0	< 0.01	< 1	0.96

Tier 1 Analysis – Trend Assessment, 2009, excluding LULUCF (Table 7A2 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Commercial/Institutional-liquid fuels	CO ₂	0.5	0.5	< 0.01	< 1	0.96
N ₂ O emissions from waste water handling	N ₂ O	0.2	0.3	< 0.01	< 1	0.97
CO ₂ emissions from Ferroalloys production	CO ₂	0.5	0.0	< 0.01	< 1	0.97
Commercial/Institutional-solid fuels	CO ₂	0.4	0.0	< 0.01	< 1	0.97
CO ₂ emissions from Solvent and other product use	CO ₂	0.6	0.1	< 0.01	< 1	0.97
CO ₂ emissions from Lime production	CO ₂	3.8	1.6	< 0.01	< 1	0.98
Residential-biomass	N ₂ O	0.0	0.2	< 0.01	< 1	0.98
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.5	3.6	< 0.01	< 1	0.98
N ₂ O emissions from manure management	N ₂ O	3.2	1.6	< 0.01	< 1	0.98
CO ₂ emissions from Aluminium production	CO ₂	0.4	0.3	< 0.01	< 1	0.99
Agriculture/Forestry/Fisheries -gaseous fuels	CO ₂	0.1	0.1	< 0.01	< 1	0.99
Navigation	CO ₂	0.3	0.0	< 0.01	< 1	0.99
CO ₂ emissions from Carbide production	CO ₂	0.2	0.0	< 0.01	< 1	0.99
CH ₄ emissions from manure management	CH ₄	4.3	2.0	< 0.01	< 1	0.99
Agriculture/Forestry/Fisheries -solid fuels	CO ₂	0.1	0.0	< 0.01	< 1	0.99
Residential-solid fuels	CH ₄	0.1	0.0	< 0.01	< 1	0.99
CH ₄ emissions from field burning of agricultural residues	CH ₄	0.1	0.0	< 0.01	< 1	0.99
Road transport	CH ₄	0.0	0.1	< 0.01	< 1	0.99
CO ₂ emissions from Mineral products - other	CO ₂	0.1	0.0	< 0.01	< 1	0.99
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-solid fuels	N ₂ O	0.2	0.1	< 0.01	< 1	1.00
Civil Aviation	CO ₂	0.0	0.0	< 0.01	< 1	1.00
Fugitive emissions-oil and natural gas	CO ₂	0.0	0.0	< 0.01	< 1	1.00
Railways	CO ₂	0.9	0.4	< 0.01	< 1	1.00
Commercial/Institutional-biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
N ₂ O from field burning of agricultural residues	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Other transports-pipeline	CO ₂	0.0	0.0	< 0.01	< 1	1.00

Tier 1 Analysis – Trend Assessment, 2009, excluding LULUCF (Table 7A2 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
CH ₄ emissions from Chemical industry-other	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Soda ash production and use	CO ₂	0.1	0.1	< 0.01	< 1	1.00
CO ₂ emissions from waste incineration	CO ₂	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Residential-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Silicon Carbide production	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries -solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Residential-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries -liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries -liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Residential-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Residential-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Residential-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and	CH ₄	0.0	0.0	< 0.01	< 1	1.00

Tier 1 Analysis – Trend Assessment, 2009, excluding LULUCF (Table 7A2 of IPCC GPG 2000)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Constructions-liquid fuels						
Commercial/Institutional-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from rice production	CH ₄	0.1	0.0	< 0.01	< 1	1.00
Civil Aviation	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Navigation	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Railways	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Navigation	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Railways	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Civil Aviation	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from prescribed burning of savannas	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Silicon carbide production	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from solid waste disposal sites	CO ₂	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from prescribed burning of savannas	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Other transports-pipeline	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Other transports-pipeline	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
TOTAL		283.0	128.7	1.12	1.00	

Key Category Analysis Summary, 1989, excluding LULUCF (Table 7A3 of IPCC GPG 2000)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenho use Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Energy				
Agriculture/Forestry/Fisheries-biomass	CH ₄	No		
Agriculture/Forestry/Fisheries-biomass	N ₂ O	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	Yes	Level	
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	No		
Civil Aviation	CH ₄	No		
Civil Aviation	CO ₂	No		
Civil Aviation	N ₂ O	No		
Commercial/Institutional-biomass	CH ₄	No		
Commercial/Institutional-biomass	N ₂ O	No		
Commercial/Institutional-gaseous fuels	CH ₄	No		
Commercial/Institutional-gaseous fuels	CO ₂	No		
Commercial/Institutional-gaseous fuels	N ₂ O	No		
Commercial/Institutional-liquid fuels	CH ₄	No		
Commercial/Institutional-liquid fuels	CO ₂	No		
Commercial/Institutional-liquid fuels	N ₂ O	No		
Commercial/Institutional-solid fuels	CH ₄	No		
Commercial/Institutional-solid fuels	CO ₂	No		
Commercial/Institutional-solid fuels	N ₂ O	No		
Energy Industries-biomass	CH ₄	No		
Energy Industries-biomass	N ₂ O	No		
Energy Industries-gaseous fuels	CH ₄	No		
Energy Industries-gaseous fuels	CO ₂	Yes	Level	
Energy Industries-gaseous fuels	N ₂ O	No		
Energy Industries-liquid fuels	CH ₄	No		
Energy Industries-liquid fuels	CO ₂	Yes	Level	
Energy Industries-liquid fuels	N ₂ O	No		
Energy Industries-solid fuels	CH ₄	No		
Energy Industries-solid fuels	CO ₂	Yes	Level	
Energy Industries-solid fuels	N ₂ O	No		
Fugitive emissions-oil and natural gas	CH ₄	Yes	Level	
Fugitive emissions-oil and natural gas	CO ₂	No		
Fugitive emissions-solid fuels	CH ₄	Yes	Level	
Manufacturing Industries and Constructions-biomass	CH ₄	No		
Manufacturing Industries and Constructions-biomass	N ₂ O	No		
Manufacturing Industries and Constructions-	CH ₄	No		

Key Category Analysis Summary, 1989, excluding LULUCF (Table 7A3 of IPCC GPG 2000)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
gaseous fuels				
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	Yes	Level	
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	No		
Manufacturing Industries and Constructions-liquid fuels	CH ₄	No		
Manufacturing Industries and Constructions-liquid fuels	CO ₂	Yes	Level	
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	No		
Manufacturing Industries and Constructions-solid fuels	CH ₄	No		
Manufacturing Industries and Constructions-solid fuels	CO ₂	Yes	Level	
Manufacturing Industries and Constructions-solid fuels	N ₂ O	No		
Navigation	CH ₄	No		
Navigation	CO ₂	No		
Navigation	N ₂ O	No		
Other transports-pipeline	CO ₂	No		
Railways	CH ₄	No		
Railways	CO ₂	No		
Railways	N ₂ O	No		
Residential-biomass	CH ₄	No		
Residential-biomass	N ₂ O	No		
Residential-gaseous fuels	CH ₄	No		
Residential-gaseous fuels	CO ₂	Yes	Level	
Residential-gaseous fuels	N ₂ O	No		
Residential-liquid fuels	CH ₄	No		
Residential-liquid fuels	CO ₂	No		
Residential-liquid fuels	N ₂ O	No		
Residential-solid fuels	CH ₄	No		
Residential-solid fuels	CO ₂	No		
Residential-solid fuels	N ₂ O	No		
Road transport	CH ₄	No		
Road transport	CO ₂	Yes	Level	
Road transport	N ₂ O	No		
Other transports-pipeline	CH ₄	No		
Other transports-pipeline	N ₂ O	No		
Industrial Processes				
CH ₄ emissions from Chemical industry-other	CH ₄	No		
CO ₂ emissions from Aluminium production	CO ₂	No		
CO ₂ emissions from Ammonia production	CO ₂	Yes	Level	
CO ₂ emissions from Carbide production	CO ₂	No		

Key Category Analysis Summary, 1989, excluding LULUCF (Table 7A3 of IPCC GPG 2000)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
CO ₂ emissions from Ferroalloys production	CO ₂	No		
CO ₂ emissions from Iron and steel production	CO ₂	Yes	Level	
CO ₂ emissions from Limestone and dolomite use	CO ₂	No		
CO ₂ emissions from Mineral products - other	CO ₂	No		
CO ₂ emissions from Soda ash production and use	CO ₂	No		
CO ₂ emissions from Cement production	CO ₂	Yes	Level	
CO ₂ emissions from Lime production	CO ₂	Yes	Level	
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	No		
N ₂ O emissions from Nitric acid production	N ₂ O	Yes	Level	
N ₂ O emissions from Adipic acid production	N ₂ O	No		
PFC emissions from Aluminium production	PFC	Yes	Level	
CH ₄ emissions from Silicon Carbide production	CH ₄	No		
CO ₂ emissions from Silicon Carbide production	CO ₂	No		
Solvents and other product use				
CO ₂ emissions from Solvent and other product use	CO ₂	No		
Agriculture				
Agricultural soils: animal production	N ₂ O	Yes	Level	
CH ₄ emissions from enteric fermentation	CH ₄	Yes	Level	
CH ₄ emissions from field burning of agricultural residues	CH ₄	No		
CH ₄ emissions from manure management	CH ₄	Yes	Level	
CH ₄ emissions from rice production	CH ₄			
Direct N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level	
Indirect N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level	
N ₂ O emissions from field burning of agricultural residues	N ₂ O	No		
N ₂ O emissions from manure management	N ₂ O	Yes	Level	
CH ₄ emissions from prescribed burning of savannas	CH ₄	No		
N ₂ O emissions from prescribed burning of savannas	N ₂ O	No		
Waste				
CH ₄ emissions from solid waste disposal sites	CH ₄			
CH ₄ emissions from waste water handling	CH ₄			
CO ₂ emissions from waste incineration	CO ₂			
N ₂ O emissions from waste water handling	N ₂ O			
CO ₂ emissions from solid waste disposal sites	CO ₂			

Key Category Analysis Summary, 2009, excluding LULUCF (Table 7A3 of IPCC GPG 2000)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Energy				
Agriculture/Forestry/Fisheries-biomass	CH ₄	No		
Agriculture/Forestry/Fisheries-biomass	N ₂ O	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	Yes	Trend	
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	No		
Civil Aviation	CH ₄	No		
Civil Aviation	CO ₂	No		
Civil Aviation	N ₂ O	No		
Commercial/Institutional-biomass	CH ₄	No		
Commercial/Institutional-biomass	N ₂ O	No		
Commercial/Institutional-gaseous fuels	CH ₄	No		
Commercial/Institutional-gaseous fuels	CO ₂	Yes	Level, Trend	
Commercial/Institutional-gaseous fuels	N ₂ O	No		
Commercial/Institutional-liquid fuels	CH ₄	No		
Commercial/Institutional-liquid fuels	CO ₂	No		
Commercial/Institutional-liquid fuels	N ₂ O	No		
Commercial/Institutional-solid fuels	CH ₄	No		
Commercial/Institutional-solid fuels	CO ₂	No		
Commercial/Institutional-solid fuels	N ₂ O	No		
Energy Industries-biomass	CH ₄	No		
Energy Industries-biomass	N ₂ O	No		
Energy Industries-gaseous fuels	CH ₄	No		
Energy Industries-gaseous fuels	CO ₂	Yes	Level, Trend	
Energy Industries-gaseous fuels	N ₂ O	No		
Energy Industries-liquid fuels	CH ₄	No		
Energy Industries-liquid fuels	CO ₂	Yes	Level, Trend	
Energy Industries-liquid fuels	N ₂ O	No		
Energy Industries-solid fuels	CH ₄	No		
Energy Industries-solid fuels	CO ₂	Yes	Level, Trend	
Energy Industries-solid fuels	N ₂ O	No		
Fugitive emissions-oil and natural gas	CH ₄	Yes	Level, Trend	
Fugitive emissions-oil and natural gas	CO ₂	No		
Fugitive emissions-solid fuels	CH ₄	Yes	Level, Trend	
Manufacturing Industries and Constructions-biomass	CH ₄	No		
Manufacturing Industries and Constructions-biomass	N ₂ O	No		

Key Category Analysis Summary, 2009, excluding LULUCF (Table 7A3 of IPCC GPG 2000)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	No		
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	Yes	Level, Trend	
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	No		
Manufacturing Industries and Constructions-liquid fuels	CH ₄	No		
Manufacturing Industries and Constructions-liquid fuels	CO ₂	Yes	Level, Trend	
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	No		
Manufacturing Industries and Constructions-solid fuels	CH ₄	No		
Manufacturing Industries and Constructions-solid fuels	CO ₂	Yes	Level, Trend	
Manufacturing Industries and Constructions-solid fuels	N ₂ O	No		
Navigation	CH ₄	No		
Navigation	CO ₂	No		
Navigation	N ₂ O	No		
Other transports-pipeline	CO ₂	No		
Railways	CH ₄	No		
Railways	CO ₂	No		
Railways	N ₂ O	No		
Residential-biomass	CH ₄	Yes	Level, Trend	
Residential-biomass	N ₂ O	No		
Residential-gaseous fuels	CH ₄	No		
Residential-gaseous fuels	CO ₂	Yes	Level, Trend	
Residential-gaseous fuels	N ₂ O	No		
Residential-liquid fuels	CH ₄	No		
Residential-liquid fuels	CO ₂	Yes	Trend	
Residential-liquid fuels	N ₂ O	No		
Residential-solid fuels	CH ₄	No		
Residential-solid fuels	CO ₂	Yes	Trend	
Residential-solid fuels	N ₂ O	No		
Road transport	CH ₄	No		
Road transport	CO ₂	Yes	Level, Trend	
Road transport	N ₂ O	Yes	Trend	
Other transports-pipeline	CH ₄	No		
Other transports-pipeline	N ₂ O	No		
Industrial Processes				
CH ₄ emission from Chemical industry-other	CH ₄	No		
CO ₂ emission from Aluminium production	CO ₂	No		
CO ₂ emission from Ammonia production	CO ₂	Yes	Level, Trend	
CO ₂ emission from Carbide production	CO ₂	No		

Key Category Analysis Summary, 2009, excluding LULUCF (Table 7A3 of IPCC GPG 2000)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
CO ₂ emission from Ferroalloys production	CO ₂	No		
CO ₂ emission from Iron and steel production	CO ₂	Yes	Level, Trend	
CO ₂ emission from Limestone and dolomite use	CO ₂	Yes	Trend	
CO ₂ emission from Mineral products - other	CO ₂	No		
CO ₂ emission from Soda ash production and use	CO ₂	No		
CO ₂ emissions from Cement production	CO ₂	Yes	Level, Trend	
CO ₂ emissions from Lime production	CO ₂	Yes	Level	
Emission from Consumption of halocarbons	HFCs, PFCs, SF ₆	No		
N ₂ O emission from Nitric acid production	N ₂ O	Yes	Trend	
N ₂ O emission from Adipic acid production	N ₂ O	No		
PFC emission from Aluminium production	PFC	Yes	Trend	
CH ₄ emission from Silicon Carbide production	CH ₄	No		
CO ₂ emissions from Silicon carbide production	CO ₂	No		
Solvents and other product use				
CO ₂ emission from Solvent and other product use	CO ₂	No		
Agriculture				
Agricultural soils: animal production	N ₂ O	Yes	Level	
CH ₄ from enteric fermentation	CH ₄	Yes	Level, Trend	
CH ₄ from field burning of agricultural residues	CH ₄	No		
CH ₄ from manure management	CH ₄	Yes	Level	
CH ₄ from rice production	CH ₄			
Direct N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level, Trend	
Indirect N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level	
N ₂ O from field burning of agricultural residues	N ₂ O	No		
N ₂ O from manure management	N ₂ O	Yes	Level	
CH ₄ from prescribed burning of savannas	CH ₄	No		
N ₂ O from prescribed burning of savannas	N ₂ O	No		
Waste				
CH ₄ from solid waste disposal sites	CH ₄	Yes	Level, Trend	
CH ₄ from waste water handling	CH ₄	Yes	Trend	
CO ₂ from waste incineration	CO ₂	No		
N ₂ O from waste water handling	N ₂ O	No		
CO ₂ from solid waste disposal sites	CO ₂	No		

Tables 5.4.7, 5.4.8 and 5.4.5 of the IPCC GPG 2003

Tier 1 Analysis – Level Assessment, 1989, including LULUCF (Table 5.4.7 of IPCC GPG 2003)				
A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Energy Industries-solid fuels	CO ₂	46.0	0.15	0.15
Energy Industries-gaseous fuels	CO ₂	42.1	0.14	0.28
Fugitive emissions-oil and natural gas	CH ₄	21.8	0.07	0.35
CO ₂ emissions from Forest Land remaining Forest Land	CO ₂	20.0	0.06	0.42
Direct N ₂ O emissions from agricultural soils	N ₂ O	19.5	0.06	0.48
Energy Industries-liquid fuels	CO ₂	17.9	0.06	0.54
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	16.6	0.05	0.59
CO ₂ emissions from Iron and steel production	CO ₂	15.8	0.05	0.64
Manufacturing Industries and Constructions-solid fuels	CO ₂	10.6	0.03	0.68
CH ₄ emissions from enteric fermentation	CH ₄	10.6	0.03	0.71
Manufacturing Industries and Constructions-liquid fuels	CO ₂	10.2	0.03	0.74
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.5	0.02	0.77
Fugitive emissions-solid fuels	CH ₄	6.4	0.02	0.79
CO ₂ emissions from Cement production	CO ₂	5.6	0.02	0.81
N ₂ O emissions from Nitric acid production	N ₂ O	5.5	0.02	0.83
CO ₂ emissions from Ammonia production	CO ₂	5.0	0.02	0.84
Road transport	CO ₂	4.6	0.01	0.86
CO ₂ emissions from Cropland remaining Cropland	CO ₂	4.5	0.01	0.87
CH ₄ emissions from manure management	CH ₄	4.3	0.01	0.88
CO ₂ emissions from Lime production	CO ₂	3.8	0.01	0.90
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	3.6	0.01	0.91
PFC emissions from Aluminium production	PFC	3.3	0.01	0.92
N ₂ O emissions from manure management	N ₂ O	3.2	0.01	0.93
Agricultural soils : animal production	N ₂ O	3.0	< 0.01	0.94
Residential-gaseous fuels	CO ₂	2.8	< 0.01	0.95
CO ₂ emissions from Land converted to Settlements	CO ₂	2.8	< 0.01	0.96
CH ₄ emissions from solid waste disposal sites	CH ₄	2.3	< 0.01	0.96
CO ₂ emissions from Limestone and	CO ₂	1.7	< 0.01	0.97

Tier 1 Analysis – Level Assessment, 1989, including LULUCF
(Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
dolomite use				
Residential-solid fuels	CO ₂	1.7	< 0.01	0.98
Railways	CO ₂	0.9	< 0.01	0.98
N ₂ O emissios from Adipic acid production	N ₂ O	0.7	< 0.01	0.98
CO ₂ emissions from Solvent and other product use	CO ₂	0.6	< 0.01	0.98
Residential-liquid fuels	CO ₂	0.6	< 0.01	0.98
Commercial/Institutional-liquid fuels	CO ₂	0.5	< 0.01	0.99
CO ₂ emissions from Ferroalloys production	CO ₂	0.5	< 0.01	0.99
Commercial/Institutional-solid fuels	CO ₂	0.4	< 0.01	0.99
CH ₄ emissions from waste water handling	CH ₄	0.4	< 0.01	0.99
CO ₂ emissions from Aluminium production	CO ₂	0.4	< 0.01	0.99
Commercial/Institutional-gaseous fuels	CO ₂	0.3	< 0.01	0.99
Navigation	CO ₂	0.3	< 0.01	0.99
CO ₂ emissions from Carbide production	CO ₂	0.2	< 0.01	0.99
Energy Industries-solid fuels	N ₂ O	0.2	< 0.01	1.00
N ₂ O emissions from waste water handling	N ₂ O	0.2	< 0.01	1.00
CO ₂ emissions from Soda ash production and use	CO ₂	0.1	< 0.01	1.00
Residential-biomass	CH ₄	0.1	< 0.01	1.00
Residential-solid fuels	CH ₄	0.1	< 0.01	1.00
CO ₂ emissions from Mineral products - other	CO ₂	0.1	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	0.1	< 0.01	1.00
CH ₄ emissions from field burning of agricultural residues	CH ₄	0.1	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	0.1	< 0.01	1.00
CH ₄ emissions from rice production	CH ₄	0.1	< 0.01	1.00
Energy Industries-liquid fuels	N ₂ O	0.0	< 0.01	1.00
CH ₄ emissions from Chemical industry-other	CH ₄	0.0	< 0.01	1.00
N ₂ O emissions from field burning of agricultural residues	N ₂ O	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	N ₂ O	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 1989, including LULUCF

(Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Civil Aviation	CO ₂	0.0	< 0.01	1.00
Residential-biomass	N ₂ O	0.0	< 0.01	1.00
Commercial/Institutional-biomass	CH ₄	0.0	< 0.01	1.00
Energy Industries-gaseous fuels	N ₂ O	0.0	< 0.01	1.00
CO ₂ from Land converted to Forest Land	CO ₂	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	CH ₄	0.0	< 0.01	1.00
Energy Industries-gaseous fuels	CH ₄	0.0	< 0.01	1.00
Energy Industries-liquid fuels	CH ₄	0.0	< 0.01	1.00
Road transport	CH ₄	0.0	< 0.01	1.00
Road transport	N ₂ O	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	0.0	< 0.01	1.00
Energy Industries-solid fuels	CH ₄	0.0	< 0.01	1.00
Residential-solid fuels	N ₂ O	0.0	< 0.01	1.00
Other transports-pipeline	CO ₂	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-biomass	CH ₄	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	CH ₄	0.0	< 0.01	1.00
Residential-gaseous fuels	CH ₄	0.0	< 0.01	1.00
Commercial/Institutional-biomass	N ₂ O	0.0	< 0.01	1.00
Railways	N ₂ O	0.0	< 0.01	1.00
Residential-liquid fuels	CH ₄	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	N ₂ O	0.0	< 0.01	1.00
Residential-liquid fuels	N ₂ O	0.0	< 0.01	1.00
Residential-gaseous fuels	N ₂ O	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	N ₂ O	0.0	< 0.01	1.00
Commercial/Institutional-liquid fuels	CH ₄	0.0	< 0.01	1.00
Railways	CH ₄	0.0	< 0.01	1.00
Commercial/Institutional-liquid fuels	N ₂ O	0.0	< 0.01	1.00
Energy Industries-biomass	N ₂ O	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-biomass	N ₂ O	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	CH ₄	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	CH ₄	0.0	< 0.01	1.00
Energy Industries-biomass	CH ₄	0.0	< 0.01	1.00
Navigation	N ₂ O	0.0	< 0.01	1.00
Commercial/Institutional-gaseous fuels	CH ₄	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 1989, including LULUCF
(Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Navigation	CH ₄	0.0	< 0.01	1.00
Civil Aviation	N ₂ O	0.0	< 0.01	1.00
CH ₄ emissions from Forest Land remaining Forest Land	CH ₄	0.0	< 0.01	1.00
Commercial/Institutional-gaseous fuels	N ₂ O	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	0.0	< 0.01	1.00
Civil Aviation	CH ₄	0.0	< 0.01	1.00
N ₂ O emissions from Forest Land remaining Forest Land	N ₂ O	0.0	< 0.01	1.00
CH ₄ emissions from Silicon Carbide production	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Cropland remaining Cropland	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Grassland remaining Grassland	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Cropland	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Forest Land	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Grassland	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Wetlands	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from prescribed burning of savannas	CH ₄	0.0	< 0.01	1.00
CH ₄ emissions from Wetlands remaining Wetlands	CH ₄	0.0	< 0.01	1.00
CO ₂ emissions from Silicon carbide production	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Cropland	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Grassland	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Other Land	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Wetlands	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from Settlements remaining Settlements	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from solid waste disposal sites	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from waste incineration	CO ₂	0.0	< 0.01	1.00
CO ₂ emissions from Wetlands remaining	CO ₂	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 1989, including LULUCF
(Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Wetlands				
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	0.0	< 0.01	1.00
Fugitive emissions-oil and natural gas	CO ₂	0.0	< 0.01	1.00
N ₂ O emissions from Cropland remaining Cropland	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from Grassland remaining Grassland	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to Wetlands	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to Cropland	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to Forest Land	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to Grassland	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from prescribed burning of savannas	N ₂ O	0.0	< 0.01	1.00
N ₂ O emissions from Wetlands remaining Wetlands	N ₂ O	0.0	< 0.01	1.00
Other transports-pipeline	CH ₄	0.0	< 0.01	1.00
Other transports-pipeline	N ₂ O	0.0	< 0.01	1.00
TOTAL		310.3	1.00	

Tier 1 Analysis – Level Assessment, 2009, including LULUCF (Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Energy Industries-solid fuels	CO ₂	46.0	26.1	0.17	0.17
CO ₂ emissions from Forest Land remaining Forest Land	CO ₂	20.0	23.5	0.15	0.32
Road transport	CO ₂	4.6	14.4	0.09	0.42
Direct N ₂ O emissions from agricultural soils	N ₂ O	19.5	10.2	0.07	0.48
Energy Industries-gaseous fuels	CO ₂	42.1	8.5	0.05	0.54
Fugitive emissions-oil and natural gas	CH ₄	21.8	8.1	0.05	0.59
CH ₄ from enteric fermentation	CH ₄	10.6	6.1	0.04	0.63
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	16.6	6.1	0.04	0.67
Residential-gaseous fuels	CO ₂	2.8	5.0	0.03	0.70
Energy Industries-liquid fuels	CO ₂	17.9	4.6	0.03	0.73
CO ₂ emissions from Iron and steel production	CO ₂	15.8	3.7	0.02	0.76
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.5	3.6	0.02	0.78
CH ₄ emissions from solid waste disposal sites	CH ₄	2.3	3.3	0.02	0.80
CO ₂ emissions from Cement production	CO ₂	5.6	3.1	0.02	0.82
Manufacturing Industries and Constructions-liquid fuels	CO ₂	10.2	2.9	0.02	0.84
Manufacturing Industries and Constructions-solid fuels	CO ₂	10.6	2.8	0.02	0.86
Fugitive emissions-solid fuels	CH ₄	6.4	2.4	0.02	0.87
Commercial/Institutional-gaseous fuels	CO ₂	0.3	2.2	0.01	0.89
CH ₄ emissions from manure management	CH ₄	4.3	2.0	0.01	0.90
CO ₂ emissions from Ammonia production	CO ₂	5.0	1.7	0.01	0.91
Agricultural soils: animal production	N ₂ O	3.0	1.7	0.01	0.92
CO ₂ emissions from Lime production	CO ₂	3.8	1.6	0.01	0.93
N ₂ O emissions from manure management	N ₂ O	3.2	1.6	0.01	0.94
CO ₂ emissions from Land converted to Forest Land	CO ₂	0.0	1.1	< 0.01	0.95
Residential-biomass	CH ₄	0.1	0.9	< 0.01	0.96
CH ₄ emissions from waste water handling	CH ₄	0.4	0.9	< 0.01	0.96
Residential-liquid fuels	CO ₂	0.6	0.8	< 0.01	0.97
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	3.6	0.7	< 0.01	0.97
N ₂ O emissions from Nitric acid production	N ₂ O	5.5	0.5	< 0.01	0.98
Commercial/Institutional-liquid fuels	CO ₂	0.5	0.5	< 0.01	0.98
Railways	CO ₂	0.9	0.4	< 0.01	0.98
CO ₂ emissions from Limestone and dolomite use	CO ₂	1.7	0.4	< 0.01	0.98
Road transport	N ₂ O	0.0	0.3	< 0.01	0.99
CO ₂ emissions from Aluminium production	CO ₂	0.4	0.3	< 0.01	0.99

Tier 1 Analysis – Level Assessment, 2009, including LULUCF (Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
N ₂ O emissions from waste water handling	N ₂ O	0.2	0.3	< 0.01	0.99
CO ₂ emissions from Land converted to Cropland	CO ₂	0.0	0.2	< 0.01	0.99
Residential-biomass	N ₂ O	0.0	0.2	< 0.01	0.99
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	0.1	0.1	< 0.01	0.99
CO ₂ emissions from Solvent and other product use	CO ₂	0.6	0.1	< 0.01	0.99
Energy Industries-solid fuels	N ₂ O	0.2	0.1	< 0.01	1.00
CO ₂ emissions from Cropland remaining Cropland	CO ₂	4.5	0.1	< 0.01	1.00
Residential-solid fuels	CO ₂	1.7	0.1	< 0.01	1.00
CO ₂ emissions from Soda ash production and use	CO ₂	0.1	0.1	< 0.01	1.00
Road transport	CH ₄	0.0	0.1	< 0.01	1.00
Civil Aviation	CO ₂	0.0	0.0	< 0.01	1.00
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	0.0	0.0	< 0.01	1.00
Commercial/Institutional-biomass	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from rice production	CH ₄	0.1	0.0	< 0.01	1.00
Fugitive emissions-oil and natural gas	CO ₂	0.0	0.0	< 0.01	1.00
Navigation	CO ₂	0.3	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to Cropland	N ₂ O	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Settlements	CO ₂	2.8	0.0	< 0.01	1.00
Other transports-pipeline	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Mineral products - other	CO ₂	0.1	0.0	< 0.01	1.00
Energy Industries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Ferroalloys production	CO ₂	0.5	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
Residential-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CO ₂ emissions from waste incineration	CO ₂	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
PFC emissions from Aluminium production	PFC	3.3	0.0	< 0.01	1.00
Commercial/Institutional-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Silicon Carbide	CH ₄	0.0	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 2009, including LULUCF (Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
production					
Energy Industries-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-biomass	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Chemical industry- other	CH ₄	0.0	0.0	< 0.01	1.00
Energy Industries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Commercial/Institutional-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Energy Industries-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Residential-solid fuels	CH ₄	0.1	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Energy Industries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Residential-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Residential-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-biomass	CH ₄	0.0	0.0	< 0.01	1.00
Residential-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Forest Land remaining Forest Land	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Energy Industries-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
Manufacturing Industries and Constructions-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Commercial/Institutional-liquid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Railways	N ₂ O	0.0	0.0	< 0.01	1.00
Energy Industries-biomass	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	CO ₂	0.4	0.0	< 0.01	1.00
Railways	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-biomass	N ₂ O	0.0	0.0	< 0.01	1.00
Civil Aviation	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	1.00
Residential-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Navigation	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	0.1	0.0	< 0.01	1.00
Navigation	CH ₄	0.0	0.0	< 0.01	1.00
Civil Aviation	CH ₄	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Forest Land remaining Forest Land	N ₂ O	0.0	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 2009, including LULUCF (Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Commercial/Institutional-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Commercial/Institutional-solid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Cropland remaining Cropland	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from field burning of agricultural residues	CH ₄	0.1	0.0	< 0.01	1.00
CH ₄ emissions from Grassland remaining Grassland	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Cropland	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Forest Land	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Grassland	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Land converted to Wetlands	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from prescribed burning of savannas	CH ₄	0.0	0.0	< 0.01	1.00
CH ₄ emissions from Wetlands remaining Wetlands	CH ₄	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Silicon carbide production	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Carbide production	CO ₂	0.2	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Grassland	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Other Land	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Land converted to Wetlands	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Settlements remaining Settlements	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from solid waste disposal sites	CO ₂	0.0	0.0	< 0.01	1.00
CO ₂ emissions from Wetlands remaining Wetlands	CO ₂	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Adipic acid production	N ₂ O	0.7	0.0	< 0.01	1.00
N ₂ O emissions from Cropland remaining Cropland	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from field burning of agricultural residues	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Grassland remaining Grassland	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to	N ₂ O	0.0	0.0	< 0.01	1.00

Tier 1 Analysis – Level Assessment, 2009, including LULUCF (Table 5.4.7 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Wetlands					
N ₂ O emissions from Land converted to Forest Land	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Land converted to Grassland	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from prescribed burning of savannas	N ₂ O	0.0	0.0	< 0.01	1.00
N ₂ O emissions from Wetlands remaining Wetlands	N ₂ O	0.0	0.0	< 0.01	1.00
Other transports-pipeline	CH ₄	0.0	0.0	< 0.01	1.00
Other transports-pipeline	N ₂ O	0.0	0.0	< 0.01	1.00
TOTAL		310.3	153.7	1.00	

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
CO ₂ emissions from Forest Land remaining Forest Land	CO ₂	20.0	23.5	0.18	15.62	0.16
Energy Industries-gaseous fuels	CO ₂	42.1	8.5	0.16	14.25	0.30
Road transport	CO ₂	4.6	14.4	0.16	13.91	0.44
Energy Industries-liquid fuels	CO ₂	17.9	4.6	0.06	4.83	0.49
CO ₂ emissions from Iron and steel production	CO ₂	15.8	3.7	0.05	4.76	0.53
Residential-gaseous fuels	CO ₂	2.8	5.0	0.05	4.15	0.58
Energy Industries-solid fuels	CO ₂	46.0	26.1	0.04	3.78	0.61
Fugitive emissions-oil and natural gas	CH ₄	21.8	8.1	0.04	3.10	0.64
Manufacturing Industries and Constructions-solid fuels	CO ₂	10.6	2.8	0.03	2.87	0.67
N ₂ O emissions from Nitric acid production	N ₂ O	5.5	0.5	0.03	2.51	0.70
CH ₄ emissions from solid waste disposal sites	CH ₄	2.3	3.3	0.03	2.48	0.72
Manufacturing Industries and Constructions-liquid fuels	CO ₂	10.2	2.9	0.03	2.47	0.75
CO ₂ emissions from Cropland remaining Cropland	CO ₂	4.5	0.1	0.03	2.47	0.77
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	16.6	6.1	0.03	2.43	0.80
Commercial/Institutional -gaseous fuels	CO ₂	0.3	2.2	0.03	2.31	0.82
PFC emissions from Aluminium production	PFC	3.3	0.0	0.02	1.90	0.84
CO ₂ emissions from Land converted to Settlements	CO ₂	2.8	0.0	0.02	1.55	0.85
CO ₂ emissions from Land converted to Forest Land	CO ₂	0.0	1.1	0.01	1.30	0.87
Agriculture/Forestry/Fish eries-liquid fuels	CO ₂	3.6	0.7	0.01	1.25	0.88
CH ₄ emissions from enteric fermentation	CH ₄	10.6	6.1	0.01	1.02	0.89
Residential-biomass	CH ₄	0.1	0.9	0.01	< 1	0.90

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Residential-solid fuels	CO ₂	1.7	0.1	0.01	< 1	0.91
CO ₂ emissions from Ammonia production	CO ₂	5.0	1.7	0.01	< 1	0.92
Fugitive emissions-solid fuels	CH ₄	6.4	2.4	< 0.01	< 1	0.93
CH ₄ emissions from wastewater handling	CH ₄	0.4	0.9	< 0.01	< 1	0.93
Residential-liquid fuels	CO ₂	0.6	0.8	< 0.01	< 1	0.94
Direct N ₂ O emissions from agricultural soils	N ₂ O	19.5	10.2	< 0.01	< 1	0.95
CO ₂ emissions from Limestone and dolomite use	CO ₂	1.7	0.4	< 0.01	< 1	0.95
Road transport	N ₂ O	0.0	0.3	< 0.01	< 1	0.96
N ₂ O emissions from Adipic acid production	N ₂ O	0.7	0.0	< 0.01	< 1	0.96
CO ₂ emissions from Cement production	CO ₂	5.6	3.1	< 0.01	< 1	0.96
CO ₂ emissions from Lime production	CO ₂	3.8	1.6	< 0.01	< 1	0.97
CO ₂ emissions from Ferroalloys production	CO ₂	0.5	0.0	< 0.01	< 1	0.97
Agricultural soils : animal production	N ₂ O	3.0	1.7	< 0.01	< 1	0.97
N ₂ O emissions from waste water handling	N ₂ O	0.2	0.3	< 0.01	< 1	0.97
Commercial/Institutional -solid fuels	CO ₂	0.4	0.0	< 0.01	< 1	0.98
CO ₂ emissions from Solvent and other product use	CO ₂	0.6	0.1	< 0.01	< 1	0.98
CO ₂ emissions from Land converted to Cropland	CO ₂	0.0	0.2	< 0.01	< 1	0.98
Commercial/Institutional -liquid fuels	CO ₂	0.5	0.5	< 0.01	< 1	0.98
Residential-biomass	N ₂ O	0.0	0.2	< 0.01	< 1	0.98
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.5	3.6	< 0.01	< 1	0.99
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	0.1	0.1	< 0.01	< 1	0.99
Navigation	CO ₂	0.3	0.0	< 0.01	< 1	0.99
CO ₂ emissions from Aluminium production	CO ₂	0.4	0.3	< 0.01	< 1	0.99
CH ₄ emissions from manure management	CH ₄	4.3	2.0	< 0.01	< 1	0.99

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)						
A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO ₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO ₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
CO ₂ emissions from Carbide production	CO ₂	0.2	0.0	< 0.01	< 1	0.99
Railways	CO ₂	0.9	0.4	< 0.01	< 1	0.99
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	0.1	0.0	< 0.01	< 1	0.99
Residential-solid fuels	CH ₄	0.1	0.0	< 0.01	< 1	0.99
CH ₄ emissions from field burning of agricultural residues	CH ₄	0.1	0.0	< 0.01	< 1	1.00
Road transport	CH ₄	0.0	0.1	< 0.01	< 1	1.00
CO ₂ emissions from Mineral products - other	CO ₂	0.1	0.0	< 0.01	< 1	1.00
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	0.0	0.0	< 0.01	< 1	1.00
Civil Aviation	CO ₂	0.0	0.0	< 0.01	< 1	1.00
Fugitive emissions-oil and natural gas	CO ₂	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Land converted to Cropland	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-solid fuels	N ₂ O	0.2	0.1	< 0.01	< 1	1.00
Commercial/Institutional -biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from field burning of agricultural residues	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Other transports-pipeline	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Chemical industry-other	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Soda ash production and use	CO ₂	0.1	0.1	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from waste incineration	CO ₂	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from manure management	N ₂ O	3.2	1.6	< 0.01	< 1	1.00

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)						
A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO ₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO ₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Residential-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Silicon Carbide production	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Residential-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ from rice production	CH ₄	0.1	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Forest Land remaining Forest Land	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Residential-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Residential-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Residential-liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries and Constructions-liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Energy Industries-solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Manufacturing Industries	N ₂ O	0.0	0.0	< 0.01	< 1	1.00

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)						
A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO ₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO ₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
and Constructions- gaseous fuels						
Commercial/Institutional -gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Energy Industries- biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional -solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Energy Industries- biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional -liquid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional -liquid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fish eries-biomass	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Commercial/Institutional -solid fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Railways	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Navigation	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Civil Aviation	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fish eries-solid fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fish eries-gaseous fuels	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Navigation	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Railways	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fish eries-biomass	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Agriculture/Forestry/Fish eries-gaseous fuels	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Civil Aviation	CH ₄	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Forest Land remaining Forest Land	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Cropland remaining Cropland	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Grassland remaining Grassland	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Land converted to Cropland	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Land converted to Forest	CH ₄	0.0	0.0	< 0.01	< 1	1.00

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)						
A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO ₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO ₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Land						
CH ₄ emissions from Land converted to Grassland	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Land converted to Wetlands	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from prescribed burning of savannas	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CH ₄ emissions from Wetlands remaining Wetlands	CH ₄	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Silicon carbide production	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Land converted to Grassland	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Land converted to Other Land	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Land converted to Wetlands	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Settlements remaining Settlements	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from solid waste disposal sites	CO ₂	0.0	0.0	< 0.01	< 1	1.00
CO ₂ emissions from Wetlands remaining Wetlands	CO ₂	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Cropland remaining Cropland	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Grassland remaining Grassland	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Land converted to Wetlands	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Land converted to Forest Land	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from	N ₂ O	0.0	0.0	< 0.01	< 1	1.00

Tier 1 Analysis – Trend Assessment, 2009, including LULUCF (Table 5.4.8 of IPCC GPG 2003)

A IPCC Source Categories	B Direct Greenhouse Gas	C Base Year Estimate Absolute Value (Mt CO₂ Equivalent)	D Current Year Estimate Absolute Value (Mt CO₂ Equivalent)	E Trend Assessment	F % Contribution to trend	G Cumulative Total of Column F
Land converted to Grassland						
N ₂ O emissions from prescribed burning of savannas	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
N ₂ O emissions from Wetlands remaining Wetlands	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
Other transports-pipeline	CH ₄	0.0	0.0	< 0.01	< 1	1.00
Other transports-pipeline	N ₂ O	0.0	0.0	< 0.01	< 1	1.00
TOTAL		310.3	153.7	1.14	0.00	

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Energy				
Agriculture/Forestry/Fisheries-biomass	CH ₄	No		
Agriculture/Forestry/Fisheries-biomass	N ₂ O	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	Yes	Level	
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	No		
Civil Aviation	CH ₄	No		
Civil Aviation	CO ₂	No		
Civil Aviation	N ₂ O	No		
Commercial/Institutional-biomass	CH ₄	No		
Commercial/Institutional-biomass	N ₂ O	No		
Commercial/Institutional-gaseous fuels	CH ₄	No		
Commercial/Institutional-gaseous fuels	CO ₂	No		
Commercial/Institutional-gaseous fuels	N ₂ O	No		
Commercial/Institutional-liquid fuels	CH ₄	No		
Commercial/Institutional-liquid fuels	CO ₂	No		
Commercial/Institutional-liquid fuels	N ₂ O	No		
Commercial/Institutional-solid fuels	CH ₄	No		
Commercial/Institutional-solid fuels	CO ₂	No		
Commercial/Institutional-solid fuels	N ₂ O	No		
Energy Industries-biomass	CH ₄	No		
Energy Industries-biomass	N ₂ O	No		
Energy Industries-gaseous fuels	CH ₄	No		
Energy Industries-gaseous fuels	CO ₂	Yes	Level	
Energy Industries-gaseous fuels	N ₂ O	No		
Energy Industries-liquid fuels	CH ₄	No		
Energy Industries-liquid fuels	CO ₂	Yes	Level	
Energy Industries-liquid fuels	N ₂ O	No		
Energy Industries-solid fuels	CH ₄	No		
Energy Industries-solid fuels	CO ₂	Yes	Level	
Energy Industries-solid fuels	N ₂ O	No		
Fugitive emissions-oil and natural gas	CH ₄	Yes	Level	
Fugitive emissions-oil and natural gas	CO ₂	No		
Fugitive emissions-solid fuels	CH ₄	Yes	Level	
Manufacturing Industries and Constructions-biomass	CH ₄	No		
Manufacturing Industries and Constructions-biomass	N ₂ O	No		

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	No		
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	Yes	Level	
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	No		
Manufacturing Industries and Constructions-liquid fuels	CH ₄	No		
Manufacturing Industries and Constructions-liquid fuels	CO ₂	Yes	Level	
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	No		
Manufacturing Industries and Constructions-solid fuels	CH ₄	No		
Manufacturing Industries and Constructions-solid fuels	CO ₂	Yes	Level	
Manufacturing Industries and Constructions-solid fuels	N ₂ O	No		
Navigation	CH ₄	No		
Navigation	CO ₂	No		
Navigation	N ₂ O	No		
Other transports-pipeline	CO ₂	No		
Railways	CH ₄	No		
Railways	CO ₂	No		
Railways	N ₂ O	No		
Residential-biomass	CH ₄	No		
Residential-biomass	N ₂ O	No		
Residential-gaseous fuels	CH ₄	No		
Residential-gaseous fuels	CO ₂	Yes	Level	
Residential-gaseous fuels	N ₂ O	No		
Residential-liquid fuels	CH ₄	No		
Residential-liquid fuels	CO ₂	No		
Residential-liquid fuels	N ₂ O	No		
Residential-solid fuels	CH ₄	No		
Residential-solid fuels	CO ₂	No		
Residential-solid fuels	N ₂ O	No		
Road transport	CH ₄	No		
Road transport	CO ₂	Yes	Level	
Road transport	N ₂ O	No		
Other transports-pipeline	CH ₄	No		
Other transports-pipeline	N ₂ O	No		
Industrial Processes				
CH ₄ emissions from Chemical industry-other	CH ₄	No		
CO ₂ emissions from Aluminium production	CO ₂	No		
CO ₂ emissions from Ammonia production	CO ₂	Yes	Level	

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
CO ₂ emissions from Carbide production	CO ₂	No		
CO ₂ emissions from Ferroalloys production	CO ₂	No		
CO ₂ emissions from Iron and steel production	CO ₂	Yes	Level	
CO ₂ emissions from Limestone and dolomite use	CO ₂	No		
CO ₂ emissions from Mineral products - other	CO ₂	No		
CO ₂ emissions from Soda ash production and use	CO ₂	No		
CO ₂ emissions from Cement production	CO ₂	Yes	Level	
CO ₂ emissions from Lime production	CO ₂	Yes	Level	
Emissions from Consumption of halocarbons	HFCs, PFCs, SF ₆	No		
N ₂ O emissions from Nitric acid production	N ₂ O	Yes	Level	
N ₂ O emissions from Adipic acid production	N ₂ O	No		
PFC emissions from Aluminium production	PFC	Yes	Level	
CH ₄ emissions from Silicon Carbide production	CH ₄	No		
CO ₂ emissions from Silicon Carbide production	CO ₂	No		
Solvents and other product use				
CO ₂ emissions from Solvent and other product use	CO ₂	No		
Agriculture				
Agricultural soils: animal production	N ₂ O	Yes	Level	
CH ₄ emissions from enteric fermentation	CH ₄	Yes	Level	
CH ₄ emissions from field burning of agricultural residues	CH ₄	No		
CH ₄ emissions from manure management	CH ₄	Yes	Level	
CH ₄ emissions from rice production	CH ₄			
Direct N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level	
Indirect N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level	
N ₂ O emissions from field burning of agricultural residues	N ₂ O	No		
N ₂ O emissions from manure management	N ₂ O	Yes	Level	
CH ₄ emissions from prescribed burning of savannas	CH ₄	No		
N ₂ O emissions from prescribed burning of savannas	N ₂ O	No		
LULUCF				
CO ₂ emissions from Forest Land remaining Forest Land	CO ₂	Yes	Level	
CH ₄ emissions from Forest Land remaining Forest Land	CH ₄	No		
N ₂ O emissions from Forest Land remaining Forest Land	N ₂ O	No		
CO ₂ emissions from Land converted to Forest Land	CO ₂	No		

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
CH ₄ emissions from Land converted to Forest Land	CH ₄	No		
N ₂ O emissions from Land converted to Forest Land	N ₂ O	No		
CO ₂ emissions from Cropland remaining Cropland	CO ₂	Yes	Level	
CH ₄ emissions from Cropland remaining Cropland	CH ₄	No		
N ₂ O emissions from Cropland remaining Cropland	N ₂ O	No		
CO ₂ emissions from Land converted to Cropland	CO ₂	No		
CH ₄ emissions from Land converted to Cropland	CH ₄	No		
N ₂ O emissions from Land converted to Cropland	N ₂ O	No		
CH ₄ emissions from Grassland remaining Grassland	CH ₄	No		
N ₂ O emissions from Grassland remaining Grassland	N ₂ O	No		
CO ₂ emissions from Land converted to Grassland	CO ₂	No		
CH ₄ emissions from Land converted to Grassland	CH ₄	No		
N ₂ O emissions from Land converted to Grassland	N ₂ O	No		
CO ₂ emissions from Wetlands remaining Wetlands	CO ₂	No		
CH ₄ emissions from Wetlands remaining Wetlands	CH ₄	No		
N ₂ O emissions from Wetlands remaining Wetlands	N ₂ O	No		
CO ₂ emissions from Land converted to Wetlands	CO ₂	No		
CH ₄ emissions from Land converted to Wetlands	CH ₄	No		
N ₂ O emissions from Land converted to Wetlands	N ₂ O	No		
CO ₂ emissions from Settlements remaining Settlements	CO ₂	No		
CO ₂ emissions from Land converted to Settlements	CO ₂	No		
CO ₂ emissions from Land converted to Other Land	CO ₂	No		
Waste				
CH ₄ emissions from solid waste disposal sites	CH ₄	No		
CH ₄ emissions from waste water handling	CH ₄	No		
CO ₂ emissions from waste incineration	CO ₂	No		
N ₂ O emissions from waste water handling	N ₂ O	No		
CO ₂ emissions from solid waste disposal sites	CO ₂	No		

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)				
Quantitative Method Used: <input checked="" type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2				
A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Key Category Analysis Summary, 2009, including LULUCF (Table 5.4.5 of IPCC GPG 2003)				
Quantitative Method Used: <input checked="" type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2				
A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Energy				
Agriculture/Forestry/Fisheries-biomass	CH ₄	No		
Agriculture/Forestry/Fisheries-biomass	N ₂ O	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-gaseous fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-gaseous fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-liquid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-liquid fuels	CO ₂	Yes	Trend	
Agriculture/Forestry/Fisheries-liquid fuels	N ₂ O	No		
Agriculture/Forestry/Fisheries-solid fuels	CH ₄	No		
Agriculture/Forestry/Fisheries-solid fuels	CO ₂	No		
Agriculture/Forestry/Fisheries-solid fuels	N ₂ O	No		
Civil Aviation	CH ₄	No		
Civil Aviation	CO ₂	No		
Civil Aviation	N ₂ O	No		
Commercial/Institutional-biomass	CH ₄	No		
Commercial/Institutional-biomass	N ₂ O	No		
Commercial/Institutional-gaseous fuels	CH ₄	No		
Commercial/Institutional-gaseous fuels	CO ₂	Yes	Level, Trend	
Commercial/Institutional-gaseous fuels	N ₂ O	No		
Commercial/Institutional-liquid fuels	CH ₄	No		
Commercial/Institutional-liquid fuels	CO ₂	Yes		
Commercial/Institutional-liquid fuels	N ₂ O	No		
Commercial/Institutional-solid fuels	CH ₄	No		
Commercial/Institutional-solid fuels	CO ₂	No		
Commercial/Institutional-solid fuels	N ₂ O	No		
Energy Industries-biomass	CH ₄	No		
Energy Industries-biomass	N ₂ O	No		
Energy Industries-gaseous fuels	CH ₄	No		
Energy Industries-gaseous fuels	CO ₂	Yes	Level, Trend	
Energy Industries-gaseous fuels	N ₂ O	No		
Energy Industries-liquid fuels	CH ₄	No		
Energy Industries-liquid fuels	CO ₂	Yes	Level, Trend	
Energy Industries-liquid fuels	N ₂ O	No		

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Energy Industries-solid fuels	CH ₄	No		
Energy Industries-solid fuels	CO ₂	Yes	Level, Trend	
Energy Industries-solid fuels	N ₂ O	No		
Fugitive emissions-oil and natural gas	CH ₄	Yes	Level, Trend	
Fugitive emissions-oil and natural gas	CO ₂	No		
Fugitive emissions-solid fuels	CH ₄	Yes	Level, Trend	
Manufacturing Industries and Constructions-biomass	CH ₄	No		
Manufacturing Industries and Constructions-biomass	N ₂ O	No		
Manufacturing Industries and Constructions-gaseous fuels	CH ₄	No		
Manufacturing Industries and Constructions-gaseous fuels	CO ₂	Yes	Level, Trend	
Manufacturing Industries and Constructions-gaseous fuels	N ₂ O	No		
Manufacturing Industries and Constructions-liquid fuels	CH ₄	No		
Manufacturing Industries and Constructions-liquid fuels	CO ₂	Yes	Level, Trend	
Manufacturing Industries and Constructions-liquid fuels	N ₂ O	No		
Manufacturing Industries and Constructions-solid fuels	CH ₄	No		
Manufacturing Industries and Constructions-solid fuels	CO ₂	Yes	Level, Trend	
Manufacturing Industries and Constructions-solid fuels	N ₂ O	No		
Navigation	CH ₄	No		
Navigation	CO ₂	No		
Navigation	N ₂ O	No		
Other transports-pipeline	CO ₂	No		
Railways	CH ₄	No		
Railways	CO ₂	No		
Railways	N ₂ O	No		
Residential-biomass	CH ₄	Yes	Trend	
Residential-biomass	N ₂ O	No		
Residential-gaseous fuels	CH ₄	No		
Residential-gaseous fuels	CO ₂	Yes	Level, Trend	
Residential-gaseous fuels	N ₂ O	No		
Residential-liquid fuels	CH ₄	No		
Residential-liquid fuels	CO ₂	Yes	Trend	
Residential-liquid fuels	N ₂ O	No		
Residential-solid fuels	CH ₄	No		
Residential-solid fuels	CO ₂	Yes	Trend	

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories	B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Residential-solid fuels	N ₂ O	No		
Road transport	CH ₄	No		
Road transport	CO ₂	Yes	Level, Trend	
Road transport	N ₂ O	No		
Other transports-pipeline	CH ₄	No		
Other transports-pipeline	N ₂ O	No		
Industrial Processes				
CH ₄ emission from Chemical industry-other	CH ₄	No		
CH ₄ emission from Silicon Carbide production	CH ₄	No		
CO ₂ emission from Aluminium production	CO ₂	No		
CO ₂ emission from Ammonia production	CO ₂	Yes	Level, Trend	
CO ₂ emission from Carbide production	CO ₂	No		
CO ₂ emission from Ferroalloys production	CO ₂	No		
CO ₂ emission from Iron and steel production	CO ₂	Yes	Level, Trend	
CO ₂ emission from Limestone and dolomite use	CO ₂	No	Trend	
CO ₂ emission from Mineral products - other	CO ₂	No		
CO ₂ emission from Soda ash production and use	CO ₂	No		
CO ₂ emissions from Cement production	CO ₂	Yes	Level	
CO ₂ emissions from Lime production	CO ₂	Yes	Level	
Emission from Consumption of halocarbons	HFCs, PFCs, SF ₆	No		
N ₂ O emission from Nitric acid production	N ₂ O	Yes	Trend	
N ₂ O emission from Adipic acid production	N ₂ O	No		
PFC emission from Aluminium production	PFC	Yes	Trend	
CO ₂ emissions from Silicon carbide production	CO ₂	No		
Solvents and other product use				
CO ₂ emission from Solvent and other product use	CO ₂	No		
Agriculture				
Agricultural soils: animal production	N ₂ O	Yes	Level	
CH ₄ from enteric fermentation	CH ₄	Yes	Level, Trend	
CH ₄ from field burning of agricultural residues	CH ₄	No		
CH ₄ from manure management	CH ₄	Yes	Level	
CH ₄ from rice production	CH ₄	No		
Direct N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level, Trend	

Key Category Analysis Summary, 1989, including LULUCF (Table 5.4.5 of IPCC GPG 2003)

Quantitative Method Used: ☒ Tier 1 ☐ Tier 2

A IPCC Source Categories		B Direct Greenhouse Gas	C Key Source Category Flag	D If Column C is Yes, Criteria for Identification	E Comments
Indirect N ₂ O emissions from agricultural soils	N ₂ O	Yes	Level		
N ₂ O from field burning of agricultural residues	N ₂ O	No			
N ₂ O from manure management	N ₂ O	Yes	Level		
CH ₄ from prescribed burning of savannas	CH ₄	No			
N ₂ O from prescribed burning of savannas	N ₂ O	No			
LULUCF					
CO ₂ from Forest Land remaining Forest Land	CO ₂	Yes	Level, Trend		
CH ₄ from Forest Land remaining Forest Land	CH ₄	No			
N ₂ O from Forest Land remaining Forest Land	N ₂ O	No			
CO ₂ from Land converted to Forest Land	CO ₂	Yes	Level, Trend		
CH ₄ from Land converted to Forest Land	CH ₄				
N ₂ O from Land converted to Forest Land	N ₂ O				
CO ₂ from Cropland remaining Cropland	CO ₂	Yes	Trend		
CH ₄ from Cropland remaining Cropland	CH ₄				
N ₂ O from Cropland remaining Cropland	N ₂ O				
CO ₂ from Land converted to Cropland	CO ₂				
CH ₄ from Land converted to Cropland	CH ₄				
N ₂ O from Land converted to Cropland	N ₂ O				
CH ₄ from Grassland remaining Grassland	CH ₄				
N ₂ O from Grassland remaining Grassland	N ₂ O				
CO ₂ from Land converted to Grassland	CO ₂				
CH ₄ from Land converted to Grassland	CH ₄				
N ₂ O from Land converted to Grassland	N ₂ O				
CO ₂ from Wetlands remaining Wetlands	CO ₂				
CH ₄ from Wetlands remaining Wetlands	CH ₄				
N ₂ O from Wetlands remaining Wetlands	N ₂ O				
CO ₂ from Land converted to Wetlands	CO ₂				
CH ₄ from Land converted to Wetlands	CH ₄				
N ₂ O from Land converted to Wetlands	N ₂ O				
CO ₂ from Settlements remaining Settlements	CO ₂				
CO ₂ from Land converted to Settlements	CO ₂	Yes	Trend		
CO ₂ from Land converted to Other Land	CO ₂				
Waste					
CH ₄ from solid waste disposal sites	CH ₄	Yes	Level, Trend		
CH ₄ from waste water handling	CH ₄	Yes	Level		
CO ₂ from waste incineration	CO ₂	No			
N ₂ O from waste water handling	N ₂ O	No			
CO ₂ from solid waste disposal sites	CO ₂	No			

Table NIR. 3, as contained in the Annex to Decision 6/CMP. 3 (and containing information associated KP - LULUCF 2009)

KEY CATEGORIES OF EMISSIONS AND REMOVALS	GAS	CRITERIA USED FOR KEY CATEGORY IDENTIFICATION			COMMENTS (3)
		Associated category in UNFCCC inventory (1) is key (indicate which category)	Category contribution is greater than the smallest category considered key in the UNFCCC inventory (1), (4) (including LULUCF)	Other (2)	
Specify key categories according to the national level of disaggregation used(1)					
Forest Management	CO ₂	Forest land remaining forest land	Yes	No other criteria needed	Key category level and trend assessment including LULUCF
Afforestation and Reforestation	CO ₂	Conversion to forest land	Yes	No other criteria needed	Key category level and trend assessment including LULUCF