

Annex 1 – Key categories

Description of methodology used

Key category analysis was done according to the provisions in Chapter 7 of IPCC GPG 2000. A tier 1 method was used to identify key categories (Chapter 7.2.1 of IPCC GPG 2000 presents the method).

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

Key categories analysis took into account every emission source according to the provisions in IPCC GPG 2000 – Reporting Instructions and to those in UNFCCC reporting guidelines on annual inventories.

Tables 7A1 – 7A3 of the IPCC GPG 2000

Tier 1 Analysis – Level Assessment (Table 7A1 of IPCC GPG 2000)					
A IPCC Source Categories	B Direct Greenh ouse Gas	C Base Year Estimate (Mt CO₂ Equivalent)	D Current Year Estimate (Mt CO₂ Equivalent)	E Level Assessment	F Cumulative Total of Column E
Stationary combustion solid fuels	CO ₂	58.9	39.0	0.24	0.24
Stationary combustion gaseous fuels	CO ₂	61.9	31.1	0.19	0.44
Stationary combustion liquid fuels	CO ₂	32.7	16.7	0.10	0.54
Mobile combustion -road	CO ₂	4.6	13.8	0.09	0.63
Fugitive emissions -oil and natural gas	CH ₄	22.9	8.3	0.05	0.68
CO ₂ from iron and steel production	CO ₂	15.8	6.3	0.04	0.72
Direct N ₂ O emissions from agricultural soils	N ₂ O	11.2	6.0	0.04	0.76
CH ₄ from enteric fermentation	CH ₄	11.8	5.4	0.03	0.79
CH ₄ from solid waste disposal sites	CH ₄	2.6	4.3	0.03	0.82
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.7	3.5	0.02	0.84
N ₂ O from nitric acid production	N ₂ O	6.8	3.2	0.02	0.86
CO ₂ emissions from cement production	CO ₂	5.6	3.0	0.02	0.88
Fugitive emissions -solid fuels	CH ₄	6.4	2.6	0.02	0.89
CH ₄ from waste water handling	CH ₄	2.4	2.3	0.01	0.91
CO ₂ emissions from lime production	CO ₂	4.0	2.2	0.01	0.92
CO ₂ Ammonia production	CO ₂	5.0	2.1	0.01	0.94
CH ₄ from manure management	CH ₄	4.4	2.0	0.01	0.95
Agricultural soils : animal production	N ₂ O	3.3	1.7	0.01	0.96
N ₂ O from manure management	N ₂ O	3.1	1.4	< 0.01	0.97
Stationary combustion -biomass	CH ₄	0.2	0.7	< 0.01	0.97
N ₂ O from waste water handling	N ₂ O	0.7	0.6	< 0.01	0.98
Mobile combustion -railways	CO ₂	0.9	0.6	< 0.01	0.98
CO ₂ from limestone and dolomite use	CO ₂	1.1	0.5	< 0.01	0.98
PFC from aluminum production	PFC	3.3	0.5	< 0.01	0.99
CO ₂ from ferroalloys	CO ₂	0.1	0.3	< 0.01	0.99
CO ₂ from aluminum production	CO ₂	0.4	0.3	< 0.01	0.99
CO ₂ solvents	CO ₂	0.6	0.3	< 0.01	0.99
Stationary combustion -biomass	N ₂ O	0.0	0.2	< 0.01	0.99
Stationary combustion solid fuels	N ₂ O	0.2	0.2	< 0.01	0.99
CH ₄ from field burning of agricultural residues	CH ₄	0.1	0.1	< 0.01	1.00
CO ₂ from waste incineration	CO ₂	0.1	0.1	< 0.01	1.00

Tier 1 Analysis – Level Assessment (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
Mobile combustion -civil aviation	CO ₂	0.2	0.1	< 0.01	1.00
Mobile combustion -navigation	CO ₂	1.6	0.1	< 0.01	1.00
CO ₂ from soda ash production and use	CO ₂	0.1	0.1	< 0.01	1.00
Mobile combustion -road	CH ₄	0.0	0.1	< 0.01	1.00
CO ₂ from carbide production	CO ₂	0.1	0.0	< 0.01	1.00
CO ₂ mineral products other	CO ₂	0.1	0.0	< 0.01	1.00
Stationary combustion liquid fuels	N ₂ O	0.1	0.0	< 0.01	1.00
N ₂ O from field burning of agricultural residues	N ₂ O	0.0	0.0	< 0.01	1.00
Stationary combustion gaseous fuels	CH ₄	0.1	0.0	< 0.01	1.00
Mobile combustion -road	N ₂ O	0.0	0.0	< 0.01	1.00
Stationary combustion solid fuels	CH ₄	0.1	0.0	< 0.01	1.00
Other transportation -other (pipeline)	CO ₂	0.0	0.0	< 0.01	1.00
CH ₄ Chemical industry-other	CH ₄	0.0	0.0	< 0.01	1.00
Stationary combustion liquid fuels	CH ₄	0.0	0.0	< 0.01	1.00
Stationary combustion gaseous fuels	N ₂ O	0.0	0.0	< 0.01	1.00
Consumption of halocarbons	PFC, HFC and SF ₆	0.0	0.0	< 0.01	1.00
CH ₄ from rice production	CH ₄	0.2	0.0	< 0.01	1.00
Mobile combustion -railways	N ₂ O	0.0	0.0	< 0.01	1.00
Mobile combustion -railways	CH ₄	0.0	0.0	< 0.01	1.00
Mobile combustion -civil aviation	N ₂ O	0.0	0.0	< 0.01	1.00
Mobile combustion -navigation	N ₂ O	0.0	0.0	< 0.01	1.00
Mobile combustion -navigation	CH ₄	0.0	0.0	< 0.01	1.00
Mobile combustion -civil aviation	CH ₄	0.0	0.0	< 0.01	1.00
Mobile combustion -other (agriculture)	CO ₂	0.0	0.0	< 0.01	1.00
Mobile combustion -other (agriculture)	N ₂ O	0.0	0.0	< 0.01	1.00
Mobile combustion -other (agriculture)	CH ₄	0.0	0.0	< 0.01	1.00
N ₂ O from adipic acid production	N ₂ O	0.7	0.0	< 0.01	1.00
TOTAL		282.5	160.1	1.00	

Tier 1 Analysis – Trend Assessment (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
Mobile combustion -road	CO ₂	4.6	13.8	0.27	48	0.48
Stationary combustion gaseous fuels	CO ₂	61.9	31.1	0.05	10	0.58
CH ₄ from solid waste disposal sites	CH ₄	2.6	4.3	0.04	7	0.64
CO ₂ from iron and steel production	CO ₂	15.8	6.3	0.03	5	0.70
Fugitive emissions -oil and natural gas	CH ₄	22.9	8.3	0.03	5	0.74
Stationary combustion solid fuels	CO ₂	58.9	39.0	0.02	4	0.78
N ₂ O from manure management	N ₂ O	3.1	1.4	0.02	3	0.81
CO ₂ from carbide production	CO ₂	0.1	0.0	0.02	3	0.84
Stationary combustion liquid fuels	CO ₂	32.7	16.7	0.01	2	0.85
Mobile combustion -navigation	CO ₂	1.6	0.1	< 0.01	2	0.87
CH ₄ from waste water handling	CH ₄	2.4	2.3	< 0.01	2	0.89
Direct N ₂ O emissions from agricultural soils	N ₂ O	11.2	6.0	< 0.01	2	0.90
Indirect N ₂ O emissions from agricultural soils	N ₂ O	7.7	3.5	< 0.01	1	0.91
CH ₄ from manure management	CH ₄	4.4	2.0	< 0.01	<1	0.92
N ₂ O from nitric acid production	N ₂ O	6.8	3.2	< 0.01	<1	0.93
PFC from aluminum production	PFC	3.3	0.5	< 0.01	<1	0.94
CO ₂ from limestone and dolomite use	CO ₂	1.1	0.5	< 0.01	<1	0.95
Stationary combustion -biomass	CH ₄	0.2	0.7	< 0.01	<1	0.95
N ₂ O from waste water handling	N ₂ O	0.7	0.6	< 0.01	<1	0.96
Mobile combustion -railways	CO ₂	0.9	0.6	< 0.01	<1	0.96
Stationary combustion -biomass	N ₂ O	0.0	0.2	< 0.01	<1	0.97
CO ₂ Ammonia production	CO ₂	5.0	2.1	< 0.01	<1	0.97
CO ₂ emissions from cement production	CO ₂	5.6	3.0	< 0.01	<1	0.98
CO ₂ solvents	CO ₂	0.6	0.3	< 0.01	<1	0.98
Agricultural soils : animal production	N ₂ O	3.3	1.7	< 0.01	<1	0.98
CH ₄ from enteric fermentation	CH ₄	11.8	5.4	< 0.01	<1	0.99
CO ₂ from aluminum production	CO ₂	0.4	0.3	< 0.01	<1	0.99
Stationary combustion solid fuels	CH ₄	0.1	0.0	< 0.01	<1	0.99
Stationary combustion solid fuels	N ₂ O	0.2	0.2	< 0.01	<1	0.99
CH ₄ from field burning of agricultural residues	CH ₄	0.1	0.1	< 0.01	<1	0.99
Mobile combustion -road	CH ₄	0.0	0.1	< 0.01	<1	0.99
CO ₂ emissions from lime production	CO ₂	4.0	2.2	< 0.01	<1	0.99
Mobile combustion -road	N ₂ O	0.0	0.0	< 0.01	<1	1.00
Other transportation -other (pipeline)	CO ₂	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -civil aviation	CO ₂	0.2	0.1	< 0.01	<1	1.00

Tier 1 Analysis – Trend Assessment (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
Fugitive emissions -solid fuels	CH ₄	6.4	2.6	< 0.01	<1	1.00
CO ₂ from soda ash production and use	CO ₂	0.1	0.1	< 0.01	<1	1.00
Mobile combustion -navigation	N ₂ O	0.0	0.0	< 0.01	<1	1.00
Consumption of halocarbons	PFC, HFC and SF ₆	0.0	0.0	< 0.01	<1	1.00
Stationary combustion liquid fuels	N ₂ O	0.1	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
CO ₂ mineral products other	CO ₂	0.1	0.0	< 0.01	<1	1.00
CO ₂ from waste incineration	CO ₂	0.1	0.1	< 0.01	<1	1.00
Mobile combustion -civil aviation	N ₂ O	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -navigation	CH ₄	0.0	0.0	< 0.01	<1	1.00
Stationary combustion gaseous fuels	CH ₄	0.1	0.0	< 0.01	<1	1.00
CH ₄ Chemical industry-other	CH ₄	0.0	0.0	< 0.01	<1	1.00
CO ₂ from ferroalloys	CO ₂	0.1	0.3	< 0.01	<1	1.00
CH ₄ from rice production	CH ₄	0.2	0.0	< 0.01	<1	1.00
Stationary combustion gaseous fuels	N ₂ O	0.0	0.0	< 0.01	<1	1.00
Stationary combustion liquid fuels	CH ₄	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -railways	CH ₄	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -railways	N ₂ O	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -civil aviation	CH ₄	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -other (agriculture)	CO ₂	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -other (agriculture)	N ₂ O	0.0	0.0	< 0.01	<1	1.00
Mobile combustion -other (agriculture)	CH ₄	0.0	0.0	< 0.01	<1	1.00
N ₂ O from adipic acid production	N ₂ O	0.7	0.0	< 0.01	<1	1.00
TOTAL		282.5	160.1	0.57	1	

Source Category Analysis Summary (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				
Fugitive emissions -oil and natural gas	CH ₄	Yes	Level, Trend	
Fugitive emissions -solid fuels	CH ₄	Yes	Level	
Mobile combustion -civil aviation	CO ₂	No		
Mobile combustion -civil aviation	N ₂ O	No		
Mobile combustion -civil aviation	CH ₄	No		
Mobile combustion -navigation	CO ₂	Yes	Trend	
Mobile combustion -navigation	N ₂ O	No		
Mobile combustion -navigation	CH ₄	No		
Mobile combustion -other (agriculture)	CO ₂	No		
Mobile combustion -other (agriculture)	N ₂ O	No		
Mobile combustion -other (agriculture)	CH ₄	No		
Mobile combustion -railways	CO ₂	No		
Mobile combustion -railways	N ₂ O	No		
Mobile combustion -railways	CH ₄	No		
Mobile combustion -road	CO ₂	Yes	Level, Trend	
Mobile combustion -road	CH ₄	No		
Mobile combustion -road	N ₂ O	No		
Other transportation -other (pipeline)	CO ₂	No		
Stationary combustion -biomass	CH ₄	Yes	Trend	
Stationary combustion -biomass	N ₂ O	No		
Stationary combustion gaseous fuels	CO ₂	Yes	Level, Trend	
Stationary combustion gaseous fuels	CH ₄	No		
Stationary combustion gaseous fuels	N ₂ O	No		
Stationary combustion liquid fuels	CO ₂	Yes	Level, Trend	
Stationary combustion liquid fuels	N ₂ O	No		
Stationary combustion liquid fuels	CH ₄	No		
Stationary combustion solid fuels	CO ₂	Yes	Level, Trend	
Stationary combustion solid fuels	N ₂ O	No		
Stationary combustion solid fuels	CH ₄	No		
Industrial Processes				
CH ₄ Chemical industry-other	CH ₄	No		
CO ₂ Ammonia production	CO ₂	Yes	Level	
CO ₂ emissions from cement production	CO ₂	Yes	Level	
CO ₂ emissions from lime production	CO ₂	Yes	Level	
CO ₂ from aluminum production	CO ₂	No		
CO ₂ from carbide production	CO ₂	Yes	Trend	
CO ₂ from ferroalloys	CO ₂	No		
CO ₂ from iron and steel production	CO ₂	Yes	Level, Trend	

Source Category Analysis Summary (Table 7A3 of IPCC GPG 2000)				
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
Industrial Processes				
CO ₂ from limestone and dolomite use	CO ₂	Yes	Trend	
CO ₂ from soda ash production and use	CO ₂	No		
CO ₂ mineral products other	CO ₂	No		
Consumption of halocarbons	PFC, HFC, SF ₆	No		
N ₂ O from adipic acid production (a. incetat prod.)	N ₂ O	No		
N ₂ O from nitric acid production	N ₂ O	Yes	Level, Trend	
PFC from aluminium production	PFC	Yes	Trend	
Solvents and other product use				
CO ₂ solvents	CO ₂	No		
Agriculture				
Agricultural soils : animal production	N ₂ O	No		
CH ₄ from enteric fermentation	CH ₄	Yes	Level	
CH ₄ from field burning of agricultural residues	CH ₄	No		
CH ₄ from manure management	CH ₄	Yes	Level, Trend	
CH ₄ from rice production	CH ₄	No		
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, Trend	
N ₂ O from field burning of agricultural residues	N ₂ O	No		
N ₂ O from manure management	N ₂ O	Yes	Trend	
Waste				
CH ₄ from solid waste disposal sites	CH ₄	Yes	Level, Trend	
CH ₄ from waste water handling	CH ₄	Yes	Level, Trend	
CO ₂ from waste incineration	CO ₂	No		
N ₂ O from waste water handling	N ₂ O	No		