

Key Source Category Analysis

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Key source category

- A *key source category* is one that is prioritised within the national inventory system because its estimate has a significant influence on a country's total inventory of direct greenhouse gases in terms of *the absolute level* of emissions, *the trend* in emissions, or *both*.
- Identification of key source categories enables to prioritise available resources for preparing inventory and improve quality of overall estimates.

Methodology for identifying key source categories

- **Quantitative** (identify KSCs in terms of contribution to both the level and the trend in national emissions)
 - Tier 1
 - Tier 2 (accounts for uncertainty)
- **Qualitative** (identify KSCs not captured by quantitative analysis using qualitative criteria)
 - mitigation techniques and technologies
 - high expected emission growth
 - high uncertainty
 - unexpectedly low or high emissions

Tier 1 approach to identify key source categories

- **Level Assessment**

Source category level assessment = Source category estimate / Total estimate

$$L_{x,t} = E_{x,t} / E_t \quad (1)$$

Where:

$L_{x,t}$: Level Assessment for source category x in year t

$E_{x,t}$: Emission estimate of source category x in year t

E_t : Total inventory estimate in year t

Tier 1 approach to identify key source categories

• Trend Assessment

Source Category Trend Assessment = (Source Category Level Assessment) • | (Source Category Trend – Total Trend) |

$$T_{x,t} = L_{x,t} \cdot | \{ [(E_{x,t} - E_{x,0}) / E_{x,t}] - [(E_t - E_0) / E_t] \} | \quad (2)$$

Where:

$T_{x,t}$: Contribution of the source category trend to the overall inventory trend

$L_{x,t}$: Level Assessment for source x in year t

$E_{x,t}$ and $E_{x,0}$: Emissions estimates of source category x in years t and 0, respectively

E_t and E_0 : Total inventory estimates in years t and 0, respectively

Performing Tier 1 Assessment (without LULUCF)

- Tier 1 approach can be readily performed using a spreadsheet analysis. Separate spreadsheets are suggested for the Level and Trend Assessments.

Tier 1 Level Assessment

A IPCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Cumulative Total of Column E
Total					

Tier 1 Trend Assessment

A IPCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Trend Assessment	G (%) Contribution to Trend	H Cumulative total of Column G
Total							

Tier 1 Level Assessment

1. Input data

A PCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457
1A Stationary Combustion	CH ₄	3,154	1,524
1A Stationary Combustion	N ₂ O		
1A Mobile Combustion-Civil Aviation	CO ₂		

CO₂ equivalent emissions calculated using the global warming potentials (GWP) should be entered

2. Compute the total of the BY and current year emissions

Total		1,126,723	1,221,934
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=SUM(C3:C64)

=SUM(D3:D64)

Tier 1 Level Assessment

2. Level Assessment is calculated following the Equation 1 and should be displayed in the column E.

A IPCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264	0.11
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06
1A Stationary Combustion	CH ₄	3,154	1,524	0.00
1A Stationary Combustion	N ₂ O	2,156	1,502	0.00
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21
1A Mobile Combustion-Railway	CO ₂	500	485	0.00
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01
1A Mobile Combustion-Civil aviation	CH ₄	965	4,125	0.00
1A Mobile Combustion-Road Transportation	CH ₄	674	641	0.00
1A Mobile Combustion-Railway	CH ₄	1,689	4,597	0.00
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00
1A Mobile Combustion-Civil Aviation	N ₂ O	2,569	1,255	0.00
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01

$$=D3/ΣD$65$$

Source category emission / Total emission

3. Source categories should be sorted in descending order of magnitude of the level assessment

A IPCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO₂ eq.]	D Current Year Estimate [Mg CO₂ eq.]	E Level Assessment
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264	0.11
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06
2A Mineral Product-Limestone and Dolomite use	CO ₂	26,475	64,825	0.05
4D Agricultural Soils	N ₂ O	63,259	59,687	0.05
2A Mineral Product-Lime Production	CO ₂	31,526	56,298	0.05
6C Waste Incineration	N ₂ O	36,852	35,249	0.03
2A Mineral Product-Cement Production	CO ₂	26,589	32,569	0.03
4A Enteric Fermentation	CH ₄	36,524	32,549	0.03
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02
2E Production of Halocarbons and SF6-Fugitive Emissions	PFCs	9,856	9,548	0.01
2B Chemical Industry-Other	CO ₂	6,254	6,855	0.01
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01
6C Waste Incineration	CO ₂	6,584	6,852	0.01
4B Manure Management	N ₂ O	8,655	6,485	0.01
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01
2A Mineral Product-Other	CO ₂	6,852	5,822	0.00
2B Chemical Industry-Ammonia Production	CO ₂	8,457	5,748	0.00
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00

4. The cumulative total of the column F should then be computed in Column G.

A IPCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Cumulative Total of Column E
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.22
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21	0.43
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264	0.11	0.54
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06	0.60
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.66
2A Mineral Product-Limestone and Dolomite use	CO ₂	26,475	64,825	0.05	0.71
4D Agricultural Soils	N ₂ O	63,259	59,687	0.05	0.76
2A Mineral Product-Lime Production	CO ₂	31,526	56,298	0.05	0.81
6C Waste Incineration	N ₂ O	36,852	35,249	0.03	0.83
2A Mineral Product-Cement Production	CO ₂	26,589	32,569	0.03	0.86
4A Enteric Fermentation	CH ₄	36,524	32,549	0.03	0.89
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02	0.91
2E Production of Halocarbons and SF6-Fugitive Emissions	PFCs	9,856	9,548	0.01	0.92
2B Chemical Industry-Other	CO ₂	6,254	6,855	0.01	0.92
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.93
6C Waste Incineration	CO ₂	6,584	6,852	0.01	0.93
4B Manure Management	N ₂ O	8,655	6,485	0.01	0.94
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01	0.94
2A Mineral Product-Other	CO ₂	6,852	5,822	0.00	0.95
2B Chemical Industry-Ammonia Production	CO ₂	8,457	5,748	0.00	0.95
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00	0.96
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00	0.96

=SUM(\$E\$3:E3)

- The categories that cumulatively account for 95% of the total of the level assessment are considered key categories.

A IPCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO₂ eq.]	D Current Year Estimate [Mg CO₂ eq.]	E Level Assessment	F Cumulative Total of Column E
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.22
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21	0.43
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264	0.11	0.54
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06	0.60
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.66
2A Mineral Product-Limestone and Dolomite use	CO ₂	26,475	64,825	0.05	0.71
4D Agricultural Soils	N ₂ O	63,259	59,687	0.05	0.76
2A Mineral Product-Lime Production	CO ₂	31,526	56,298	0.05	0.81
6C Waste Incineration	N ₂ O	36,852	35,249	0.03	0.83
2A Mineral Product-Cement Production	CO ₂	26,589	32,569	0.03	0.86
4A Enteric Fermentation	CH ₄	36,524	32,549	0.03	0.89
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02	0.91
2E Production of Halocarbons and SF ₆ -Fugitive Emissions	PFCs	9,856	9,548	0.01	0.92
2B Chemical Industry-Other	CO ₂	6,254	6,855	0.01	0.92
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.93
6C Waste Incineration	CO ₂	6,584	6,852	0.01	0.93
4B Manure Management	N ₂ O	8,655	6,485	0.01	0.94
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01	0.94
2A Mineral Product-Other	CO ₂	6,852	5,822	0.00	0.95
2B Chemical Industry-Ammonia Production	CO ₂	8,457	5,748	0.00	0.95
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00	0.96
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00	0.96

Tier 1 Trend Assessment

- Trend assessment can be calculated (if inventory agencies have data for more than 2 years) following the Equation 2 and should be displayed in the column F.

A PCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Trend Assessment
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264	0.11	0.00
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.01
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.01
1A Stationary Combustion	CH ₄	3,154	1,524	0.00	0.00
1A Stationary Combustion	N ₂ O	2,156	1,502	0.00	0.00
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.00	0.00
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.11	0.02
1A Mobile Combustion-Railway	CO ₂	500	485	0.00	0.00
1A Mobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.00
1A Mobile Combustion-Civil aviation	CH ₄	965	965	0.00	0.00
1A Mobile Combustion-Road Transportation	CH ₄	674	674	0.00	0.00
1A Mobile Combustion-Railway	CH ₄	1,689	1,689	0.00	0.00
1A Mobile Combustion-Navigation	CH ₄	6,249	6,249	0.00	0.00
1A Mobile Combustion-Civil Aviation	N ₂ O	2,569	2,569	0.00	0.00
1A Mobile Combustion-Road Transportation	N ₂ O	98	549	0.06	0.02
1A Mobile Combustion-Railway	N ₂ O	5,682	5,682	0.00	0.00

$$=E3*ABS(((D3-C3)/D3)-((\$D\$65-\$C\$65)/\$D\$65))$$

Trend assessment is a product of source category level assessment and the absolute difference between the source category trend and the total trend.

- Contribution to the trend should be computed in the Column G

A PCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Trend Assessment	G (%) Contribution to Trend
1A Stationary Combustion-Liquid fuel	CO ₂	125,478	135,264	0.11	0.00	0.4%
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.01	4.8%
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.01	6.5%
1A Stationary Combustion	CH ₄	3,154	1,524	0.00	0.00	0.9%
1A Stationary Combustion	N ₂ O	2,156	1,502	0.00	0.00	0.4%
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02	0.00	1.1%
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21	0.02	15.2%
1A Mobile Combustion-Railway	CO ₂	500	485	0.00	0.00	0.0%
1A Mobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.00	1.9%
1A Mobile Combustion-Civil aviation	CH ₄	965	4,125	0.00	0.00	1.5%
1A Mobile Combustion-Road Transportation	CH ₄	674	641	0.00	0.00	0.0%
1A Mobile Combustion-Railway	CH ₄	1,689	4,597	0.00	0.00	1.3%
1A Mobile Combustion-Navigation	CH ₄	6,249	5,248	0.00	0.00	0.7%
1A Mobile Combustion-Civil Aviation	N ₂ O	2,569	1,255	0.00	0.00	0.7%
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06	0.02	13.3%
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00	0.00	1.0%
1A Mobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01	0.00	1.3%
1B Fugitive Emission-Coal Mining and Handling (underground)	CH ₄	2	6	0.00	0.00	0.0%
1B Fugitive Emission-Coal Mining and Handling (surface)	CH ₄	25	65	0.00	0.00	0.0%
1B Fugitive Emission-Oil	CO ₂	125	125	0.00	0.00	0.0%

=F3/\$F\$65

- Source categories should be sorted in descending order of magnitude of Column G

A PCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Trend Assessment	G (%) Contribution to Trend
2A Mineral Product-Limestone and Dolomite use	CO ₂	26,475	64,825	0.05	0.03	17.1%
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21	0.02	15.2%
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06	0.02	13.3%
2A Mineral Product-Lime Production	CO ₂	31,526	56,298	0.05	0.02	10.5%
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.01	6.5%
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.01	4.8%
4D Agricultural Soils	N ₂ O	63,259	59,687	0.05	0.01	4.2%
4A Enteric Fermentation	CH ₄	36,524	32,549	0.03	0.01	3.3%
6C Waste Incineration	N ₂ O	36,852	35,249	0.03	0.00	2.2%
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.00	1.9%
2A Mineral Product-Cement Production	CO ₂	26,589	32,569	0.03	0.00	1.8%
4B Manure Management	CH ₄	6,457	3,566	0.00	0.00	1.6%
2B Chemical Industry-Ammonia Production	CO ₂	8,457	5,748	0.00	0.00	1.6%
1A Mobile Combustion-Civil aviation	CH ₄	965	4,125	0.00	0.00	1.5%
4B Manure Management	N ₂ O	8,655	6,485	0.01	0.00	1.4%
1A Mobile Combustion-Railway	CH ₄	1,689	4,597	0.00	0.00	1.3%
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01	0.00	1.3%
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02	0.00	1.1%
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00	0.00	1.0%
2B Chemical Industry-Nitric Acid Production	N ₂ O	215	2,155	0.00	0.00	0.9%
1A Stationary Combustion	CH ₄	3,154	1,524	0.00	0.00	0.9%
2B Chemical Industry-Adipic Acid Production	N ₂ O	3,156	5,247	0.00	0.00	0.9%
6B Wastewater Handling	CH ₄	4,621	3,264	0.00	0.00	0.8%
2A Mineral Product-Other	CO ₂	6,852	5,822	0.00	0.00	0.8%
1A Mobile Combustion-Civil Aviation	N ₂ O	2,569	1,255	0.00	0.00	0.7%
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00	0.00	0.7%

- The cumulative total of the column G should then be computed in Column H.

A PCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Trend Assessment	G (%) Contribution to Trend	H Cumulative total of Column G
2A Mineral Product-Limestone and Dolomite use	CO ₂	26,475	64,825	0.05	0.03	17.1%	17.1%
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21	0.02	15.2%	32.3%
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06	0.02	13.3%	45.5%
2A Mineral Product-Lime Production	CO ₂	31,526	56,298	0.05	0.02	10.5%	56.0%
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.01	6.5%	62.5%
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.01	4.8%	67.3%
4D Agricultural Soils	N ₂ O	63,259	59,687	0.05	0.01	4.2%	71.5%
4A Enteric Fermentation	CH ₄	36,524	32,549	0.03	0.01	3.3%	74.9%
6C Waste Incineration	N ₂ O	36,852	35,249	0.03	0.00	2.2%	77.1%
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.00	1.9%	79.0%
2A Mineral Product-Cement Production	CO ₂	26,589	32,569	0.03	0.00	1.8%	80.7%
4B Manure Management	CH ₄	6,457	3,566	0.00	0.00	1.6%	82.4%
2B Chemical Industry-Ammonia Production	CO ₂	8,457	5,748	0.00	0.00	1.6%	84.0%
1A Mobile Combustion-Civil aviation	CH ₄	965	4,125	0.00	0.00	1.5%	85.4%
4B Manure Management	N ₂ O	8,655	6,485	0.01	0.00	1.4%	86.8%
1A Mobile Combustion-Railway	CH ₄	1,689	4,597	0.00	0.00	1.3%	88.1%
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01	0.00	1.3%	89.4%
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02	0.00	1.1%	90.5%
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00	0.00	1.0%	91.5%
2B Chemical Industry-Nitric Acid Production	N ₂ O	215	2,155	0.00	0.00	0.9%	92.5%
1A Stationary Combustion	CH ₄	3,154	1,524	0.00	0.00	0.9%	93.4%
2B Chemical Industry-Adipic Acid Production	N ₂ O	3,156	5,247	0.00	0.00	0.9%	94.2%
6B Wastewater Handling	CH ₄	4,621	3,264	0.00	0.00	0.8%	95.0%
2A Mineral Product-Other	CO ₂	6,852	5,822	0.00	0.00	0.8%	95.8%
1A Mobile Combustion-Civil Aviation	N ₂ O	2,569	1,255	0.00	0.00	0.7%	96.5%
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00	0.00	0.7%	97.3%

- Identify those source categories that contribute 95% to the trend of the inventory in absolute terms.

A PCC Source Category	B Direct GHG	C Base Year Estimate [Mg CO ₂ eq.]	D Current Year Estimate [Mg CO ₂ eq.]	E Level Assessment	F Trend Assessment	G (%) Contribution to Trend	H Cumulative total of Column G
2A Mineral Product-Limestone and Dolomite use	CO ₂	26,475	64,825	0.05	0.03	17.1%	17.1%
1A Mobile Combustion-Road Transportation	CO ₂	265,489	255,847	0.21	0.02	15.2%	32.3%
1A Mobile Combustion-Road Transportation	N ₂ O	98,253	78,549	0.06	0.02	13.3%	45.5%
2A Mineral Product-Lime Production	CO ₂	31,526	56,298	0.05	0.02	10.5%	56.0%
1A Stationary Combustion-Gaseous fuel	CO ₂	50,487	68,457	0.06	0.01	6.5%	62.5%
1A Stationary Combustion-Solid fuel	CO ₂	235,648	265,745	0.22	0.01	4.8%	67.3%
4D Agricultural Soils	N ₂ O	63,259	59,687	0.05	0.01	4.2%	71.5%
4A Enteric Fermentation	CH ₄	36,524	32,549	0.03	0.01	3.3%	74.9%
6C Waste Incineration	N ₂ O	36,852	35,249	0.03	0.00	2.2%	77.1%
1AMobile Combustion-Navigation	CO ₂	2,654	6,854	0.01	0.00	1.9%	79.0%
2A Mineral Product-Cement Production	CO ₂	26,589	32,569	0.03	0.00	1.8%	80.7%
4B Manure Management	CH ₄	6,457	3,566	0.00	0.00	1.6%	82.4%
2B Chemical Industry-Ammonia Production	CO ₂	8,457	5,748	0.00	0.00	1.6%	84.0%
1A Mobile Combustion-Civil aviation	CH ₄	965	4,125	0.00	0.00	1.5%	85.4%
4B Manure Management	N ₂ O	8,655	6,485	0.01	0.00	1.4%	86.8%
1A Mobile Combustion-Railway	CH ₄	1,689	4,597	0.00	0.00	1.3%	88.1%
1AMobile Combustion-Navigation	N ₂ O	3,265	6,245	0.01	0.00	1.3%	89.4%
1A Mobile Combustion-Civil Aviation	CO ₂	25,687	25,489	0.02	0.00	1.1%	90.5%
1A Mobile Combustion-Railway	N ₂ O	3,254	5,682	0.00	0.00	1.0%	91.5%
2B Chemical Industry-Nitric Acid Production	N ₂ O	215	2,155	0.00	0.00	0.9%	92.5%
1A Stationary Combustion	CH ₄	3,154	1,524	0.00	0.00	0.9%	93.4%
2B Chemical Industry-Adipic Acid Production	N ₂ O	3,156	5,247	0.00	0.00	0.9%	94.2%
6B Wastewater Handling	CH ₄	4,621	3,264	0.00	0.00	0.8%	95.0%
2A Mineral Product-Other	CO ₂	6,852	5,822	0.00	0.00	0.8%	95.8%
1A Mobile Combustion-Civil Aviation	N ₂ O	2,569	1,255	0.00	0.00	0.7%	96.5%
1AMobile Combustion-Navigation	CH ₄	6,249	5,248	0.00	0.00	0.7%	97.3%

Thank you