

**ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT  
1990-2022**

Riga

2024

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**ANNEX 1: KEY CATEGORIES**

Key categories identified automatically by the CRF Reporter Software according to the Approach 1 method are presented in the CRF Table 7. Nationally calculated analysis tables with numerical results according to Approach 1 and Approach 2 are presented below from Table A.1.1 to Table A.1.12.

The aggregation level of subcategories used in the analysis is generally based on the suggested aggregation level in the 2006 IPCC Guidelines. In Latvia's case list of IPCC categories is modified to reflect particular national circumstances, for example, types of fuels in transport, more disaggregated agricultural categories (by animal species) and more disaggregated LULUCF categories (by taking into account soil type etc.) Such modifications have been made to clarify key categories of Latvia. Key category analysis is an important element for planning and prioritization of necessary inventory improvements.

Indirect CO<sub>2</sub> emissions are included in the key category analysis.

**A.1.1. APPROACH 1 ANALYSIS FOR 1990 – LEVEL ASSESSMENT WITH LULUCF**

(Hereinafter key categories are shaded **green**)

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of Base year, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	17804.089	0.349	35%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	3078.955	0.060	41%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	2657.607	0.052	46%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	2372.148	0.046	51%
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	2371.344	0.046	55%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	1722.384	0.034	59%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	1436.178	0.028	62%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	1366.092	0.027	64%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	1066.131	0.021	66%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	1017.269	0.020	68%
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	958.698	0.019	70%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	855.360	0.017	72%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	782.443	0.015	73%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	772.156	0.015	75%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	700.654	0.014	76%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	622.515	0.012	78%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	586.626	0.011	79%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	564.767	0.011	80%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	539.448	0.011	81%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of Base year, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	536.766	0.011	82%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	526.803	0.010	83%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	472.203	0.009	84%
3.G. Liming	CO <sub>2</sub>	357.133	357.133	0.007	85%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	352.523	0.007	85%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	345.783	0.007	86%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	332.334	0.007	87%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	316.064	0.006	87%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	277.225	0.005	88%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	275.826	0.005	88%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	269.980	0.005	89%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	266.754	0.005	89%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	235.643	0.005	90%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	222.096	0.004	90%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	220.705	0.004	91%
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.387	220.387	0.004	91%
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	220.367	0.004	92%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	211.968	0.004	92%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	211.145	0.004	92%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	198.507	0.004	93%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	175.098	0.003	93%
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	166.113	0.003	93%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	162.133	0.003	94%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	153.525	0.003	94%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	150.166	0.003	94%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	145.786	0.003	95%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	124.283	0.002	95%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	121.915	0.002	95%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	107.303	0.002	95%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	104.785	0.002	96%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	100.342	0.002	96%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	99.041	0.002	96%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	92.154	0.002	96%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	86.476	0.002	96%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	78.786	0.002	96%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	75.346	0.001	97%

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3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	73.455	0.001	97%
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	70.353	0.001	97%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	69.555	0.001	97%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	69.185	0.001	97%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	68.172	0.001	97%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	66.886	0.001	97%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	61.763	0.001	97%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	61.352	0.001	98%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	58.846	0.001	98%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	54.423	0.001	98%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	53.794	0.001	98%
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	50.035	0.001	98%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	44.915	0.001	98%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	43.831	0.001	98%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	43.512	0.001	98%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	42.549	0.001	98%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	40.995	0.001	98%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	38.476	0.001	99%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	37.148	0.001	99%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	36.870	0.001	99%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	35.810	0.001	99%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	31.002	0.001	99%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	26.667	0.001	99%
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	25.351	0.000	99%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	25.015	0.000	99%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	23.542	0.000	99%
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	23.440	0.000	99%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	23.249	0.000	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	21.891	0.000	99%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	20.973	0.000	99%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	20.261	0.000	99%
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	20.226	0.000	99%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	20.105	0.000	99%
5.B.1. Composting	CH <sub>4</sub>	18.691	18.691	0.000	99%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	17.783	0.000	99%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	16.836	0.000	99%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	16.004	0.000	99%

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1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	15.704	0.000	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	14.587	0.000	99%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	13.983	0.000	100%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	13.091	0.000	100%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	11.992	0.000	100%
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	10.644	0.000	100%
5.B.1. Composting	N <sub>2</sub> O	10.614	10.614	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	10.248	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	9.082	0.000	100%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	8.728	0.000	100%
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	8.303	0.000	100%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.954	0.000	100%
3.H. Urea Application	CO <sub>2</sub>	7.709	7.709	0.000	100%
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	6.838	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	6.458	0.000	100%
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	6.449	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	6.369	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	6.027	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	5.928	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	5.921	0.000	100%
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	5.815	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	5.531	0.000	100%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	4.302	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	4.176	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	4.137	0.000	100%
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	3.884	0.000	100%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	3.570	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	3.483	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	3.366	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	3.079	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	3.023	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	3.010	0.000	100%
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	2.960	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	2.607	0.000	100%

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1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	2.598	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	2.583	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	2.546	0.000	100%
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	2.360	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	2.082	0.000	100%
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	1.989	1.989	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	1.987	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.897	0.000	100%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	1.658	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	1.350	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	1.293	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	1.278	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	1.240	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	1.157	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.916	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.887	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.876	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	0.842	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.834	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.786	0.000	100%
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	0.755	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.703	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.701	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	0.659	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.612	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.575	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.561	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.559	0.000	100%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	0.558	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.550	0.000	100%

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1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.548	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	0.462	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.430	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.425	0.000	100%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	0.405	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.376	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	0.366	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.356	0.000	100%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	0.321	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.299	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.295	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.290	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.283	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.282	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.268	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.263	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.260	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.253	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.242	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.242	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	0.240	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.228	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.192	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.189	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.188	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.173	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.165	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.161	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.152	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.133	0.000	100%
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	0.125	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.120	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.113	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.110	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.106	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.100	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.090	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.089	0.000	100%



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1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.084	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.078	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.077	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.076	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.072	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.068	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.065	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	0.056	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	0.054	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.053	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.050	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	0.048	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.048	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.048	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.045	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.044	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.039	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.035	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.032	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.026	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.020	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.020	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.017	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.012	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.012	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.011	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.011	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	0.011	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.010	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.009	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.008	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	0.007	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	0.006	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.003	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.003	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.003	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.001	0.000	100%
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.0013	0.0013	0.000	100%

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1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.0013	0.0013	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.0004	0.0004	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	0.0002	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.00008	0.00008	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.00001	0.00001	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000002	0.000002	0.000	100%

**A.1.2. APPROACH 1 ANALYSIS FOR 1990 – LEVEL ASSESSMENT WITHOUT LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of Base year, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	3078.955	0.118	12%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	2657.607	0.102	22%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	2372.148	0.091	31%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	1722.384	0.066	38%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	1436.178	0.055	43%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	1366.092	0.052	48%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	1066.131	0.041	53%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	1017.269	0.039	56%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	782.443	0.030	59%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	700.654	0.027	62%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	622.515	0.024	65%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	586.626	0.023	67%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	564.767	0.022	69%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	536.766	0.021	71%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	526.803	0.020	73%
3.G. Liming	CO <sub>2</sub>	357.133	357.133	0.014	74%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	352.523	0.014	76%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	345.783	0.013	77%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	332.334	0.013	78%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	316.064	0.012	80%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	277.225	0.011	81%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	275.826	0.011	82%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	269.980	0.010	83%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	266.754	0.010	84%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	235.643	0.009	85%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	222.096	0.009	86%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	220.705	0.008	86%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	211.145	0.008	87%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	198.507	0.008	88%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	175.098	0.007	89%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	162.133	0.006	89%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	153.525	0.006	90%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	150.166	0.006	90%

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1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	145.786	0.006	91%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	124.283	0.005	91%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	121.915	0.005	92%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	107.303	0.004	92%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	104.785	0.004	93%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	100.342	0.004	93%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	99.041	0.004	93%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	92.154	0.004	94%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	86.476	0.003	94%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	78.786	0.003	94%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	75.346	0.003	95%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	73.455	0.003	95%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	69.555	0.003	95%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	69.185	0.003	96%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	66.886	0.003	96%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	61.763	0.002	96%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	61.352	0.002	96%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	58.846	0.002	97%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	54.423	0.002	97%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	53.794	0.002	97%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	44.915	0.002	97%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	43.831	0.002	97%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	43.512	0.002	97%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	42.549	0.002	98%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	40.995	0.002	98%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	38.476	0.001	98%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	37.148	0.001	98%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	36.870	0.001	98%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	35.810	0.001	98%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	26.667	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	25.015	0.001	99%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	23.542	0.001	99%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	23.249	0.001	99%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	20.973	0.001	99%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	20.261	0.001	99%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	20.105	0.001	99%
5.B.1. Composting	CH <sub>4</sub>	18.691	18.691	0.001	99%

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3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	17.783	0.001	99%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	16.836	0.001	99%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	16.004	0.001	99%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	15.704	0.001	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	14.587	0.001	99%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	13.983	0.001	99%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	11.992	0.000	99%
5.B.1. Composting	N <sub>2</sub> O	10.614	10.614	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	10.248	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	9.082	0.000	100%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.954	0.000	100%
3.H. Urea Application	CO <sub>2</sub>	7.709	7.709	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	6.369	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	6.027	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	5.928	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	5.921	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	5.531	0.000	100%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	4.302	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	4.176	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	4.137	0.000	100%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	3.570	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	3.483	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	3.366	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	3.079	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	3.023	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	3.010	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	2.607	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	2.598	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	2.546	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	2.082	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	1.987	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.897	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	1.350	0.000	100%

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1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	1.293	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	1.278	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	1.157	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.916	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.887	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.876	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	0.842	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.834	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.786	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.703	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.701	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	0.659	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.612	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.575	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.561	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.559	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.550	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.548	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	0.462	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.430	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.425	0.000	100%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	0.405	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.376	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	0.366	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.356	0.000	100%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	0.321	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.299	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.295	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.290	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.283	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.282	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.268	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.263	0.000	100%

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1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.260	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.253	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.242	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.242	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.228	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.192	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.189	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.188	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.173	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.165	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.161	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.152	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.133	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.120	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.113	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.110	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.106	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.100	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.090	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.089	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.084	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.078	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.077	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.076	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.072	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.068	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.065	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	0.054	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.053	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.050	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.048	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.048	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.045	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.044	0.000	100%

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1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.039	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.035	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.032	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.026	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.020	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.020	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.017	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.012	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.012	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.011	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.011	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	0.011	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.010	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.009	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.008	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	0.007	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	0.006	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.003	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.003	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.003	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.001	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.0004	0.0004	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	0.0002	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.0001	0.0001	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.00001	0.00001	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000002	0.000002	0.000	100%



**A.1.3. APPROACH 2 ANALYSIS FOR 1990 – LEVEL ASSESSMENT WITH LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	ABS base year emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	772.156	5%	296%	2.960	0.015	0.045	0.211	21%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	17804.089	2%	11%	0.115	0.349	0.040	0.190	40%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	1436.178	25%	50%	0.559	0.028	0.016	0.074	47%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	472.203	44%	119%	1.269	0.009	0.012	0.055	53%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	2372.148	2%	20%	0.201	0.046	0.009	0.044	57%
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	958.698	26%	40%	0.473	0.019	0.009	0.042	62%
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	2371.344	13%	13%	0.188	0.046	0.009	0.041	66%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	3078.955	2%	10%	0.102	0.060	0.006	0.029	69%
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.387	220.387	115%	71%	1.350	0.004	0.006	0.027	71%
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	220.367	61%	86%	1.054	0.004	0.005	0.021	73%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	352.523	6%	52%	0.523	0.007	0.004	0.017	75%
3.G. Liming	CO <sub>2</sub>	357.133	357.133	5%	50%	0.502	0.007	0.004	0.017	77%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	2657.607	2%	5%	0.054	0.052	0.003	0.013	78%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	277.225	2%	50%	0.500	0.005	0.003	0.013	79%

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4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	211.968	6%	55%	0.557	0.004	0.002	0.011	80%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	1066.131	2%	10%	0.102	0.021	0.002	0.010	81%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	1017.269	2%	10%	0.102	0.020	0.002	0.010	82%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	198.507	35%	35%	0.495	0.004	0.002	0.009	83%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	68.172	6%	110%	1.098	0.001	0.001	0.007	84%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	700.654	2%	10%	0.102	0.014	0.001	0.007	85%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	222.096	7%	30%	0.308	0.004	0.001	0.006	85%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	153.525	26%	30%	0.397	0.003	0.001	0.006	86%
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	70.353	20%	84%	0.858	0.001	0.001	0.006	86%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	31.002	44%	182%	1.873	0.001	0.001	0.005	87%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	564.767	2%	10%	0.102	0.011	0.001	0.005	88%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	1366.092	2%	3%	0.036	0.027	0.001	0.005	88%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	1722.384	2%	2%	0.028	0.034	0.001	0.004	88%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	86.476	25%	50%	0.559	0.002	0.001	0.004	89%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	40.995	36%	107%	1.129	0.001	0.001	0.004	89%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	855.360	5%		0.050	0.017	0.001	0.004	90%

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1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	782.443	2%	5%	0.054	0.015	0.001	0.004	90%
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	50.035	9%	84%	0.841	0.001	0.001	0.004	90%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	124.283	25%	20%	0.320	0.002	0.001	0.004	91%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	345.783	8%	8%	0.113	0.007	0.001	0.004	91%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	107.303	25%	20%	0.320	0.002	0.001	0.003	92%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	332.334	2%	10%	0.102	0.007	0.001	0.003	92%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	61.763	2%	50%	0.500	0.001	0.001	0.003	92%
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	25.351	93%	72%	1.173	0.000	0.001	0.003	92%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	526.803	2%	5%	0.054	0.010	0.001	0.003	93%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	269.980	2%	10%	0.102	0.005	0.001	0.003	93%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	54.423	2%	50%	0.500	0.001	0.001	0.003	93%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	266.754	2%	10%	0.102	0.005	0.001	0.003	93%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	53.794	2%	50%	0.500	0.001	0.001	0.002	94%
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	166.113	15%	0%	0.150	0.003	0.000	0.002	94%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	73.455	25%	20%	0.320	0.001	0.000	0.002	94%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	539.448	2%	4%	0.042	0.011	0.000	0.002	94%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	43.831	1%	50%	0.500	0.001	0.000	0.002	95%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	43.512	2%	50%	0.500	0.001	0.000	0.002	95%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	586.626	2%	3%	0.036	0.011	0.000	0.002	95%
5.B.1. Composting	CH <sub>4</sub>	18.691	18.691	28%	100%	1.040	0.000	0.000	0.002	95%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	38.476	2%	50%	0.500	0.001	0.000	0.002	95%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	36.870	2%	50%	0.500	0.001	0.000	0.002	95%

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1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	162.133	5%	10%	0.112	0.003	0.000	0.002	96%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	622.515	2%	2%	0.028	0.012	0.000	0.002	96%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	316.064	2%	5%	0.054	0.006	0.000	0.002	96%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	536.766	2%	2%	0.028	0.011	0.000	0.001	96%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	145.786	2%	10%	0.102	0.003	0.000	0.001	96%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	275.826	2%	5%	0.054	0.005	0.000	0.001	96%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	21.891	6%	65%	0.654	0.000	0.000	0.001	96%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	44.915	6%	30%	0.306	0.001	0.000	0.001	97%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	121.915	8%	8%	0.110	0.002	0.000	0.001	97%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	235.643	2%	5%	0.054	0.005	0.000	0.001	97%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	61.352	2%	20%	0.201	0.001	0.000	0.001	97%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	220.705	2%	5%	0.054	0.004	0.000	0.001	97%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	58.846	2%	20%	0.201	0.001	0.000	0.001	97%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	35.810	25%	20%	0.320	0.001	0.000	0.001	97%
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	20.226	5%	56%	0.559	0.000	0.000	0.001	97%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	78.786	10%	10%	0.141	0.002	0.000	0.001	97%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	20.261	2%	50%	0.500	0.000	0.000	0.001	98%
5.B.1. Composting	N <sub>2</sub> O	10.614	10.614	28%	90%	0.944	0.000	0.000	0.001	98%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	175.098	2%	5%	0.054	0.003	0.000	0.001	98%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	92.154	2%	10%	0.102	0.002	0.000	0.001	98%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	ABS base year emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	8.728	6%	107%	1.073	0.000	0.000	0.001	98%
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	23.440	37%	12%	0.393	0.000	0.000	0.001	98%
4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	6.458	3%	135%	1.353	0.000	0.000	0.001	98%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	150.166	2%	5%	0.054	0.003	0.000	0.001	98%
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	6.838	114%	13%	1.147	0.000	0.000	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	75.346	2%	10%	0.102	0.001	0.000	0.001	98%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	211.145	2%	3%	0.036	0.004	0.000	0.001	98%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	20.973	25%	25%	0.354	0.000	0.000	0.001	98%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	69.185	8%	8%	0.106	0.001	0.000	0.001	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	14.587	2%	50%	0.500	0.000	0.000	0.001	99%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	17.783	25%	30%	0.391	0.000	0.000	0.001	99%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	66.886	2%	10%	0.102	0.001	0.000	0.001	99%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	20.105	2%	30%	0.301	0.000	0.000	0.001	99%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	11.992	2%	50%	0.500	0.000	0.000	0.001	99%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	104.785	2%	5%	0.054	0.002	0.000	0.001	99%
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	8.303	55%	40%	0.679	0.000	0.000	0.001	99%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	13.983	25%	30%	0.391	0.000	0.000	0.001	99%
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	10.644	47%	18%	0.505	0.000	0.000	0.000	99%

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1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	10.248	1%	50%	0.500	0.000	0.000	0.000	99%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	69.555	5%	5%	0.071	0.001	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	9.082	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	42.549	2%	10%	0.102	0.001	0.000	0.000	99%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	4.302	2%	100%	1.000	0.000	0.000	0.000	99%
3.H. Urea Application	CO <sub>2</sub>	7.709	7.709	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	100.342	2%	3%	0.036	0.002	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	99.041	2%	3%	0.036	0.002	0.000	0.000	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	1.658	6%	198%	1.981	0.000	0.000	0.000	99%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	6.369	2%	50%	0.500	0.000	0.000	0.000	99%
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	1.989	1.989	20%	151%	1.520	0.000	0.000	0.000	99%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	6.027	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	5.928	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	5.921	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	5.531	1%	50%	0.500	0.000	0.000	0.000	100%

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1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	25.015	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.954	5%	30%	0.304	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	2.360	93%		0.926	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	2.583	37%	72%	0.811	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	4.176	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	37.148	2%	5%	0.054	0.001	0.000	0.000	100%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	3.570	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	3.366	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	4.137	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	15.704	2%	10%	0.102	0.000	0.000	0.000	100%
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	6.449	8%	23%	0.244	0.000	0.000	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	3.010	2%	50%	0.500	0.000	0.000	0.000	100%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	0.558	6%	246%	2.464	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	2.598	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	2.546	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	23.542	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	1.987	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	26.667	2%	3%	0.036	0.001	0.000	0.000	100%

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4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	13.091	6%	4%	0.071	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	16.836	2%	5%	0.054	0.000	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	2.082	23%	30%	0.378	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	1.350	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	23.249	2%	2%	0.028	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	1.293	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	1.278	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	3.079	2%	20%	0.201	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	1.157	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	16.004	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.897	2%	30%	0.301	0.000	0.000	0.000	100%
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	5.815	9%	4%	0.095	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.916	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.887	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.834	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.786	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	3.483	10%	5%	0.112	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.575	52%	40%	0.654	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.703	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.701	2%	50%	0.500	0.000	0.000	0.000	100%



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3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.876	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	0.659	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	3.023	2%	10%	0.102	0.000	0.000	0.000	100%
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	0.125	13%	246%	2.467	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.612	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.561	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.559	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.550	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.548	2%	50%	0.500	0.000	0.000	0.000	100%
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	2.960	8%	4%	0.089	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	3.884	5%	4%	0.064	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	0.462	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.430	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.425	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	0.405	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.376	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	0.366	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	0.321	1%	50%	0.500	0.000	0.000	0.000	100%

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1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.299	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.295	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.290	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.283	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.282	2%	50%	0.500	0.000	0.000	0.000	100%
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	0.755	8%	16%	0.182	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.268	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.263	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.260	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.253	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.242	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.242	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.228	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.192	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.189	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.188	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	2.607	2%	3%	0.036	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	0.240	37%		0.374	0.000	0.000	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.165	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.161	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.152	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.120	2%	50%	0.500	0.000	0.000	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	1.240	3%	4%	0.047	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.113	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.110	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.106	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.100	2%	50%	0.500	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	0.048	10%	96%	0.965	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	0.842	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.090	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.089	2%	50%	0.500	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	0.056	10%	78%	0.786	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.084	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.078	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.076	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.072	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.068	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.065	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.053	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.050	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.048	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.048	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.045	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.039	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.035	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.032	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.044	10%	30%	0.316	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.026	2%	50%	0.500	0.000	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.356	3%	3%	0.035	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.010	52%	100%	1.126	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.020	10%	50%	0.510	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.020	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.173	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.017	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.077	5%	5%	0.071	0.000	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.009	35%	35%	0.495	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	0.007	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	0.006	1%	50%	0.500	0.000	0.000	0.000	100%

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1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	0.054	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.003	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.003	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	0.011	2%	5%	0.054	0.000	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.001	20%	20%	0.283	0.000	0.000	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.0028	0.0028	10%	10%	0.141	0.000	0.000	0.000	100%
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.0013	0.0013	20%	23%	0.305	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.0004	0.0004	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	0.0002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.00008	0.00008	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.00001	0.00001	2%	60%	0.600	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000002	0.000002	2%	60%	0.600	0.000	0.000	0.000	100%

**A.1.4. APPROACH 2 ANALYSIS FOR 1990 – LEVEL ASSESSMENT WITHOUT LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	ABS base year emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	1436.178	25%	50%	0.559	0.055	0.031	0.205	21%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	2372.148	2%	20%	0.201	0.091	0.018	0.122	33%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	3078.955	2%	10%	0.102	0.118	0.012	0.080	41%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	352.523	6%	52%	0.523	0.014	0.007	0.047	45%
3.G. Liming	CO <sub>2</sub>	357.133	357.133	5%	50%	0.502	0.014	0.007	0.046	50%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	2657.607	2%	5%	0.054	0.102	0.005	0.037	54%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	277.225	2%	50%	0.500	0.011	0.005	0.035	57%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	1066.131	2%	10%	0.102	0.041	0.004	0.028	60%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	1017.269	2%	10%	0.102	0.039	0.004	0.027	63%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	198.507	35%	35%	0.495	0.008	0.004	0.025	65%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	700.654	2%	10%	0.102	0.027	0.003	0.018	67%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	222.096	7%	30%	0.308	0.009	0.003	0.017	69%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	153.525	26%	30%	0.397	0.006	0.002	0.016	70%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	564.767	2%	10%	0.102	0.022	0.002	0.015	72%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	1366.092	2%	3%	0.036	0.052	0.002	0.013	73%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	1722.384	2%	2%	0.028	0.066	0.002	0.012	74%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	86.476	25%	50%	0.559	0.003	0.002	0.012	76%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	40.995	36%	107%	1.129	0.002	0.002	0.012	77%

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1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	782.443	2%	5%	0.054	0.030	0.002	0.011	78%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	124.283	25%	20%	0.320	0.005	0.002	0.010	79%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	345.783	8%	8%	0.113	0.013	0.002	0.010	80%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	107.303	25%	20%	0.320	0.004	0.001	0.009	81%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	332.334	2%	10%	0.102	0.013	0.001	0.009	82%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	61.763	2%	50%	0.500	0.002	0.001	0.008	82%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	526.803	2%	5%	0.054	0.020	0.001	0.007	83%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	269.980	2%	10%	0.102	0.010	0.001	0.007	84%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	54.423	2%	50%	0.500	0.002	0.001	0.007	84%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	266.754	2%	10%	0.102	0.010	0.001	0.007	85%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	53.794	2%	50%	0.500	0.002	0.001	0.007	86%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	73.455	25%	20%	0.320	0.003	0.001	0.006	86%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	43.831	1%	50%	0.500	0.002	0.001	0.006	87%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	43.512	2%	50%	0.500	0.002	0.001	0.006	88%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	586.626	2%	3%	0.036	0.023	0.001	0.005	88%
5.B.1. Composting	CH <sub>4</sub>	18.691	18.691	28%	100%	1.040	0.001	0.001	0.005	89%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	38.476	2%	50%	0.500	0.001	0.001	0.005	89%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	36.870	2%	50%	0.500	0.001	0.001	0.005	90%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	162.133	5%	10%	0.112	0.006	0.001	0.005	90%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	622.515	2%	2%	0.028	0.024	0.001	0.005	91%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	316.064	2%	5%	0.054	0.012	0.001	0.004	91%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	536.766	2%	2%	0.028	0.021	0.001	0.004	91%

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1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	145.786	2%	10%	0.102	0.006	0.001	0.004	92%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	275.826	2%	5%	0.054	0.011	0.001	0.004	92%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	44.915	6%	30%	0.306	0.002	0.001	0.004	92%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	121.915	8%	8%	0.110	0.005	0.001	0.003	93%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	235.643	2%	5%	0.054	0.009	0.000	0.003	93%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	61.352	2%	20%	0.201	0.002	0.000	0.003	93%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	220.705	2%	5%	0.054	0.008	0.000	0.003	94%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	58.846	2%	20%	0.201	0.002	0.000	0.003	94%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	35.810	25%	20%	0.320	0.001	0.000	0.003	94%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	78.786	10%	10%	0.141	0.003	0.000	0.003	95%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	20.261	2%	50%	0.500	0.001	0.000	0.003	95%
5.B.1. Composting	N <sub>2</sub> O	10.614	10.614	28%	90%	0.944	0.000	0.000	0.003	95%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	175.098	2%	5%	0.054	0.007	0.000	0.002	95%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	92.154	2%	10%	0.102	0.004	0.000	0.002	96%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	150.166	2%	5%	0.054	0.006	0.000	0.002	96%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	75.346	2%	10%	0.102	0.003	0.000	0.002	96%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	211.145	2%	3%	0.036	0.008	0.000	0.002	96%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	20.973	25%	25%	0.354	0.001	0.000	0.002	96%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	69.185	8%	8%	0.106	0.003	0.000	0.002	97%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	14.587	2%	50%	0.500	0.001	0.000	0.002	97%



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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	ABS base year emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
<b>3.B.2.4 Manure Management - Other livestock</b>	N <sub>2</sub> O	17.783	17.783	25%	30%	0.391	0.001	0.000	0.002	97%
<b>1.A.4.a Commercial/Institutional - Peat</b>	CO <sub>2</sub>	66.886	66.886	2%	10%	0.102	0.003	0.000	0.002	97%
<b>1.A.3.b Road Transportation - Gasoline</b>	CH <sub>4</sub>	20.105	20.105	2%	30%	0.301	0.001	0.000	0.002	97%
<b>1.A.3.b Road Transportation - Gasoline</b>	N <sub>2</sub> O	11.992	11.992	2%	50%	0.500	0.000	0.000	0.002	97%
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels</b>	CO <sub>2</sub>	104.785	104.785	2%	5%	0.054	0.004	0.000	0.001	98%
<b>3.B.1.4 Manure Management - Other livestock</b>	CH <sub>4</sub>	13.983	13.983	25%	30%	0.391	0.001	0.000	0.001	98%
<b>1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels</b>	CH <sub>4</sub>	10.248	10.248	1%	50%	0.500	0.000	0.000	0.001	98%
<b>2.C.1 Iron and Steel Production</b>	CO <sub>2</sub>	69.555	69.555	5%	5%	0.071	0.003	0.000	0.001	98%
<b>1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels</b>	CH <sub>4</sub>	9.082	9.082	2%	50%	0.500	0.000	0.000	0.001	98%
<b>1.A.4.b Residential - Peat</b>	CO <sub>2</sub>	42.549	42.549	2%	10%	0.102	0.002	0.000	0.001	98%
<b>2.G.3. N<sub>2</sub>O from product uses</b>	N <sub>2</sub> O	4.302	4.302	2%	100%	1.000	0.000	0.000	0.001	98%
<b>3.H. Urea Application</b>	CO <sub>2</sub>	7.709	7.709	2%	50%	0.500	0.000	0.000	0.001	98%
<b>1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels</b>	CO <sub>2</sub>	100.342	100.342	2%	3%	0.036	0.004	0.000	0.001	99%
<b>1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels</b>	CO <sub>2</sub>	99.041	99.041	2%	3%	0.036	0.004	0.000	0.001	99%
<b>1.A.1.a Public Electricity and Heat Production - Liquid Fuels</b>	N <sub>2</sub> O	6.369	6.369	2%	50%	0.500	0.000	0.000	0.001	99%
<b>1.A.3.b Road Transportation - Diesel Oil</b>	N <sub>2</sub> O	6.027	6.027	2%	50%	0.500	0.000	0.000	0.001	99%
<b>1.A.4.a Commercial/Institutional - Solid Fuels</b>	N <sub>2</sub> O	5.928	5.928	2%	50%	0.500	0.000	0.000	0.001	99%
<b>1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels</b>	CH <sub>4</sub>	5.921	5.921	2%	50%	0.500	0.000	0.000	0.001	99%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	ABS base year emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	5.531	1%	50%	0.500	0.000	0.000	0.001	99%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	25.015	2%	10%	0.102	0.001	0.000	0.001	99%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.954	5%	30%	0.304	0.000	0.000	0.001	99%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	4.176	2%	50%	0.500	0.000	0.000	0.001	99%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	37.148	2%	5%	0.054	0.001	0.000	0.001	99%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	3.570	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	3.366	2%	50%	0.500	0.000	0.000	0.000	99%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	4.137	25%	30%	0.391	0.000	0.000	0.000	99%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	15.704	2%	10%	0.102	0.001	0.000	0.000	99%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	3.010	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	2.598	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	2.546	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	23.542	2%	5%	0.054	0.001	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	1.987	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	26.667	2%	3%	0.036	0.001	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	16.836	2%	5%	0.054	0.001	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	2.082	23%	30%	0.378	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	1.350	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	23.249	2%	2%	0.028	0.001	0.000	0.000	100%

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1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	1.293	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	1.278	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	3.079	2%	20%	0.201	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	1.157	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	16.004	2%	3%	0.036	0.001	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.897	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.916	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.887	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.834	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.786	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	3.483	10%	5%	0.112	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.575	52%	40%	0.654	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.703	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.701	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.876	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	0.659	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	3.023	2%	10%	0.102	0.000	0.000	0.000	100%

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1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.612	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.561	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.559	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.550	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.548	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	0.462	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.430	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.425	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	0.405	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.376	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	0.366	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	0.321	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.299	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.295	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.290	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.283	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.282	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.268	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.263	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.260	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.253	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.242	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.242	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.228	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.192	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.189	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.188	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	2.607	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.165	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.161	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.152	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.120	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.113	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.110	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.106	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.100	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	0.842	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.090	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.089	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.084	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.078	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.076	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.072	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.068	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.065	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.053	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.050	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.048	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.048	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.045	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.039	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.035	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.032	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.044	10%	30%	0.316	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.026	2%	50%	0.500	0.000	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.356	3%	3%	0.035	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.010	52%	100%	1.126	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.020	10%	50%	0.510	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.020	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.173	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.017	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.077	5%	5%	0.071	0.000	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.009	35%	35%	0.495	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	0.007	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	0.006	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	0.054	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.003	2%	50%	0.500	0.000	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	ABS base year emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
<b>2.D.3.c Asphalt roofing</b>	CO <sub>2</sub>	0.003	0.003	20%	20%	0.283	0.000	0.000	0.000	100%
<b>1.A.3.d Domestic Navigation - Diesel Oil</b>	CH <sub>4</sub>	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CO <sub>2</sub>	0.011	0.011	2%	5%	0.054	0.000	0.000	0.000	100%
<b>2.D.3.b Road paving with asphalt</b>	CO <sub>2</sub>	0.001	0.001	20%	20%	0.283	0.000	0.000	0.000	100%
<b>1.B.2.c Venting and Flaring</b>	CO <sub>2</sub>	0.0028	0.0028	10%	10%	0.141	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	N <sub>2</sub> O	0.0004	0.0004	2%	70%	0.700	0.000	0.000	0.000	100%
<b>1.A.3.d Domestic Navigation - Gasoline</b>	N <sub>2</sub> O	0.0002	0.0002	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	N <sub>2</sub> O	0.00008	0.00008	2%	70%	0.700	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	CH <sub>4</sub>	0.00001	0.00001	2%	60%	0.600	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CH <sub>4</sub>	0.000002	0.000002	2%	60%	0.600	0.000	0.000	0.000	100%



**A.1.5 APPROACH 1 ANALYSIS FOR 2022 – LEVEL ASSESSMENT WITH LULUCF**

IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
4. G. Harvested wood products	CO <sub>2</sub>	-3001.506	3001.506	0.122	12%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	2492.694	2492.694	0.101	22%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-1458.549	1458.549	0.059	28%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	1446.390	1446.390	0.059	34%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	1336.804	1336.804	0.054	39%
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	1251.296	1251.296	0.051	45%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	898.055	898.055	0.036	48%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	893.537	893.537	0.036	52%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	840.292	840.292	0.034	55%
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	748.551	748.551	0.030	58%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	701.159	701.159	0.028	61%
2.A.1. Cement Production	CO <sub>2</sub>	540.092	540.092	0.022	63%
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	482.357	482.357	0.020	65%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	475.796	475.796	0.019	67%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	430.920	430.920	0.017	69%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	423.033	423.033	0.017	71%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	380.241	380.241	0.015	72%
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	373.113	373.113	0.015	74%
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	331.425	331.425	0.013	75%
5.A.1. Managed Waste Disposal on Land	CH <sub>4</sub>	293.292	293.292	0.012	76%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	281.926	281.926	0.011	77%
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	257.065	257.065	0.010	78%
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	246.915	246.915	0.010	79%
2.F.1. Refrigeration and air conditioning	HFCs	243.524	243.524	0.010	80%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	243.457	243.457	0.010	81%
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	237.610	237.610	0.010	82%
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-195.334	195.334	0.008	83%

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IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
4.C.2 Land converted to Grassland – Carbon stock change, forest land converted to grassland, dead organic matter	CO <sub>2</sub>	180.669	180.669	0.007	84%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	159.804	159.804	0.006	85%
4.E.2 Land converted to Settlements – Carbon stock change, mineral soils	CO <sub>2</sub>	156.753	156.753	0.006	85%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	155.066	155.066	0.006	86%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CO <sub>2</sub>	151.371	151.371	0.006	86%
4.B.1 Land converted to Cropland – Carbon stock change, forest land converted to cropland, dead organic matter	CO <sub>2</sub>	151.302	151.302	0.006	87%
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	150.535	150.535	0.006	88%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	149.359	149.359	0.006	88%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	140.696	140.696	0.006	89%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	133.516	133.516	0.005	89%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	120.215	120.215	0.005	90%
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	119.485	119.485	0.005	90%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CO <sub>2</sub>	118.422	118.422	0.005	91%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	111.239	111.239	0.005	91%
4.C.2 Land converted to Grassland – Carbon stock change, forest land converted to grassland, living biomass	CO <sub>2</sub>	95.460	95.460	0.004	92%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	94.627	94.627	0.004	92%
1.B.2.b Natural Gas	CH <sub>4</sub>	89.711	89.711	0.004	92%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	86.313	86.313	0.004	93%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	85.066	85.066	0.003	93%
3.G. Liming	CO <sub>2</sub>	77.884	77.884	0.003	93%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	74.588	74.588	0.003	94%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	71.984	71.984	0.003	94%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	63.917	63.917	0.003	94%
4.C.2 Land converted to Grassland – Carbon stock change, wetlands converted to grassland, living biomass	CO <sub>2</sub>	-63.912	63.912	0.003	95%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	59.423	59.423	0.002	95%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	57.150	57.150	0.002	95%

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IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	53.473	53.473	0.002	95%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	50.221	50.221	0.002	95%
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-49.069	49.069	0.002	96%
4.E.1 Settlements remaining Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	48.465	48.465	0.002	96%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	45.431	45.431	0.002	96%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	32.246	32.246	0.001	96%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	32.233	32.233	0.001	96%
5.B.1. Composting	CH <sub>4</sub>	31.917	31.917	0.001	96%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	31.679	31.679	0.001	97%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	29.280	29.280	0.001	97%
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	29.108	29.108	0.001	97%
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	28.157	28.157	0.001	97%
4.B.2 Land converted to Cropland – Carbon stock change, forest land converted to cropland, living biomass	CO <sub>2</sub>	25.228	25.228	0.001	97%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	25.097	25.097	0.001	97%
2.D.3. Solvent Use	CO <sub>2</sub>	25.074	25.074	0.001	97%
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	24.457	24.457	0.001	97%
1.A.5.b Mobile - Liquid Fuels	CO <sub>2</sub>	24.234	24.234	0.001	97%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	24.032	24.032	0.001	97%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	23.762	23.762	0.001	98%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	23.644	23.644	0.001	98%
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-22.457	22.457	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	21.378	21.378	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	20.787	20.787	0.001	98%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	19.555	19.555	0.001	98%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	19.284	19.284	0.001	98%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	18.858	18.858	0.001	98%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	18.746	18.746	0.001	98%
5.B.1. Composting	N <sub>2</sub> O	18.124	18.124	0.001	98%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	16.030	16.030	0.001	98%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	15.281	15.281	0.001	98%
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	14.856	14.856	0.001	98%

IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	14.530	14.530	0.001	99%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	13.706	13.706	0.001	99%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	12.971	12.971	0.001	99%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	12.932	12.932	0.001	99%
2.G.1. Electrical equipment	SF <sub>6</sub>	12.272	12.272	0.000	99%
5.B.2. Anaerobic digestion at biogas facilities	CH <sub>4</sub>	12.130	12.130	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	12.084	12.084	0.000	99%
2.D.1 Lubricant Use	CO <sub>2</sub>	11.340	11.340	0.000	99%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	11.240	11.240	0.000	99%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	10.730	10.730	0.000	99%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	10.405	10.405	0.000	99%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	10.219	10.219	0.000	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	10.214	10.214	0.000	99%
4.E.1 Settlements remaining Settlements – 4 (III) Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	9.057	9.057	0.000	99%
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	8.945	8.945	0.000	99%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	8.732	8.732	0.000	99%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.361	7.361	0.000	99%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	7.299	7.299	0.000	99%
2.D.2 Paraffin wax use	CO <sub>2</sub>	6.845	6.845	0.000	99%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	6.478	6.478	0.000	99%
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	6.009	6.009	0.000	99%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	5.866	5.866	0.000	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	5.793	5.793	0.000	99%
2.F.4. Aerosols	HFCs	5.668	5.668	0.000	99%
3.H. Urea Application	CO <sub>2</sub>	5.516	5.516	0.000	99%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	5.384	5.384	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	5.376	5.376	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	5.193	5.193	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	5.083	5.083	0.000	100%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	5.020	5.020	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	4.747	4.747	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	4.746	4.746	0.000	100%

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3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	4.525	4.525	0.000	100%
4.B.2 Land converted to Cropland – Carbon stock change, forest land converted to cropland, mineral soil	CO <sub>2</sub>	4.413	4.413	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	3.702	3.702	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	3.659	3.659	0.000	100%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	3.642	3.642	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	3.575	3.575	0.000	100%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	3.320	3.320	0.000	100%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	3.302	3.302	0.000	100%
4.C.2 Land converted to Grassland – Carbon stock change, settlements converted to grassland, living biomass	CO <sub>2</sub>	3.273	3.273	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	3.207	3.207	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	3.189	3.189	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	3.186	3.186	0.000	100%
4.A.2 Land converted to Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	3.009	3.009	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	2.896	2.896	0.000	100%
4 (IV) Indirect nitrous oxide (N <sub>2</sub> O) emissions from managed soils	N <sub>2</sub> O	2.746	2.746	0.000	100%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	2.553	2.553	0.000	100%
1.A.2.g Other - Peat	CO <sub>2</sub>	2.535	2.535	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	2.085	2.085	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	2.008	2.008	0.000	100%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	N <sub>2</sub> O	1.844	1.844	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	1.713	1.713	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	1.652	1.652	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	1.539	1.539	0.000	100%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CH <sub>4</sub>	1.462	1.462	0.000	100%
2.D.3.d Urea Use	CO <sub>2</sub>	1.383	1.383	0.000	100%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	1.366	1.366	0.000	100%
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	1.261	1.261	0.000	100%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	1.257	1.257	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.168	1.168	0.000	100%
2.F.2 Foam blowing agents	HFCs	1.095	1.095	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	1.050	1.050	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	1.006	1.006	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	0.869	0.869	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.846	0.846	0.000	100%
1.A.3.b Road Transportation - Other fossil fuel (please specify)	CO <sub>2</sub>	0.842	0.842	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	0.841	0.841	0.000	100%

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IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	0.833	0.833	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.712	0.712	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.700	0.700	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	0.695	0.695	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.615	0.615	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	0.579	0.579	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.541	0.541	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CO <sub>2</sub>	0.499	0.499	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.464	0.464	0.000	100%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	0.437	0.437	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.425	0.425	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	0.424	0.424	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	0.424	0.424	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.416	0.416	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	0.402	0.402	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CO <sub>2</sub>	0.386	0.386	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	0.377	0.377	0.000	100%
1.A.3.b Road Transportation - Biomass	N <sub>2</sub> O	0.370	0.370	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	0.340	0.340	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.340	0.340	0.000	100%
4.B.2 Land converted to cropland – 4(III) Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/ immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	0.334	0.334	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	N <sub>2</sub> O	0.333	0.333	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.299	0.299	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.270	0.270	0.000	100%
1.A.3.c. Railway Biomass Fuels	N <sub>2</sub> O	0.266	0.266	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	CH <sub>4</sub>	0.264	0.264	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	0.253	0.253	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	0.222	0.222	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.222	0.222	0.000	100%
2.A.4.b Other Use of soda ash	CO <sub>2</sub>	0.216	0.216	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CO <sub>2</sub>	0.193	0.193	0.000	100%
1.A.5.b Mobile - Liquid Fuels	N <sub>2</sub> O	0.175	0.175	0.000	100%
1.A.3.c Railways - Other Fuels (please specify)	CO <sub>2</sub>	0.148	0.148	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.135	0.135	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	0.133	0.133	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.133	0.133	0.000	100%

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1.A.2.c Chemicals - Biomass Fuels	N <sub>2</sub> O	0.131	0.131	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.116	0.116	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.112	0.112	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.106	0.106	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	CH <sub>4</sub>	0.104	0.104	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.094	0.094	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.092	0.092	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	0.071	0.071	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.069	0.069	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.068	0.068	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	0.066	0.066	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.062	0.062	0.000	100%
1.A.3.b Road Transportation - Biomass	CH <sub>4</sub>	0.050	0.050	0.000	100%
1.A.5.b Mobile - Liquid Fuels	CH <sub>4</sub>	0.046	0.046	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.045	0.045	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.035	0.035	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	0.031	0.031	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.030	0.030	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.029	0.029	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.028	0.028	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.027	0.027	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.026	0.026	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.025	0.025	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.024	0.024	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.024	0.024	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	N <sub>2</sub> O	0.021	0.021	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	0.021	0.021	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.019	0.019	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	CH <sub>4</sub>	0.017	0.017	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	0.013	0.013	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.012	0.012	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.011	0.011	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.010	0.010	0.000	100%
1.A.2.g Other - Peat	N <sub>2</sub> O	0.010	0.010	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	0.009	0.009	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	0.009	0.009	0.000	100%
2.F.3. Fire Protection	HFCs	0.009	0.009	0.000	100%

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1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.008	0.008	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.008	0.008	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.008	0.008	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.008	0.008	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.007	0.007	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.007	0.007	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.006	0.006	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.006	0.006	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.006	0.006	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.006	0.006	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.005	0.005	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.005	0.005	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.004	0.004	0.000	100%
1.A.3.c. Railway Biomass Fuels	CH <sub>4</sub>	0.004	0.004	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.004	0.004	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.003	0.003	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.g Other - Peat	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.001	0.001	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.c Chemicals - Solid Fuels	N <sub>2</sub> O	0.001	0.001	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.0006	0.0006	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CH <sub>4</sub>	0.0006	0.0006	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0005	0.0005	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CH <sub>4</sub>	0.0003	0.0003	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	N <sub>2</sub> O	0.0002	0.0002	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.0002	0.0002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.0002	0.0002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.0002	0.0002	0.000	100%



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<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	<i>CH<sub>4</sub></i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.000</i>	<i>100%</i>
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	<i>CH<sub>4</sub></i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.000</i>	<i>100%</i>
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	<i>N<sub>2</sub>O</i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.000</i>	<i>100%</i>

**A.1.6 APPROACH 1 ANALYSIS FOR 2022 – LEVEL ASSESSMENT WITHOUT LULUCF**

IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	2492.694	2492.694	0.246	25%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	898.055	898.055	0.089	33%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	893.537	893.537	0.088	42%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	840.292	840.292	0.083	51%
2.A.1. Cement Production	CO <sub>2</sub>	540.092	540.092	0.053	56%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	475.796	475.796	0.047	61%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	423.033	423.033	0.042	65%
5.A.1. Managed Waste Disposal on Land	CH <sub>4</sub>	293.292	293.292	0.029	68%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	281.926	281.926	0.028	70%
2.F.1. Refrigeration and air conditioning	HFCs	243.524	243.524	0.024	73%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	243.457	243.457	0.024	75%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	159.804	159.804	0.016	77%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	155.066	155.066	0.015	78%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CO <sub>2</sub>	151.371	151.371	0.015	80%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	149.359	149.359	0.015	81%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	133.516	133.516	0.013	83%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	120.215	120.215	0.012	84%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	111.239	111.239	0.011	85%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	94.627	94.627	0.009	86%
1.B.2.b Natural Gas	CH <sub>4</sub>	89.711	89.711	0.009	87%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	86.313	86.313	0.009	88%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	85.066	85.066	0.008	88%
3.G. Liming	CO <sub>2</sub>	77.884	77.884	0.008	89%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	71.984	71.984	0.007	90%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	63.917	63.917	0.006	91%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	59.423	59.423	0.006	91%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	57.150	57.150	0.006	92%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	50.221	50.221	0.005	92%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	45.431	45.431	0.004	93%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	32.246	32.246	0.003	93%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	32.233	32.233	0.003	93%
5.B.1. Composting	CH <sub>4</sub>	31.917	31.917	0.003	94%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	31.679	31.679	0.003	94%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	29.280	29.280	0.003	94%
2.D.3. Solvent Use	CO <sub>2</sub>	25.074	25.074	0.002	94%
1.A.5.b Mobile - Liquid Fuels	CO <sub>2</sub>	24.234	24.234	0.002	95%

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1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	24.032	24.032	0.002	95%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	23.762	23.762	0.002	95%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	23.644	23.644	0.002	95%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	21.378	21.378	0.002	96%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	20.787	20.787	0.002	96%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	19.555	19.555	0.002	96%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	19.284	19.284	0.002	96%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	18.858	18.858	0.002	96%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	18.746	18.746	0.002	97%
5.B.1. Composting	N <sub>2</sub> O	18.124	18.124	0.002	97%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	16.030	16.030	0.002	97%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	15.281	15.281	0.002	97%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	13.706	13.706	0.001	97%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	12.971	12.971	0.001	97%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	12.932	12.932	0.001	97%
2.G.1. Electrical equipment	SF <sub>6</sub>	12.272	12.272	0.001	98%
5.B.2. Anaerobic digestion at biogas facilities	CH <sub>4</sub>	12.130	12.130	0.001	98%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	12.084	12.084	0.001	98%
2.D.1 Lubricant Use	CO <sub>2</sub>	11.340	11.340	0.001	98%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	11.240	11.240	0.001	98%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	10.730	10.730	0.001	98%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	10.405	10.405	0.001	98%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	10.219	10.219	0.001	98%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	10.214	10.214	0.001	98%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	8.732	8.732	0.001	99%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.361	7.361	0.001	99%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	7.299	7.299	0.001	99%
2.D.2 Paraffin wax use	CO <sub>2</sub>	6.845	6.845	0.001	99%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	6.478	6.478	0.001	99%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	5.866	5.866	0.001	99%
2.F.4. Aerosols	HFCs	5.668	5.668	0.001	99%
3.H. Urea Application	CO <sub>2</sub>	5.516	5.516	0.001	99%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	5.384	5.384	0.001	99%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	5.376	5.376	0.001	99%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	5.193	5.193	0.001	99%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	5.083	5.083	0.001	99%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	5.020	5.020	0.000	99%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	4.747	4.747	0.000	99%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	4.525	4.525	0.000	99%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	3.702	3.702	0.000	99%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	3.659	3.659	0.000	99%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	3.642	3.642	0.000	99%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	3.575	3.575	0.000	99%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	3.320	3.320	0.000	100%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	3.302	3.302	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	3.186	3.186	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	2.896	2.896	0.000	100%
1.A.2.g Other - Peat	CO <sub>2</sub>	2.535	2.535	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	2.085	2.085	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	2.008	2.008	0.000	100%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	N <sub>2</sub> O	1.844	1.844	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	1.713	1.713	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	1.652	1.652	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	1.539	1.539	0.000	100%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CH <sub>4</sub>	1.462	1.462	0.000	100%
2.D.3.d Urea Use	CO <sub>2</sub>	1.383	1.383	0.000	100%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	1.366	1.366	0.000	100%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	1.257	1.257	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.168	1.168	0.000	100%
2.F.2 Foam blowing agents	HFCs	1.095	1.095	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	1.050	1.050	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	1.006	1.006	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	0.869	0.869	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.846	0.846	0.000	100%
1.A.3.b Road Transportation - Other fossil fuel (please specify)	CO <sub>2</sub>	0.842	0.842	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	0.841	0.841	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.712	0.712	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.700	0.700	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	0.695	0.695	0.000	100%

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IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.615	0.615	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	0.579	0.579	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.541	0.541	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CO <sub>2</sub>	0.499	0.499	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.464	0.464	0.000	100%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	0.437	0.437	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.425	0.425	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	0.424	0.424	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	0.424	0.424	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.416	0.416	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	0.402	0.402	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CO <sub>2</sub>	0.386	0.386	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	0.377	0.377	0.000	100%
1.A.3.b Road Transportation - Biomass	N <sub>2</sub> O	0.370	0.370	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	0.340	0.340	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.340	0.340	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	N <sub>2</sub> O	0.333	0.333	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.270	0.270	0.000	100%
1.A.3.c. Railway Biomass Fuels	N <sub>2</sub> O	0.266	0.266	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	CH <sub>4</sub>	0.264	0.264	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	0.253	0.253	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	0.222	0.222	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.222	0.222	0.000	100%
2.A.4.b Other Use of soda ash	CO <sub>2</sub>	0.216	0.216	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CO <sub>2</sub>	0.193	0.193	0.000	100%
1.A.5.b Mobile - Liquid Fuels	N <sub>2</sub> O	0.175	0.175	0.000	100%
1.A.3.c Railways - Other Fuels (please specify)	CO <sub>2</sub>	0.148	0.148	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.135	0.135	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	0.133	0.133	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.133	0.133	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	N <sub>2</sub> O	0.131	0.131	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.116	0.116	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.112	0.112	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	CH <sub>4</sub>	0.104	0.104	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.094	0.094	0.000	100%

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IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	0.071	0.071	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.069	0.069	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.068	0.068	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	0.066	0.066	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.062	0.062	0.000	100%
1.A.3.b Road Transportation - Biomass	CH <sub>4</sub>	0.050	0.050	0.000	100%
1.A.5.b Mobile - Liquid Fuels	CH <sub>4</sub>	0.046	0.046	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.045	0.045	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.035	0.035	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	0.031	0.031	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.030	0.030	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.029	0.029	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.028	0.028	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.027	0.027	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.026	0.026	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.025	0.025	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.024	0.024	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.024	0.024	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	N <sub>2</sub> O	0.021	0.021	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	0.021	0.021	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.019	0.019	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	CH <sub>4</sub>	0.017	0.017	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	0.013	0.013	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.012	0.012	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.011	0.011	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.010	0.010	0.000	100%
1.A.2.g Other - Peat	N <sub>2</sub> O	0.010	0.010	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	0.009	0.009	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	0.009	0.009	0.000	100%
2.F.3. Fire Protection	HFCs	0.009	0.009	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.008	0.008	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.008	0.008	0.000	100%

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IPCC category	Gas	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Absolute value of 2022 emissions, kt CO <sub>2</sub> eq.	Level assessment	Cumulative total of Level assessment
1.B.2.b Natural Gas	CO <sub>2</sub>	0.008	0.008	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.008	0.008	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.007	0.007	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.007	0.007	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.006	0.006	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.006	0.006	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.006	0.006	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.006	0.006	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.005	0.005	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.005	0.005	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.004	0.004	0.000	100%
1.A.3.c. Railway Biomass Fuels	CH <sub>4</sub>	0.004	0.004	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.004	0.004	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.003	0.003	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	N <sub>2</sub> O	0.002	0.002	0.000	100%
1.A.2.g Other - Peat	CH <sub>4</sub>	0.002	0.002	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.001	0.001	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.2.c Chemicals - Solid Fuels	N <sub>2</sub> O	0.001	0.001	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.001	0.001	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CH <sub>4</sub>	0.001	0.001	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CH <sub>4</sub>	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	N <sub>2</sub> O	0.0002	0.0002	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

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1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.0002	0.0002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.0002	0.0002	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.0002	0.0002	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.0001	0.0001	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.0001	0.0001	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.0001	0.0001	0.000	100%



**A.1.7 APPROACH 2 ANALYSIS FOR 2022 – LEVEL ASSESSMENT WITH LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	701.159	701.159	5%	296%	2.960	0.028	0.084	0.216	22%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	380.241	380.241	44%	182%	1.873	0.015	0.029	0.074	29%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	430.920	430.920	44%	119%	1.269	0.017	0.022	0.057	35%
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	748.551	748.551	55%	40%	0.679	0.030	0.021	0.053	40%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	893.537	25%	50%	0.559	0.036	0.020	0.052	45%
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	-3001.506	3001.506	15%	0%	0.150	0.122	0.018	0.047	50%
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	373.113	373.113	114%	13%	1.147	0.015	0.017	0.044	54%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CO <sub>2</sub>	0.000	118.422	118.422	5%	246%	2.464	0.005	0.012	0.030	57%
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	257.065	257.065	61%	86%	1.054	0.010	0.011	0.028	60%
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	1251.296	1251.296	13%	13%	0.188	0.051	0.010	0.024	63%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	482.357	482.357	26%	40%	0.473	0.020	0.009	0.024	65%
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	246.915	246.915	20%	84%	0.858	0.010	0.009	0.022	67%
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.387	150.535	150.535	115%	71%	1.350	0.006	0.008	0.021	69%
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	1.989	119.485	119.485	20%	151%	1.520	0.005	0.007	0.019	71%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	898.055	2%	20%	0.201	0.036	0.007	0.019	73%
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	331.425	331.425	47%	18%	0.505	0.013	0.007	0.017	75%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	1336.804	1336.804	2%	11%	0.115	0.054	0.006	0.016	76%
5.A.1. Managed Waste Disposal on Land	CH <sub>4</sub>	0.000	293.292	293.292	6%	52%	0.523	0.012	0.006	0.016	78%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	74.588	74.588	6%	198%	1.981	0.003	0.006	0.015	80%
2.F.1. Refrigeration and air conditioning	HFCs	0.000	243.524	243.524	50%	30%	0.583	0.010	0.006	0.015	81%
4.B.1 Land converted to Cropland – Carbon stock change, forest land converted to cropland, dead organic matter	CO <sub>2</sub>	0.000	151.302	151.302	53%	23%	0.583	0.006	0.004	0.009	82%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	140.696	140.696	6%	55%	0.557	0.006	0.003	0.008	83%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	155.066	2%	50%	0.500	0.006	0.003	0.008	84%
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.001	237.610	237.610	20%	23%	0.305	0.010	0.003	0.008	84%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	1446.390	1446.390	5%		0.050	0.059	0.003	0.008	85%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2492.694	2%	2%	0.028	0.101	0.003	0.007	86%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	25.097	25.097	6%	246%	2.464	0.001	0.003	0.006	86%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	-1458.549	1458.549	2%	4%	0.042	0.059	0.003	0.006	87%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	540.092	8%	8%	0.113	0.022	0.002	0.006	88%
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	24.457	24.457	13%	246%	2.467	0.001	0.002	0.006	88%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	111.239	111.239	6%	52%	0.523	0.005	0.002	0.006	89%
4.C.2 Land converted to Grassland – Carbon stock change, forest land converted to grassland, living biomass	CO <sub>2</sub>	0.000	95.460	95.460	10%	56%	0.564	0.004	0.002	0.006	89%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	475.796	475.796	2%	10%	0.102	0.019	0.002	0.005	90%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
4.C.2 Land converted to Grassland – Carbon stock change, wetlands converted to grassland, living biomass	CO <sub>2</sub>	0.000	-63.912	63.912	10%	75%	0.756	0.003	0.002	0.005	90%
4.C.2 Land converted to Grassland – Carbon stock change, forest land converted to grassland, dead organic matter	CO <sub>2</sub>	0.000	180.669	180.669	10%	23%	0.253	0.007	0.002	0.005	91%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	840.292	2%	5%	0.054	0.034	0.002	0.005	91%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	89.711	35%	35%	0.495	0.004	0.002	0.005	92%
4.E.2 Land converted to Settlements – Carbon stock change, mineral soils	CO <sub>2</sub>	0.000	156.753	156.753	22%	13%	0.256	0.006	0.002	0.004	92%
3.G. Liming	CO <sub>2</sub>	357.133	77.884	77.884	5%	50%	0.502	0.003	0.002	0.004	93%
4.B.2 Land converted to Cropland – Carbon stock change, forest land converted to cropland, living biomass	CO <sub>2</sub>	0.000	25.228	25.228	53%	135%	1.454	0.001	0.001	0.004	93%
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	-195.334	195.334	8%	16%	0.182	0.008	0.001	0.004	93%
5.B.1. Composting	CH <sub>4</sub>	18.691	31.917	31.917	28%	100%	1.040	0.001	0.001	0.003	94%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	85.066	25%	20%	0.320	0.003	0.001	0.003	94%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	86.313	7%	30%	0.308	0.004	0.001	0.003	94%
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	28.157	28.157	9%	84%	0.841	0.001	0.001	0.002	95%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	45.431	2%	50%	0.500	0.002	0.001	0.002	95%
5.B.1. Composting	N <sub>2</sub> O	10.614	18.124	18.124	28%	90%	0.944	0.001	0.001	0.002	95%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	159.804	159.804	2%	10%	0.102	0.006	0.001	0.002	95%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	149.359	149.359	2%	10%	0.102	0.006	0.001	0.002	95%

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1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	281.926	2%	5%	0.054	0.011	0.001	0.002	96%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	29.280	29.280	1%	50%	0.500	0.001	0.001	0.002	96%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	133.516	2%	10%	0.102	0.005	0.001	0.001	96%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	120.215	120.215	5%	10%	0.112	0.005	0.001	0.001	96%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	23.762	25%	50%	0.559	0.001	0.001	0.001	96%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	243.457	2%	5%	0.054	0.010	0.001	0.001	96%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	11.240	36%	107%	1.129	0.000	0.001	0.001	96%
5.B.2. Anaerobic digestion at biogas facilities	CH <sub>4</sub>	0.000	12.130	12.130	20%	100%	1.020	0.000	0.001	0.001	96%
1.A.5.b Mobile - Liquid Fuels	CO <sub>2</sub>	0.000	24.234	24.234	2%	50%	0.500	0.001	0.000	0.001	97%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	24.032	2%	50%	0.500	0.001	0.000	0.001	97%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	423.033	2%	2%	0.028	0.017	0.000	0.001	97%
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	-49.069	49.069	8%	23%	0.244	0.002	0.000	0.001	97%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	23.644	23.644	1%	50%	0.500	0.001	0.000	0.001	97%
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	29.108	29.108	37%	12%	0.393	0.001	0.000	0.001	97%
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	8.945	8.945	93%	72%	1.173	0.000	0.000	0.001	97%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	31.679	25%	20%	0.320	0.001	0.000	0.001	97%
4.E.1 Settlements remaining Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	0.000	48.465	48.465	9%	18%	0.204	0.002	0.000	0.001	98%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	32.233	6%	30%	0.306	0.001	0.000	0.001	98%

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3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	19.555	2%	50%	0.500	0.001	0.000	0.001	98%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	19.284	1%	50%	0.500	0.001	0.000	0.001	98%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	14.530	14.530	6%	65%	0.654	0.001	0.000	0.001	98%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	18.746	18.746	1%	50%	0.500	0.001	0.000	0.001	98%
4.A.2 Land converted to Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	0.000	3.009	3.009	44%	296%	2.992	0.000	0.000	0.001	98%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25.074	25%	25%	0.354	0.001	0.000	0.001	98%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	16.030	2%	50%	0.500	0.001	0.000	0.001	98%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	15.281	15.281	1%	50%	0.500	0.001	0.000	0.001	98%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	13.706	13.706	2%	50%	0.500	0.001	0.000	0.001	98%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	63.917	2%	10%	0.102	0.003	0.000	0.001	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	5.793	5.793	6%	107%	1.073	0.000	0.000	0.001	99%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	18.858	25%	20%	0.320	0.001	0.000	0.001	99%
4 (IV) Indirect nitrous oxide (N <sub>2</sub> O) emissions from managed soils	N <sub>2</sub> O	0.000	2.746	2.746	42%	212%	2.157	0.000	0.000	0.001	99%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	10.405	2%	50%	0.500	0.000	0.000	0.001	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	10.214	10.214	2%	50%	0.500	0.000	0.000	0.001	99%

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1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	94.627	2%	5%	0.054	0.004	0.000	0.001	99%
4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	3.189	3.189	3%	135%	1.353	0.000	0.000	0.000	99%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CO <sub>2</sub>	0.000	151.371	151.371	2%	2%	0.028	0.006	0.000	0.000	99%
2.F.4. Aerosols	HFCs	0.000	5.668	5.668	50%	50%	0.707	0.000	0.000	0.000	99%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	53.473	53.473	6%	4%	0.071	0.002	0.000	0.000	99%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	7.299	2%	50%	0.500	0.000	0.000	0.000	99%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	3.642	2%	100%	1.000	0.000	0.000	0.000	99%
4.E.1 Settlements remaining Settlements – 4 (III) Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	0.000	9.057	9.057	9%	38%	0.387	0.000	0.000	0.000	99%
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	6.009	6.009	5%	56%	0.559	0.000	0.000	0.000	99%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	59.423	2%	5%	0.054	0.002	0.000	0.000	99%
2.G.1. Electrical equipment	SF <sub>6</sub>	0.000	12.272	12.272	2%	25%	0.251	0.000	0.000	0.000	99%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	57.150	2%	5%	0.054	0.002	0.000	0.000	99%
4.B.2 Land converted to Cropland – Carbon stock change, forest land converted to cropland, mineral soil	CO <sub>2</sub>	0.000	4.413	4.413	65%	22%	0.682	0.000	0.000	0.000	99%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	2.553	2.553	6%	110%	1.098	0.000	0.000	0.000	99%

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3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	5.516	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	50.221	50.221	2%	5%	0.054	0.002	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5.376	5.376	1%	50%	0.500	0.000	0.000	0.000	99%
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	3.207	3.207	37%	72%	0.811	0.000	0.000	0.000	99%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	12.932	12.932	2%	20%	0.201	0.001	0.000	0.000	100%
4.C.2 Land converted to Grassland – Carbon stock change, settlements converted to grassland, living biomass	CO <sub>2</sub>	0.000	3.273	3.273	10%	75%	0.756	0.000	0.000	0.000	100%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	5.866	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.361	7.361	5%	30%	0.304	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	21.378	21.378	2%	10%	0.102	0.001	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	71.984	71.984	2%	2%	0.028	0.003	0.000	0.000	100%
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	-22.457	22.457	8%	4%	0.089	0.001	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	3.702	3.702	1%	50%	0.500	0.000	0.000	0.000	100%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	4.525	25%	30%	0.391	0.000	0.000	0.000	100%
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	14.856	14.856	9%	4%	0.095	0.001	0.000	0.000	100%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	3.302	3.302	26%	30%	0.397	0.000	0.000	0.000	100%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	8.732	8.732	10%	10%	0.141	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	32.246	32.246	2%	3%	0.036	0.001	0.000	0.000	100%



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1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	20.787	20.787	2%	5%	0.054	0.001	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	10.730	10.730	2%	10%	0.102	0.000	0.000	0.000	100%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	3.320	25%	20%	0.320	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	2.085	2.085	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	10.219	10.219	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	N <sub>2</sub> O	0.000	1.844	1.844	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	1.652	1.652	1%	50%	0.500	0.000	0.000	0.000	100%
2.F.2 Foam blowing agents	HFCs	0.000	1.095	1.095	50%	50%	0.707	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	0.833	0.833	93%		0.926	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CH <sub>4</sub>	0.000	1.462	1.462	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	12.971	12.971	2%	5%	0.054	0.001	0.000	0.000	100%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	6.478	6.478	8%	8%	0.106	0.000	0.000	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	1.713	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	12.084	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	1.257	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	5.384	5.384	10%	5%	0.112	0.000	0.000	0.000	100%
4.B.2 Land converted to cropland – 4(III) Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/ immobilization associated with loss/gain of soil organic	N <sub>2</sub> O	0.000	0.334	0.334	65%	151%	1.639	0.000	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
matter resulting from change of land use or management of mineral soils											
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	5.193	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	1.006	1.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.846	0.846	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	0.841	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	1.366	2%	30%	0.301	0.000	0.000	0.000	100%
2.D.3.d Urea Use	CO <sub>2</sub>	0.000	1.383	1.383	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.712	0.712	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	1.168	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	0.695	1%	50%	0.500	0.000	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	11.340	2%	2%	0.028	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.615	0.615	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	5.083	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	0.541	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Peat	CO <sub>2</sub>	0.000	2.535	2.535	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	4.747	4.747	2%	5%	0.054	0.000	0.000	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	4.746	4.746	3%	4%	0.047	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	0.437	0.437	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	0.425	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	0.424	0.424	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2.008	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	0.402	0.402	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	3.659	2%	5%	0.054	0.000	0.000	0.000	100%
2.D.2 Paraffin wax use	CO <sub>2</sub>	0.000	6.845	6.845	2%	2%	0.028	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	3.575	3.575	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Biomass	N <sub>2</sub> O	0.000	0.370	0.370	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	0.464	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	5.020	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	0.340	0.340	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	0.340	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	N <sub>2</sub> O	0.000	0.333	0.333	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	1.539	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.270	0.270	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.c. Railway Biomass Fuels	N <sub>2</sub> O	0.000	0.266	0.266	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	CH <sub>4</sub>	0.000	0.264	0.264	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	0.253	0.253	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	3.186	2%	3%	0.036	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	0.299	0.299	37%		0.374	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	0.222	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2.896	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Other fossil fuel (please specify)	CO <sub>2</sub>	0.000	0.842	0.842	10%	5%	0.112	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	0.092	0.092	10%	96%	0.965	0.000	0.000	0.000	100%
1.A.5.b Mobile - Liquid Fuels	N <sub>2</sub> O	0.000	0.175	0.175	2%	50%	0.500	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	0.106	0.106	10%	78%	0.786	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	1.261	1.261	5%	4%	0.064	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.135	0.135	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	0.133	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.133	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	N <sub>2</sub> O	0.000	0.131	0.131	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.116	0.116	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	1.050	1.050	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	0.112	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	CH <sub>4</sub>	0.000	0.104	0.104	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	0.094	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	0.424	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	0.377	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	0.071	0.071	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.068	0.068	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	0.869	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CO <sub>2</sub>	0.000	0.499	0.499	2%	5%	0.054	0.000	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	0.066	23%	30%	0.378	0.000	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.700	0.700	3%	3%	0.035	0.000	0.000	0.000	100%
1.A.5.b Mobile - Liquid Fuels	CH <sub>4</sub>	0.000	0.046	0.046	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	0.045	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	0.416	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	0.579	0.579	2%	3%	0.036	0.000	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	0.069	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	0.026	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.035	0.035	10%	50%	0.510	0.000	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	0.062	20%	20%	0.283	0.000	0.000	0.000	100%
2.A.4.b Other Use of soda ash	CO <sub>2</sub>	0.000	0.216	0.216	8%	3%	0.079	0.000	0.000	0.000	100%
1.A.3.c Railways - Other Fuels (please specify)	CO <sub>2</sub>	0.000	0.148	0.148	10%	5%	0.112	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	0.031	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.030	0.030	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Biomass	CH <sub>4</sub>	0.000	0.050	0.050	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	0.029	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.028	0.028	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.2.a Iron and Steel - Solid Fuels	CO <sub>2</sub>	0.000	0.386	0.386	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	0.027	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.025	0.025	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	0.222	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	N <sub>2</sub> O	0.000	0.021	0.021	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	0.021	0.021	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.019	0.019	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	CH <sub>4</sub>	0.000	0.017	0.017	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CO <sub>2</sub>	0.000	0.193	0.193	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	0.013	0.013	2%	50%	0.500	0.000	0.000	0.000	100%
2.F.3. Fire Protection	HFCs	0.000	0.009	0.009	50%	50%	0.707	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.012	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.000	0.008	0.008	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	0.010	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Peat	N <sub>2</sub> O	0.000	0.010	0.010	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	0.009	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.008	0.008	35%	35%	0.495	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.007	0.007	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.005	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.005	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.004	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	0.007	10%	30%	0.316	0.000	0.000	0.000	100%
1.A.3.c. Railway Biomass Fuels	CH <sub>4</sub>	0.000	0.004	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	0.003	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	N <sub>2</sub> O	0.000	0.002	0.002	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	CH <sub>4</sub>	0.000	0.002	0.002	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	N <sub>2</sub> O	0.000	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Peat	CH <sub>4</sub>	0.000	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CH <sub>4</sub>	0.000	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.000	0.001	0.001	2%	60%	0.600	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Solid Fuels	N <sub>2</sub> O	0.000	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CH <sub>4</sub>	0.000	0.0006	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.000	0.0005	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CH <sub>4</sub>	0.0000	0.0003	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000	0.0002	0.000	2%	60%	0.600	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	N <sub>2</sub> O	0.000	0.0002	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.0006	0.001	10%	10%	0.141	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.0002	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.0002	0.000	2%	50%	0.500	0.000	0.000	0.000	100%



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<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	CH <sub>4</sub>	0.039	0.0001	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	CH <sub>4</sub>	0.119	0.0001	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	N <sub>2</sub> O	0.113	0.0001	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	CH <sub>4</sub>	0.120	0.0001	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	N <sub>2</sub> O	0.113	0.0001	0.000	2%	50%	0.500	0.000	0.000	0.000	100%

**A.1.8 APPROACH 2 ANALYSIS FOR 2022 – LEVEL ASSESSMENT WITHOUT LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	893.537	25%	50%	0.559	0.088	0.049	0.260	26%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	898.055	2%	20%	0.201	0.089	0.018	0.094	35%
5.A.1. Managed Waste Disposal on Land	CH <sub>4</sub>	0.000	293.292	293.292	6%	52%	0.523	0.029	0.015	0.080	43%
2.F.1. Refrigeration and air conditioning	HFCs	0.000	243.524	243.524	50%	30%	0.583	0.024	0.014	0.074	51%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	155.066	2%	50%	0.500	0.015	0.008	0.040	55%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2492.694	2%	2%	0.028	0.246	0.007	0.037	59%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	540.092	8%	8%	0.113	0.053	0.006	0.032	62%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	111.239	111.239	6%	52%	0.523	0.011	0.006	0.030	65%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	475.796	475.796	2%	10%	0.102	0.047	0.005	0.025	67%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	840.292	2%	5%	0.054	0.083	0.004	0.024	70%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	89.711	35%	35%	0.495	0.009	0.004	0.023	72%
3.G. Liming	CO <sub>2</sub>	357.133	77.884	77.884	5%	50%	0.502	0.008	0.004	0.020	74%
5.B.1. Composting	CH <sub>4</sub>	18.691	31.917	31.917	28%	100%	1.040	0.003	0.003	0.017	76%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	85.066	25%	20%	0.320	0.008	0.003	0.014	77%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	86.313	7%	30%	0.308	0.009	0.003	0.014	79%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	45.431	2%	50%	0.500	0.004	0.002	0.012	80%

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5.B.1. Composting	N <sub>2</sub> O	10.614	18.124	18.124	28%	90%	0.944	0.002	0.002	0.009	81%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	159.804	159.804	2%	10%	0.102	0.016	0.002	0.008	82%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	149.359	149.359	2%	10%	0.102	0.015	0.002	0.008	82%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	281.926	2%	5%	0.054	0.028	0.001	0.008	83%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	29.280	29.280	1%	50%	0.500	0.003	0.001	0.008	84%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	133.516	2%	10%	0.102	0.013	0.001	0.007	85%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	120.215	120.215	5%	10%	0.112	0.012	0.001	0.007	85%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	23.762	25%	50%	0.559	0.002	0.001	0.007	86%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	243.457	2%	5%	0.054	0.024	0.001	0.007	87%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	11.240	36%	107%	1.129	0.001	0.001	0.007	87%
5.B.2. Anaerobic digestion at biogas facilities	CH <sub>4</sub>	0.000	12.130	12.130	20%	100%	1.020	0.001	0.001	0.006	88%
1.A.5.b Mobile - Liquid Fuels	CO <sub>2</sub>	0.000	24.234	24.234	2%	50%	0.500	0.002	0.001	0.006	89%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	24.032	2%	50%	0.500	0.002	0.001	0.006	89%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	423.033	2%	2%	0.028	0.042	0.001	0.006	90%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	23.644	23.644	1%	50%	0.500	0.002	0.001	0.006	90%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	31.679	25%	20%	0.320	0.003	0.001	0.005	91%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	32.233	6%	30%	0.306	0.003	0.001	0.005	91%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	19.555	2%	50%	0.500	0.002	0.001	0.005	92%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	19.284	1%	50%	0.500	0.002	0.001	0.005	93%

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1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	18.746	18.746	1%	50%	0.500	0.002	0.001	0.005	93%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25.074	25%	25%	0.354	0.002	0.001	0.005	93%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	16.030	2%	50%	0.500	0.002	0.001	0.004	94%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	15.281	15.281	1%	50%	0.500	0.002	0.001	0.004	94%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	13.706	13.706	2%	50%	0.500	0.001	0.001	0.004	95%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	63.917	2%	10%	0.102	0.006	0.001	0.003	95%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	18.858	25%	20%	0.320	0.002	0.001	0.003	95%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	10.405	2%	50%	0.500	0.001	0.001	0.003	96%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	10.214	10.214	2%	50%	0.500	0.001	0.001	0.003	96%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	94.627	2%	5%	0.054	0.009	0.001	0.003	96%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CO <sub>2</sub>	0.000	151.371	151.371	2%	2%	0.028	0.015	0.000	0.002	96%
2.F.4. Aerosols	HFCs	0.000	5.668	5.668	50%	50%	0.707	0.001	0.000	0.002	97%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	7.299	2%	50%	0.500	0.001	0.000	0.002	97%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	3.642	2%	100%	1.000	0.000	0.000	0.002	97%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	59.423	2%	5%	0.054	0.006	0.000	0.002	97%
2.G.1. Electrical equipment	SF <sub>6</sub>	0.000	12.272	12.272	2%	25%	0.251	0.001	0.000	0.002	97%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	57.150	2%	5%	0.054	0.006	0.000	0.002	97%
3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	5.516	2%	50%	0.500	0.001	0.000	0.001	98%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	50.221	50.221	2%	5%	0.054	0.005	0.000	0.001	98%

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<b>1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels</b>	CH <sub>4</sub>	10.248	5.376	5.376	1%	50%	0.500	0.001	0.000	0.001	98%
<b>3.A.3 Enteric Fermentation - Swine</b>	CH <sub>4</sub>	58.846	12.932	12.932	2%	20%	0.201	0.001	0.000	0.001	98%
<b>3.B.2.4 Manure Management - Other livestock</b>	N <sub>2</sub> O	17.783	5.866	5.866	25%	30%	0.391	0.001	0.000	0.001	98%
<b>1.A.4.b Residential - Biomass Fuels</b>	N <sub>2</sub> O	7.954	7.361	7.361	5%	30%	0.304	0.001	0.000	0.001	98%
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels</b>	CO <sub>2</sub>	25.015	21.378	21.378	2%	10%	0.102	0.002	0.000	0.001	98%
<b>1.A.3.c Railways - Liquid Fuels</b>	CO <sub>2</sub>	536.766	71.984	71.984	2%	2%	0.028	0.007	0.000	0.001	98%
<b>1.A.4.a Commercial/Institutional - Biomass Fuels</b>	N <sub>2</sub> O	5.531	3.702	3.702	1%	50%	0.500	0.000	0.000	0.001	99%
<b>3.B.1.4 Manure Management - Other livestock</b>	CH <sub>4</sub>	13.983	4.525	4.525	25%	30%	0.391	0.000	0.000	0.001	99%
<b>5.D.2 Industrial Wastewater</b>	CH <sub>4</sub>	153.525	3.302	3.302	26%	30%	0.397	0.000	0.000	0.001	99%
<b>1.B.2.c Venting and Flaring</b>	CH <sub>4</sub>	78.786	8.732	8.732	10%	10%	0.141	0.001	0.000	0.001	99%
<b>1.A.2.f Non-metallic Minerals - Solid Fuels</b>	CO <sub>2</sub>	16.004	32.246	32.246	2%	3%	0.036	0.003	0.000	0.001	99%
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels</b>	CO <sub>2</sub>	104.785	20.787	20.787	2%	5%	0.054	0.002	0.000	0.001	99%
<b>1.A.2.c Chemicals - Liquid Fuels</b>	CO <sub>2</sub>	269.980	10.730	10.730	2%	10%	0.102	0.001	0.000	0.001	99%
<b>3.B.2.3 Manure Management - Swine</b>	N <sub>2</sub> O	35.810	3.320	3.320	25%	20%	0.320	0.000	0.000	0.001	99%
<b>1.A.2.f Non-metallic Minerals - Biomass Fuels</b>	N <sub>2</sub> O	0.007	2.085	2.085	1%	50%	0.500	0.000	0.000	0.001	99%
<b>1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels</b>	CO <sub>2</sub>	564.767	10.219	10.219	2%	10%	0.102	0.001	0.000	0.001	99%

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1.A.2.f Non-metallic Minerals - Other Fossil Fuels	N <sub>2</sub> O	0.000	1.844	1.844	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	1.652	1.652	1%	50%	0.500	0.000	0.000	0.000	99%
2.F.2 Foam blowing agents	HFCs	0.000	1.095	1.095	50%	50%	0.707	0.000	0.000	0.000	99%
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CH <sub>4</sub>	0.000	1.462	1.462	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	12.971	12.971	2%	5%	0.054	0.001	0.000	0.000	99%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	6.478	6.478	8%	8%	0.106	0.001	0.000	0.000	99%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	1.713	25%	30%	0.391	0.000	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	12.084	2%	5%	0.054	0.001	0.000	0.000	99%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	1.257	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	5.384	5.384	10%	5%	0.112	0.001	0.000	0.000	99%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	5.193	2%	10%	0.102	0.001	0.000	0.000	99%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	1.006	1.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.846	0.846	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	0.841	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	1.366	2%	30%	0.301	0.000	0.000	0.000	100%
2.D.3.d Urea Use	CO <sub>2</sub>	0.000	1.383	1.383	20%	20%	0.283	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.712	0.712	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	1.168	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	0.695	1%	50%	0.500	0.000	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	11.340	2%	2%	0.028	0.001	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.615	0.615	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	5.083	2%	5%	0.054	0.001	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	0.541	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Peat	CO <sub>2</sub>	0.000	2.535	2.535	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	4.747	4.747	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	0.437	0.437	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	0.425	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	0.424	0.424	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2.008	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	0.402	0.402	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	3.659	2%	5%	0.054	0.000	0.000	0.000	100%
2.D.2 Paraffin wax use	CO <sub>2</sub>	0.000	6.845	6.845	2%	2%	0.028	0.001	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	3.575	3.575	2%	5%	0.054	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.3.b Road Transportation - Biomass	N <sub>2</sub> O	0.000	0.370	0.370	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	0.464	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	5.020	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	0.340	0.340	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	0.340	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	N <sub>2</sub> O	0.000	0.333	0.333	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	1.539	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.270	0.270	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.c. Railway Biomass Fuels	N <sub>2</sub> O	0.000	0.266	0.266	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	CH <sub>4</sub>	0.000	0.264	0.264	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	0.253	0.253	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	3.186	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	0.222	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2.896	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Other fossil fuel (please specify)	CO <sub>2</sub>	0.000	0.842	0.842	10%	5%	0.112	0.000	0.000	0.000	100%
1.A.5.b Mobile - Liquid Fuels	N <sub>2</sub> O	0.000	0.175	0.175	2%	50%	0.500	0.000	0.000	0.000	100%



## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.135	0.135	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	0.133	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.133	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	N <sub>2</sub> O	0.000	0.131	0.131	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.116	0.116	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	1.050	1.050	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	0.112	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Biomass Fuels	CH <sub>4</sub>	0.000	0.104	0.104	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	0.094	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	0.424	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	0.377	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	0.071	0.071	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.068	0.068	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	0.869	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CO <sub>2</sub>	0.000	0.499	0.499	2%	5%	0.054	0.000	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	0.066	23%	30%	0.378	0.000	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.700	0.700	3%	3%	0.035	0.000	0.000	0.000	100%
1.A.5.b Mobile - Liquid Fuels	CH <sub>4</sub>	0.000	0.046	0.046	2%	50%	0.500	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	0.045	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	0.416	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	0.579	0.579	2%	3%	0.036	0.000	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	0.069	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	0.026	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.035	0.035	10%	50%	0.510	0.000	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	0.062	20%	20%	0.283	0.000	0.000	0.000	100%
2.A.4.b Other Use of soda ash	CO <sub>2</sub>	0.000	0.216	0.216	8%	3%	0.079	0.000	0.000	0.000	100%
1.A.3.c Railways - Other Fuels (please specify)	CO <sub>2</sub>	0.000	0.148	0.148	10%	5%	0.112	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	0.031	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.030	0.030	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Biomass	CH <sub>4</sub>	0.000	0.050	0.050	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	0.029	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.028	0.028	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CO <sub>2</sub>	0.000	0.386	0.386	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	0.027	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.025	0.025	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	0.222	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	N <sub>2</sub> O	0.000	0.021	0.021	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	0.021	0.021	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.019	0.019	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Biomass Fuels	CH <sub>4</sub>	0.000	0.017	0.017	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CO <sub>2</sub>	0.000	0.193	0.193	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	0.013	0.013	2%	50%	0.500	0.000	0.000	0.000	100%
2.F.3. Fire Protection	HFCs	0.000	0.009	0.009	50%	50%	0.707	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.012	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.000	0.008	0.008	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	0.010	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Peat	N <sub>2</sub> O	0.000	0.010	0.010	2%	50%	0.500	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	0.009	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.008	0.008	35%	35%	0.495	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.007	0.007	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.006	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.005	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.005	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.004	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	0.007	10%	30%	0.316	0.000	0.000	0.000	100%
1.A.3.c. Railway Biomass Fuels	CH <sub>4</sub>	0.000	0.004	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	0.003	2%	50%	0.500	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

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1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	N <sub>2</sub> O	0.000	0.002	0.002	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Biomass Fuels	CH <sub>4</sub>	0.000	0.002	0.002	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	N <sub>2</sub> O	0.000	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Peat	CH <sub>4</sub>	0.000	0.002	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Solid Fuels	CH <sub>4</sub>	0.000	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.000	0.001	0.001	2%	60%	0.600	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Solid Fuels	N <sub>2</sub> O	0.000	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Solid Fuels	CH <sub>4</sub>	0.000	0.001	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.000	0.0005	0.0005	2%	50%	0.500	0.000	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	ABS Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Level Assessment	Level Assessment with Uncertainty	Contribution to Level Assessment	Cumulative Total
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CH <sub>4</sub>	0.000	0.0003	0.0003	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.0000	0.0002	0.0002	2%	60%	0.600	0.000	0.000	0.000	100%
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	N <sub>2</sub> O	0.000	0.0002	0.0002	2%	50%	0.500	0.000	0.000	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.0028	0.0006	0.0006	10%	10%	0.141	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.0002	0.0002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.0002	0.0002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.0001	0.0001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.0001	0.0001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.0001	0.0001	2%	50%	0.500	0.000	0.000	0.000	100%

**A 1.9 APPROACH 1 ANALYSIS FOR 2022 – TREND ASSESSMENT WITH LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	1336.804	2%	11%	1.534	0.387	39%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	2%	10%	0.244	0.061	45%
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	-3001.506	15%	0%	0.206	0.052	50%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	2%	5%	0.153	0.039	54%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2%	2%	0.132	0.033	57%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	2%	20%	0.126	0.032	60%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	2%	3%	0.110	0.028	63%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	2%	2%	0.108	0.027	66%
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	1251.296	13%	13%	0.100	0.025	68%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	149.359	2%	10%	0.075	0.019	70%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	2%	10%	0.072	0.018	72%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	-1458.549	2%	4%	0.063	0.016	74%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	2%	5%	0.062	0.016	75%
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	748.551	55%	40%	0.054	0.014	77%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	25%	50%	0.050	0.013	78%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	2%	3%	0.047	0.012	79%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	10.219	2%	10%	0.045	0.011	80%
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	482.357	26%	40%	0.042	0.011	81%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	50.221	2%	5%	0.039	0.010	82%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	71.984	2%	2%	0.038	0.010	83%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	1446.390	5%		0.037	0.009	84%
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	373.113	114%	13%	0.027	0.007	85%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	380.241	44%	182%	0.025	0.006	85%
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	331.425	47%	18%	0.023	0.006	86%
3.G. Liming	CO <sub>2</sub>	357.133	77.884	5%	50%	0.023	0.006	87%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	475.796	2%	10%	0.022	0.005	87%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2%	10%	0.021	0.005	88%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	2%	5%	0.021	0.005	88%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	10.730	2%	10%	0.021	0.005	89%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	111.239	6%	52%	0.020	0.005	89%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	2%	5%	0.019	0.005	90%
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.001	237.610	20%	23%	0.017	0.004	90%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2%	3%	0.017	0.004	91%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	159.804	2%	10%	0.015	0.004	91%
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	-195.334	8%	16%	0.014	0.004	91%
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	246.915	20%	84%	0.012	0.003	92%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	3.302	26%	30%	0.012	0.003	92%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	2%	5%	0.012	0.003	92%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	2%	10%	0.012	0.003	93%



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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	8%	8%	0.012	0.003	93%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	7%	30%	0.012	0.003	93%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	2%	50%	0.011	0.003	93%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	701.159	5%	296%	0.011	0.003	94%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	2%	5%	0.010	0.003	94%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	0.000	8%	8%	0.010	0.002	94%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	35%	35%	0.009	0.002	94%
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	1.989	119.485	20%	151%	0.009	0.002	95%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	2%	3%	0.008	0.002	95%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	0.000	2%	3%	0.008	0.002	95%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	0.000	2%	10%	0.007	0.002	95%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	20.787	2%	5%	0.007	0.002	95%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	140.696	6%	55%	0.007	0.002	96%
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.387	150.535	115%	71%	0.007	0.002	96%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	430.920	44%	119%	0.007	0.002	96%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	25%	20%	0.006	0.002	96%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	28.157	9%	84%	0.006	0.002	96%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	8.732	10%	10%	0.006	0.001	96%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	2%	10%	0.006	0.001	97%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	2.553	6%	110%	0.006	0.001	97%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	0.000	5%	5%	0.006	0.001	97%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	74.588	6%	198%	0.005	0.001	97%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	2%	10%	0.005	0.001	97%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	25%	50%	0.005	0.001	97%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	6.478	8%	8%	0.005	0.001	97%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	53.473	6%	4%	0.005	0.001	97%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	0.000	2%	20%	0.005	0.001	98%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	25%	20%	0.005	0.001	98%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	0.437	2%	50%	0.004	0.001	98%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	120.215	5%	10%	0.004	0.001	98%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	2%	50%	0.004	0.001	98%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	2%	5%	0.004	0.001	98%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	2%	50%	0.004	0.001	98%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	25%	20%	0.004	0.001	98%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	12.932	2%	20%	0.004	0.001	98%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	0.000	2%	10%	0.003	0.001	98%
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	-49.069	8%	23%	0.003	0.001	99%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	25%	20%	0.003	0.001	99%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	13.706	2%	50%	0.003	0.001	99%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	36%	107%	0.002	0.001	99%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	0.579	2%	3%	0.002	0.001	99%
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	6.009	5%	56%	0.002	0.001	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	25.097	6%	246%	0.002	0.000	99%
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	24.457	13%	246%	0.002	0.000	99%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	23.644	1%	50%	0.002	0.000	99%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	2%	5%	0.002	0.000	99%
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	14.856	9%	4%	0.002	0.000	99%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	2%	50%	0.002	0.000	99%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	2%	30%	0.002	0.000	99%
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	-22.457	8%	4%	0.001	0.000	99%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	29.280	1%	50%	0.001	0.000	99%
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	8.945	93%	72%	0.001	0.000	99%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	1%	50%	0.001	0.000	99%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	18.746	1%	50%	0.001	0.000	99%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	2%	50%	0.001	0.000	99%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	6%	30%	0.001	0.000	99%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	2%	10%	0.001	0.000	99%

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1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	15.281	1%	50%	0.001	0.000	99%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	32.246	2%	3%	0.001	0.000	99%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	2%	2%	0.001	0.000	99%
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	257.065	61%	86%	0.001	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	4.747	2%	5%	0.001	0.000	100%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	25%	30%	0.001	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	12.971	2%	5%	0.001	0.000	100%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	2%	50%	0.001	0.000	100%
5.B.1. Composting	CH <sub>4</sub>	18.691	31.917	28%	100%	0.001	0.000	100%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	25%	30%	0.001	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	3.189	3%	135%	0.001	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	0.000	2%	50%	0.001	0.000	100%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	14.530	6%	65%	0.001	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	0.133	2%	50%	0.001	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	0.013	2%	50%	0.000	0.000	100%
5.B.1. Composting	N <sub>2</sub> O	10.614	18.124	28%	90%	0.000	0.000	100%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	21.378	2%	10%	0.000	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	4.746	3%	4%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5.376	1%	50%	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	10.214	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	2%	50%	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	1.261	5%	4%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	0.009	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	2%	5%	0.000	0.000	100%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	0.000	2%	50%	0.000	0.000	100%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	5.793	6%	107%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	0.071	2%	50%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	3.575	2%	5%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	0.000	2%	20%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	0.000	2%	10%	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	29.108	37%	12%	0.000	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	0.253	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	2%	50%	0.000	0.000	100%
3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	0.000	2%	3%	0.000	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	25%	30%	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	0.021	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	0.340	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	3.702	1%	50%	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	23%	30%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	2.085	1%	50%	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25%	25%	0.000	0.000	100%
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	0.833	93%		0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	1.652	1%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	5.384	10%	5%	0.000	0.000	100%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.361	5%	30%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	2%	50%	0.000	0.000	100%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	2%	100%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	0.424	2%	50%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	1.050	2%	5%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	0.402	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.012	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.000	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	2%	30%	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.000	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	1%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	2%	50%	0.000	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.000	52%	40%	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.005	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.001	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.002	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.846	2%	50%	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	25%	30%	0.000	0.000	100%

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1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.000	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	2%	50%	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	3.207	37%	72%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.005	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	2%	50%	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.700	3%	3%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.019	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.000	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.006	2%	50%	0.000	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	1.006	2%	50%	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.025	2%	50%	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	2%	5%	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.000	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.004	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.068	2%	50%	0.000	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.000	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.030	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.028	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.000	2%	50%	0.000	0.000	100%

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1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.000	2%	50%	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.000	2%	50%	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	2%	5%	0.000	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.000	5%	5%	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.002	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.002	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	1%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.001	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	2%	50%	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	20%	20%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.712	2%	50%	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	20%	20%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.270	1%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.133	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.000	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	2%	50%	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	0.106	10%	78%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.000	2%	50%	0.000	0.000	100%



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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	10%	30%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.000	2%	50%	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	0.092	10%	96%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.000	2%	50%	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	0.299	37%		0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	2%	70%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.001	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.0002	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.000	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.035	10%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.000	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.135	2%	50%	0.000	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.000	52%	100%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.000	2%	50%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.0001	0.008	2%	70%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.007	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.006	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	2%	50%	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.615	2%	50%	0.000	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.001	10%	10%	0.000	0.000	100%

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<b>1.B.2.b Natural Gas</b>	CO <sub>2</sub>	0.009	0.008	35%	35%	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	CH <sub>4</sub>	0.00001	0.0007	2%	60%	0.000	0.000	100%
<b>1.A.4.b Residential - Gaseous Fuels</b>	N <sub>2</sub> O	0.106	0.116	2%	50%	0.000	0.000	100%
<b>1.A.3.d Domestic Navigation - Gasoline</b>	N <sub>2</sub> O	0.0002	0.0005	2%	50%	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CH <sub>4</sub>	0.000002	0.000210	2%	60%	0.000	0.000	100%

**A 1.10 APPROACH 1 ANALYSIS FOR 2022 – TREND ASSESSMENT WITHOUT LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2%	2%	0.086	0.251	25%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	2%	10%	0.043	0.126	38%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	2%	3%	0.020	0.059	44%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	8%	8%	0.016	0.045	48%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	25%	50%	0.013	0.037	52%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	2%	5%	0.011	0.033	55%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	149.359	2%	10%	0.010	0.030	58%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	2%	10%	0.010	0.029	61%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	2%	2%	0.009	0.028	64%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	2%	3%	0.009	0.025	66%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	10.219	2%	10%	0.008	0.023	69%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	475.796	2%	10%	0.008	0.023	71%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	2%	5%	0.007	0.022	73%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	2%	5%	0.007	0.019	75%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	2%	5%	0.006	0.018	77%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	50.221	2%	5%	0.006	0.017	78%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	71.984	2%	2%	0.005	0.015	80%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2%	10%	0.004	0.011	81%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	10.730	2%	10%	0.004	0.011	82%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	2%	5%	0.004	0.010	83%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	2%	5%	0.003	0.009	84%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2%	3%	0.003	0.009	85%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	2%	5%	0.002	0.007	86%
3.G. Liming	CO <sub>2</sub>	357.133	77.884	5%	50%	0.002	0.007	86%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	120.215	5%	10%	0.002	0.006	87%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	3.302	26%	30%	0.002	0.006	88%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	2%	10%	0.002	0.006	88%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	2%	5%	0.002	0.006	89%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	0.000	8%	8%	0.002	0.005	89%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	2%	50%	0.002	0.005	90%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	0.000	2%	3%	0.001	0.004	90%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	2%	3%	0.001	0.004	91%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	25%	20%	0.001	0.004	91%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	0.000	2%	10%	0.001	0.004	92%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	159.804	2%	10%	0.001	0.003	92%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	2%	50%	0.001	0.003	92%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	0.000	5%	5%	0.001	0.003	93%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	32.246	2%	3%	0.001	0.003	93%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	111.239	6%	52%	0.001	0.003	93%
5.B.1. Composting	CH <sub>4</sub>	18.691	31.917	28%	100%	0.001	0.003	93%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	2%	10%	0.001	0.003	94%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	2%	10%	0.001	0.003	94%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	2%	20%	0.001	0.003	94%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	0.000	2%	20%	0.001	0.003	95%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	23.644	1%	50%	0.001	0.003	95%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	8.732	10%	10%	0.001	0.002	95%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	2%	50%	0.001	0.002	95%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	0.437	2%	50%	0.001	0.002	96%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	6.478	8%	8%	0.001	0.002	96%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	20.787	2%	5%	0.001	0.002	96%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	1%	50%	0.001	0.002	96%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	18.746	1%	50%	0.001	0.002	96%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25%	25%	0.001	0.002	97%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	0.000	2%	10%	0.001	0.002	97%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	15.281	1%	50%	0.001	0.002	97%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	6%	30%	0.001	0.002	97%
5.B.1. Composting	N <sub>2</sub> O	10.614	18.124	28%	90%	0.001	0.002	97%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	2%	50%	0.001	0.002	97%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	2%	50%	0.001	0.002	98%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	35%	35%	0.000	0.001	98%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	29.280	1%	50%	0.000	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	21.378	2%	10%	0.000	0.001	98%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	2%	5%	0.000	0.001	98%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	25%	20%	0.000	0.001	98%

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3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	25%	20%	0.000	0.001	98%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	12.932	2%	20%	0.000	0.001	98%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	25%	50%	0.000	0.001	99%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	0.579	2%	3%	0.000	0.001	99%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	25%	20%	0.000	0.001	99%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	2%	50%	0.000	0.001	99%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	2%	30%	0.000	0.001	99%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	2%	10%	0.000	0.001	99%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	2%	50%	0.000	0.001	99%
1.A.3.d Domestic Navigtion - Diesel Oil	CO <sub>2</sub>	0.842	5.083	2%	5%	0.000	0.001	99%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	36%	107%	0.000	0.001	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	10.214	2%	50%	0.000	0.001	99%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.361	5%	30%	0.000	0.000	99%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	5.384	10%	5%	0.000	0.000	99%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	12.971	2%	5%	0.000	0.000	99%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	3.575	2%	5%	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	0.000	2%	50%	0.000	0.000	99%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	2%	50%	0.000	0.000	99%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	13.706	2%	50%	0.000	0.000	99%
3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	0.133	2%	50%	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	2%	2%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	0.013	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	2.085	1%	50%	0.000	0.000	100%

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2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	2%	100%	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	4.747	2%	5%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	1.652	1%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	0.009	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	3.702	1%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5.376	1%	50%	0.000	0.000	100%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	0.000	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	0.071	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	0.000	2%	20%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	0.000	2%	10%	0.000	0.000	100%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	25%	30%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	1.050	2%	5%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	0.000	2%	3%	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	0.021	2%	50%	0.000	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	0.253	2%	50%	0.000	0.000	100%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	25%	30%	0.000	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	1.006	2%	50%	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	23%	30%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.846	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	0.340	2%	50%	0.000	0.000	100%

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2.A.3. Glass production	CO <sub>2</sub>	0.356	0.700	3%	3%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.712	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	2%	30%	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.615	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	2%	5%	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.000	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.012	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.000	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	1%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	2%	50%	0.000	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.000	52%	40%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.001	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.005	2%	50%	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.002	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.270	1%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	1%	50%	0.000	0.000	100%



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1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.000	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	2%	50%	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	25%	30%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.005	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.133	2%	50%	0.000	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	25%	30%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.000	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	0.424	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.006	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	0.402	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.019	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	2%	50%	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.135	2%	50%	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.025	2%	50%	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.116	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	2%	50%	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.000	2%	50%	0.000	0.000	100%

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1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.004	2%	50%	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	20%	20%	0.000	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.000	2%	50%	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	20%	20%	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.000	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.000	2%	50%	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	2%	50%	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.000	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.030	2%	50%	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.028	2%	50%	0.000	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.000	5%	5%	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.002	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.002	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.035	10%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	2%	50%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	2%	70%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.068	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.001	2%	50%	0.000	0.000	100%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	7%	30%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.000	2%	50%	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.000	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	2%	50%	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Trend assessment	Contribution to trend	Cumulative total of contribution to trend
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.000	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.000	2%	50%	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.0438	0.007	10%	30%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	2%	50%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.000	0.008	2%	70%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	2%	50%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	2%	50%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.000	2%	50%	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.001	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	2%	50%	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	2%	50%	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.000	2%	50%	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.008	35%	35%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.000	2%	50%	0.000	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.000	52%	100%	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.000	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.007	2%	50%	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.006	2%	50%	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.0000	0.0007	2%	60%	0.000	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.0006	10%	10%	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	0.0005	2%	50%	0.000	0.000	100%

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<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	<i>CH<sub>4</sub></i>	<i>0.000002</i>	<i>0.00021</i>	<i>2%</i>	<i>60%</i>	<i>0.000</i>	<i>0.000</i>	<i>100%</i>

**A.1.11 APPROACH 2 ANALYSIS FOR 2022 – TREND ASSESSMENT WITH LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	1336.804	2%	11%	0.115	1.534	0.177	0.245	25%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	380.241	44%	182%	1.873	0.025	0.047	0.066	31%
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	748.551	55%	40%	0.679	0.054	0.037	0.051	36%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	701.159	5%	296%	2.960	0.011	0.033	0.045	41%
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	-3001.506	15%	0%	0.150	0.206	0.031	0.043	45%
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	373.113	114%	13%	1.147	0.027	0.031	0.042	49%
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	25%	50%	0.559	0.050	0.028	0.039	53%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	2%	20%	0.201	0.126	0.025	0.035	57%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	2%	10%	0.102	0.244	0.025	0.034	60%
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	482.357	26%	40%	0.473	0.042	0.020	0.028	63%
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	1251.296	13%	13%	0.188	0.100	0.019	0.026	65%
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	1.989	119.485	20%	151%	1.520	0.009	0.013	0.018	67%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	331.425	47%	18%	0.505	0.023	0.012	0.016	69%
3.G. Liming	CO <sub>2</sub>	357.133	77.884	5%	50%	0.502	0.023	0.012	0.016	70%
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	246.915	20%	84%	0.858	0.012	0.011	0.015	72%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	111.239	6%	52%	0.523	0.020	0.011	0.015	73%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	74.588	6%	198%	1.981	0.005	0.011	0.015	75%
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.387	150.535	115%	71%	1.350	0.007	0.009	0.013	76%
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	430.920	44%	119%	1.269	0.007	0.008	0.012	77%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	2%	5%	0.054	0.153	0.008	0.011	78%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	149.359	2%	10%	0.102	0.075	0.008	0.011	80%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	2%	10%	0.102	0.072	0.007	0.010	81%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	2.553	6%	110%	1.098	0.006	0.006	0.009	81%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	2%	50%	0.500	0.011	0.006	0.008	82%
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.001	237.610	20%	23%	0.305	0.017	0.005	0.007	83%
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	28.157	9%	84%	0.841	0.006	0.005	0.007	84%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	3.302	26%	30%	0.397	0.012	0.005	0.007	84%

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1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	35%	35%	0.495	0.009	0.005	0.006	85%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	10.219	2%	10%	0.102	0.045	0.005	0.006	86%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	25.097	6%	246%	2.464	0.002	0.004	0.006	86%
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	24.457	13%	246%	2.467	0.002	0.004	0.006	87%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	2%	3%	0.036	0.110	0.004	0.005	87%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	140.696	6%	55%	0.557	0.007	0.004	0.005	88%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2%	2%	0.028	0.132	0.004	0.005	88%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	7%	30%	0.308	0.012	0.004	0.005	89%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	2%	0.05	0.054	0.062	0.003	0.005	89%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	2%	2%	0.028	0.108	0.003	0.004	90%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	25%	50%	0.559	0.005	0.003	0.004	90%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	36%	107%	1.129	0.002	0.003	0.004	91%
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	-1458.549	2%	4%	0.042	0.063	0.003	0.004	91%
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	-195.334	8%	16%	0.182	0.014	0.003	0.004	91%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	475.796	2%	10%	0.102	0.022	0.002	0.003	92%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2%	10%	0.102	0.021	0.002	0.003	92%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	0.437	2%	50%	0.500	0.004	0.002	0.003	92%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	10.730	2%	10%	0.102	0.021	0.002	0.003	92%

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1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	2%	50%	0.500	0.004	0.002	0.003	93%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	50.221	2%	5%	0.054	0.039	0.002	0.003	93%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	25%	20%	0.320	0.006	0.002	0.003	93%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	2%	50%	0.500	0.004	0.002	0.003	94%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	1446.390	5%		0.050	0.037	0.002	0.003	94%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	2%	3%	0.036	0.047	0.002	0.002	94%
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	8.945	93%	72%	1.173	0.001	0.002	0.002	94%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	159.804	2%	10%	0.102	0.015	0.002	0.002	95%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	25%	20%	0.320	0.005	0.001	0.002	95%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	8%	8%	0.113	0.012	0.001	0.002	95%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	13.706	2%	50%	0.500	0.003	0.001	0.002	95%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	25%	20%	0.320	0.004	0.001	0.002	95%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	2%	10%	0.102	0.012	0.001	0.002	95%
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	6.009	5%	56%	0.559	0.002	0.001	0.002	96%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	2%	5%	0.054	0.021	0.001	0.002	96%
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	257.065	61%	86%	1.054	0.001	0.001	0.002	96%
2.A.2. Lime Production	CO <sub>2</sub>	121.915	0.000	8%	8%	0.110	0.010	0.001	0.001	96%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	71.984	2%	2%	0.028	0.038	0.001	0.001	96%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	2%	5%	0.054	0.019	0.001	0.001	96%



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4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	3.189	3%	135%	1.353	0.001	0.001	0.001	96%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	0.000	2%	20%	0.201	0.005	0.001	0.001	97%
5.B.1. Composting	CH <sub>4</sub>	18.691	31.917	28%	100%	1.040	0.001	0.001	0.001	97%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	25%	20%	0.320	0.003	0.001	0.001	97%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	23.644	1%	50%	0.500	0.002	0.001	0.001	97%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	8.732	10%	10%	0.141	0.006	0.001	0.001	97%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	2%	50%	0.500	0.002	0.001	0.001	97%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	12.932	2%	20%	0.201	0.004	0.001	0.001	97%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	0.000	2%	10%	0.102	0.007	0.001	0.001	97%
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	-49.069	8%	23%	0.244	0.003	0.001	0.001	98%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	29.280	1%	50%	0.500	0.001	0.001	0.001	98%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	1%	50%	0.500	0.001	0.001	0.001	98%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	18.746	1%	50%	0.500	0.001	0.001	0.001	98%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	2%	5%	0.054	0.012	0.001	0.001	98%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	2%	50%	0.500	0.001	0.001	0.001	98%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2%	3%	0.036	0.017	0.001	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	2%	10%	0.102	0.006	0.001	0.001	98%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	15.281	1%	50%	0.500	0.001	0.001	0.001	98%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	6.478	8%	8%	0.106	0.005	0.001	0.001	98%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	2%	10%	0.102	0.005	0.001	0.001	98%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	2%	5%	0.054	0.010	0.001	0.001	98%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	120.215	5%	10%	0.112	0.004	0.000	0.001	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	14.530	6%	65%	0.654	0.001	0.000	0.001	99%
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	2%	30%	0.301	0.002	0.000	0.001	99%
5.B.1. Composting	N <sub>2</sub> O	10.614	18.124	28%	90%	0.944	0.000	0.000	0.001	99%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	2%	50%	0.500	0.001	0.000	0.001	99%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	0.000	5%	5%	0.071	0.006	0.000	0.001	99%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	25%	30%	0.391	0.001	0.000	0.001	99%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	6%	30%	0.306	0.001	0.000	0.001	99%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	20.787	2%	5%	0.054	0.007	0.000	0.001	99%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	0.000	2%	50%	0.500	0.001	0.000	0.001	99%
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	53.473	6%	4%	0.071	0.005	0.000	0.000	99%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	0.000	2%	10%	0.102	0.003	0.000	0.000	99%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	25%	30%	0.391	0.001	0.000	0.000	99%
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	5.793	6%	107%	1.073	0.000	0.000	0.000	99%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	2%	3%	0.036	0.008	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	0.000	2%	3%	0.036	0.008	0.000	0.000	99%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	0.133	2%	50%	0.500	0.001	0.000	0.000	99%

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1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	0.013	2%	50%	0.500	0.000	0.000	0.000	99%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5.376	1%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	10.214	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	2%	5%	0.054	0.004	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	14.856	9%	4%	0.095	0.002	0.000	0.000	100%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	0.071	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	2%	10%	0.102	0.001	0.000	0.000	100%
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	-22.457	8%	4%	0.089	0.001	0.000	0.000	100%
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	0.833	93%		0.926	0.000	0.000	0.000	100%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	0.253	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	2%	50%	0.500	0.000	0.000	0.000	100%
3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	0.021	2%	50%	0.500	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	29.108	37%	12%	0.393	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	0.340	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	3.702	1%	50%	0.500	0.000	0.000	0.000	100%

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1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	2%	5%	0.054	0.002	0.000	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	25%	30%	0.391	0.000	0.000	0.000	100%
2.G.3. N2O from product uses	N <sub>2</sub> O	4.302	3.642	2%	100%	1.000	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	0.579	2%	3%	0.036	0.002	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	2.085	1%	50%	0.500	0.000	0.000	0.000	100%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	23%	30%	0.378	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	1.652	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	4.747	2%	5%	0.054	0.001	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	12.971	2%	5%	0.054	0.001	0.000	0.000	100%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25%	25%	0.354	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	0.000	2%	20%	0.201	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	21.378	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	0.424	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	32.246	2%	3%	0.036	0.001	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	0.402	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.361	5%	30%	0.304	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.000	52%	40%	0.654	0.000	0.000	0.000	100%

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1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	2%	2%	0.028	0.001	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	1%	50%	0.500	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	1.261	5%	4%	0.064	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	0.000	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	3.207	37%	72%	0.811	0.000	0.000	0.000	100%
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	4.746	3%	4%	0.047	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.846	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	3.575	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	5.384	10%	5%	0.112	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.019	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	1.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.025	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	0.000	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.068	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.030	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.028	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	2%	50%	0.500	0.000	0.000	0.000	100%

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1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	1.050	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	0.092	10%	96%	0.965	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	1%	50%	0.500	0.000	0.000	0.000	100%
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	0.106	10%	78%	0.786	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.712	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.270	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	2%	50%	0.500	0.000	0.000	0.000	100%

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IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.0688	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	10%	30%	0.316	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.000	52%	100%	1.126	0.000	0.000	0.000	100%
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	0.299	37%		0.374	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	2%	5%	0.054	0.000	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.700	3%	3%	0.035	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.0002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.035	10%	50%	0.510	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.000	5%	5%	0.071	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.135	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.000	0.008	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	0.007	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.006	2%	50%	0.500	0.000	0.000	0.000	100%



## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.615	2%	50%	0.500	0.000	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.008	35%	35%	0.495	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.00001	0.0007	2%	60%	0.600	0.000	0.000	0.000	100%
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.001	10%	10%	0.141	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.1061	0.1164	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	0.0005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000002	0.0002	2%	60%	0.600	0.000	0.000	0.000	100%

**A.1.12 APPROACH 2 ANALYSIS FOR 2022 – TREND ASSESSMENT WITHOUT LULUCF**

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	25%	50%	0.559	0.013	0.007	0.187	19%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	2%	10%	0.102	0.043	0.004	0.115	30%
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2%	2%	0.028	0.086	0.002	0.063	36%
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	8%	8%	0.113	0.016	0.002	0.046	41%
3.G. Liming	CO <sub>2</sub>	357.133	77.884	5%	50%	0.502	0.002	0.001	0.030	44%
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	149.359	2%	10%	0.102	0.010	0.001	0.027	47%
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	2%	10%	0.102	0.010	0.001	0.027	49%
5.B.1. Composting	CH <sub>4</sub>	18.691	31.917	28%	100%	1.040	0.001	0.001	0.026	52%
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	2%	50%	0.500	0.002	0.001	0.024	54%
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	3.302	26%	30%	0.397	0.002	0.001	0.022	57%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	10.219	2%	10%	0.102	0.008	0.001	0.021	59%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	475.796	2%	10%	0.102	0.008	0.001	0.021	61%
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	2%	3%	0.036	0.020	0.001	0.019	63%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	2%	5%	0.054	0.011	0.001	0.016	64%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	2%	50%	0.500	0.001	0.001	0.015	66%
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	111.239	6%	52%	0.523	0.001	0.001	0.013	67%
5.B.1. Composting	N <sub>2</sub> O	10.614	18.124	28%	90%	0.944	0.001	0.001	0.013	68%
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	25%	20%	0.320	0.001	0.000	0.012	70%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	23.644	1%	50%	0.500	0.001	0.000	0.012	71%
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	2%	50%	0.500	0.001	0.000	0.011	72%

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1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	2%	5%	0.054	0.007	0.000	0.010	73%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2%	10%	0.102	0.004	0.000	0.010	74%
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	0.437	2%	50%	0.500	0.001	0.000	0.010	75%
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	10.730	2%	10%	0.102	0.004	0.000	0.010	76%
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	1%	50%	0.500	0.001	0.000	0.010	77%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	2%	5%	0.054	0.007	0.000	0.009	78%
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	18.746	1%	50%	0.500	0.001	0.000	0.009	79%
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	2%	5%	0.054	0.006	0.000	0.008	80%
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	50.221	2%	5%	0.054	0.006	0.000	0.008	80%
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	2%	3%	0.036	0.009	0.000	0.008	81%
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	15.281	1%	50%	0.500	0.001	0.000	0.008	82%
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	2%	2%	0.028	0.009	0.000	0.007	83%
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	2%	50%	0.500	0.001	0.000	0.007	83%
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	2%	50%	0.500	0.001	0.000	0.007	84%
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	120.215	5%	10%	0.112	0.002	0.000	0.006	85%
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	35%	35%	0.495	0.000	0.000	0.006	85%
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	29.280	1%	50%	0.500	0.000	0.000	0.006	86%
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25%	25%	0.354	0.001	0.000	0.006	86%
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	2%	10%	0.102	0.002	0.000	0.006	87%
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	25%	50%	0.559	0.000	0.000	0.005	88%
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	36%	107%	1.129	0.000	0.000	0.005	88%

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2.A.2. Lime Production	CO <sub>2</sub>	121.915	0.000	8%	8%	0.110	0.002	0.000	0.005	89%
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	2%	5%	0.054	0.004	0.000	0.005	89%
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	2%	20%	0.201	0.001	0.000	0.005	90%
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	0.000	2%	20%	0.201	0.001	0.000	0.005	90%
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	6%	30%	0.306	0.001	0.000	0.004	90%
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	2%	5%	0.054	0.003	0.000	0.004	91%
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	2%	50%	0.500	0.000	0.000	0.004	91%
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	71.984	2%	2%	0.028	0.005	0.000	0.004	92%
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	0.000	2%	10%	0.102	0.001	0.000	0.004	92%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	2%	5%	0.054	0.002	0.000	0.003	92%
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	25%	20%	0.320	0.000	0.000	0.003	93%
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	25%	20%	0.320	0.000	0.000	0.003	93%
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	159.804	2%	10%	0.102	0.001	0.000	0.003	93%
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	25%	20%	0.320	0.000	0.000	0.003	94%
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	8.732	10%	10%	0.141	0.001	0.000	0.003	94%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	2%	5%	0.054	0.002	0.000	0.003	94%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2%	3%	0.036	0.003	0.000	0.003	95%
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	2%	50%	0.500	0.000	0.000	0.003	95%
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	2%	10%	0.102	0.001	0.000	0.002	95%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	2%	10%	0.102	0.001	0.000	0.002	95%
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	10.214	2%	50%	0.500	0.000	0.000	0.002	96%
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	6.478	8%	8%	0.106	0.001	0.000	0.002	96%
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	12.932	2%	20%	0.201	0.000	0.000	0.002	96%
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	2%	100%	1.000	0.000	0.000	0.002	96%

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1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	2%	30%	0.301	0.000	0.000	0.002	96%
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	0.000	5%	5%	0.071	0.001	0.000	0.002	97%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	0.000	2%	50%	0.500	0.000	0.000	0.002	97%
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	2%	50%	0.500	0.000	0.000	0.002	97%
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	0.000	2%	10%	0.102	0.001	0.000	0.002	97%
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	13.706	2%	50%	0.500	0.000	0.000	0.002	97%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	0.000	2%	3%	0.036	0.001	0.000	0.001	97%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	2%	3%	0.036	0.001	0.000	0.001	97%
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	7.361	5%	30%	0.304	0.000	0.000	0.001	98%
3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	2%	50%	0.500	0.000	0.000	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	21.378	2%	10%	0.102	0.000	0.000	0.001	98%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	0.133	2%	50%	0.500	0.000	0.000	0.001	98%
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	0.013	2%	50%	0.500	0.000	0.000	0.001	98%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	20.787	2%	5%	0.054	0.001	0.000	0.001	98%
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	2.085	1%	50%	0.500	0.000	0.000	0.001	98%
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	32.246	2%	3%	0.036	0.001	0.000	0.001	98%
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	1.652	1%	50%	0.500	0.000	0.000	0.001	98%
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	0.009	2%	50%	0.500	0.000	0.000	0.001	99%
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	3.702	1%	50%	0.500	0.000	0.000	0.001	99%
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	2%	50%	0.500	0.000	0.000	0.001	99%

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1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5.376	1%	50%	0.500	0.000	0.000	0.001	99%
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	0.000	2%	50%	0.500	0.000	0.000	0.001	99%
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	0.071	2%	50%	0.500	0.000	0.000	0.001	99%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	2%	5%	0.054	0.000	0.000	0.001	99%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	2%	10%	0.102	0.000	0.000	0.001	99%
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	0.021	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	0.253	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	5.384	10%	5%	0.112	0.000	0.000	0.000	99%
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	25%	30%	0.391	0.000	0.000	0.000	99%
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	1.006	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	2%	50%	0.500	0.000	0.000	0.000	99%
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	0.846	2%	50%	0.500	0.000	0.000	0.000	99%
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	25%	30%	0.391	0.000	0.000	0.000	99%
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	0.579	2%	3%	0.036	0.000	0.000	0.000	99%
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	0.340	2%	50%	0.500	0.000	0.000	0.000	99%
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	23%	30%	0.378	0.000	0.000	0.000	99%
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	2%	5%	0.054	0.000	0.000	0.000	99%
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	0.000	2%	20%	0.201	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	0.712	2%	50%	0.500	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	12.971	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	0.615	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	3.575	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	0.012	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	2%	50%	0.500	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	0.000	52%	40%	0.654	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	2%	30%	0.301	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	0.000	2%	10%	0.102	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	0.270	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	4.747	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	1%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.000	2%	50%	0.500	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	2%	2%	0.028	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	1.050	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	0.005	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	0.133	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	0.424	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	0.402	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	0.019	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	0.135	2%	50%	0.500	0.000	0.000	0.000	100%
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	25%	30%	0.391	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	0.025	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	0.116	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	2%	50%	0.500	0.000	0.000	0.000	100%



## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	0.000	2%	3%	0.036	0.000	0.000	0.000	100%
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	0.004	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
2.A.3. Glass production	CO <sub>2</sub>	0.356	0.700	3%	3%	0.035	0.000	0.000	0.000	100%
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	2%	5%	0.054	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	2%	70%	0.700	0.000	0.000	0.000	100%
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	20%	20%	0.283	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	0.030	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	0.028	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	0.035	10%	50%	0.510	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	0.068	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.0000	2%	50%	0.500	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	0.0001	2%	50%	0.500	0.000	0.000	0.000	100%
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	7%	30%	0.308	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.000	0.008	2%	70%	0.700	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	2%	50%	0.500	0.000	0.000	0.000	100%
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.000	52%	100%	1.126	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	10%	30%	0.316	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	0.001	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	2%	50%	0.500	0.000	0.000	0.000	100%
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.008	35%	35%	0.495	0.000	0.000	0.000	100%
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.000	5%	5%	0.071	0.000	0.000	0.000	100%

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals, kt CO <sub>2</sub> eq.	Year 2022 emissions or removals, kt CO <sub>2</sub> eq.	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined Uncertainty	Trend assessment	Trend assessment with Uncertainty	% Contribution to Trend	Cumulative total of contribution to trend
<b>1.A.2.d. Pulp, Paper and Print - Solid Fuels</b>	CH <sub>4</sub>	0.008	0.000	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	CH <sub>4</sub>	0.012	0.007	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	N <sub>2</sub> O	0.011	0.006	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	CH <sub>4</sub>	0.0000	0.0007	2%	60%	0.600	0.000	0.000	0.000	100%
<b>1.A.3.d Domestic Navigation - Gasoline</b>	N <sub>2</sub> O	0.0002	0.0005	2%	50%	0.500	0.000	0.000	0.000	100%
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CH <sub>4</sub>	0.000	0.0002	2%	60%	0.600	0.000	0.000	0.000	100%
<b>1.B.2.c Venting and Flaring</b>	CO <sub>2</sub>	0.003	0.001	10%	10%	0.141	0.000	0.000	0.000	100%

## ANNEX 2: ASSESSMENT OF UNCERTAINTY

Uncertainty analysis for base year (1990) and 2022 is generally in line with table 3.3 of volume 1 of the 2006 IPCC Guidelines. A slight modifications have been made to calculate the uncertainty for base year and 2022 to reflect particular national circumstances, for example, types of fuels in transport, more disaggregated agricultural categories (by animal species) and more disaggregated LULUCF categories (by taking into account soil type etc.). Indirect CO<sub>2</sub> emissions are included in the uncertainty analysis.

### A.2.1 APPROACH 1 UNCERTAINTY ANALYSIS FOR 1990 INCLUDING LULUCF

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year 1990
		<i>kt CO<sub>2</sub> eq.</i>	<i>%</i>	<i>%</i>	<i>%</i>	
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	2%	10%	0.102	0.001
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2%	3%	0.036	0.000
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	2%	5%	0.054	0.000
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	2%	10%	0.102	0.000
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	2%	20%	0.201	0.000
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	5%	50%	0.502	0.000
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	5%	50%	0.502	0.000
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	2%	10%	0.102	0.000

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year 1990
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	2%	5%	0.054	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	2%	10%	0.102	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	2%	10%	0.102	0.000
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	2%	5%	0.054	0.000
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	2%	20%	0.201	0.000
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	2%	50%	0.500	0.000
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	2%	10%	0.102	0.000
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	2%	5%	0.054	0.000
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	2%	50%	0.500	0.000
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	2%	50%	0.500	0.000

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year 1990
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	2%	50%	0.500	0.000
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	2%	10%	0.102	0.000
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	2%	3%	0.036	0.000
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	2%	5%	0.054	0.000
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	2%	10%	0.102	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	2%	3%	0.036	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	2%	5%	0.054	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	5%	50%	0.502	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	5%	50%	0.502	0.000
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2%	10%	0.102	0.000
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	2%	3%	0.036	0.000

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		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	2%	5%	0.054	0.000
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	5%	50%	0.502	0.000
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	5%	50%	0.502	0.000
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	2%	10%	0.102	0.000
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	2%	3%	0.036	0.000
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	2%	5%	0.054	0.000
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	2%	50%	0.500	0.000
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	2%	50%	0.500	0.000
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	2%	50%	0.500	0.000
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	5%	50%	0.502	0.000
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	2%	50%	0.500	0.000
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	2%	50%	0.500	0.000
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	2%	50%	0.500	0.000
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	5%	50%	0.502	0.000
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	20%	10%	0.224	0.000
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	20%	10%	0.224	0.000
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000002	20%	60%	0.632	0.000
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.000001	20%	60%	0.632	0.000
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.0001	20%	70%	0.728	0.000
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.0004	20%	70%	0.728	0.000

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		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	5%	10%	0.112	0.000
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	5%	10%	0.112	0.000
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	5%	10%	0.112	0.000
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	10%	10%	0.141	0.000
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	5%	10%	0.112	0.000
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	5%	30%	0.304	0.000
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	5%	30%	0.304	0.000
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	10%	30%	0.316	0.000
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	5%	50%	0.502	0.000
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	10%	50%	0.510	0.000
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	5%	50%	0.502	0.000
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	5%	10%	0.112	0.000
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	5%	50%	0.502	0.000
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	5%	50%	0.502	0.000
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	20%	10%	0.224	0.000
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	20%	10%	0.224	0.000
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	20%	50%	0.539	0.000
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	20%	50%	0.539	0.000
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	20%	50%	0.539	0.000
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	20%	50%	0.539	0.000
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	2%	10%	0.102	0.000
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	2%	3%	0.036	0.000



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		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	2%	5%	0.054	0.000
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	2%	10%	0.102	0.000
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	5%	50%	0.502	0.000
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	5%	50%	0.502	0.000
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	2%	50%	0.500	0.000
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	2%	10%	0.102	0.000
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	2%	3%	0.036	0.000
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	2%	5%	0.054	0.000
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	2%	10%	0.102	0.000
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	2%	50%	0.500	0.000
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	2%	50%	0.500	0.000
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	2%	50%	0.500	0.000
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	5%	10%	0.112	0.000
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	2%	50%	0.500	0.000
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	2%	50%	0.500	0.000
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	2%	50%	0.500	0.000
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	2%	50%	0.500	0.000
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	5%	30%	0.304	0.000
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	2%	50%	0.500	0.000

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		kt CO <sub>2</sub> eq.	%	%	%	
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	2%	10%	0.102	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	2%	3%	0.036	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	2%	5%	0.054	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	2%	10%	0.102	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5%	50%	0.502	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	5%	50%	0.502	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	2%	50%	0.500	0.000
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	35%	35%	0.495	0.000
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	35%	35%	0.495	0.000
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	10%	10%	0.141	0.000
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	10%	10%	0.141	0.000
2.A.1. Cement Production	CO <sub>2</sub>	345.783	8%	5%	0.092	0.000
2.A.2. Lime Production	CO <sub>2</sub>	121.915	8%	2%	0.078	0.000
2.A.3. Glass production	CO <sub>2</sub>	0.356	3%	2%	0.032	0.000
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	8%	3%	0.081	0.000
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	5%	10%	0.112	0.000
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	5%	10%	0.112	0.000
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	2%	50%	0.500	0.000
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	20%	50%	0.539	0.000

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		kt CO <sub>2</sub> eq.	%	%	%	
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	20%	50%	0.539	0.000
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25%	25%	0.354	0.000
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	2%	100%	1.000	0.000
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	2%	20%	0.201	0.001
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	2%	50%	0.500	0.000
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	2%	20%	0.201	0.000
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	2%	50%	0.500	0.000
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	25%	20%	0.320	0.000
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	25%	20%	0.320	0.000
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	25%	30%	0.391	0.000
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	25%	30%	0.391	0.000
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	25%	20%	0.320	0.000
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	25%	20%	0.320	0.000
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	25%	30%	0.391	0.000
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	25%	30%	0.391	0.000
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	25%	50%	0.559	0.000
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	25%	50%	0.559	0.003
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	2%	50%	0.500	0.000
3.G. Liming	CO <sub>2</sub>	357.133	5%	50%	0.502	0.000
3.H. Urea Application	CO <sub>2</sub>	7.709	50%	50%	0.707	0.000
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	2%	11%	0.115	0.023
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	2%	4%	0.042	0.000
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	6%	296%	2.961	0.028
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	27%	16%	0.317	0.000

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year 1990
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	27%	4%	0.274	0.000
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	27%	23%	0.356	0.000
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	93%	72%	1.173	0.000
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	93%		0.926	0.000
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	37%	12%	0.393	0.000
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	37%	72%	0.811	0.000
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	37%		0.374	0.000
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	6%	114%	1.144	0.000
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	6%	119%	1.193	0.002
4.B.1 Cropland remaining Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	2%	135%	1.353	0.000
4.B.1 Cropland remaining Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	2%	4%	0.045	0.000
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	11%	13%	0.170	0.001
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	272%	13%	2.723	0.000
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.387	11%	71%	0.720	0.000
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	5%	56%	0.559	0.000
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	5%	4%	0.064	0.000

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year 1990
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	16%	40%	0.429	0.001
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	1120%	40%	11.203	0.000
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	19%	91%	0.928	0.000
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	10%	78%	0.786	0.000
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	10%	96%	0.965	0.000
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	6%	110%	1.098	0.000
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	6%	4%	0.074	0.000
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	18%	55%	0.582	0.000
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	1136%	246%	11.625	0.000
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	5%		0.050	0.000
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	18%	65%	0.677	0.000
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	18%	107%	1.087	0.000
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	18%	246%	2.470	0.000
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	18%	198%	1.988	0.000

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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year 1990
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	7%	84%	0.839	0.000
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	7%	4%	0.081	0.000
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	78%	84%	1.143	0.000
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	272%	18%	2.726	0.000
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.001	20%	23%	0.305	0.000
4.E.2 Lands converted to settlements – Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	1.989	78%	151%	1.697	0.000
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	15%	0%	0.150	0.000
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	6%	52%	0.523	0.000
5.B.1. Composting	CH <sub>4</sub>	18.691	28%	100%	1.039	0.000
5.B.1. Composting	N <sub>2</sub> O	10.614	28%	90%	0.943	0.000
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	47%	40%	0.619	0.000
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	47%	100%	1.106	0.000
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	12%	30%	0.323	0.000
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	1%	30%	0.300	0.000
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	15%	30%	0.335	0.000
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	23%	30%	0.378	0.000
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	36%	107%	1.129	0.000
Total		13671.388				0.061
Total Uncertainties					Uncertainty in total inventory %:	<b>25%</b>



**A.2.2 APPROACH 1 UNCERTAINTY ANALYSIS FOR 1990 EXCLUDING LULUCF**

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	2%	10%	0.102	0.000
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2%	3%	0.036	0.000
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	2%	5%	0.054	0.000
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	2%	10%	0.102	0.000
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CO <sub>2</sub>	3.079	2%	20%	0.201	0.000
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CH <sub>4</sub>	3.366	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CH <sub>4</sub>	0.065	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CH <sub>4</sub>	1.350	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	CH <sub>4</sub>	0.366	5%	50%	0.502	0.000
1.A.1.a Public Electricity and Heat Production - Peat	CH <sub>4</sub>	0.039	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	CH <sub>4</sub>	0.035	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	N <sub>2</sub> O	6.369	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Solid Fuels	N <sub>2</sub> O	0.916	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	N <sub>2</sub> O	1.278	2%	50%	0.500	0.000
1.A.1.a Public Electricity and Heat Production - Biomass Fuels	N <sub>2</sub> O	0.462	5%	50%	0.502	0.000
1.A.1.a Public Electricity and Heat Production - Peat	N <sub>2</sub> O	0.548	2%	50%	0.500	0.000



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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	2%	10%	0.102	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	2%	5%	0.054	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	2%	10%	0.102	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CH <sub>4</sub>	0.020	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	2%	50%	0.500	0.000
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	N <sub>2</sub> O	0.283	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	2%	10%	0.102	0.000
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	2%	5%	0.054	0.000
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	2%	20%	0.201	0.000
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Gaseous Fuels	N <sub>2</sub> O	0.113	2%	50%	0.500	0.000
1.A.2.a Iron and Steel - Other fossil fuels	N <sub>2</sub> O	0.887	2%	50%	0.500	0.000

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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.2.c Chemicals - Liquid Fuels	CO <sub>2</sub>	269.980	2%	10%	0.102	0.000
1.A.2.c Chemicals - Gaseous Fuels	CO <sub>2</sub>	23.542	2%	5%	0.054	0.000
1.A.2.c Chemicals - Liquid Fuels	CH <sub>4</sub>	0.295	2%	50%	0.500	0.000
1.A.2.c Chemicals - Gaseous Fuels	CH <sub>4</sub>	0.012	2%	50%	0.500	0.000
1.A.2.c Chemicals - Liquid Fuels	N <sub>2</sub> O	0.559	2%	50%	0.500	0.000
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	2%	10%	0.102	0.000
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	2%	3%	0.036	0.000
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	2%	5%	0.054	0.000
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CH <sub>4</sub>	0.008	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CH <sub>4</sub>	0.076	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	2%	50%	0.500	0.000
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	2%	10%	0.102	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	2%	3%	0.036	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	2%	5%	0.054	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	2%	50%	0.500	0.000

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		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	CH <sub>4</sub>	0.192	5%	50%	0.502	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	2%	50%	0.500	0.000
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	5%	50%	0.502	0.000
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2%	10%	0.102	0.000
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	2%	3%	0.036	0.000
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	2%	5%	0.054	0.000
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CH <sub>4</sub>	0.161	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Biomass Fuels	CH <sub>4</sub>	0.006	5%	50%	0.502	0.000
1.A.2.f Non-metallic Minerals - Liquid Fuels	N <sub>2</sub> O	0.550	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Solid Fuels	N <sub>2</sub> O	0.068	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Gaseous Fuels	N <sub>2</sub> O	0.152	2%	50%	0.500	0.000
1.A.2.f Non-metallic Minerals - Biomass Fuels	N <sub>2</sub> O	0.007	5%	50%	0.502	0.000
1.A.2.g Other - Liquid Fuels	CO <sub>2</sub>	1066.131	2%	10%	0.102	0.000
1.A.2.g Other - Solid Fuels	CO <sub>2</sub>	26.667	2%	3%	0.036	0.000
1.A.2.g Other - Gaseous Fuels	CO <sub>2</sub>	526.803	2%	5%	0.054	0.000
1.A.2.g Other - Liquid Fuels	CH <sub>4</sub>	3.010	2%	50%	0.500	0.000
1.A.2.g Other - Solid Fuels	CH <sub>4</sub>	0.078	2%	50%	0.500	0.000
1.A.2.g Other - Gaseous Fuels	CH <sub>4</sub>	0.268	2%	50%	0.500	0.000
1.A.2.g Other - Biomass Fuels	CH <sub>4</sub>	0.321	5%	50%	0.502	0.000

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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.2.g Other - Liquid Fuels	N <sub>2</sub> O	43.512	2%	50%	0.500	0.000
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	2%	50%	0.500	0.000
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	2%	50%	0.500	0.000
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	5%	50%	0.502	0.000
1.A.3.a Domestic Aviation - Aviation Gasoline	CO <sub>2</sub>	0.011	20%	10%	0.224	0.000
1.A.3.a Domestic Aviation - Jet kerosene	CO <sub>2</sub>	0.054	20%	10%	0.224	0.000
1.A.3.a Domestic Aviation - Aviation Gasoline	CH <sub>4</sub>	0.000002	20%	60%	0.632	0.000
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.000001	20%	60%	0.632	0.000
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.0001	20%	70%	0.728	0.000
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.0004	20%	70%	0.728	0.000
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	5%	10%	0.112	0.000
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	5%	10%	0.112	0.000
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	5%	10%	0.112	0.000
1.A.3.b Road Transportation - Lubricants	CO <sub>2</sub>	3.483	10%	10%	0.141	0.000
1.A.3.b Road Transportation - Gaseous Fuels	CO <sub>2</sub>	16.836	5%	10%	0.112	0.000
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	5%	30%	0.304	0.000
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	5%	30%	0.304	0.000
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	10%	30%	0.316	0.000
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	5%	50%	0.502	0.000
1.A.3.b Road Transportation - LPG	N <sub>2</sub> O	0.282	5%	50%	0.502	0.000
1.A.3.b Road Transportation - Lubricants	N <sub>2</sub> O	0.020	10%	50%	0.510	0.000
1.A.3.b Road Transportation - Gaseous Fuels	N <sub>2</sub> O	0.242	5%	50%	0.502	0.000
1.A.3.c Railways - Liquid Fuels	CO <sub>2</sub>	536.766	5%	10%	0.112	0.000

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	5%	50%	0.502	0.000
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	5%	50%	0.502	0.000
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	20%	10%	0.224	0.000
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	20%	10%	0.224	0.000
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	20%	50%	0.539	0.000
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	20%	50%	0.539	0.000
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.0002	20%	50%	0.539	0.000
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	20%	50%	0.539	0.000
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	2%	10%	0.102	0.000
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	2%	3%	0.036	0.000
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	2%	5%	0.054	0.000
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	2%	10%	0.102	0.000
1.A.4.a Commercial/Institutional - Liquid Fuels	CH <sub>4</sub>	2.598	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Solid Fuels	CH <sub>4</sub>	4.176	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Gaseous Fuels	CH <sub>4</sub>	0.701	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Biomass Fuels	CH <sub>4</sub>	43.831	5%	50%	0.502	0.000
1.A.4.a Commercial/Institutional - Peat	CH <sub>4</sub>	0.188	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Solid Fuels	N <sub>2</sub> O	5.928	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Gaseous Fuels	N <sub>2</sub> O	0.133	2%	50%	0.500	0.000
1.A.4.a Commercial/Institutional - Biomass Fuels	N <sub>2</sub> O	5.531	5%	50%	0.502	0.000
1.A.4.a Commercial/Institutional - Peat	N <sub>2</sub> O	0.263	2%	50%	0.500	0.000
1.A.4.b Residential - Liquid Fuels	CO <sub>2</sub>	332.334	2%	10%	0.102	0.000
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	2%	3%	0.036	0.000
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	2%	5%	0.054	0.000
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	2%	10%	0.102	0.000

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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.A.4.b Residential - Liquid Fuels	CH <sub>4</sub>	0.659	2%	50%	0.500	0.000
1.A.4.b Residential - Solid Fuels	CH <sub>4</sub>	53.794	2%	50%	0.500	0.000
1.A.4.b Residential - Gaseous Fuels	CH <sub>4</sub>	0.561	2%	50%	0.500	0.000
1.A.4.b Residential - Biomass Fuels	CH <sub>4</sub>	162.133	5%	10%	0.112	0.000
1.A.4.b Residential - Peat	CH <sub>4</sub>	3.570	2%	50%	0.500	0.000
1.A.4.b Residential - Liquid Fuels	N <sub>2</sub> O	14.587	2%	50%	0.500	0.000
1.A.4.b Residential - Solid Fuels	N <sub>2</sub> O	2.546	2%	50%	0.500	0.000
1.A.4.b Residential - Gaseous Fuels	N <sub>2</sub> O	0.106	2%	50%	0.500	0.000
1.A.4.b Residential - Biomass Fuels	N <sub>2</sub> O	7.954	5%	30%	0.304	0.000
1.A.4.b Residential - Peat	N <sub>2</sub> O	0.165	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CO <sub>2</sub>	700.654	2%	10%	0.102	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	2%	3%	0.036	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	2%	5%	0.054	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	2%	10%	0.102	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5%	50%	0.502	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	2%	50%	0.500	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	5%	50%	0.502	0.000
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	2%	50%	0.500	0.000
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	35%	35%	0.495	0.000
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	35%	35%	0.495	0.000

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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	10%	10%	0.141	0.000
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	10%	10%	0.141	0.000
2.A.1. Cement Production	CO <sub>2</sub>	345.783	8%	5%	0.092	0.000
2.A.2. Lime Production	CO <sub>2</sub>	121.915	8%	2%	0.078	0.000
2.A.3. Glass production	CO <sub>2</sub>	0.356	3%	2%	0.032	0.000
2.A.4. Other process uses of carbonates	CO <sub>2</sub>	69.185	8%	3%	0.081	0.000
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	5%	10%	0.112	0.000
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	5%	10%	0.112	0.000
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	2%	50%	0.500	0.000
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	20%	50%	0.539	0.000
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	20%	50%	0.539	0.000
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25%	25%	0.354	0.000
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	2%	100%	1.000	0.000
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	2%	20%	0.201	0.000
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	2%	50%	0.500	0.000
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	2%	20%	0.201	0.000
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	2%	50%	0.500	0.000
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	25%	20%	0.320	0.000
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	25%	20%	0.320	0.000
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	25%	30%	0.391	0.000
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	25%	30%	0.391	0.000
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	25%	20%	0.320	0.000
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	25%	20%	0.320	0.000
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	25%	30%	0.391	0.000
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	25%	30%	0.391	0.000
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	25%	50%	0.559	0.000

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IPCC category	Gas	Year 1990 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x
		<i>kt CO<sub>2</sub> eq.</i>	%	%	%	
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	25%	50%	0.559	0.001
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	2%	50%	0.500	0.000
3.G. Liming	CO <sub>2</sub>	357.133	5%	50%	0.502	0.000
3.H. Urea Application	CO <sub>2</sub>	7.709	50%	50%	0.707	0.000
5.A.2. Unmanaged Waste Disposal Sites	CH <sub>4</sub>	352.523	6%	52%	0.523	0.000
5.B.1. Composting	CH <sub>4</sub>	18.691	28%	100%	1.039	0.000
5.B.1. Composting	N <sub>2</sub> O	10.614	28%	90%	0.943	0.000
5.C.1 Waste Incineration	CO <sub>2</sub>	0.575	47%	40%	0.619	0.000
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	47%	100%	1.106	0.000
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	12%	30%	0.323	0.000
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	1%	30%	0.300	0.000
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	15%	30%	0.335	0.000
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	23%	30%	0.378	0.000
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	36%	107%	1.129	0.000
<b>Total</b>		26061.475				0.002
<b>Total Uncertainties</b>					<i>Uncertainty in total inventory %:</i>	<b>4%</b>



**A.2.3 APPROACH 1 UNCERTAINTY ANALYSIS FOR 2022 INCLUDING LULUCF**

IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.1.a Public Electricity and Heat Production - Liquid Fuels	CO <sub>2</sub>	3078.955	63.917	2%	10%	0.102	0.000	0.243	0.005	0.024	0.000	0.001	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.1.a Public Electricity and Heat Production - Solid Fuels	CO <sub>2</sub>	211.145	2.896	2%	3%	0.036	0.000	0.017	0.000	0.001	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.1.a Public Electricity and Heat Production - Gaseous Fuels	CO <sub>2</sub>	2657.607	840.292	2%	5%	0.054	0.000	0.153	0.061	0.008	0.002	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.1.a Public Electricity and Heat Production - Peat	CO <sub>2</sub>	145.786	0.424	2%	10%	0.102	0.000	0.012	0.000	0.001	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.a Public Electricity and Heat Production - Other fossil fuels</b>	CO <sub>2</sub>	3.079	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.a Public Electricity and Heat Production - Liquid Fuels</b>	CH <sub>4</sub>	3.366	0.071	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Solid Fuels</b>	CH <sub>4</sub>	0.065	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Gaseous Fuels</b>	CH <sub>4</sub>	1.350	0.424	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Biomass Fuels</b>	CH <sub>4</sub>	0.366	18.746	1%	50%	0.500	0.000	0.001	0.001	0.001	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	CH <sub>4</sub>	0.039	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Other fossil fuels</b>	CH <sub>4</sub>	0.035	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Liquid Fuels</b>	N <sub>2</sub> O	6.369	0.133	2%	50%	0.500	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Solid Fuels</b>	N <sub>2</sub> O	0.916	0.012	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Gaseous Fuels</b>	N <sub>2</sub> O	1.278	0.402	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.1.a Public Electricity and Heat Production - Biomass Fuels</b>	N <sub>2</sub> O	0.462	23.644	1%	50%	0.500	0.000	0.002	0.002	0.001	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	N <sub>2</sub> O	0.548	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Stationary combustion, Table 2.12
1.A.1.a Public Electricity and Heat Production - Other fossil fuels	N <sub>2</sub> O	0.045	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CO <sub>2</sub>	25.015	21.378	2%	10%	0.102	0.000	0.000	0.002	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Solid Fuels	CO <sub>2</sub>	0.000	0.000	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CO <sub>2</sub>	104.785	20.787	2%	5%	0.054	0.000	0.007	0.002	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat	CO <sub>2</sub>	75.346	5.193	2%	10%	0.102	0.000	0.006	0.000	0.001	0.000	0.000	AD -AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg.

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	CH <sub>4</sub>	0.026	0.024	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Solid Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	CH <sub>4</sub>	0.053	0.011	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.264	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat</b>	CH <sub>4</sub>	0.020	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels	N <sub>2</sub> O	0.048	0.045	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Solid Fuels	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels	N <sub>2</sub> O	0.050	0.010	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels	N <sub>2</sub> O	0.000	0.333	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat</b>	N <sub>2</sub> O	0.283	0.019	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.a Iron and Steel - Liquid Fuels</b>	CO <sub>2</sub>	92.154	0.000	2%	10%	0.102	0.000	0.007	0.000	0.001	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.a Iron and Steel - Solid Fuels</b>	CO <sub>2</sub>	0.000	0.386	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	CO <sub>2</sub>	235.643	0.222	2%	5%	0.054	0.000	0.019	0.000	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.a Iron and Steel - Peat</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.a Iron and Steel - Other fossil fuels</b>	CO <sub>2</sub>	61.352	0.000	2%	20%	0.201	0.000	0.005	0.000	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.a Iron and Steel - Liquid Fuels</b>	CH <sub>4</sub>	0.100	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Solid Fuels</b>	CH <sub>4</sub>	0.000	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	CH <sub>4</sub>	0.120	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.002	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Peat	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Solid Fuels</b>	N <sub>2</sub> O	0.000	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	N <sub>2</sub> O	0.113	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.002	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Other fossil fuels</b>	N <sub>2</sub> O	0.887	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Liquid Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.b Non-Ferrous Metals - Solid Fuels	CO <sub>2</sub>	0.000	0.000	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	Chapter 2, pg. 2.38 AD -CSP; EF- "Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CO <sub>2</sub>	0.000	0.499	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.b Non-Ferrous Metals - Peat	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2,



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Chapter 2, pg. 2.38
1.A.2.b Non-Ferrous Metals - Liquid Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.b Non-Ferrous Metals - Solid Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.b Non-Ferrous Metals - Gaseous Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.b Non-Ferrous Metals - Biomass Fuels	CH <sub>4</sub>	0.000	0.000	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Liquid Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.b Non-Ferrous Metals - Solid Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Gaseous Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.000	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.b Non-Ferrous Metals - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.c Chemicals - Liquid Fuels</b>	CO <sub>2</sub>	269.980	10.730	2%	10%	0.102	0.000	0.021	0.001	0.002	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.c Chemicals - Solid Fuels</b>	CO <sub>2</sub>	0.000	0.193	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- "Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Fuel Types in Latvia", Riga, 2017</i>
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	CO <sub>2</sub>	23.542	12.971	2%	5%	0.054	0.000	0.001	0.001	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
<b>1.A.2.c Chemicals - Peat</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
<b>1.A.2.c Chemicals - Liquid Fuels</b>	CH <sub>4</sub>	0.295	0.005	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Solid Fuels</b>	CH <sub>4</sub>	0.000	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	CH <sub>4</sub>	0.012	0.007	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.104	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines,</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Liquid Fuels</b>	N <sub>2</sub> O	0.559	0.005	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Solid Fuels</b>	N <sub>2</sub> O	0.000	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	N <sub>2</sub> O	0.011	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.c Chemicals - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.131	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.c Chemicals - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg.



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	2%	10%	0.102	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	0.000	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	2%	5%	0.054	0.000	0.012	0.000	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.d. Pulp, Paper and Print - Peat</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.d. Pulp, Paper and Print - Liquid Fuels</b>	CH <sub>4</sub>	0.017	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Solid Fuels</b>	CH <sub>4</sub>	0.008	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.d. Pulp, Paper and Print - Gaseous Fuels</b>	CH <sub>4</sub>	0.076	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.017	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg.

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2.41 EF- IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	N <sub>2</sub> O	0.032	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.d. Pulp, Paper and Print - Solid Fuels	N <sub>2</sub> O	0.011	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	N <sub>2</sub> O	0.072	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.d. Pulp, Paper and Print - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.021	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CO <sub>2</sub>	564.767	10.219	2%	10%	0.102	0.000	0.045	0.001	0.004	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	2%	3%	0.036	0.000	0.008	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	2%	5%	0.054	0.000	0.010	0.004	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Peat	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Other Fossil Fuels	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CH <sub>4</sub>	0.299	0.003	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CH <sub>4</sub>	0.089	0.029	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels</b>	CH <sub>4</sub>	0.192	0.270	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.e Food Processing, Beverages and Tobacco - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Other Fossil Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Stationary combustion, Table 2.12
<b>1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels</b>	N <sub>2</sub> O	0.242	0.340	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.e Food Processing, Beverages and Tobacco - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Other Fossil Fuels	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12
1.A.2.f Non-metallic Minerals - Liquid Fuels	CO <sub>2</sub>	266.754	2.008	2%	10%	0.102	0.000	0.021	0.000	0.002	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.f Non-metallic Minerals - Solid Fuels	CO <sub>2</sub>	16.004	32.246	2%	3%	0.036	0.000	0.001	0.002	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.2.f Non-metallic Minerals - Gaseous Fuels	CO <sub>2</sub>	316.064	59.423	2%	5%	0.054	0.000	0.021	0.004	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.f Non-metallic Minerals - Peat	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	Chapter 2, pg. 2.38 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.f Non-metallic Minerals - Other Fossil Fuels	CO <sub>2</sub>	0.000	151.371	2%	2%	0.028	0.000	0.011	0.011	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.f Non-metallic Minerals - Liquid Fuels	CH <sub>4</sub>	0.290	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.f Non-metallic Minerals - Solid Fuels	CH <sub>4</sub>	0.048	0.094	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Gaseous Fuels</b>	CH <sub>4</sub>	0.161	0.030	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Biomass Fuels</b>	CH <sub>4</sub>	0.006	1.652	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.f Non-metallic Minerals - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	1.462	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.f Non-metallic Minerals - Liquid Fuels</b>	N <sub>2</sub> O	0.550	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.f Non-metallic Minerals - Solid Fuels</b>	N <sub>2</sub> O	0.068	0.133	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines,</i>

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Gaseous Fuels</b>	N <sub>2</sub> O	0.152	0.028	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Biomass Fuels</b>	N <sub>2</sub> O	0.007	2.085	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.f Non-metallic Minerals - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	1.844	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.g Other - Liquid Fuels</b>	CO <sub>2</sub>	1066.131	149.359	2%	10%	0.102	0.000	0.075	0.011	0.008	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7</i>



## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.g Other - Solid Fuels</b>	CO <sub>2</sub>	26.667	0.579	2%	3%	0.036	0.000	0.002	0.000	0.000	0.000	0.000	AD -CSP; EF- "Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
<b>1.A.2.g Other - Gaseous Fuels</b>	CO <sub>2</sub>	526.803	50.221	2%	5%	0.054	0.000	0.039	0.004	0.002	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.g Other - Peat</b>	CO <sub>2</sub>	0.000	2.535	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.g Other - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.g Other - Liquid Fuels</b>	CH <sub>4</sub>	3.010	0.253	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.2.g Other - Solid Fuels</b>	CH <sub>4</sub>	0.078	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Gaseous Fuels</b>	CH <sub>4</sub>	0.268	0.025	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Stationary combustion, Table 2.12
<b>1.A.2.g Other - Biomass Fuels</b>	CH <sub>4</sub>	0.321	15.281	1%	50%	0.500	0.000	0.001	0.001	0.001	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Peat</b>	CH <sub>4</sub>	0.000	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.g Other - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Liquid Fuels</b>	N <sub>2</sub> O	43.512	13.706	2%	50%	0.500	0.000	0.003	0.001	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.2.g Other - Solid Fuels</b>	N <sub>2</sub> O	0.110	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.g Other - Gaseous Fuels</b>	N <sub>2</sub> O	0.253	0.024	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Biomass Fuels</b>	N <sub>2</sub> O	0.405	19.284	1%	50%	0.500	0.000	0.001	0.001	0.001	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Peat</b>	N <sub>2</sub> O	0.000	0.010	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg.

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSB; EF - 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CO <sub>2</sub>	0.011	1.050	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	CO <sub>2</sub>	0.054	3.575	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CH <sub>4</sub>	0.000	0.000	2%	60%	0.600	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.3.a Domestic Aviation - Jet kerosene	CH <sub>4</sub>	0.000	0.001	2%	60%	0.600	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
1.A.3.a Domestic Aviation - Aviation Gasoline	N <sub>2</sub> O	0.000	0.008	2%	70%	0.700	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
1.A.3.a Domestic Aviation - Jet kerosene	N <sub>2</sub> O	0.000	0.026	2%	70%	0.700	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
1.A.3.b Road Transportation - Gasoline	CO <sub>2</sub>	1722.384	423.033	2%	2%	0.028	0.000	0.108	0.031	0.002	0.001	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Diesel Oil	CO <sub>2</sub>	622.515	2492.694	2%	2%	0.028	0.000	0.132	0.182	0.003	0.005	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - LPG	CO <sub>2</sub>	37.148	94.627	2%	5%	0.054	0.000	0.004	0.007	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.3.b Road Transportation - Lubricants</b>	CO <sub>2</sub>	3.483	5.384	10%	5%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Gaseous Fuels</b>	CO <sub>2</sub>	16.836	4.747	2%	5%	0.054	0.000	0.001	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Other fossil fuel (please specify)</b>	CO <sub>2</sub>	0.000	0.842	10%	5%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 2, chapter 3, section 'CO2 emissions from biofuels', pp 3.17
<b>1.A.3.b Road Transportation - Gasoline</b>	CH <sub>4</sub>	20.105	1.366	2%	30%	0.301	0.000	0.002	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Diesel Oil</b>	CH <sub>4</sub>	1.897	1.168	2%	30%	0.301	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	10%	30%	0.316	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Biomass	CH <sub>4</sub>	0.000	0.050	2%	30%	0.301	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	2%	50%	0.500	0.000	0.001	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	2%	50%	0.500	0.000	0.001	0.002	0.001	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.3.b Road Transportation - LPG</b>	N <sub>2</sub> O	0.282	0.846	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Lubricants</b>	N <sub>2</sub> O	0.020	0.035	10%	50%	0.510	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Gaseous Fuels</b>	N <sub>2</sub> O	0.242	0.068	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Biomass</b>	N <sub>2</sub> O	0.000	0.370	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.c Railways - Liquid Fuels</b>	CO <sub>2</sub>	536.766	71.984	2%	2%	0.028	0.000	0.038	0.005	0.001	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
<b>1.A.3.c Railways - Other Fuels (please specify)</b>	CO <sub>2</sub>	0.000	0.148	10%	5%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSB; EF - 2006 IPCC Guidelines, Volume 2, chapter 3, section 'CO2

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>emissions from biofuels', pp 3.17</i>
1.A.3.c Railways - Liquid Fuels	CH <sub>4</sub>	0.834	0.112	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.c. Railway Biomass Fuels	CH <sub>4</sub>	0.000	0.004	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	2%	50%	0.500	0.000	0.004	0.001	0.002	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.c. Railway Biomass Fuels	N <sub>2</sub> O	0.000	0.266	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	2%	10%	0.102	0.000	0.072	0.010	0.007	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	2%	3%	0.036	0.000	0.110	0.000	0.003	0.000	0.000	combustion, Section 3.6.1.7 AD -CSP; EF- "Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	2%	5%	0.054	0.000	0.002	0.021	0.000	0.001	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.4.a Commercial/Institutional - Peat	CO <sub>2</sub>	66.886	1.539	2%	10%	0.102	0.000	0.005	0.000	0.001	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	Chapter 2, pg. 2.38 AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.a Commercial/Institutional - Liquid Fuels</b>	CH <sub>4</sub>	2.598	0.340	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.a Commercial/Institutional - Solid Fuels</b>	CH <sub>4</sub>	4.176	0.009	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Gaseous Fuels</b>	CH <sub>4</sub>	0.701	0.712	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Biomass Fuels</b>	CH <sub>4</sub>	43.831	29.280	1%	50%	0.500	0.000	0.001	0.002	0.001	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Peat</b>	CH <sub>4</sub>	0.188	0.004	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg.

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a</b> Commercial/Institutional - Other Fossil Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a</b> Commercial/Institutional - Liquid Fuels	N <sub>2</sub> O	61.763	10.405	2%	50%	0.500	0.000	0.004	0.001	0.002	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Solid Fuels</b>	N <sub>2</sub> O	5.928	0.013	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Gaseous Fuels</b>	N <sub>2</sub> O	0.133	0.135	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Biomass Fuels</b>	N <sub>2</sub> O	5.531	3.702	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Peat</b>	N <sub>2</sub> O	0.263	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Liquid Fuels</b>	CO <sub>2</sub>	332.334	159.804	2%	10%	0.102	0.000	0.015	0.012	0.002	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.4.b Residential - Solid Fuels	CO <sub>2</sub>	586.626	5.020	2%	3%	0.036	0.000	0.047	0.000	0.001	0.000	0.000	combustion, Section 3.6.1.7 AD -CSP; EF- "Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.4.b Residential - Gaseous Fuels	CO <sub>2</sub>	220.705	243.457	2%	5%	0.054	0.000	0.000	0.018	0.000	0.001	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.4.b Residential - Peat	CO <sub>2</sub>	42.549	0.000	2%	10%	0.102	0.000	0.003	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.b Residential - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	Chapter 2, pg. 2.38 AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.b Residential - Liquid Fuels</b>	CH <sub>4</sub>	0.659	1.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.b Residential - Solid Fuels</b>	CH <sub>4</sub>	53.794	0.437	2%	50%	0.500	0.000	0.004	0.000	0.002	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Gaseous Fuels</b>	CH <sub>4</sub>	0.561	0.615	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.b Residential - Biomass Fuels</b>	CH <sub>4</sub>	162.133	120.215	5%	10%	0.112	0.000	0.004	0.009	0.000	0.001	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.b Residential - Peat</b>	CH <sub>4</sub>	3.570	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2,</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.b Residential - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.b Residential - Liquid Fuels</b>	N <sub>2</sub> O	14.587	10.214	2%	50%	0.500	0.000	0.000	0.001	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7</i>
<b>1.A.4.b Residential - Solid Fuels</b>	N <sub>2</sub> O	2.546	0.021	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.b Residential - Gaseous Fuels</b>	N <sub>2</sub> O	0.106	0.116	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Biomass Fuels</b>	N <sub>2</sub> O	7.954	7.361	5%	30%	0.304	0.000	0.000	0.001	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Peat</b>	N <sub>2</sub> O	0.165	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines,

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.b Residential - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels</b>	CO <sub>2</sub>	700.654	475.796	2%	10%	0.102	0.000	0.022	0.035	0.002	0.001	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
<b>1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels</b>	CO <sub>2</sub>	99.041	0.000	2%	3%	0.036	0.000	0.008	0.000	0.000	0.000	0.000	<i>AD -CSP; EF" Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used</i>



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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Fuel Types in Latvia", Riga, 2017</i>
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	2%	5%	0.054	0.000	0.062	0.001	0.003	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
1.A.4.c Agriculture/Forestry/Fisheries - Other Fossil Fuels	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	CH <sub>4</sub>	5.921	0.841	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CH <sub>4</sub>	9.082	0.000	2%	50%	0.500	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CH <sub>4</sub>	1.987	0.031	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	CH <sub>4</sub>	10.248	5.376	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Other Fossil Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	2%	50%	0.500	0.000	0.000	0.003	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7</i>
<b>1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels</b>	N <sub>2</sub> O	0.430	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels</b>	N <sub>2</sub> O	0.376	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels</b>	N <sub>2</sub> O	1.293	0.695	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2,</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Other Fossil Fuels	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.5.b Mobile - Liquid Fuels	CO <sub>2</sub>	0.000	24.234	2%	50%	0.500	0.000	0.002	0.002	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
1.A.5.b Mobile - Liquid Fuels	CH <sub>4</sub>	0.000	0.046	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
1.A.5.b Mobile - Liquid Fuels	N <sub>2</sub> O	0.000	0.175	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
1.B.2.b Natural Gas	CO <sub>2</sub>	0.009	0.008	35%	35%	0.495	0.000	0.000	0.000	0.000	0.000	0.000	AD - Latvijas Gāze
1.B.2.b Natural Gas	CH <sub>4</sub>	198.507	89.711	35%	35%	0.495	0.000	0.009	0.007	0.003	0.003	0.000	AD - Latvijas Gāze
1.B.2.c Venting and Flaring	CO <sub>2</sub>	0.003	0.001	10%	10%	0.141	0.000	0.000	0.000	0.000	0.000	0.000	AD - Latvijas Gāze
1.B.2.c Venting and Flaring	CH <sub>4</sub>	78.786	8.732	10%	10%	0.141	0.000	0.006	0.001	0.001	0.000	0.000	AD - Latvijas Gāze
2.A.1. Cement Production	CO <sub>2</sub>	345.783	540.092	8%	5%	0.092	0.000	0.012	0.040	0.001	0.004	0.000	AD - Cement Production plant's GHG

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 2, page 2.7 Table 2.3
<b>2.A.2. Lime Production</b>	CO <sub>2</sub>	121.915	0.000	8%	2%	0.078	0.000	0.010	0.000	0.000	0.000	0.000	AD - Lime Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 2, page 2.25 Table 2.5
<b>2.A.3. Glass production</b>	CO <sub>2</sub>	0.356	0.700	3%	2%	0.032	0.000	0.000	0.000	0.000	0.000	0.000	AD - Glass Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 2, page 2.31
<b>2.A.4. Other process uses of carbonates</b>	CO <sub>2</sub>	69.185	6.478	8%	3%	0.081	0.000	0.005	0.000	0.000	0.000	0.000	AD - Bricks Production plant's GHG report under EU ETS; EF - Expert judgment

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
2.A.4.b Other Use of soda ash	CO <sub>2</sub>	0.000	0.216	8%	3%	0.081	0.000	0.000	0.000	0.000	0.000	0.000	AD - Glass Production plant's GHG report under EU ETS; EF - Expert judgment
2.C.1 Iron and Steel Production	CO <sub>2</sub>	69.555	0.000	5%	10%	0.112	0.000	0.006	0.000	0.001	0.000	0.000	AD - Steel Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 4, Table 4.4
2.C.1 Iron and Steel Production	CH <sub>4</sub>	0.077	0.000	5%	10%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD - Steel Production plant's GHG report under EU ETS; EF - Expert judgment
2.D.1 Lubricant Use	CO <sub>2</sub>	23.249	11.340	2%	50%	0.500	0.000	0.001	0.001	0.001	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 3, Chapter 5, page 5.10
2.D.2 Paraffin wax use	CO <sub>2</sub>	0.000	6.845	2%	100%	1.000	0.000	0.001	0.001	0.001	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 3,



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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Chapter 5, page 5.13
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	20%	50%	0.539	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	20%	50%	0.539	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25%	25%	0.354	0.000	0.000	0.002	0.000	0.001	0.000	AD, EF - 2006 IPCC Guidelines, Volume 3, Chapter 5, pp.5.17
2.D.3.d Urea Use	CO <sub>2</sub>	0.000	1.383	20%	50%	0.539	0.000	0.000	0.000	0.000	0.000	0.000	Volume 2: Energy pp 3.12
2.F.1. Refrigeration and air conditioning	HFCs	0.000	243.524	41%	30%	0.507	0.000	0.018	0.018	0.005	0.010	0.000	AD, EF - Expert judgment
2.F.2 Foam blowing agents	HFCs	0.000	1.095	50%	50%	0.707	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.F.3. Fire Protection	HFCs	0.000	0.009	50%	50%	0.707	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.F.4. Aerosols	HFCs	0.000	5.668	50%	50%	0.707	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.G.1. Electrical equipment	SF <sub>6</sub>	0.000	12.272	2%	30%	0.301	0.000	0.001	0.001	0.000	0.000	0.000	AD, EF - 2006 IPCC Guidelines, Volume 3, Chapter 8, page 8.21, Table 8.5
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	2%	100%	1.000	0.000	0.000	0.000	0.000	0.000	0.000	AD - State Agency of

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Medicines of Latvia, EF - Belgium National Inventory Report, 2022</i>
<b>3.A.1 Enteric Fermentation - Cattle</b>	CH <sub>4</sub>	2372.148	898.055	2%	20%	0.201	0.000	0.125	0.066	0.025	0.002	0.001	<i>AD - Central Statistical Bureau EF - IPCC</i>
<b>3.A.2 Enteric Fermentation - Sheep</b>	CH <sub>4</sub>	36.870	19.555	2%	50%	0.500	0.000	0.002	0.001	0.001	0.000	0.000	<i>AD - Central Statistical Bureau EF - IPCC</i>
<b>3.A.3 Enteric Fermentation - Swine</b>	CH <sub>4</sub>	58.846	12.932	2%	20%	0.201	0.000	0.004	0.001	0.001	0.000	0.000	<i>AD - Central Statistical Bureau EF - IPCC</i>
<b>3.A.4 Enteric Fermentation - Other livestock</b>	CH <sub>4</sub>	20.261	16.030	2%	50%	0.500	0.000	0.000	0.001	0.000	0.000	0.000	<i>AD - Central Statistical Bureau EF - IPCC</i>
<b>3.B.1.1 Manure Management - Cattle</b>	CH <sub>4</sub>	124.283	85.066	25%	20%	0.320	0.000	0.004	0.006	0.001	0.002	0.000	<i>AD, EF - IPCC</i>
<b>3.B.2.1 Manure Management - Cattle</b>	N <sub>2</sub> O	107.303	31.679	25%	20%	0.320	0.000	0.006	0.002	0.001	0.001	0.000	<i>AD, EF - IPCC</i>
<b>3.B.1.2 Manure Management - Sheep</b>	CH <sub>4</sub>	0.876	0.464	25%	30%	0.391	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD, EF - IPCC</i>
<b>3.B.2.2 Manure Management - Sheep</b>	N <sub>2</sub> O	4.137	1.713	25%	30%	0.391	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD, EF - IPCC</i>
<b>3.B.1.3 Manure Management - Swaine</b>	CH <sub>4</sub>	73.455	18.858	25%	20%	0.320	0.000	0.005	0.001	0.001	0.000	0.000	<i>AD, EF - IPCC</i>

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	25%	20%	0.320	0.000	0.003	0.000	0.001	0.000	0.000	AD, EF - IPCC
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	25%	30%	0.391	0.000	0.001	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	25%	30%	0.391	0.000	0.001	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	25%	50%	0.559	0.000	0.005	0.002	0.003	0.001	0.000	AD - IPCC, EF - Expert judgment
3.D.1. Direct N <sub>2</sub> O emissions from managed soils	N <sub>2</sub> O	1436.178	893.537	25%	50%	0.559	0.001	0.050	0.065	0.025	0.023	0.001	AD - IPCC, EF - Expert judgment
3.D.2 Indirect N <sub>2</sub> O Emissions from managed soils	N <sub>2</sub> O	277.225	155.066	2%	50%	0.500	0.000	0.011	0.011	0.006	0.000	0.000	
3.G. Liming	CO <sub>2</sub>	357.133	77.884	5%	50%	0.502	0.000	0.023	0.006	0.012	0.000	0.000	AD - Expert judgment, EF - IPCC
3.H. Urea Application	CO <sub>2</sub>	7.709	5.516	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - Central Statistical Bureau, EF - IPCC
4.A.1 Forest Land remaining Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-17804.089	1336.804	2%	11%	0.115	0.000	1.554	0.098	0.178	0.002	0.032	AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016
4.A.1 Forest Land remaining Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-539.448	-1458.549	2%	4%	0.042	0.000	0.063	0.107	0.002	0.002	0.000	AD - NFI, EF - NFI

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
4.A.1 Forest Land remaining Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	772.156	701.159	5%	296%	2.960	0.019	0.011	0.051	0.033	0.004	0.001	AD - NFI, EF - Lupikis A. & Lazdins A. (2017)
4.A.2 Land converted to Forest Land – Carbon stock change, living biomass	CO <sub>2</sub>	-0.755	-195.334	8%	16%	0.182	0.000	0.014	0.014	0.002	0.002	0.000	AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016
4.A.2 Land Converted to Forest Land – Carbon stock change, dead wood	CO <sub>2</sub>	-2.960	-22.457	8%	4%	0.089	0.000	0.001	0.002	0.000	0.000	0.000	AD - NFI, EF - NFI
4.A.2 Land Converted to Forest Land – Carbon stock change, litter	CO <sub>2</sub>	-6.449	-49.069	8%	23%	0.244	0.000	0.003	0.004	0.001	0.000	0.000	AD - NFI, EF - Forest soil monitoring project BioSoil
4.A.2 Land converted to Forest Land – Carbon stock change, organic soil	CO <sub>2</sub>	0.000	3.009	44%	296%	2.992	0.000	0.000	0.000	0.001	0.000	0.000	AD - NFI, EF - Lupikis A. & Lazdins A. (2017)
4.A.1 Forest land remaining forest land – Controlled burning	CH <sub>4</sub>	25.351	8.945	93%	72%	1.173	0.000	0.001	0.001	0.001	0.001	0.000	AD - 2006 IPCC Guidelines, Table 2.6; expert judgement, EF - 2006 IPCC Guidelines, Table 2.5
4.A.1 Forest land remaining forest land – Controlled burning	N <sub>2</sub> O	2.360	0.833	93%		0.926	0.000	0.000	0.000	0.000	0.000	0.000	AD - 2006 IPCC Guidelines, Table 2.6; expert judgement, EF - NO (2006 IPCC

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Table 2.5)</i>
4.A.1 Forest land remaining forest land – wildfires	CO <sub>2</sub>	23.440	29.108	37%	12%	0.393	0.000	0.000	0.002	0.000	0.001	0.000	<i>AD - 2006 IPCC Guidelines, Table 2.6; expert judgement, EF - 2006 IPCC Guidelines, Table 2.5</i>
4.A.1 Forest land remaining forest land – wildfires	CH <sub>4</sub>	2.583	3.207	37%	72%	0.811	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - 2006 IPCC Guidelines, Table 2.6; expert judgement, EF - 2006 IPCC Guidelines, Table 2.5</i>
4.A.1 Forest land remaining forest land – wildfires	N <sub>2</sub> O	0.240	0.299	37%		0.374	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - 2006 IPCC Guidelines, Table 2.6; expert judgement, EF - NO (2006 IPCC Guidelines, Table 2.5)</i>
4.A. Forest land – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CO <sub>2</sub>	0.000	118.422	5%	246%	2.464	0.000	0.009	0.009	0.021	0.001	0.000	<i>AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table</i>

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													3.1, and Table 3.2
<b>4.A. Forest land – 4(II)</b> Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	CH <sub>4</sub>	31.002	380.241	44%	184%	1.888	0.002	0.025	0.028	0.046	0.017	0.002	AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 2.3 and Table 2.4, and Table 3.3
<b>4.A. Forest land – 4(II)</b> Emissions and removals from drainage and rewetting and other management of organic and mineral soils, total organic soils	N <sub>2</sub> O	472.203	430.920	44%	119%	1.269	0.001	0.007	0.032	0.008	0.020	0.000	AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 2.5
<b>4.B.1 Cropland remaining</b> Cropland – Carbon stock change, living biomass	CO <sub>2</sub>	-6.458	3.189	3%	135%	1.353	0.000	0.001	0.000	0.001	0.000	0.000	AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016
<b>4.B.1 Cropland remaining</b> Cropland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-1.240	4.746	3%	4%	0.047	0.000	0.000	0.000	0.000	0.000	0.000	AD - NFI, EF - NFI

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
4.B.1 Cropland remaining Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	2371.344	1251.296	13%	13%	0.188	0.000	0.100	0.092	0.013	0.017	0.000	AD - NFI, EF - Licite I., Lupikis A. 2020.
4.B.2 Land converted to Cropland – Carbon stock change, forest land converted to cropland, living biomass	CO <sub>2</sub>	0.000	25.228	53%	135%	1.454	0.000	0.002	0.002	0.002	0.001	0.000	AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016
4.B.1 Land converted to Cropland – Carbon stock change, forest land converted to cropland, dead organic matter	CO <sub>2</sub>	0.000	151.302	53%	23%	0.583	0.000	0.011	0.011	0.003	0.008	0.000	AD - NFI, EF - NFI; forest soil monitoring project BioSoil
4.B.2 Land converted to Cropland – Carbon stock change, forest land converted to cropland, mineral soil	CO <sub>2</sub>	0.000	4.413	65%	22%	0.682	0.000	0.000	0.000	0.000	0.000	0.000	AD - NFI, EF - Forest soil monitoring project BioSoil; 2006 IPCC Guidelines, Table 5.5
4.B.2 Land converted to Cropland – Carbon stock change, organic soil	CO <sub>2</sub>	6.838	373.113	114%	13%	1.147	0.001	0.027	0.027	0.004	0.044	0.002	AD - NFI, EF - Licite I., Lupikis A. 2020.
4.B. Cropland 4(II) Emissions and removals from drainage and rewetting and other	CH <sub>4</sub>	220.387	150.535	115%	71%	1.350	0.000	0.007	0.011	0.005	0.018	0.000	AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
management of organic and mineral soils													<i>Greenhouse Gas Inventories: Wetlands, Table 2.4</i>
4.B.2 Land converted to cropland – 4(III) Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/ immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	0.000	0.334	65%	151%	1.639	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - NFI, EF - 2006 IPCC Guidelines, Table 11.1 and Equation 11.8</i>
4.C.1 Grassland remaining Grassland – Carbon stock change, living biomass	CO <sub>2</sub>	-20.226	6.009	5%	56%	0.559	0.000	0.002	0.000	0.001	0.000	0.000	<i>AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016</i>
4.C.1 Grassland remaining Grassland – Carbon stock change, dead organic matter	CO <sub>2</sub>	-3.884	1.261	5%	4%	0.064	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - NFI, EF - NFI</i>
4.C.1 Grassland remaining Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	958.698	482.357	26%	40%	0.473	0.000	0.042	0.035	0.017	0.013	0.000	<i>AD - NFI, EF - Licite I., Lupikis A. 2020.</i>
4.C.2 Land converted to Grassland – Carbon stock	CO <sub>2</sub>	0.000	95.460	10%	56%	0.564	0.000	0.007	0.007	0.004	0.001	0.000	<i>AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016</i>



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
change, forest land converted to grassland, living biomass													
4.C.2 Land converted to Grassland – Carbon stock change, forest land converted to grassland, dead organic matter	CO <sub>2</sub>	0.000	180.669	10%	23%	0.253	0.000	0.013	0.013	0.003	0.002	0.000	AD - NFI, EF - NFI; forest soil monitoring project BioSoil
4.C.2 Land converted to Grassland – Carbon stock change, wetlands converted to grassland, living biomass	CO <sub>2</sub>	0.000	-63.912	10%	75%	0.756	0.000	0.005	0.005	0.004	0.001	0.000	
4.C.2 Land converted to Grassland – Carbon stock change, settlements converted to grassland, living biomass	CO <sub>2</sub>	0.000	3.273	10%	75%	0.757	0.000	0.000	0.000	0.000	0.000	0.000	
4.C.2 Land converted to Grassland – Carbon stock change, organic soil	CO <sub>2</sub>	8.303	748.551	55%	40%	0.679	0.001	0.054	0.055	0.021	0.043	0.002	AD - NFI, EF - Licite I., Lupikis A. 2020.
4.C. Grassland – 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CH <sub>4</sub>	220.367	257.065	61%	86%	1.056	0.000	0.001	0.019	0.001	0.016	0.000	AD - NFI, EF - Licite I., Lupikis A. 2020; 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Inventories: Wetlands, Table 2.4
4.C.1 Grassland remaining Grassland – wildfires	CH <sub>4</sub>	0.056	0.106	10%	78%	0.786	0.000	0.000	0.000	0.000	0.000	0.000	AD - Rural Support Service, EF - 2006 IPCC Guidelines, Table 2.5
4.C.1 Grassland remaining Grassland – wildfires	N <sub>2</sub> O	0.048	0.092	10%	96%	0.965	0.000	0.000	0.000	0.000	0.000	0.000	AD - Rural Support Service, EF - 2006 IPCC Guidelines, Table 2.5
4.D.1 Wetlands remaining Wetlands – Carbon stock change, living biomass	CO <sub>2</sub>	-68.172	2.553	6%	110%	1.098	0.000	0.006	0.000	0.006	0.000	0.000	AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016
4.D.1 Wetlands remaining Wetlands – Carbon stock change, dead organic matter	CO <sub>2</sub>	-13.091	53.473	6%	4%	0.071	0.000	0.005	0.004	0.000	0.000	0.000	AD - NFI, EF - NFI
4.D.1 Wetlands remaining Wetlands – Carbon stock change, organic soils	CO <sub>2</sub>	211.968	140.696	6%	55%	0.557	0.000	0.007	0.010	0.004	0.001	0.000	AD - NFI; project Restore, EF - Lazdiņš A., Lupiķis A. 2019
4.D.2 Land Converted to Wetland - Carbon stock change, organic soils	CO <sub>2</sub>	0.125	24.457	13%	246%	2.467	0.000	0.002	0.002	0.004	0.000	0.000	AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CO <sub>2</sub>	855.360	1446.390	5%		0.050	0.000	0.037	0.106	0.000	0.007	0.000	Inventories: Wetlands, Table 3.1 and Table 3.2 AD - CSB, EF - NO
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	CH <sub>4</sub>	21.891	14.530	6%	65%	0.654	0.000	0.001	0.001	0.000	0.000	0.000	AD - NFI; project Restore, EF - Lazdīņš A., Lupiķis A. 2019
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, drained organic soils	N <sub>2</sub> O	8.728	5.793	6%	107%	1.073	0.000	0.000	0.000	0.000	0.000	0.000	AD - NFI; project Restore, EF - Lazdīņš A., Lupiķis A. 2019

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CO <sub>2</sub>	0.558	25.097	6%	246%	2.464	0.000	0.002	0.002	0.004	0.000	0.000	AD - NFI; project Restore, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 3.1 and Table 3.2
4.D. Wetlands 4(II) Emissions and removals from drainage and rewetting and other management of organic and mineral soils, Peat extraction from lands, rewetted organic soils	CH <sub>4</sub>	1.658	74.588	6%	198%	1.981	0.000	0.005	0.005	0.011	0.000	0.000	AD - NFI; project Restore, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 3.3
4.E.1 Settlements remaining Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	-50.035	28.157	9%	84%	0.841	0.000	0.006	0.002	0.005	0.000	0.000	AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016
4.E.1 Settlements remaining Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-5.815	14.856	9%	4%	0.095	0.000	0.002	0.001	0.000	0.000	0.000	AD - NFI, EF - NFI
4.E.1 Settlements remaining Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	0.000	48.465	9%	18%	0.204	0.000	0.004	0.004	0.001	0.000	0.000	AD - NFI, EF - 2013 Supplement to the 2006 IPCC

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 2.1</i>
4.E.2 Land converted to Settlements – Carbon stock change, living biomass	CO <sub>2</sub>	70.353	246.915	20%	84%	0.858	0.000	0.012	0.018	0.010	0.005	0.000	<i>AD - NFI, EF - NFI; J. Liepiņš et al. 2015, 2016</i>
4.E.2 Land converted to Settlements – Carbon stock change, dead organic matter	CO <sub>2</sub>	-0.001	237.610	20%	23%	0.305	0.000	0.017	0.017	0.004	0.005	0.000	<i>AD - NFI, EF - NFI; forest soil monitoring project BioSoil</i>
4.E.2 Land converted to Settlements – Carbon stock change, mineral soils	CO <sub>2</sub>	0.000	156.753	22%	13%	0.256	0.000	0.011	0.011	0.001	0.004	0.000	<i>AD - NFI, EF - 2006 IPCC Guidelines, Table 5.5; Forest soil monitoring project BioSoil</i>
4.E.2 Land converted to Settlements – Carbon stock change, organic soils	CO <sub>2</sub>	10.644	331.425	47%	18%	0.505	0.000	0.023	0.024	0.004	0.016	0.000	<i>AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 2.1</i>
4.E.2 Lands converted to settlements – Direct nitrous	N <sub>2</sub> O	1.989	119.485	20%	151%	1.520	0.000	0.009	0.009	0.013	0.002	0.000	<i>AD - NFI, EF - 2006 IPCC</i>

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils													<i>Guidelines, Table 11.1 and Equation 11.8</i>
4.E.1 Settlements remaining Settlements – 4 (III) Direct nitrous oxide (N <sub>2</sub> O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils	N <sub>2</sub> O	0.000	9.057	9%	38%	0.387	0.000	0.001	0.001	0.000	0.000	0.000	<i>AD - NFI, EF - 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, Table 2.5</i>
4. G. Harvested wood products	CO <sub>2</sub>	-166.113	-3001.506	15%	0%	0.150	0.001	0.206	0.220	0.000	0.047	0.002	<i>AD - expert judgement, EF - NO</i>
4 (IV) Indirect nitrous oxide (N <sub>2</sub> O) emissions from managed soils	N <sub>2</sub> O	0.000	2.746	42%	212%	2.157	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - NFI, EF - 2006 IPCC Guidelines, Table 11.3 and Equation 11.8</i>
5.A.1. Managed Waste Disposal on Land	CH <sub>4</sub>	0.000	293.292	6%	52%	0.523	0.000	0.021	0.021	0.011	0.002	0.000	<i>AD uncertainty calculated using trend line and</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>measured data; EF - 2006 IPCC Guidelines</i>
<b>5.A.2. Unmanaged Waste Disposal Sites</b>	CH <sub>4</sub>	352.523	111.239	6%	52%	0.523	0.000	0.020	0.008	0.011	0.001	0.000	<i>AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines</i>
<b>5.B.1. Composting</b>	CH <sub>4</sub>	18.691	31.917	28%	100%	1.039	0.000	0.001	0.002	0.001	0.001	0.000	<i>AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines</i>
<b>5.B.1. Composting</b>	N <sub>2</sub> O	10.614	18.124	28%	90%	0.943	0.000	0.000	0.001	0.000	0.001	0.000	<i>AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines</i>
<b>5.B.2. Anaerobic digestion at biogas facilities</b>	CH <sub>4</sub>	0.000	12.130	20%	100%	1.020	0.000	0.001	0.001	0.001	0.000	0.000	<i>AD - Expert judgment, EF - IPCC</i>
<b>5.C.1 Waste Incineration</b>	CO <sub>2</sub>	0.575	0.000	52%	40%	0.654	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
5.C.1 Waste Incineration	N <sub>2</sub> O	0.010	0.000	52%	100%	1.126	0.000	0.000	0.000	0.000	0.000	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines
5.D.1 Domestic Wastewater	CH <sub>4</sub>	222.096	86.313	6%	30%	0.306	0.000	0.012	0.006	0.003	0.001	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.17
5.D.1 Domestic Wastewater	N <sub>2</sub> O	44.915	32.233	8%	30%	0.310	0.000	0.001	0.002	0.000	0.000	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.27
5.D.2 Industrial Wastewater	CH <sub>4</sub>	153.525	3.302	26%	30%	0.397	0.000	0.012	0.000	0.004	0.000	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.23
5.D.2 Industrial Wastewater	N <sub>2</sub> O	2.082	0.066	20%	30%	0.361	0.000	0.000	0.000	0.000	0.000	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.27



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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
Indirect CO <sub>2</sub>	CO <sub>2</sub>	40.995	11.240	36%	107%	1.129	0.000	0.002	0.001	0.003	0.000	0.000	AD- CSB, EMEP/EEA 2023, EF - EMEP/EEA 2023
<b>Total</b>		<b>13671.388</b>	<b>15075.178</b>				<b>0.029</b>					<b>0.048</b>	
<b>Total Uncertainties</b>						<i>Uncertainty in total inventory %:</i>	<b>17%</b>				<i>Trend uncertainty %:</i>	<b>22%</b>	

**A.2.4 APPROACH 1 UNCERTAINTY ANALYSIS FOR 2022 EXCLUDING LULUCF**

IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.1.a Public Electricity and Heat Production - Liquid Fuels</b>	CO <sub>2</sub>	3078.955	63.917	2%	10%	0.102	0.000	0.043	0.002	0.004	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.a Public Electricity and Heat Production - Solid Fuels</b>	CO <sub>2</sub>	211.145	2.896	2%	3%	0.036	0.000	0.003	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
<b>1.A.1.a Public Electricity and Heat Production - Gaseous Fuels</b>	CO <sub>2</sub>	2657.607	840.292	2%	5%	0.054	0.000	0.007	0.032	0.000	0.001	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	CO <sub>2</sub>	145.786	0.424	2%	10%	0.102	0.000	0.002	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.1.a Public Electricity and Heat Production - Other fossil fuels</b>	CO <sub>2</sub>	3.079	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.a Public Electricity and Heat Production - Liquid Fuels</b>	CH <sub>4</sub>	3.366	0.071	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Solid Fuels</b>	CH <sub>4</sub>	0.065	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Gaseous Fuels</b>	CH <sub>4</sub>	1.350	0.424	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Biomass Fuels</b>	CH <sub>4</sub>	0.366	18.746	1%	50%	0.500	0.000	0.001	0.001	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	CH <sub>4</sub>	0.039	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Other fossil fuels</b>	CH <sub>4</sub>	0.035	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Liquid Fuels</b>	N <sub>2</sub> O	6.369	0.133	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.1.a Public Electricity and Heat Production - Solid Fuels</b>	N <sub>2</sub> O	0.916	0.012	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Gaseous Fuels</b>	N <sub>2</sub> O	1.278	0.402	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Biomass Fuels</b>	N <sub>2</sub> O	0.462	23.644	1%	50%	0.500	0.000	0.001	0.001	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Peat</b>	N <sub>2</sub> O	0.548	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.a Public Electricity and Heat Production - Other fossil fuels</b>	N <sub>2</sub> O	0.045	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels</b>	CO <sub>2</sub>	25.015	21.378	2%	10%	0.102	0.000	0.000	0.001	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Solid Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels</b>	CO <sub>2</sub>	104.785	20.787	2%	5%	0.054	0.000	0.001	0.001	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat</b>	CO <sub>2</sub>	75.346	5.193	2%	10%	0.102	0.000	0.001	0.000	0.000	0.000	0.000	AD -AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels</b>	CH <sub>4</sub>	0.026	0.024	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Solid Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels</b>	CH <sub>4</sub>	0.053	0.011	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.264	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat</b>	CH <sub>4</sub>	0.020	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Liquid Fuels</b>	N <sub>2</sub> O	0.048	0.045	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Solid Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Gaseous Fuels</b>	N <sub>2</sub> O	0.050	0.010	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.333	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.1.c Manufacture of Solid Fuels and Other Energy Industries - Peat</b>	N <sub>2</sub> O	0.283	0.019	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Liquid Fuels	CO <sub>2</sub>	92.154	0.000	2%	10%	0.102	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.a Iron and Steel - Solid Fuels	CO <sub>2</sub>	0.000	0.386	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.a Iron and Steel - Gaseous Fuels	CO <sub>2</sub>	235.643	0.222	2%	5%	0.054	0.000	0.004	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.a Iron and Steel - Peat	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.a Iron and Steel - Other fossil fuels	CO <sub>2</sub>	61.352	0.000	2%	20%	0.201	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.a Iron and Steel - Liquid Fuels	CH <sub>4</sub>	0.100	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	Volume 2, Chapter 2, pg. 2.38 AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Solid Fuels	CH <sub>4</sub>	0.000	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Gaseous Fuels	CH <sub>4</sub>	0.120	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Biomass Fuels	CH <sub>4</sub>	0.000	0.002	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Peat	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Other fossil fuels	CH <sub>4</sub>	0.703	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Liquid Fuels	N <sub>2</sub> O	0.189	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.a Iron and Steel - Solid Fuels	N <sub>2</sub> O	0.000	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Gaseous Fuels</b>	N <sub>2</sub> O	0.113	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.002	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.a Iron and Steel - Other fossil fuels</b>	N <sub>2</sub> O	0.887	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Liquid Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.b Non-Ferrous Metals - Solid Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
<b>1.A.2.b Non-Ferrous Metals - Gaseous Fuels</b>	CO <sub>2</sub>	0.000	0.499	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.b Non-Ferrous Metals - Peat</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
<b>1.A.2.b Non-Ferrous Metals - Liquid Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Solid Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Gaseous Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.000	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Liquid Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.b Non-Ferrous Metals - Solid Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines,



ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Gaseous Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.000	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.b Non-Ferrous Metals - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- IPCC Guidelines,</i>

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.c Chemicals - Liquid Fuels</b>	CO <sub>2</sub>	269.980	10.730	2%	10%	0.102	0.000	0.004	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.c Chemicals - Solid Fuels</b>	CO <sub>2</sub>	0.000	0.193	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- ""Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia"", Riga, 2017
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	CO <sub>2</sub>	23.542	12.971	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.c Chemicals - Peat</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38</i>
<b>1.A.2.c Chemicals - Liquid Fuels</b>	CH <sub>4</sub>	0.295	0.005	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Solid Fuels</b>	CH <sub>4</sub>	0.000	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Gaseous Fuels</b>	CH <sub>4</sub>	0.012	0.007	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.104	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Liquid Fuels</b>	N <sub>2</sub> O	0.559	0.005	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.c Chemicals - Solid Fuels</b>	N <sub>2</sub> O	0.000	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.c Chemicals - Gaseous Fuels	N <sub>2</sub> O	0.011	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.c Chemicals - Biomass Fuels	N <sub>2</sub> O	0.000	0.131	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.c Chemicals - Peat	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CO <sub>2</sub>	15.704	0.377	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.d. Pulp, Paper and Print - Solid Fuels	CO <sub>2</sub>	2.607	0.000	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.2.d. Pulp, Paper and Print - Gaseous Fuels	CO <sub>2</sub>	150.166	3.659	2%	5%	0.054	0.000	0.002	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.d. Pulp, Paper and Print - Peat	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.d. Pulp, Paper and Print - Liquid Fuels	CH <sub>4</sub>	0.017	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.d. Pulp, Paper and Print - Solid Fuels</b>	CH <sub>4</sub>	0.008	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.d. Pulp, Paper and Print - Gaseous Fuels</b>	CH <sub>4</sub>	0.076	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.d. Pulp, Paper and Print - Biomass Fuels</b>	CH <sub>4</sub>	0.000	0.017	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.d. Pulp, Paper and Print - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Liquid Fuels</b>	N <sub>2</sub> O	0.032	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Solid Fuels</b>	N <sub>2</sub> O	0.011	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Gaseous Fuels</b>	N <sub>2</sub> O	0.072	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.d. Pulp, Paper and Print - Biomass Fuels</b>	N <sub>2</sub> O	0.000	0.021	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.d. Pulp, Paper and Print - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels</b>	CO <sub>2</sub>	564.767	10.219	2%	10%	0.102	0.000	0.008	0.000	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	CO <sub>2</sub>	100.342	0.869	2%	3%	0.036	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	CO <sub>2</sub>	175.098	57.150	2%	5%	0.054	0.000	0.000	0.002	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Peat	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Other Fossil Fuels	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	CH <sub>4</sub>	0.612	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels</b>	CH <sub>4</sub>	0.299	0.003	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels</b>	CH <sub>4</sub>	0.089	0.029	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels</b>	CH <sub>4</sub>	0.192	0.270	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Peat	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Other Fossil Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Liquid Fuels	N <sub>2</sub> O	1.157	0.009	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Solid Fuels	N <sub>2</sub> O	0.425	0.004	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.2.e Food Processing, Beverages and Tobacco - Gaseous Fuels	N <sub>2</sub> O	0.084	0.027	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Biomass Fuels	N <sub>2</sub> O	0.242	0.340	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.e Food Processing, Beverages and Tobacco - Peat	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.e Food Processing, Beverages and Tobacco - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Liquid Fuels</b>	CO <sub>2</sub>	266.754	2.008	2%	10%	0.102	0.000	0.004	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.f Non-metallic Minerals - Solid Fuels</b>	CO <sub>2</sub>	16.004	32.246	2%	3%	0.036	0.000	0.001	0.001	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
<b>1.A.2.f Non-metallic Minerals - Gaseous Fuels</b>	CO <sub>2</sub>	316.064	59.423	2%	5%	0.054	0.000	0.002	0.002	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.f Non-metallic Minerals - Peat</b>	CO <sub>2</sub>	0.000	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.f Non-metallic Minerals - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	151.371	2%	2%	0.028	0.000	0.006	0.006	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.f Non-metallic Minerals - Liquid Fuels</b>	CH <sub>4</sub>	0.290	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Solid Fuels</b>	CH <sub>4</sub>	0.048	0.094	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Gaseous Fuels</b>	CH <sub>4</sub>	0.161	0.030	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.f Non-metallic Minerals - Biomass Fuels</b>	CH <sub>4</sub>	0.006	1.652	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Peat</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	1.462	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.f Non-metallic Minerals - Liquid Fuels</b>	N <sub>2</sub> O	0.550	0.001	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Solid Fuels</b>	N <sub>2</sub> O	0.068	0.133	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Gaseous Fuels</b>	N <sub>2</sub> O	0.152	0.028	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Biomass Fuels</b>	N <sub>2</sub> O	0.007	2.085	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.f Non-metallic Minerals - Peat</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.f Non-metallic Minerals - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	1.844	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Liquid Fuels</b>	CO <sub>2</sub>	1066.131	149.359	2%	10%	0.102	0.000	0.010	0.006	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.2.g Other - Solid Fuels</b>	CO <sub>2</sub>	26.667	0.579	2%	3%	0.036	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
<b>1.A.2.g Other - Gaseous Fuels</b>	CO <sub>2</sub>	526.803	50.221	2%	5%	0.054	0.000	0.006	0.002	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.g Other - Peat</b>	CO <sub>2</sub>	0.000	2.535	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.g Other - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.2.g Other - Liquid Fuels</b>	CH <sub>4</sub>	3.010	0.253	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7</i>
<b>1.A.2.g Other - Solid Fuels</b>	CH <sub>4</sub>	0.078	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.g Other - Gaseous Fuels</b>	CH <sub>4</sub>	0.268	0.025	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.2.g Other - Biomass Fuels</b>	CH <sub>4</sub>	0.321	15.281	1%	50%	0.500	0.000	0.001	0.001	0.000	0.000	0.000	<i>AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines,</i>

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Peat</b>	CH <sub>4</sub>	0.000	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Liquid Fuels</b>	N <sub>2</sub> O	43.512	13.706	2%	50%	0.500	0.000	0.000	0.001	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													3 Mobile combustion, Section 3.6.1.7
1.A.2.g Other - Solid Fuels	N <sub>2</sub> O	0.110	0.002	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.g Other - Gaseous Fuels	N <sub>2</sub> O	0.253	0.024	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.g Other - Biomass Fuels	N <sub>2</sub> O	0.405	19.284	1%	50%	0.500	0.000	0.001	0.001	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.2.g Other - Peat	N <sub>2</sub> O	0.000	0.010	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.2.g Other - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CO <sub>2</sub>	0.011	1.050	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	CO <sub>2</sub>	0.054	3.575	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	CH <sub>4</sub>	0.000	0.000	2%	60%	0.600	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	CH <sub>4</sub>	0.000	0.001	2%	60%	0.600	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.3.a Domestic Aviation - Aviation Gasoline</b>	N <sub>2</sub> O	0.000	0.008	2%	70%	0.700	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.a Domestic Aviation - Jet kerosene</b>	N <sub>2</sub> O	0.000	0.026	2%	70%	0.700	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.69
<b>1.A.3.b Road Transportation - Gasoline</b>	CO <sub>2</sub>	1722.384	423.033	2%	2%	0.028	0.000	0.009	0.016	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Diesel Oil</b>	CO <sub>2</sub>	622.515	2492.694	2%	2%	0.028	0.000	0.086	0.096	0.002	0.003	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - LPG</b>	CO <sub>2</sub>	37.148	94.627	2%	5%	0.054	0.000	0.003	0.004	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Lubricants</b>	CO <sub>2</sub>	3.483	5.384	10%	5%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Gaseous Fuels</b>	CO <sub>2</sub>	16.836	4.747	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Other fossil fuel (please specify)</b>	CO <sub>2</sub>	0.000	0.842	10%	5%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, chapter 3, section 'CO <sub>2</sub>



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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.3.b Road Transportation - Gasoline	CH <sub>4</sub>	20.105	1.366	2%	30%	0.301	0.000	0.000	0.000	0.000	0.000	0.000	emissions from biofuels', pp.3.17 AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Diesel Oil	CH <sub>4</sub>	1.897	1.168	2%	30%	0.301	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - LPG	CH <sub>4</sub>	0.228	0.425	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Lubricants	CH <sub>4</sub>	0.044	0.007	10%	30%	0.316	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Gaseous Fuels	CH <sub>4</sub>	0.786	0.222	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Biomass	CH <sub>4</sub>	0.000	0.050	2%	30%	0.301	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Gasoline	N <sub>2</sub> O	11.992	1.257	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
1.A.3.b Road Transportation - Diesel Oil	N <sub>2</sub> O	6.027	24.032	2%	50%	0.500	0.000	0.001	0.001	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.3.b Road Transportation - LPG</b>	N <sub>2</sub> O	0.282	0.846	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	Guidelines, Volume 2, pp.3.29 AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Lubricants</b>	N <sub>2</sub> O	0.020	0.035	10%	50%	0.510	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Gaseous Fuels</b>	N <sub>2</sub> O	0.242	0.068	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.b Road Transportation - Biomass</b>	N <sub>2</sub> O	0.000	0.370	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.29
<b>1.A.3.c Railways - Liquid Fuels</b>	CO <sub>2</sub>	536.766	71.984	2%	2%	0.028	0.000	0.005	0.003	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
<b>1.A.3.c Railways - Other Fuels (please specify)</b>	CO <sub>2</sub>	0.000	0.148	10%	5%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSB; EF - 2006 IPCC Guidelines, Volume 2, chapter 3, section 'CO <sub>2</sub> emissions from biofuels', pp 3.17
<b>1.A.3.c Railways - Liquid Fuels</b>	CH <sub>4</sub>	0.834	0.112	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.3.c. Railway Biomass Fuels	CH <sub>4</sub>	0.000	0.004	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	Volume 2, pp.3.43&3.46 AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.c Railways - Liquid Fuels	N <sub>2</sub> O	54.423	7.299	2%	50%	0.500	0.000	0.001	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.c. Railway Biomass Fuels	N <sub>2</sub> O	0.000	0.266	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.43&3.46
1.A.3.d Domestic Navigation - Gasoline	CO <sub>2</sub>	0.173	0.416	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Diesel Oil	CO <sub>2</sub>	0.842	5.083	2%	5%	0.054	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Gasoline	CH <sub>4</sub>	0.003	0.008	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Diesel Oil	CH <sub>4</sub>	0.001	0.008	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.3.d Domestic Navigation - Gasoline	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.3.d Domestic Navigation - Diesel Oil	N <sub>2</sub> O	0.090	0.541	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD – CSB; EF - 2006 IPCC Guidelines, Volume 2, pp.3.54
1.A.4.a Commercial/Institutional - Liquid Fuels	CO <sub>2</sub>	1017.269	133.516	2%	10%	0.102	0.000	0.010	0.005	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
1.A.4.a Commercial/Institutional - Solid Fuels	CO <sub>2</sub>	1366.092	3.186	2%	3%	0.036	0.000	0.020	0.000	0.001	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.4.a Commercial/Institutional - Gaseous Fuels	CO <sub>2</sub>	275.826	281.926	2%	5%	0.054	0.000	0.007	0.011	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Peat</b>	CO <sub>2</sub>	66.886	1.539	2%	10%	0.102	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.a Commercial/Institutional - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.a Commercial/Institutional - Liquid Fuels</b>	CH <sub>4</sub>	2.598	0.340	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.a Commercial/Institutional - Solid Fuels</b>	CH <sub>4</sub>	4.176	0.009	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Gaseous Fuels</b>	CH <sub>4</sub>	0.701	0.712	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Biomass Fuels</b>	CH <sub>4</sub>	43.831	29.280	1%	50%	0.500	0.000	0.000	0.001	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Peat</b>	CH <sub>4</sub>	0.188	0.004	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Liquid Fuels</b>	N <sub>2</sub> O	61.763	10.405	2%	50%	0.500	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.a Commercial/Institutional - Solid Fuels</b>	N <sub>2</sub> O	5.928	0.013	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Gaseous Fuels</b>	N <sub>2</sub> O	0.133	0.135	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.a Commercial/Institutional - Biomass Fuels</b>	N <sub>2</sub> O	5.531	3.702	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Peat</b>	N <sub>2</sub> O	0.263	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.a Commercial/Institutional - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.b Residential - Liquid Fuels</b>	CO <sub>2</sub>	332.334	159.804	2%	10%	0.102	0.000	0.001	0.006	0.000	0.000	0.000	combustion, Table 2.12 AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.b Residential - Solid Fuels</b>	CO <sub>2</sub>	586.626	5.020	2%	3%	0.036	0.000	0.009	0.000	0.000	0.000	0.000	AD -CSP; EF-"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
<b>1.A.4.b Residential - Gaseous Fuels</b>	CO <sub>2</sub>	220.705	243.457	2%	5%	0.054	0.000	0.006	0.009	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.b Residential - Peat</b>	CO <sub>2</sub>	42.549	0.000	2%	10%	0.102	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.b Residential - Other Fossil Fuels</b>	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
<b>1.A.4.b Residential - Liquid Fuels</b>	CH <sub>4</sub>	0.659	1.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.b Residential - Solid Fuels</b>	CH <sub>4</sub>	53.794	0.437	2%	50%	0.500	0.000	0.001	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Gaseous Fuels</b>	CH <sub>4</sub>	0.561	0.615	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Biomass Fuels</b>	CH <sub>4</sub>	162.133	120.215	5%	10%	0.112	0.000	0.002	0.005	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Peat</b>	CH <sub>4</sub>	3.570	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Other Fossil Fuels</b>	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Liquid Fuels</b>	N <sub>2</sub> O	14.587	10.214	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.A.4.b Residential - Solid Fuels</b>	N <sub>2</sub> O	2.546	0.021	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Gaseous Fuels</b>	N <sub>2</sub> O	0.106	0.116	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Biomass Fuels</b>	N <sub>2</sub> O	7.954	7.361	5%	30%	0.304	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Peat</b>	N <sub>2</sub> O	0.165	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.b Residential - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels</b>	CO <sub>2</sub>	700.654	475.796	2%	10%	0.102	0.000	0.008	0.018	0.001	0.001	0.000	AD -CSP; EF-2006 IPCC Guidelines,

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	CO <sub>2</sub>	99.041	0.000	2%	3%	0.036	0.000	0.001	0.000	0.000	0.000	0.000	Volume 2, Chapter 2, pg. 2.38 AD -CSP; EF"Determination of Carbon Content and Calculation of Carbon Dioxide Emission Factors for the Most Frequently Used Fuel Types in Latvia", Riga, 2017
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	CO <sub>2</sub>	782.443	12.084	2%	5%	0.054	0.000	0.011	0.000	0.001	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CO <sub>2</sub>	3.023	0.000	2%	10%	0.102	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38
1.A.4.c Agriculture/Forestry/Fisheries - Other Fossil Fuels	CO <sub>2</sub>	0.000	0.000	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.38

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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels</b>	CH <sub>4</sub>	5.921	0.841	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels</b>	CH <sub>4</sub>	9.082	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels</b>	CH <sub>4</sub>	1.987	0.031	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
<b>1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels</b>	CH <sub>4</sub>	10.248	5.376	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.4.c Agriculture/Forestry/Fisheries - Peat	CH <sub>4</sub>	0.260	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Table 2.12 AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Other Fossil Fuels	CH <sub>4</sub>	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Liquid Fuels	N <sub>2</sub> O	38.476	45.431	2%	50%	0.500	0.000	0.001	0.002	0.001	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12; 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
1.A.4.c Agriculture/Forestry/Fisheries - Solid Fuels	N <sub>2</sub> O	0.430	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	combustion, Section 3.6.1.7 AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Gaseous Fuels	N <sub>2</sub> O	0.376	0.006	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Biomass Fuels	N <sub>2</sub> O	1.293	0.695	1%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006 IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12
1.A.4.c Agriculture/Forestry/Fisheries - Peat	N <sub>2</sub> O	0.012	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSP; 2006 IPCC Guidelines, Volume 2, Chapter 1, pg. 1.19; 2006

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													<i>IPCC Guidelines, Volume 2, Chapter 2, pg. 2.41 EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.4.c Agriculture/Forestry/Fisheries - Other Fossil Fuels</b>	N <sub>2</sub> O	0.000	0.000	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 2 Stationary combustion, Table 2.12</i>
<b>1.A.5.b Mobile - Liquid Fuels</b>	CO <sub>2</sub>	0.000	24.234	2%	50%	0.500	0.000	0.001	0.001	0.000	0.000	0.000	<i>AD -CSP; EF-2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7</i>
<b>1.A.5.b Mobile - Liquid Fuels</b>	CH <sub>4</sub>	0.000	0.046	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines, Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7</i>
<b>1.A.5.b Mobile - Liquid Fuels</b>	N <sub>2</sub> O	0.000	0.175	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	<i>AD -CSP; EF- 2006 IPCC Guidelines,</i>

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
													Volume 2, Chapter 3 Mobile combustion, Section 3.6.1.7
<b>1.B.2.b Natural Gas</b>	CO <sub>2</sub>	0.009	0.008	35%	35%	0.495	0.000	0.000	0.000	0.000	0.000	0.000	AD - Latvijas Gāze
<b>1.B.2.b Natural Gas</b>	CH <sub>4</sub>	198.507	89.711	35%	35%	0.495	0.000	0.000	0.003	0.000	0.002	0.000	AD - Latvijas Gāze
<b>1.B.2.c Venting and Flaring</b>	CO <sub>2</sub>	0.003	0.001	10%	10%	0.141	0.000	0.000	0.000	0.000	0.000	0.000	AD - Latvijas Gāze
<b>1.B.2.c Venting and Flaring</b>	CH <sub>4</sub>	78.786	8.732	10%	10%	0.141	0.000	0.001	0.000	0.000	0.000	0.000	AD - Latvijas Gāze
<b>2.A.1. Cement Production</b>	CO <sub>2</sub>	345.783	540.092	8%	5%	0.092	0.000	0.016	0.021	0.001	0.002	0.000	AD - Cement Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 2, page 2.7 Table 2.3
<b>2.A.2. Lime Production</b>	CO <sub>2</sub>	121.915	0.000	8%	2%	0.078	0.000	0.002	0.000	0.000	0.000	0.000	AD - Lime Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 2, page 2.25 Table 2.5
<b>2.A.3. Glass production</b>	CO <sub>2</sub>	0.356	0.700	3%	2%	0.032	0.000	0.000	0.000	0.000	0.000	0.000	AD - Glass Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 2, page 2.31

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>2.A.4. Other process uses of carbonates</b>	CO <sub>2</sub>	69.185	6.478	8%	3%	0.081	0.000	0.001	0.000	0.000	0.000	0.000	AD - Bricks Production plant's GHG report under EU ETS; EF - Expert judgment
<b>2.A.4.b Other Use of soda ash</b>	CO <sub>2</sub>	0.000	0.216	8%	3%	0.081	0.000	0.000	0.000	0.000	0.000	0.000	AD - Glass Production plant's GHG report under EU ETS; EF - Expert judgment
<b>2.C.1 Iron and Steel Production</b>	CO <sub>2</sub>	69.555	0.000	5%	10%	0.112	0.000	0.001	0.000	0.000	0.000	0.000	AD - Steel Production plant's GHG report under EU ETS; EF - 2006 IPCC Guidelines, Volume 3, Chapter 4, Table 4.4
<b>2.C.1 Iron and Steel Production</b>	CH <sub>4</sub>	0.077	0.000	5%	10%	0.112	0.000	0.000	0.000	0.000	0.000	0.000	AD - Steel Production plant's GHG report under EU ETS; EF - Expert judgment
<b>2.D.1 Lubricant Use</b>	CO <sub>2</sub>	23.249	11.340	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 3, Chapter 5, page 5.10
<b>2.D.2 Paraffin wax use</b>	CO <sub>2</sub>	0.000	6.845	2%	100%	1.000	0.000	0.000	0.000	0.000	0.000	0.000	AD - CSB; EF - 2006 IPCC Guidelines, Volume 3, Chapter 5, page 5.13

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
2.D.3.b Road paving with asphalt	CO <sub>2</sub>	0.001	0.069	20%	50%	0.539	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.D.3.c Asphalt roofing	CO <sub>2</sub>	0.003	0.062	20%	50%	0.539	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.D.3. Solvent Use	CO <sub>2</sub>	20.973	25.074	25%	25%	0.354	0.000	0.001	0.001	0.000	0.000	0.000	AD, EF - 2006 IPCC Guidelines, Volume 3, Chapter 5, pp.5.17
2.D.3.d Urea Use	CO <sub>2</sub>	0.000	1.383	20%	50%	0.539	0.000	0.000	0.000	0.000	0.000	0.000	Volume 2: Energy pp 3.12
2.F.1. Refrigeration and air conditioning	HFCs	0.000	243.524	41%	30%	0.507	0.000	0.009	0.009	0.003	0.005	0.000	AD, EF - Expert judgment
2.F.2 Foam blowing agents	HFCs	0.000	1.095	50%	50%	0.707	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.F.3. Fire Protection	HFCs	0.000	0.009	50%	50%	0.707	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.F.4. Aerosols	HFCs	0.000	5.668	50%	50%	0.707	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - Expert judgment
2.G.1. Electrical equipment	SF <sub>6</sub>	0.000	12.272	2%	30%	0.301	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - 2006 IPCC Guidelines, Volume 3, Chapter 8, page 8.21, Table 8.5
2.G.3. N <sub>2</sub> O from product uses	N <sub>2</sub> O	4.302	3.642	2%	100%	1.000	0.000	0.000	0.000	0.000	0.000	0.000	AD - State Agency of Medicines of Latvia, EF - Belgium National Inventory Report, 2022
3.A.1 Enteric Fermentation - Cattle	CH <sub>4</sub>	2372.148	898.055	2%	20%	0.201	0.000	0.001	0.034	0.000	0.001	0.000	AD - Central Statistical Bureau EF -IPCC

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
3.A.2 Enteric Fermentation - Sheep	CH <sub>4</sub>	36.870	19.555	2%	50%	0.500	0.000	0.000	0.001	0.000	0.000	0.000	AD - Central Statistical Bureau EF - IPCC
3.A.3 Enteric Fermentation - Swine	CH <sub>4</sub>	58.846	12.932	2%	20%	0.201	0.000	0.000	0.000	0.000	0.000	0.000	AD - Central Statistical Bureau EF - IPCC
3.A.4 Enteric Fermentation - Other livestock	CH <sub>4</sub>	20.261	16.030	2%	50%	0.500	0.000	0.000	0.001	0.000	0.000	0.000	AD - Central Statistical Bureau EF - IPCC
3.B.1.1 Manure Management - Cattle	CH <sub>4</sub>	124.283	85.066	25%	20%	0.320	0.000	0.001	0.003	0.000	0.001	0.000	AD, EF - IPCC
3.B.2.1 Manure Management - Cattle	N <sub>2</sub> O	107.303	31.679	25%	20%	0.320	0.000	0.000	0.001	0.000	0.000	0.000	AD, EF - IPCC
3.B.1.2 Manure Management - Sheep	CH <sub>4</sub>	0.876	0.464	25%	30%	0.391	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.2.2 Manure Management - Sheep	N <sub>2</sub> O	4.137	1.713	25%	30%	0.391	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.1.3 Manure Management - Swaine	CH <sub>4</sub>	73.455	18.858	25%	20%	0.320	0.000	0.000	0.001	0.000	0.000	0.000	AD, EF - IPCC
3.B.2.3 Manure Management - Swaine	N <sub>2</sub> O	35.810	3.320	25%	20%	0.320	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.1.4 Manure Management - Other livestock	CH <sub>4</sub>	13.983	4.525	25%	30%	0.391	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.2.4 Manure Management - Other livestock	N <sub>2</sub> O	17.783	5.866	25%	30%	0.391	0.000	0.000	0.000	0.000	0.000	0.000	AD, EF - IPCC
3.B.5 Indirect N <sub>2</sub> O emissions from Manure Management	N <sub>2</sub> O	86.476	23.762	25%	50%	0.559	0.000	0.000	0.001	0.000	0.000	0.000	AD - IPCC, EF - Expert judgment

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>3.D.1. Direct N<sub>2</sub>O emissions from managed soils</b>	N <sub>2</sub> O	1436.178	893.537	25%	50%	0.559	0.002	0.013	0.034	0.006	0.012	0.000	AD - IPCC, EF - Expert judgment
<b>3.D.2 Indirect N<sub>2</sub>O Emissions from managed soils</b>	N <sub>2</sub> O	277.225	155.066	2%	50%	0.500	0.000	0.002	0.006	0.001	0.000	0.000	
<b>3.G. Liming</b>	CO <sub>2</sub>	357.133	77.884	5%	50%	0.502	0.000	0.002	0.003	0.001	0.000	0.000	AD - Expert judgment, EF - IPCC
<b>3.H. Urea Application</b>	CO <sub>2</sub>	7.709	5.516	2%	50%	0.500	0.000	0.000	0.000	0.000	0.000	0.000	AD - Central Statistical Bureau, EF - IPCC
<b>5.A.1. Managed Waste Disposal on Land</b>	CH <sub>4</sub>	0.000	293.292	6%	52%	0.523	0.000	0.011	0.011	0.006	0.001	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines
<b>5.A.2. Unmanaged Waste Disposal Sites</b>	CH <sub>4</sub>	352.523	111.239	6%	52%	0.523	0.000	0.001	0.004	0.001	0.000	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines
<b>5.B.1. Composting</b>	CH <sub>4</sub>	18.691	31.917	28%	100%	1.039	0.000	0.001	0.001	0.001	0.000	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines
<b>5.B.1. Composting</b>	N <sub>2</sub> O	10.614	18.124	28%	90%	0.943	0.000	0.001	0.001	0.000	0.000	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines

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		kt CO <sub>2</sub> eq.	kt CO <sub>2</sub> eq.	%	%	%		%	%	%	%	%	
<b>5.B.2. Anaerobic digestion at biogas facilities</b>	CH <sub>4</sub>	0.000	12.130	20%	100%	1.020	0.000	0.000	0.000	0.000	0.000	0.000	- 2006 IPCC Guidelines AD - Expert judgment, EF - IPCC
<b>5.C.1 Waste Incineration</b>	CO <sub>2</sub>	0.575	0.000	52%	40%	0.654	0.000	0.000	0.000	0.000	0.000	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines
<b>5.C.1 Waste Incineration</b>	N <sub>2</sub> O	0.010	0.000	52%	100%	1.126	0.000	0.000	0.000	0.000	0.000	0.000	AD uncertainty calculated using trend line and measured data; EF - 2006 IPCC Guidelines
<b>5.D.1 Domestic Wastewater</b>	CH <sub>4</sub>	222.096	86.313	6%	30%	0.306	0.000	0.000	0.003	0.000	0.000	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.17
<b>5.D.1 Domestic Wastewater</b>	N <sub>2</sub> O	44.915	32.233	8%	30%	0.310	0.000	0.001	0.001	0.000	0.000	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.27
<b>5.D.2 Industrial Wastewater</b>	CH <sub>4</sub>	153.525	3.302	26%	30%	0.397	0.000	0.002	0.000	0.001	0.000	0.000	AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.23



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IPCC category	Gas	Base year emissions or removals	Year 2022 emissions or removals	Activity data uncertainty	Emission factor / estimation parameter uncertainty	Combined uncertainty	Contribution to variance by category in year x	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor / estimation parameter uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions	Comments (optional)
		<i>kt CO<sub>2</sub> eq.</i>	<i>kt CO<sub>2</sub> eq.</i>	<i>%</i>	<i>%</i>	<i>%</i>		<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	
<b>5.D.2 Industrial Wastewater</b>	<i>N<sub>2</sub>O</i>	<i>2.082</i>	<i>0.066</i>	<i>20%</i>	<i>30%</i>	<i>0.361</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>AD - calculated, EF - 2006 IPCC Guidelines, Volume 5, Chapter 6, pp. 6.27</i>
<b>Indirect CO<sub>2</sub></b>	<i>CO<sub>2</sub></i>	<i>40.995</i>	<i>11.240</i>	<i>36%</i>	<i>107%</i>	<i>1.129</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>AD- CSB, EMEP/EEA 2023, EF - EMEP/EEA 2023</i>
<b>Total</b>		<b><i>26061.475</i></b>	<b><i>10131.014</i></b>				<b><i>0.0034</i></b>					<b><i>0.0003</i></b>	
<b>Total Uncertainties</b>						<i>Uncertainty in total inventory %:</i>	<b><i>6%</i></b>				<i>Trend uncertainty %:</i>	<b><i>2%</i></b>	

**ANNEX 3: OTHER DETAILED METHODOLOGICAL DESCRIPTIONS FOR INDIVIDUAL SOURCE OR SINK CATEGORIES****A.3.1 ENERGY (EXCLUDING TRANSPORT SECTOR)****Sulphur content and SO<sub>2</sub> emission factors by fuel type in Energy sector (excluding Transport)**

Fuel	NCV	Sulphur content (%)											
		1990-95	2000	2005	2010	2015	2016	2017	2018	2019	2020	2021	2022
Diesel	42.49	0.20	0.20	0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
RFO	40.60	2.00	2.08	1.23	0.91	0.79	0.66	0.60	0.51	0.64	0.87	0.95	0.74
Gasoline	43.97	0.015	0.020	0.020	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Jet fuel	43.21	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Other liquid fuel	41.86	0.65	0.56	0.50	0.44	0.40	0.42	0.45	0.41	0.64	0.34	0.32	0.34
LPG	45.54	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Shale oil	39.35	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Coal	23.91	1.80	0.90	0.72	0.39	0.57	0.49	0.53	0.55	0.48	0.48	0.48	0.48
Coke	26.79	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Oil shale	9.20	1.60	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	10.05	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
RFO (marine)	40.60	2.00	1.50	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wood	6.70	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Natural gas	Changes annually	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029
		EF (kt/PJ)											
Diesel		0.094	0.094	0.094	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047
RFO		0.966	1.003	0.596	0.442	0.384	0.318	0.288	0.247	0.308	0.420	0.456	0.355
Gasoline		0.0068	0.0068	0.0068	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Jet fuel		0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046
Other liquid fuel		0.311	0.267	0.237	0.208	0.190	0.202	0.216	0.196	0.305	0.163	0.157	0.164
LPG		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Shale oil		0.407	0.407	0.407	0.407	0.407	0.407	0.407	0.407	0.407	0.407	0.407	0.407
Coal		1.138	0.567	0.498	0.266	0.431	0.370	0.398	0.406	0.352	0.352	0.352	0.398
Coke		0.410	0.410	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403
Oil shale		3.130	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat		0.508	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507
RFO (marine)		0.966	0.724	0.724	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
Wood		0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
Natural gas		0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Note for sulphur content:  
Gasoline, diesel oil – EU legislation

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RFO – EU legislation, average value from database Nr.2-Air

Other liquids – average value from database Nr.2-Air

Coal – average value from database Nr.2-Air

Shale oil – Luik, H. "Coal, oil shale, natural bitumen, heavy oil and peat" Vol. II Chemicals and Other products from Shale Oil

Oil shale – Gavrilova, O., Randla, T., Vallner, L., Strandberg, M., Vilu, R. 2005. "Life Cycle Analysis of the Estonian Oil Shale Industry"

Peat, peat briquettes – Latvian Peat Producers Association

Wood – Zandersons, J, Žūriņš, A., Rižikovs, J., Dobeļe, G., Latvian Institute of Wood chemistry "Feasibility of processing and utilisation of used up railway sleepers"

Natural gas – allowed content of mercaptan (3 mg/m<sup>3</sup>)

## Fuel consumption in Energy sector (stationary combustion), TJ

## 1.A.1 Energy Industries

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>1.A.1. Energy Industries</b>																				
<b>Total</b>	<b>95424</b>	<b>89290</b>	<b>74201</b>	<b>58345</b>	<b>53160</b>	<b>50516</b>	<b>51326</b>	<b>52637</b>	<b>54187</b>	<b>48325</b>	<b>42657</b>	<b>44355</b>	<b>43268</b>	<b>43796</b>	<b>40977</b>	<b>40412</b>	<b>41926</b>	<b>39412</b>	<b>38942</b>	<b>37912</b>
Liquid Fuels	40437	33253	28441	27170	30859	20519	27333	17437	20662	17491	7900	5235	5033	3576	3055	2365	1511	1389	905	1194
Solid Fuels	2305	1736	1935	2106	1366	1395	740	541	455	398	371	398	285	209	210	183	105	341	446	472
Peat	2089	2343	2814	3007	2841	3432	2974	3083	2157	1275	2351	1230	1005	663	70	60	30	29	20	10
Gaseous Fuels	50115	51368	40338	25200	16770	24107	18644	28165	26802	25464	28803	33510	32497	34074	32371	33306	35181	32613	32650	31236
Biomass	436	590	673	862	1324	1063	1634	3412	4111	3697	3232	3940	4406	5245	5183	4469	5099	5040	4921	4971
Other Fossil Fuels	42	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	42	29	88	29	NO	NO	NO	29
<b>1.A.1.a. Public Electricity and Heat Production</b>																				
<b>Total</b>	<b>92473</b>	<b>86689</b>	<b>71901</b>	<b>55946</b>	<b>51496</b>	<b>48590</b>	<b>48499</b>	<b>51233</b>	<b>50453</b>	<b>44329</b>	<b>39919</b>	<b>42931</b>	<b>41998</b>	<b>42183</b>	<b>39325</b>	<b>39066</b>	<b>40493</b>	<b>38390</b>	<b>37652</b>	<b>36795</b>
Liquid Fuels	40098	33002	28190	26919	30426	20266	26110	17107	18116	14486	6350	5065	4821	3406	2843	2153	1299	1219	693	1031
Solid Fuels	2305	1736	1935	2106	1366	1395	740	541	427	370	371	398	285	209	210	183	105	341	446	472
Peat	1378	1703	1945	2437	2246	2703	2403	2600	1764	1046	1970	1125	995	653	60	40	20	20	20	10
Gaseous Fuels	48214	49658	39158	23622	16134	23163	17612	27599	26069	24831	27996	32633	31691	33199	31499	32434	34242	32043	31845	30739
Biomass	436	590	673	862	1324	1063	1634	3386	4077	3596	3232	3668	4164	4687	4625	4227	4827	4767	4648	4514
Other Fossil Fuels	42	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	42	29	88	29	NO	NO	NO	29
Shale oil	NO	NO	NO	NO	NO	39	NO	NO	NO	394	944	472	354	157	NO	NO	39	39	NO	NO
LPG	46	46	46	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	5524	5226	3824	935	382	85	42	297	85	85	127	42	42	42	42	42	42	43	43	16
RFO	32561	26147	23183	24563	30044	20016	25984	16768	17905	14007	5279	4425	4425	3207	2801	2111	1218	1137	650	1015
Other liquid	1967	1583	1137	1421	NO	126	84	42	126	NO	NO	126	NO	NO	NO	NO	NO	NO	NO	NO
Coal	2305	1736	1935	2106	1366	1395	740	541	427	370	371	398	285	209	210	183	105	341	446	472
Peat	1347	1688	1930	2422	2231	2626	2341	2523	1749	1046	1970	1125	995	653	60	40	20	20	20	10
Peat briquettes	31	15	15	15	15	77	62	77	15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	48214	49658	39158	23622	16134	23163	17612	27599	26069	24831	27996	32633	31691	33199	31499	32434	34242	32043	31845	30739
Wood	436	590	673	831	1300	1045	1595	3363	4060	3558	3191	3617	4097	4644	4570	4132	4740	4675	4556	4390
Straws	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Biofuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Landfill gas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	9
Sludge gas	NO	NO	NO	31	24	18	39	23	17	38	41	51	67	43	55	95	87	92	92	115
Other biogas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Waste oils	42	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	42	29	88	29	NO	NO	NO	29
<b>1.A.1.c. Manufacture of Solid Fuels and Other Energy Industries</b>																				

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Total</b>	<b>2951</b>	<b>2601</b>	<b>2300</b>	<b>2399</b>	<b>1664</b>	<b>1926</b>	<b>2826</b>	<b>1405</b>	<b>3734</b>	<b>3996</b>	<b>2738</b>	<b>1424</b>	<b>1270</b>	<b>1613</b>	<b>1652</b>	<b>1346</b>	<b>1433</b>	<b>1022</b>	<b>1290</b>	<b>1117</b>
Liquid Fuels	339	251	251	251	433	253	1223	330	2546	3005	1550	170	212	170	212	212	212	170	212	163
Solid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	28	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	711	640	869	570	595	729	571	483	393	229	381	105	10	10	10	20	10	9	NO	NO
Gaseous Fuels	1901	1710	1180	1578	636	944	1032	566	733	633	807	877	806	875	872	872	939	570	805	497
Biomass	NO	NO	NO	NO	NO	NO	NO	26	34	101	NO	272	242	558	558	242	272	273	273	457
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	46	NO	NO	NO	182	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Jet fuel	NO	NO	NO	NO	NO	NO	NO	NO	216	346	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	212	170	170	170	170	212	127	127	127	212	127	170	212	170	212	212	212	170	212	163
RFO	81.2	81.2	81.2	81.2	81.2	40.6	1096	202.6	487	731	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	1716	1716	1423	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	NO	NO	NO	NO	NO	NO	NO	28	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	710.9	640.1	868.95	569.65	594.65	729	571.4	483.1	392.75	229.35	380.65	105.25	10	10	10	20	10	9	NO	NO
Natural gas	1901	1710	1180	1578	636	944	1032	566	733	633	807	877	806	875	872	872	939	570	805	497
Wood	NO	NO	NO	NO	NO	NO	NO	26	34	101	NO	272	242	558	558	242	272	273	273	457

## Continuation of 1.A.1 Energy Industries

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>1.A.1. Energy Industries</b>													
<b>Total</b>	<b>45623</b>	<b>42405</b>	<b>40447</b>	<b>46121</b>	<b>43893</b>	<b>46754</b>	<b>51075</b>	<b>48143</b>	<b>55231</b>	<b>54242</b>	<b>45365</b>	<b>49188</b>	<b>40666</b>
Liquid Fuels	918	848	662	466	319	283	295	281	360	416	305	379	1142
Solid Fuels	419	419	513	424	175	105	152	107	112	104	35	72	30
Peat	11	9	NO	40	NO	NO	NO	29	102	35	23	23	53
Gaseous Fuels	38687	35607	31872	33926	29870	31395	32108	26556	33211	31283	23442	24387	15534
Biomass	5559	5519	7400	11265	13529	14971	18520	21170	21446	22404	21560	24327	23907
Other Fossil Fuels	29	3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.1.a. Public Electricity and Heat Production</b>													
<b>Total</b>	<b>44302</b>	<b>40877</b>	<b>39071</b>	<b>44641</b>	<b>42383</b>	<b>45442</b>	<b>49929</b>	<b>46874</b>	<b>54053</b>	<b>52876</b>	<b>44272</b>	<b>47937</b>	<b>39642</b>
Liquid Fuels	705	593	492	211	33	28	30	37	80	39	54	94	856
Solid Fuels	419	419	513	424	175	105	152	107	112	104	35	72	30
Peat	11	9	NO	40	NO	NO	NO	NO	85	NO	1	1	4
Gaseous Fuels	37812	34664	30895	32997	29040	30712	31595	26116	32691	30713	22949	23860	15159
Biomass	5326	5189	7171	10969	13135	14597	18152	20614	21085	22020	21233	23910	23593
Other Fossil Fuels	29	3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	2	NO

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
LPG	NO	NO	NO	4	1	1	1	1	1	2	6	2	22
Diesel oil	15	25	127	94	22	14	11	14	49	9	4	3	759
RFO	690	568	365	113	10	13	18	22	30	28	44	87	75
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	419	419	513	424	175	105	152	107	112	104	35	72	30
Peat	10	9	NO	40	NO	NO	NO	NO	85	NO	1	1	4
Peat briquettes	1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	37812	34664	30895	32997	29040	30712	31595	26116	32691	30713	22949	23860	15159
Wood	5120	4635	5793	9198	11184	12286	15662	18003	18751	19948	19120	22322	22266
Straws	1	NO	NO	NO	NO	NO	NO	18	66	NO	37	26	7
Biofuel	8	52	39	NO	NO	NO	NO	NO	1	NO	NO	NO	NO
Landfill gas	18	22	22	14	16	13	13	14	14	14	13	12	11
Sludge gas	137	102	102	102	93	85	107	101	83	90	76	81	63
Other biogas	42	378	1215	1655	1842	2213	2370	2478	2170	1968	1987	1469	1246
Waste oils	29	3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.1.c. Manufacture of Solid Fuels and Other Energy Industries</b>													
<b>Total</b>	<b>1321</b>	<b>1528</b>	<b>1376</b>	<b>1480</b>	<b>1510</b>	<b>1312</b>	<b>1146</b>	<b>1269</b>	<b>1178</b>	<b>1366</b>	<b>1093</b>	<b>1251</b>	<b>1024</b>
Liquid Fuels	213	255	170	255	286	255	265	244	280	377	251	285	286
Solid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	29	17	35	22	22	49
Gaseous Fuels	875	943	977	929	830	683	513	440	520	570	493	527	375
Biomass	233	330	229	296	394	374	368	556	361	384	327	417	314
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Jet fuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	213	255	170	255	286	255	265	244	280	377	251	285	286
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	29	17	35	22	22	49
Natural gas	875	943	977	929	830	683	513	440	520	570	493	527	375
Wood	233	330	229	296	394	374	368	556	361	384	327	417	314

## 1.A.2 Manufacturing Industries and Construction

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>1.A.2 Manufacturing Industries and Construction</b>																				
<b>Total</b>	<b>58640</b>	<b>45567</b>	<b>38083</b>	<b>32982</b>	<b>29888</b>	<b>29837</b>	<b>29430</b>	<b>28709</b>	<b>26228</b>	<b>24129</b>	<b>20526</b>	<b>20910</b>	<b>21411</b>	<b>21329</b>	<b>22992</b>	<b>24018</b>	<b>25618</b>	<b>24376</b>	<b>23172</b>	<b>22367</b>
Liquid Fuels	29747	20311	17430	17082	16545	16745	16344	16010	12910	11400	7575	4681	3966	4417	4277	2866	4075	3843	3076	2936
Solid Fuels	1545	882	968	1639	1444	650	592	450	393	421	252	252	253	262	236	971	1394	1967	1993	1363
Peat	NO	20	10	NO	15	15	15	25	25	15	NO	NO	NO	NO	10	NO	NO	NO	NO	NO
Gaseous Fuels	25894	23752	19059	12482	9783	10014	9815	9484	9712	9080	9873	11583	12838	12729	13157	13680	13395	12881	11836	9261
Biomass	617	603	616	1779	2101	2414	2664	2740	3188	3186	2733	3926	3487	3391	4795	5588	6464	5415	5895	8675
Other Fossil Fuels	837	NO	NO	NO	NO	NO	NO	NO	NO	26	94	469	866	530	517	914	290	270	372	132
<b>1.A.2.a. Iron and Steel</b>																				
<b>Total</b>	<b>6304</b>	<b>4622</b>	<b>4130</b>	<b>3651</b>	<b>3992</b>	<b>3065</b>	<b>3282</b>	<b>5079</b>	<b>5083</b>	<b>4991</b>	<b>5049</b>	<b>5142</b>	<b>4861</b>	<b>4932</b>	<b>5016</b>	<b>4777</b>	<b>5059</b>	<b>5081</b>	<b>4738</b>	<b>4187</b>
Liquid Fuels	1192	989	705	731	885	705	785	1162	1088	1130	1145	1042	963	963	963	99	963	963	917	792
Solid Fuels	NO	NO	NO	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	27	27	5	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	4275	3633	3425	2892	3107	2360	2497	3917	3995	3861	3904	4058	3898	3969	4026	4125	4091	4118	3821	3395
Biomass	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other Fossil Fuels	837	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	NO	NO	NO	526	NO	NO	NO	NO
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	79	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	15	15	15	NO	15	NO	NO	NO	NO	NO	15	NO	NO	NO	NO	15	NO	NO	NO	NO
RFO	1177	974	690	284	284	203	325.2	325	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	122	81
Other liquid	NO	NO	NO	447	586	502	460	837	1088	1130	1130	963	963	963	963	84	963	963	795	711
Anthracite	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	NO	NO	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coke	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	27	27	5	NO	NO	NO
Natural gas	4275	3633	3425	2892	3107	2360	2497	3917	3995	3861	3904	4058	3898	3969	4026	4125	4091	4118	3821	3395
Wood	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Waste oils	837	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	NO	NO	NO	526	NO	NO	NO	NO
<b>1.A.2.b. Non-Ferrous Metals</b>																				
<b>Total</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>53</b>	<b>100</b>	<b>168</b>	<b>190</b>	<b>269</b>	<b>302</b>	<b>269</b>	<b>203</b>	<b>204</b>	<b>201</b>	<b>134</b>	<b>101</b>
Liquid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Solid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Gaseous Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	53	100	168	190	269	302	269	203	204	201	134	101
<b>Biomass</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Coal</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Natural gas</b>	NO	NO	NO	NO	NO	NO	NO	NO	53	100	168	190	269	302	269	203	204	201	134	101
<b>Biofuel</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.2.c. Chemicals</b>																				
<b>Total</b>	<b>3943</b>	<b>2515</b>	<b>2013</b>	<b>3638</b>	<b>3935</b>	<b>5645</b>	<b>4160</b>	<b>3529</b>	<b>643</b>	<b>538</b>	<b>486</b>	<b>479</b>	<b>469</b>	<b>449</b>	<b>452</b>	<b>472</b>	<b>540</b>	<b>455</b>	<b>811</b>	<b>679</b>
<b>Liquid Fuels</b>	3516	1932	1599	2963	3207	4547	3451	3207	325	122	122	164	162	122	NO	NO	NO	NO	81	31
<b>Solid Fuels</b>	NO	NO	NO	28	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Peat</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Gaseous Fuels</b>	427	584	414	643	693	1090	696	302	298	362	317	269	278	308	405	442	480	381	513	518
<b>Biomass</b>	NO	NO	NO	4	7	7	13	20	20	54	47	46	29	19	47	30	60	74	188	130
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	29	NO
<b>LPG</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Other kerosene</b>	389	389	259	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>RFO</b>	3127	1543	1340	2963	3207	4547	3451	3207	325	122	122	122	162	122	NO	NO	NO	NO	81	31
<b>Other liquid</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	NO	NO	NO	NO	NO	NO	NO	NO
<b>Coal</b>	NO	NO	NO	28	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Peat</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Peat briquettes</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Natural gas</b>	427	584	414	643	693	1090	696	302	298	362	317	269	278	308	405	442	480	381	513	518
<b>Wood</b>	NO	NO	NO	4	7	7	13	20	20	54	47	46	29	19	47	30	57	72	187	127
<b>Biofuel</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	3	2	1	3
<b>Other biogas</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Waste oils</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	29	NO
<b>1.A.2.d. Pulp, Paper and Print</b>																				
<b>Total</b>	<b>2956</b>	<b>2827</b>	<b>2562</b>	<b>953</b>	<b>330</b>	<b>326</b>	<b>194</b>	<b>181</b>	<b>142</b>	<b>168</b>	<b>124</b>	<b>176</b>	<b>182</b>	<b>214</b>	<b>213</b>	<b>255</b>	<b>281</b>	<b>217</b>	<b>208</b>	<b>264</b>
<b>Liquid Fuels</b>	203	162	122	122	41	81	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Solid Fuels</b>	28	28	28	113	56	56	56	57	28	28	NO	28	28	26	26	26	26	NO	NO	NO
<b>Peat</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO



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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Gaseous Fuels</b>	2724	2637	2412	653	45	101	118	104	94	100	101	135	134	168	167	202	235	201	201	101
<b>Biomass</b>	NO	NO	NO	65	188	87	20	20	20	40	23	13	20	20	20	27	20	16	7	163
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>LPG</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>RFO</b>	203	162	122	122	41	81	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Coal</b>	28	28	28	113	56	56	56	57	28	28	NO	28	28	26	26	26	26	NO	NO	NO
<b>Natural gas</b>	2724	2637	2412	653	45	101	118	104	94	100	101	135	134	168	167	202	235	201	201	101
<b>Wood</b>	NO	NO	NO	65	188	87	20	20	20	40	23	13	20	20	20	27	20	16	7	163
<b>1.A.2.e. Food Processing, Beverages and Tobacco</b>																				
<b>Total</b>	<b>11791</b>	<b>8021</b>	<b>7340</b>	<b>7910</b>	<b>7380</b>	<b>7842</b>	<b>8807</b>	<b>8002</b>	<b>7721</b>	<b>6747</b>	<b>5615</b>	<b>4899</b>	<b>5112</b>	<b>4423</b>	<b>4879</b>	<b>5019</b>	<b>4876</b>	<b>4037</b>	<b>3139</b>	<b>2874</b>
<b>Liquid Fuels</b>	7318	4471	3944	3578	3654	4141	4919	4398	4516	3581	2418	1184	1102	694	533	615	661	456	208	374
<b>Solid Fuels</b>	1069	598	655	594	565	309	309	252	168	224	140	140	141	158	105	132	106	79	79	52
<b>Peat</b>	NO	NO	NO	NO	15	NO	NO	15	15	15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Gaseous Fuels</b>	3177	2722	2511	3500	2829	3065	3250	3013	2694	2578	2607	2775	2985	2764	3238	3149	3249	2684	2370	1930
<b>Biomass</b>	228	231	230	238	316	327	330	325	328	349	450	800	842	719	916	1035	772	701	394	488
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	88	88	88	88	117	88	30
<b>Shale oil</b>	NO	NO	NO	NO	NO	39.35	NO	NO	NO	NO	629.5	79	79	39	39	79	39	40	40	39
<b>LPG</b>	46	46	46	46	NO	NO	NO	46	46	46	NO	46	46	46	46	46	91	91	46	91
<b>Jet fuel</b>	NO	NO	NO	NO	NO	NO	43	86	43	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Other kerosene</b>	NO	NO	NO	NO	NO	NO	43	43	43	43	43	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>RFO</b>	7105	4425	3898	3532	3654	4060	4791	4223	4384	3492	1745	975	893	609	406	406	447	325	122	244
<b>Other liquid</b>	167	NO	NO	NO	NO	42	42	NO	NO	NO	NO	84	84	NO	42	84	84	NO	NO	NO
<b>Coal</b>	911	598	655	541	512	256	256	199	142	171	114	114	114	131	105	105	79	79	79	52
<b>Coke</b>	158	NO	NO	53	53	53	53	53	26	53	26	26	27	27	NO	27	27	NO	NO	NO
<b>Peat briquettes</b>	NO	NO	NO	NO	15	NO	NO	15	15	15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Natural gas</b>	3177	2722	2511	3500	2829	3065	3250	3013	2694	2578	2607	2775	2985	2764	3238	3149	3249	2684	2370	1930
<b>Wood</b>	228	231	230	238	316	327	330	325	328	349	450	800	842	719	915.8	1035	772	701	394	483
<b>Straws</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Biofuel</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	5
<b>Other biogas</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Waste oils</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	88	88	88	88	117	88	30
<b>1.A.2.f. Non-metallic minerals</b>																				

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Total</b>	<b>9369</b>	<b>5784</b>	<b>5542</b>	<b>2920</b>	<b>3829</b>	<b>3968</b>	<b>3899</b>	<b>3103</b>	<b>2960</b>	<b>2986</b>	<b>2470</b>	<b>2755</b>	<b>3631</b>	<b>3861</b>	<b>3606</b>	<b>4016</b>	<b>4085</b>	<b>4357</b>	<b>4180</b>	<b>2566</b>
<b>Liquid Fuels</b>	3458	1180	1259	1218	2888	2478	2477	2354	1827	2189	1479	440	316	1325	1167	509	708	252	80	165
<b>Solid Fuels</b>	170	85	114	199	171	114	57	85	28	28	28	28	28	26	26	682	1127	1809	1888	1285
Peat	NO	NO	NO	NO	NO	NO	NO	10	10	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Gaseous Fuels</b>	5734	4513	4163	1476	750	1282	1345	634	1066	698	808	1821	2352	1884	1845	2381	1878	1979	1782	942
Biomass	7	6	6	27	20	94	20	20	29	44	61	82	111	184	139	144	170	165	175	101
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	26	94	385	824	442	429	300	202	153	255	73
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	118	748	236	118	118	79	39	39	39	39	NO
LPG	NO	NO	NO	NO	46	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other kerosene	43	43	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RFO	3289	1137	1259	1218	2842	2436	2477	2354	1827	2071	731	162	NO	NO	NO	41	NO	81	41	NO
Petroleum coke	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	198	956	1088	429	627	132	NO	165
Other liquid	126	NO	NO	NO	NO	42	NO	NO	NO	NO	NO	42	NO	251	NO	NO	42	NO	NO	NO
Coal	142	85	114	199	171	114	57	85	28	28	28	28	28	26	26	682	1127	1809	1888	1285
Oil shale	28	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	10	10	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Natural gas</b>	5734	4513	4163	1476	750	1282	1345	634	1066	698	808	1821	2352	1884	1845	2381	1878	1979	1782	942
Wood	7	6	6	27	20	94	20	20	29	34	24	12	17	102	50	95	136	139	77	67
Straws	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Biofuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Municipal wastes (biomass fraction)	NO	NO	NO	NO	NO	NO	NO	NO	NO	10	37	70	94	82	89	49	34	26	98	34
Municipal wastes (fossil fraction)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	80	29
Industrial wastes	NO	NO	NO	NO	NO	NO	NO	NO	NO	26	94	176	238	208	224	125	85	65	58	15
Waste oils	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	209	586	234	205	175	117	88	117	29
<b>1.A.2.g. Other</b>																				
<b>Total</b>	<b>24278</b>	<b>21798</b>	<b>16497</b>	<b>13910</b>	<b>10424</b>	<b>8992</b>	<b>9088</b>	<b>8814</b>	<b>9626</b>	<b>8599</b>	<b>6615</b>	<b>7269</b>	<b>6886</b>	<b>7148</b>	<b>8557</b>	<b>9276</b>	<b>10573</b>	<b>10028</b>	<b>9962</b>	<b>11697</b>
<b>Liquid Fuels</b>	14061	11578	9802	8470	5871	4793	4712	4888	5154	4378	2411	1851	1423	1313	1615	1643	1743	2172	1790	1574

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Solid Fuels</b>	278	171	171	677	623	170	169	56	169	141	84	56	56	52	52	104	130	79	26	26
Peat	NO	20	10	NO	NO	15	15	NO	NO	NO	NO	NO	NO	NO	10	NO	NO	NO	NO	NO
<b>Gaseous Fuels</b>	9557	9664	6134	3318	2360	2115	1910	1515	1512	1380	1968	2335	2922	3334	3208	3177	3258	3318	3014	2275
Biomass	382	366	380	1445	1570	1899	2281	2355	2791	2699	2152	2985	2485	2449	3673	4352	5442	4459	5132	7793
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	NO	NO	NO	NO	NO	NO	NO	29
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	39	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	NO	NO	NO	NO	NO	91	137	91	NO	46	46	NO	NO	NO	46	46	46	46	45	NO
Gasoline	880	220	220	220	132	44	132	88	88	44	44	44	69	44	88	88	88	88	88	44
Other kerosene	NO	NO	NO	86	43	86	43	86	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	5549	5591	4019	3779	1597	1485	1315	1740	1655	1527	1469	1357	1231	1187	1357	1385	1527	1997	1657	1530
RFO	7632	5766	5563	4385	4099	3086	3085	2883	3411	2761	813	366	123	82	82	82	82	41	NO	NO
<b>Other liquid</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	84	NO	NO	42	42	NO	NO	NO	NO
Coal	199	171	171	625	597	170	169	56	169	141	84	56	56	52	52	104	130	79	26	26
Coke	79	NO	NO	52	26	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	20	10	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	10	NO	NO	NO	NO	NO
Peat briquettes	NO	NO	NO	NO	NO	15	15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Natural gas</b>	9557	9664	6134	3318	2360	2115	1910	1515	1512	1380	1968	2335	2922	3334	3208	3177	3258	3318	3014	2275
Wood	382	366	380	1445	1570	1899	2281	2355	2791	2699	2152	2985	2485	2449	3673	4352	5442	4459	5132	7793
Straws	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Biofuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Waste oils</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	NO	NO	NO	NO	NO	NO	NO	29

## Continuation of 1.A.2 Manufacturing Industries and Construction

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>1.A.2 Manufacturing Industries and Construction</b>													
<b>Total</b>	<b>26693</b>	<b>25237</b>	<b>27823</b>	<b>26084</b>	<b>26820</b>	<b>26271</b>	<b>23655</b>	<b>24234</b>	<b>27505</b>	<b>26188</b>	<b>26707</b>	<b>27669</b>	<b>28462</b>
Liquid Fuels	3500	2298	2649	2576	2254	2014	2193	2282	2326	2079	2128	2001	2394
Solid Fuels	1861	2229	2149	1406	1336	1014	727	974	1341	1213	808	530	355
Peat	14	2	2	24	24	11	34	NO	1	14	8	25	24
Gaseous Fuels	10537	7578	7952	6259	5258	5262	4755	4689	4936	4264	4227	4779	3322
Biomass	10319	12381	14194	14703	16670	16722	15034	15124	17319	17211	17914	18706	20627
Other Fossil Fuels	462	749	877	1115	1279	1248	913	1166	1582	1407	1621	1629	1740

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>1.A.2.a. Iron and Steel</b>													
<b>Total</b>	<b>4869</b>	<b>1207</b>	<b>1633</b>	<b>583</b>	<b>13</b>	<b>406</b>	<b>46</b>	<b>6</b>	<b>5</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>10</b>
Liquid Fuels	1005	NO	NO	NO	NO	NO	NO	0	0	NO	NO	NO	NO
Solid Fuels	26	27	184	32	NO	NO	NO	NO	NO	NO	NO	NO	4
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	3838	1180	1449	551	13	406	46	6	4	6	7	8	4
Biomass	NO	NO	NO	NO	NO	NO	NO	NO	1	4	NO	NO	2
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	0	NO	NO	NO	NO	NO	NO	0	0	NO	NO	NO	NO
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other liquid	1005	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anthracite	NO	NO	82	27	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	26	27	102	5	NO	NO	NO	NO	NO	NO	NO	NO	4
Coke	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	3838	1180	1449	551	13	406	46	6	4	6	7	8	4
Wood	NO	NO	NO	NO	NO	NO	NO	NO	1	4	NO	NO	2
Waste oils	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.2.b. Non-Ferrous Metals</b>													
<b>Total</b>	<b>135</b>	<b>170</b>	<b>170</b>	<b>138</b>	<b>72</b>	<b>61</b>	<b>37</b>	<b>26</b>	<b>26</b>	<b>24</b>	<b>14</b>	<b>21</b>	<b>9</b>
Liquid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Solid Fuels	NO	2	1	NO	NO	1	1	NO	1	1	NO	1	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	135	168	168	138	72	60	36	26	25	23	14	20	9
Biomass	NO	NO	1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	2	1	NO	NO	1	1	NO	1	1	NO	1	NO
Natural gas	135	168	168	138	72	60	36	26	25	23	14	20	9
Biofuel	NO	NO	1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.2.c. Chemicals</b>													
<b>Total</b>	<b>803</b>	<b>621</b>	<b>737</b>	<b>756</b>	<b>780</b>	<b>720</b>	<b>718</b>	<b>810</b>	<b>816</b>	<b>618</b>	<b>609</b>	<b>659</b>	<b>531</b>
Liquid Fuels	9	46	137	137	144	139	127	142	182	163	166	176	171
Solid Fuels	NO	1	NO	NO	NO	NO	NO	NO	2	NO	1	8	2
Peat	NO	NO	NO	20	11	NO	NO	NO	1	NO	NO	NO	NO
Gaseous Fuels	606	404	371	385	316	330	390	452	480	297	241	330	234
Biomass	188	170	229	214	309	251	201	216	151	158	201	145	124
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	NO	46	137	137	144	139	127	142	182	163	166	176	171

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RFO	9	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	1	NO	NO	NO	NO	NO	NO	2	NO	1	8	2
Peat	NO	NO	NO	20	10	NO	NO	NO	1	NO	NO	NO	NO
Peat briquettes	NO	NO	NO	NO	1	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	606	404	371	385	316	330	390	452	480	297	241	330	234
Wood	187	169	210	208	278	221	179	188	151	158	200	145	124
Biofuel	1	1	NO	NO	1	1	NO	6	NO	NO	1	NO	NO
Other biogas	NO	NO	19	6	30	29	22	22	NO	NO	NO	NO	NO
Waste oils	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.2.d. Pulp, Paper and Print</b>													
<b>Total</b>	<b>257</b>	<b>209</b>	<b>170</b>	<b>200</b>	<b>104</b>	<b>104</b>	<b>102</b>	<b>118</b>	<b>118</b>	<b>116</b>	<b>103</b>	<b>125</b>	<b>92</b>
Liquid Fuels	NO	NO	NO	NO	4	4	4	4	3	4	4	5	6
Solid Fuels	NO	NO	NO	NO	NO	NO	1	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	101	101	68	103	97	95	86	105	107	95	79	98	66
Biomass	156	108	102	97	3	5	11	9	8	17	20	22	20
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	NO	NO	NO	NO	4	4	4	4	3	4	4	5	6
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	NO	NO	NO	NO	NO	1	NO	NO	NO	NO	NO	NO
Natural gas	101	101	68	103	97	95	86	105	107	95	79	98	66
Wood	156	108	102	97	3	5	11	9	8	17	20	22	20
<b>1.A.2.e. Food Processing, Beverages and Tobacco</b>													
<b>Total</b>	<b>2738</b>	<b>2609</b>	<b>2790</b>	<b>2616</b>	<b>2477</b>	<b>2097</b>	<b>2144</b>	<b>1984</b>	<b>2086</b>	<b>2042</b>	<b>2143</b>	<b>2000</b>	<b>1515</b>
Liquid Fuels	396	291	379	305	226	156	197	200	170	195	138	97	154
Solid Fuels	52	16	27	25	24	24	46	40	17	14	17	11	9
Peat	3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	1919	1886	1819	1808	1729	1627	1476	1303	1378	1336	1391	1550	1031
Biomass	339	360	536	449	469	261	404	417	492	495	597	342	321
Other Fossil Fuels	29	56	29	29	29	29	21	24	29	2	NO	NO	NO
Shale oil	39	79	39	NO	NO	NO	NO	NO	8	9	1	NO	NO
LPG	72	91	137	182	160	148	190	191	153	141	109	85	116
Jet fuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RFO	285	121	203	81	31	8	7	9	9	45	28	12	38
Other liquid	NO	NO	NO	42	35	NO	NO	NO	NO	NO	NO	NO	NO

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Coal	52	16	27	25	24	24	46	40	17	14	17	11	9
Coke	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat briquettes	3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	1919	1886	1819	1808	1729	1627	1476	1303	1378	1336	1391	1550	1031
Wood	333	360	535	449	467	230	361	371	442	445	553	293	289
Straws	NO	NO	NO	NO	NO	29	41	45	49	48	43	49	32
Biofuel	6	NO	1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other biogas	NO	NO	NO	NO	2	2	2	1	1	2	1	NO	NO
Waste oils	29	56	29	29	29	29	21	24	29	2	NO	NO	NO
<b>1.A.2.f. Non-metallic minerals</b>													
<b>Total</b>	<b>4318</b>	<b>4973</b>	<b>5282</b>	<b>4765</b>	<b>5125</b>	<b>4521</b>	<b>3686</b>	<b>4347</b>	<b>5570</b>	<b>5466</b>	<b>5515</b>	<b>5488</b>	<b>5146</b>
Liquid Fuels	627	NO	NO	NO	NO	1	124	45	21	6	61	1	32
Solid Fuels	1757	2136	1910	1299	1254	957	650	899	1292	1183	783	502	334
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	1010	977	1280	1344	1353	1208	1186	1286	1239	1251	1284	1341	1072
Biomass	520	1196	1273	1035	1269	1136	835	976	1465	1621	1765	2016	1968
Other Fossil Fuels	404	664	819	1086	1250	1219	892	1142	1553	1405	1621	1629	1740
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	NO	NO	NO	NO	NO	1	NO	1	16	6	1	1	32
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Petroleum coke	627	NO	NO	NO	NO	NO	124	44	5	NO	60	NO	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	1757	2136	1910	1299	1254	957	650	899	1292	1183	783	502	334
Oil shale	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	1010	977	1280	1344	1353	1208	1186	1286	1239	1251	1284	1341	1072
Wood	10	3	23	NO	NO	3	25	6	5	34	30	36	37
Straws	NO	NO	NO	NO	NO	NO	NO	NO	211	261	224	245	157
Biofuel	NO	NO	NO	NO	3	2	2	2	2	2	5	3	2
Municipal wastes (biomass fraction)	510	1193	1250	1035	1266	1131	808	968	1247	1324	1506	1732	1772
Municipal wastes (fossil fraction)	320	332	577	707	892	934	736	962	1215	1086	1270	1256	1373
Industrial wastes	84	331	242	379	358	284	155	180	338	320	351	372	367
Waste oils	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.2.g. Other</b>													
<b>Total</b>	<b>13573</b>	<b>15448</b>	<b>17041</b>	<b>17026</b>	<b>18249</b>	<b>18362</b>	<b>16922</b>	<b>16943</b>	<b>18884</b>	<b>17912</b>	<b>18316</b>	<b>19368</b>	<b>21159</b>

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Liquid Fuels	1463	1961	2133	2134	1880	1714	1741	1891	1950	1711	1759	1722	2031
Solid Fuels	26	47	27	50	58	32	29	35	29	15	7	8	6
Peat	11	2	2	4	13	11	34	NO	NO	14	8	25	24
Gaseous Fuels	2928	2862	2797	1930	1678	1536	1535	1511	1703	1256	1211	1432	906
Biomass	9116	10547	12053	12908	14620	15069	13583	13506	15202	14916	15331	16181	18192
Other Fossil Fuels	29	29	29	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Shale oil	NO	NO	NO	NO	NO	NO	NO	1	NO	NO	NO	NO	NO
LPG	19	91	92	94	115	114	137	194	189	148	159	164	199
Gasoline	44	44	44	44	43	48	41	36	37	43	13	16	19
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	1359	1785	1997	1996	1722	1547	1560	1657	1722	1520	1587	1542	1813
RFO	41	41	NO	NO	NO	5	3	3	2	NO	NO	NO	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	26	47	27	50	58	32	29	32	28	14	7	8	6
Coke	NO	NO	NO	NO	NO	NO	NO	3	1	1	NO	NO	NO
Peat	10	2	2	NO	10	10	34	NO	NO	NO	6	25	23
Peat briquettes	1	NO	NO	4	3	1	NO	NO	NO	14	2	NO	1
Natural gas	2928	2862	2797	1930	1678	1536	1535	1511	1703	1256	1211	1432	906
Wood	9115	10547	12051	12906	14620	15069	13583	13506	15202	14916	15321	16176	18188
Straws	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	10	5	4
Biofuel	1	NO	2	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
Waste oils	29	29	29	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

## 1.A.4 Other Sectors

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>1.A.4 Other Sectors</b>																				
<b>Total</b>	<b>101006</b>	<b>107881</b>	<b>83180</b>	<b>76877</b>	<b>64625</b>	<b>60095</b>	<b>61217</b>	<b>56087</b>	<b>52424</b>	<b>51957</b>	<b>49115</b>	<b>54027</b>	<b>53754</b>	<b>57204</b>	<b>59271</b>	<b>58976</b>	<b>58737</b>	<b>59294</b>	<b>55356</b>	<b>58765</b>
Liquid Fuels	27829	32499	24223	21319	14008	8731	8715	7674	6901	7307	6886	7360	6844	7817	7779	7728	8334	7849	7067	7720
Solid Fuels	22398	19894	15853	13347	9363	5180	5521	4639	3330	2817	2162	2988	2390	2203	2150	2045	1940	1940	1783	1574
Peat	1128	880	1030	617	515	390	506	357	266	66	41	15	NO	10	NO	20	40	61	31	16
Gaseous Fuels	23203	23548	11201	8384	7002	7150	6732	5434	5670	5865	6218	7061	8098	8795	9651	9632	9983	11027	10959	10241
Biomass	26448	31060	30873	33210	33737	3864	3974	3798	3625	35902	33808	36561	36295	38321	39574	39523	38382	38388	35487	39215
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	126	58	117	29	58	29	29	NO
<b>1.A.4.a. Commercial/Institutional</b>																				

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Total</b>	<b>39260</b>	<b>39062</b>	<b>33600</b>	<b>26832</b>	<b>17464</b>	<b>16430</b>	<b>16535</b>	<b>14620</b>	<b>12251</b>	<b>12993</b>	<b>11354</b>	<b>12363</b>	<b>13105</b>	<b>13786</b>	<b>14985</b>	<b>14213</b>	<b>14844</b>	<b>15946</b>	<b>13201</b>	<b>12520</b>
<b>Liquid Fuels</b>	13453	16642	11910	10556	5308	2804	2712	2285	1971	2214	1713	1926	1743	2138	2010	1781	2167	1863	1549	1528
<b>Solid Fuels</b>	14913	11413	10872	7854	4297	2903	3272	2732	2419	2049	1565	1536	1423	1338	1285	1049	1075	1075	918	735
<b>Peat</b>	672	517	620	288	326	113	250	163	71	15	31	15	NO	10	NO	20	40	61	31	16
<b>Gaseous Fuels</b>	5004	5328	4916	2625	1903	2328	2271	1805	2175	2536	3054	3347	4103	4278	4680	4598	4851	5676	5679	5415
<b>Biomass</b>	5218	5162	5282	5508	5630	8282	8029	7636	5615	6179	4991	5497	5709	5965	6894	6737	6652	7242	4995	4826
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	126	58	117	29	58	29	29	NO
<b>Shale oil</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	79	NO	NO	NO	NO	39	NO	NO	NO	NO
<b>LPG</b>	46	NO	NO	182	137	91	137	182	410	91	NO	91	46	182	137	137	137	137	91	91
<b>Gasoline</b>	44	44	44	44	220	NO	85	87	41	86	86	75	46	39	41	42	38	43	39	43
<b>Other kerosene</b>	43	130	86	173	173	346	43	43	43	86	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Diesel oil</b>	8116	11515	7436	7478	1529	1189	1147	552	340	935	1020	1190	1242	1465	1546	1198	1627	1643	1339	1344
<b>RFO</b>	4953	4953	4344	2679	3248	1177	1300	1421	1137	974	528	528	325	284	244	365	365	40	80	50
<b>Other liquid</b>	251	NO	NO	NO	NO	NO	NO	NO	NO	42	NO	42	84	167	42	NO	NO	NO	NO	NO
<b>Anthracite</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Coal</b>	14913	11413	10872	7854	4297	2903	3272	2732	2419	2049	1565	1536	1423	1338	1285	1049	1075	1075	918	735
<b>Peat</b>	161	161	171	40	171	51	110	70	40	NO	NO	NO	NO	10	NO	20	40	60	30	10
<b>Peat briquettes</b>	511	356	449	248	155	62	139	93	31	15	31	15	NO	NO	NO	NO	NO	1	1	6
<b>Natural gas</b>	5004	5328	4916	2625	1903	2328	2271	1805	2175	2536	3054	3347	4103	4278	4680	4598	4851	5676	5679	5415
<b>Wood</b>	5218	5162	5282	5508	5630	8282	8029	7636	5615	6179	4991	5497	5663	5803	6652	6485	6382	6955	4691	4482
<b>Straws</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	11	16	14	29
<b>Biofuel</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Landfill gas</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	46	162	242	251	259	271	290	314
<b>Other biogas</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Waste oils</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	42	126	58	117	29	58	29	29	NO
<b>1.A.4.b. Residential</b>																				
<b>Total</b>	<b>35751</b>	<b>42489</b>	<b>39047</b>	<b>40790</b>	<b>38562</b>	<b>37659</b>	<b>38588</b>	<b>36043</b>	<b>35336</b>	<b>34027</b>	<b>32851</b>	<b>36298</b>	<b>35666</b>	<b>37702</b>	<b>38261</b>	<b>38948</b>	<b>37955</b>	<b>37271</b>	<b>37067</b>	<b>40809</b>
<b>Liquid Fuels</b>	4908	5671	5003	4010	2848	1402	1272	1363	1454	1406	1443	1441	1441	1398	1443	1577	1621	1438	1393	2025
<b>Solid Fuels</b>	6404	7542	4440	5037	4411	1821	1964	1708	797	683	512	1338	854	787	787	944	813	813	813	813
<b>Peat</b>	425	332	379	258	144	252	241	179	195	51	10	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Gaseous Fuels</b>	4004	4275	4905	5089	4359	4181	3762	3063	2896	2829	2659	3001	3293	3667	3958	4193	4326	4587	4693	4304
<b>Biomass</b>	20010	24669	24320	26396	26800	3000	3134	2973	2999	29058	28227	30518	30078	31850	32073	32234	31195	30433	30168	33667
<b>Other Fossil Fuels</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>LPG</b>	2869	2823	2368	2140	1913	1275	1230	1321	1412	1321	1184	1139	1139	1139	1184	1230	1230	1047	1002	911
<b>Gasoline</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	132	132	132	132	132	220	264	264	264	264



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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Other kerosene	86	86	43	43	43	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	1912	2762	2592	1827	892	127	42	42	42	85	127	170	170	127	127	127	127	127	127	850
RFO	41	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	6404	7542	4440	5037	4411	1821	1964	1708	797	683	512	1338	854	787	787	944	813	813	813	813
Peat	131	131	131	10	20	20	40	40	40	20	10	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat briquettes	294	201	248	248	124	232	201	139	155	31	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	4004	4275	4905	5089	4359	4181	3762	3063	2896	2829	2659	3001	3293	3667	3958	4193	4326	4587	4693	4304
Wood	20010	24669	24320	26396	26800	3000	3134	2973	2999	29058	28227	30518	30078	31850	32043	32174	31165	30388	30108	33607
						3	9	0	4											
Charcoal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	30	60	30	45	60	60
Straws	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.4.c. Agriculture/Forestry/Fisheries</b>																				
<b>Total</b>	<b>25995</b>	<b>26331</b>	<b>10533</b>	<b>9255</b>	<b>8599</b>	<b>6005</b>	<b>6094</b>	<b>5424</b>	<b>4837</b>	<b>4937</b>	<b>4910</b>	<b>5365</b>	<b>4983</b>	<b>5716</b>	<b>6025</b>	<b>5815</b>	<b>5939</b>	<b>6077</b>	<b>5088</b>	<b>5436</b>
Liquid Fuels	9468	10186	7310	6752	5852	4526	4731	4027	3476	3687	3730	3994	3660	4282	4326	4370	4546	4548	4125	4167
Solid Fuels	1081	939	541	456	655	456	285	199	114	85	85	113	113	78	78	52	52	52	52	26
Peat	31	31	31	71	45	25	15	15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	14195	13945	1380	670	739	641	699	566	599	500	505	712	702	850	1014	841	806	764	587	521
Biomass	1220	1229	1271	1306	1307	358	365	617	648	665	590	546	508	506	607	552	535	713	324	722
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	46	46	NO	91	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	46	45
Gasoline	1628	132	132	132	132	88	88	88	44	44	44	11	17	44	44	44	44	44	44	NO
Other kerosene	86	86	43	43	43	NO	43	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	6161	8583	6161	5269	4419	3951	3909	3654	3229	3399	3442	3739	3399	3994	4079	4164	4461	4504	4079	4122
RFO	1421	1339	974	1217	1258	487	691	285	203	244	244	244	244	244	203	162	41	NO	NO	NO
Other liquid	126	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	1081	939	541	456	655	456	285	199	114	85	85	113	113	78	78	52	52	52	52	26
Peat	NO	NO	NO	40	30	10	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat briquettes	31	31	31	31	15	15	15	15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	14195	13945	1380	670	739	641	699	566	599	500	505	712	702	850	1014	841	806	764	587	521
Wood	1220	1229	1271	1306	1307	358	365	617	648	665	590	546	508	506	607	552	535	713	324	722
Straws	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Biofuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other biogas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Waste oils	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

## Continuation of 1.A.4 Other Sectors

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>1.A.4 Other Sectors</b>													
<b>Total</b>	<b>52858</b>	<b>51546</b>	<b>53990</b>	<b>50171</b>	<b>49303</b>	<b>44410</b>	<b>44491</b>	<b>47842</b>	<b>48527</b>	<b>46901</b>	<b>44450</b>	<b>45376</b>	<b>44100</b>
Liquid Fuels	8230	8269	8268	8413	8648	8775	8504	9140	9041	9033	9892	9968	10504
Solid Fuels	2098	1861	983	1075	962	831	799	608	441	327	123	117	85
Peat	21	32	32	NO	11	NO	NO	11	32	23	20	21	15
Gaseous Fuels	11819	10343	10477	9809	9670	9101	9888	9948	10345	10125	10063	10802	9696
Biomass	30682	31042	34230	30874	30012	25703	25296	28132	28664	27382	24341	24456	23798
Other Fossil Fuels	8	NO	NO	NO	NO	NO	4	3	4	11	12	12	NO
<b>1.A.4.a. Commercial/Institutional</b>													
<b>Total</b>	<b>13247</b>	<b>11743</b>	<b>13020</b>	<b>12833</b>	<b>12495</b>	<b>12381</b>	<b>11862</b>	<b>11968</b>	<b>11533</b>	<b>10582</b>	<b>10616</b>	<b>11490</b>	<b>11284</b>
Liquid Fuels	1515	1315	1777	1876	2024	2131	1451	1405	1346	904	1502	1797	1854
Solid Fuels	1023	891	354	519	407	323	292	197	165	132	68	64	33
Peat	1	32	32	NO	11	NO	NO	11	31	23	20	21	15
Gaseous Fuels	5623	5055	4952	4477	4401	4166	4514	4651	4837	5021	5058	5441	5086
Biomass	5077	4451	5905	5961	5652	5761	5603	5701	5150	4500	3966	4164	4293
Other Fossil Fuels	8	NO	NO	NO	NO	NO	2	3	4	2	3	3	3
Shale oil	NO	NO	NO	NO	NO	NO	7	NO	NO	NO	NO	NO	NO
LPG	99	54	98	96	161	144	249	332	281	218	218	229	413
Gasoline	44	88	44	88	44	44	33	43	36	29	27	25	29
Other kerosene	NO	NO	NO	NO	NO	NO	6	4	4	1	NO	NO	NO
Diesel oil	1331	1171	1635	1692	1819	1942	1152	1022	1023	654	1250	1537	1385
RFO	41	2	NO	NO	NO	1	4	4	2	2	2	1	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	5	6	27
Anthracite	NO	NO	NO	NO	NO	NO	27	7	NO	NO	NO	NO	NO
Coal	1023	891	354	519	407	323	265	190	165	132	68	64	33
Peat	NO	29	28	NO	10	NO	NO	NO	16	19	5	1	9
Peat briquettes	1	3	4	NO	1	NO	NO	11	15	4	15	20	6
Natural gas	5623	5055	4952	4477	4401	4166	4514	4651	4837	5021	5058	5441	5086
Wood	4679	3997	5163	5087	4603	4512	4455	4509	3876	3333	2815	3076	3469
Straws	57	43	24	44	53	30	15	10	23	24	21	8	3
Biofuel	4	31	34	54	12	15	NO	NO	NO	NO	NO	NO	NO
Landfill gas	314	327	325	357	353	409	395	408	389	351	350	354	273
Other biogas	23	53	359	419	631	795	738	774	862	792	780	726	548
Waste oils	8	NO	NO	NO	NO	NO	2	3	4	2	3	3	NO
<b>1.A.4.b. Residential</b>													

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Total</b>	<b>33561</b>	<b>33797</b>	<b>35117</b>	<b>31228</b>	<b>30846</b>	<b>25862</b>	<b>26012</b>	<b>28556</b>	<b>30002</b>	<b>28432</b>	<b>25883</b>	<b>26477</b>	<b>25281</b>
Liquid Fuels	2237	2229	2236	2237	2283	2055	2140	2314	2277	2218	2236	2221	2265
Solid Fuels	1049	944	577	530	531	501	498	410	276	195	55	53	52
Peat	20	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	5219	4480	4481	4266	4252	4116	4510	4673	4998	4647	4598	4844	4392
Biomass	25036	26144	27823	24195	23780	19190	18864	21159	22451	21372	18994	19359	18572
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LPG	911	903	911	911	957	773	766	794	679	621	656	688	733
Gasoline	264	264	263	264	264	220	220	220	220	220	220	198	198
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	1062	1062	1062	1062	1062	1062	1154	1300	1378	1377	1360	1335	1334
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	1049	944	577	530	531	501	498	410	276	195	55	53	52
Peat	20	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat briquettes	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	5219	4480	4481	4266	4252	4116	4510	4673	4998	4647	4598	4844	4392
Wood	24974	26084	27764	24105	23690	19130	18799	21093	22383	21285	18904	19270	18504
Charcoal	60	60	59	90	90	60	65	66	68	87	90	89	68
Straws	2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>1.A.4.c. Agriculture/Forestry/Fisheries</b>													
<b>Total</b>	<b>6050</b>	<b>6006</b>	<b>5853.337</b>	<b>6110</b>	<b>5962</b>	<b>6167</b>	<b>6617</b>	<b>7318</b>	<b>6992</b>	<b>7887</b>	<b>7951</b>	<b>7409</b>	<b>7535</b>
Liquid Fuels	4478	4725	4255.337	4300	4341	4589	4913	5421	5418	5911	6154	5950	6384
Solid Fuels	26	26	52	26	24	7	9	1	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	1	NO	NO	NO	NO
Gaseous Fuels	977	808	1044	1066	1017	819	864	624	510	457	407	517	218
Biomass	569	447	502	718	580	752	829	1272	1063	1510	1381	933	933
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	2	NO	NO	9	9	9	NO
LPG	13	45	46.336996	48	47	92	109	127	76	101	104	85	98
Gasoline	NO	88	88	88	46	25	82	22	27	29	28	25	25
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel oil	4462	4589	4121	4164	4248	4472	4722	5272	5223	5761	6022	5840	6261
RFO	3	3	NO	NO	NO	NO	NO	NO	92	20	NO	NO	NO
Other liquid	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	26	26	52	26	24	7	9	1	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat briquettes	NO	NO	NO	NO	NO	NO	NO	NO	1	NO	NO	NO	NO
Natural gas	977	808	1044	1066	1017	819	864	624	510	457	407	517	218
Wood	568	361	299	460	292	401	462	877	710	1093	931	582	555

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Straws	NO	NO	14	14	46	76	105	150	65	124	91	82	78
Biofuel	1	48	56	54	59	75	66	57	79	85	166	111	122
Other biogas	NO	38	133	190	183	200	196	188	209	208	193	158	178
Waste oils	NO	NO	NO	NO	NO	NO	2	NO	NO	9	9	9	NO

## 1.A.5 Other

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>1.A.5 Other (Not elsewhere specified)</b>																				
<b>Total</b>	NO	NO	NO	NO	NO	86	46	174	46	132	2	2	92	87	157	104	122	39	47	73
Liquid Fuels	NO	NO	NO	NO	NO	86	46	174	46	132	2	2	92	87	157	104	122	39	47	73
Solid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Biomass	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gasoline	NO	NO	NO	NO	NO	NO	3	1	3	2	2	2	NO	5	3	2	6	1	5	1
Jet fuel	NO	NO	NO	NO	NO	86	43	173	43	130	NO	NO	17	17	43	24	43	24	21	23
Diesel oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	75	65	111	77	73	14	21	49

## Continuation of 1.A.5 Other

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>1.A.5 Other (Not elsewhere specified)</b>													
<b>Total</b>	107	98	100	88	128	130	155	178	269	322	199	324	331
Liquid Fuels	107	98	100	88	128	130	155	178	269	322	199	324	331
Solid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gaseous Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Biomass	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other Fossil Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gasoline	0	NO	NO	NO	NO	NO	NO	0	1	1	1	2	3
Jet fuel	20	18	21	24	23	18	34	10	35	57	12	35	101
Diesel oil	87	80	79	63	105	112	121	168	233	264	186	286	227

## Energy losses, statistical differences, transfers and secondary production of products in Energy sector, TJ

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Statistical differences</b>																				
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	1102	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gasoline	NO	NO	NO	NO	NO	NO	NO	NO	NO	6380	2508	2464	2948	747	528	264	440	NO	NO	132
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	346	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel	NO	NO	NO	255	2082	2719	425	1360	1232	2209	5141	1785	3569	3909	3782	4589	5949	5355	4334	7649
RFO	NO	1177	162	41	NO	NO	NO	NO	NO	650	974	NO	1421	325	284	NO	NO	NO	NO	NO
Other liquid fuels	167	122	122	81	84	42	126	167	126	42	42	42	NO	84	42	42	NO	NO	NO	NO
Natural gas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	101	438	NO	NO	NO	NO	NO	NO	NO	NO
<b>Transfer</b>																				
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	669	1102	826	79
Jet fuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	2636	4623	43	NO	NO	NO
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	130	86	43	129	216	NO
Diesel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	340	127	127	212	NO
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	8120	11815	853	1218	893	122
Other liquid fuels	167	122	122	81	84	42	126	167	126	42	42	42	NO	84	42	42	42	42	42	42
<b>Losses</b>																				
LPG	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	46	46	46	46	46	NO	NO	NO	NO	NO
Diesel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	127	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gasoline	44	44	44	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	114	114	114	57	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	26
Peat	70	20	10	30	NO	NO	NO	NO	10	10	60	NO	NO	241	10	NO	NO	NO	40	10
Natural gas	136	1625	1481	1434	1004	977	999	1032	1032	999	673	472	572	740	536	167	268	335	336	639
Wood	80	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	36	18	45	NO	NO
<b>Secondary Production</b>																				
Other liquid fuels	NO	NO	NO	NO	NO	NO	1088	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other fossil fuels	42	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	419	292	88	292	205	234	263	88

## Continuation of Energy losses, statistical differences, transfers and secondary production of products in Energy sector, TJ

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Statistical differences</b>													
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gasoline	835	883	510	309	352	264	438	446	345	220	NO	572	88
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel	9634	5781	1360	2228	383	3824	3833	850	426	1712	846	527	1734
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other liquid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural gas	NO	NO	NO	275	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Transfer</b>													
Shale oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Jet fuel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other kerosene	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RFO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other liquid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Losses</b>													
LPG	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Diesel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gasoline	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Coal	NO	NO	NO	1	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	60	NO	NO	20	NO	NO	1	NO	NO	NO	NO	NO	NO
Natural gas	269	505	505	275	588	338	458	477	530	624	453	437	402
Wood	NO	7	7	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Secondary Production</b>													
Other liquid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Other fossil fuels	66	29	29	29	29	29	29	27	45	38	26	11	5

**A.3.2 ENERGY: CO<sub>2</sub> REFERENCE APPROACH AND COMPARISON WITH SECTORAL APPROACH**

Table 1 Reference Approach estimations (TABLE 1.A(b))

TABLE 1.A(b) SECTORAL BACKGROUND DATA FOR ENERGY

CO<sub>2</sub> from fuel combustion activities - reference approach (IPCC worksheet fuel combustion activities)

Inventory 2022

Submission 2024 v2

LATVIA

FUEL TYPES		Unit	Production	Imports	Exports	International bunkers	Stock change	Apparent consumption	Conversion factor (TJ/Unit) <sup>1</sup>	NCV/GCV <sup>(2)</sup>	Apparent consumption (TJ)	Carbon emission factor (t C/TJ)	Carbon content (kt)	Carbon stored [C excluded] (kt C)	Net carbon emissions ((kt) C)	Fraction of carbon oxidized	Actual CO <sub>2</sub> emissions ((kt) CO <sub>2</sub> )		
Liquid fossil	Primary fuels	Crude oil	TJ	NO	NO	NO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
		Orimulsion	TJ	NO	NO	NO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		Natural gas liquids	TJ	NO	NO	NO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	Secondary fuels	Gasoline	TJ		8045.00	1412.00	NO	312.00	6321.00	1.00	NCV	6321.00	18.91	119.51	NO	119.51	1.00	438.19	
		Jet kerosene	TJ		8968.00	216.00	5961.00	2645.00	146.00	1.00	NCV	146.00	19.71	2.88	NO	2.88	1.00	10.55	
		Other kerosene	TJ		11.00	11.00	NO	NO	0.00	1.00	NCV	0.00	NO	NO	NO	NO	NO	NO	NO
		Shale oil	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Gas/diesel oil	TJ		62071.00	14634.00	3614.00	-911.00	44734.00	1.00	NCV	44734.00	20.40	912.58	NO	912.58	1.00	3346.12	
		Residual fuel oil	TJ		1117.00	NO	999.00	5.00	113.00	1.00	NCV	113.00	21.11	2.39	NO	2.39	1.00	8.75	
		Liquefied petroleum gases (LPG)	TJ		9217.00	5935.00		-16.00	3298.00	1.00	NCV	3298.00	17.13	56.48	NO	56.48	1.00	207.09	
		Ethane	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Naphtha	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Bitumen	TJ		3979.00	1339.00		36.00	2604.00	1.00	NCV	2604.00	22.00	57.29	57.29	0.00	1.00	0.00	
		Lubricants	TJ		1664.00	1832.00	NO	-1014.00	846.00	1.00	NCV	846.00	20.00	16.92	15.48	1.44	1.00	5.30	
		Petroleum coke	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
Refinery feedstocks	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO		

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

FUEL TYPES			Unit	Production	Imports	Exports	International bunkers	Stock change	Apparent consumption	Conversion factor (TJ/Unit) <sup>1</sup>	NCV/GCV <sup>(2)</sup>	Apparent consumption (TJ)	Carbon emission factor (t C/TJ)	Carbon content (kt)	Carbon stored [C excluded] (kt C)	Net carbon emissions ((kt) C)	Fraction of carbon oxidized	Actual CO <sub>2</sub> emissions ((kt) CO <sub>2</sub> )	
		Other oil	TJ		640.00	100.00		-8.00	548.00	1.00	NCV	548.00	20.00	10.96	10.42	0.54	1.00	1.98	
Other liquid fossil													NO		NO	NO	NO		
Liquid fossil totals													58610.00		1179.00	83.18	1095.81		
Solid fossil	Primary fuels	Anthracite <sup>(3)</sup>	TJ	NO	NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	
		Coking coal	TJ	NO	NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Other bituminous coal	TJ	NO	1070.00	161.00	NO	439.00	470.00	1.00	NCV	470.00	26.35	12.38	NO	12.38	1.00	45.41	
		Sub-bituminous coal	TJ	NO	NO	NO	NO	NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Lignite	TJ	NO	NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Oil shale and tar sand	TJ	NO	NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
	Secondary fuels	BKB <sup>(4)</sup> and patent fuel	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Coke oven/gas coke	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
		Coal tar	TJ		NO	NO		NO	NO	NO	NCV	NO	NO	NO	NO	NO	NO	NO	NO
Other solid fossil													NO		NO	NO	NO		
Solid fossil totals													470.00		12.38	NO	12.38		
Gaseous fossil		Natural gas (dry)	TJ	NO	NO	28975.00	NO		-65.00	29040.00	1.00	NCV	29040.00	15.13	439.32	NO	439.32	1.00	
Other gaseous fossil												NO		NO	NO	NO		NO	
Gaseous fossil totals												29040.00		439.32	NO	439.32		1610.86	
Waste (non-biomass fraction)			TJ	NO	IE	NO	IE	IE	NO	IE	NO,IE	IE	NCV	NO,IE	IE	NO,IE	IE	NO,IE	



## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

FUEL TYPES		Unit	Production	Imports	Exports	International bunkers	Stock change	Apparent consumption	Conversion factor (TJ/Unit) <sup>1</sup>	NCV/GCV <sup>(2)</sup>	Apparent consumption (TJ)	Carbon emission factor (t C/TJ)	Carbon content (kt)	Carbon stored [C excluded] (kt C)	Net carbon emissions ((kt) C)	Fraction of carbon oxidized	Actual CO <sub>2</sub> emissions ((kt) CO <sub>2</sub> )
Other fossil fuels											1740.01		40.70	NO	40.70		149.25
	Waste oils	TJ	5.00	NO	5.00		NO	0.00	1.00	NCV	0.00	NO	NO	NO	NO	NO	NO
	Municipal waste	TJ	NO	2506.74	23.53		1109.76	1373.45	1.00	NCV	1373.45	23.48	32.25	NO	32.25	1.00	118.25
	Industrial waste	TJ	NO	349.68	NO		-16.88	366.56	1.00	NCV	366.56	23.07	8.45	NO	8.45	1.00	31.00
Peat <sup>(5,6)</sup>		TJ	123.00	NO	16.00	NO	15.00	92.00	1.00	NCV	92.00	28.34	2.61	NO	2.61	1.00	9.56
<b>Total</b>											89952.01		1674.02	83.18	1590.83		5833.05
Biomass total											68965.55		1907.69	NO	1907.69		6994.88
	Solid biomass	TJ	105235.00	9892.00	45852.00		5196.00	64079.00	1.00	NCV	64079.00	28.86	1849.35	NO	1849.35	1.00	6780.96
	Liquid biomass	TJ	3267.00	3285.00	5681.00		76.00	795.00	1.00	NCV	795.00	19.30	15.34	NO	15.34	1.00	56.26
	Gas biomass	TJ	2318.34	NO	NO		NO	2318.34	1.00	NCV	2318.34	14.90	34.54	NO	34.54	1.00	126.66
	Other non-fossil fuels (biogenic waste)	TJ	NO	2658.82	19.66		865.95	1773.21	1.00	NCV	1773.21	4.77	8.45	NO	8.45	1.00	30.99

<sup>(1)</sup> If consumption data are not reported in physical units, please report net calorific values in a similar level of disaggregation as fuel types in the national inventory report (NIR) and indicate in the documentation box where this information is reported.

<sup>(3)</sup> If data for anthracite are not available separately, include with Other Bituminous Coal.

<sup>(4)</sup> BKB: Brown coal briquettes.

<sup>(5)</sup> Although peat is not strictly speaking a fossil fuel, the carbon dioxide (CO<sub>2</sub>) emissions from combustion of peat are included in the national emissions as for fossil fuels. See the 2006 IPCC Guidelines, chapter 1 of energy volume, page 1.15.

<sup>(6)</sup> Include peat briquettes here.

Table 2 Comparison of CO<sub>2</sub> emissions from fuel combustion (1.A(c))TABLE 1.A(c) COMPARISON OF CO<sub>2</sub> EMISSIONS FROM FUEL COMBUSTIONComparison of CO<sub>2</sub> emissions from fuel combustionInventory 2022  
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LATVIA

FUEL TYPES	REFERENCE APPROACH			SECTORAL APPROACH <sup>(1)</sup>		DIFFERENCE <sup>(2)</sup>	
	Apparent energy consumption <sup>(3)</sup>  (PJ)	Apparent energy consumption (excluding non-energy use, reductants and feedstocks) <sup>(4)</sup>  (PJ)	CO <sub>2</sub> emissions  (kt)	Energy consumption  (PJ)	CO <sub>2</sub> emissions <sup>(5)</sup>  (kt)	Energy consumption  (%)	CO <sub>2</sub> emissions <sup>(6)</sup>  (%)
Liquid fuels (excluding international bunkers)	58.61	54.23	4017.98	56.34	4149.18	-3.76	-3.16
Solid fuels (excluding international bunkers)	0.47	0.47	45.41	0.47	45.38	0.00	0.07
Gaseous fuels	29.04	29.04	1610.86	28.64	1587.44	1.40	1.48
Other fossil fuels	1.74	1.74	149.25	1.76	152.58	-0.92	-2.19
Peat	0.09	0.09	9.56	0.09	9.69	0.00	-1.34
<b>Total<sup>(5)</sup></b>	<b>89.95</b>	<b>85.57</b>	<b>5833.05</b>	<b>87.30</b>	<b>5944.27</b>	<b>-1.98</b>	<b>-1.87</b>

<sup>(1)</sup> "Sectoral approach" is used to indicate the approach (if different from the reference approach) used by the Party to estimate carbon dioxide (CO<sub>2</sub>) emissions from fuel combustion as reported in table 1.A(a), sheets 1-4.

<sup>(2)</sup> Difference in CO<sub>2</sub> emissions estimated by the reference approach (RA) and the sectoral approach (SA) ( $\text{difference} = 100\% \times ((\text{RA}-\text{SA})/\text{SA})$ ). For calculating the difference in energy consumption between the two approaches, data as reported in the column "Apparent energy consumption (excluding non-energy use, reductants and feedstocks)" are used for the reference approach.

<sup>(3)</sup> Apparent energy consumption data shown in this column are as in table 1.A(b).

<sup>(4)</sup> For the purposes of comparing apparent energy consumption in the reference approach with energy consumption in the sectoral approach, data in this column come from table 1.A(d).

<sup>(5)</sup> For the sectoral approach gross emissions (without accounting for CO<sub>2</sub> captured) are included in the comparison.

<sup>(6)</sup> In the case of discrepancies between the approaches (of more than 2 per cent), investigate and document the reasons for such discrepancies.

**A.3.3 REPORTING CONSISTENCY WITH ENERGY DATA**

FUEL TYPES			Apparent consumption reported in GHG inventory (TJ) (3)	Apparent consumption using data reported pursuant to Regulation (EC) No 1099/2008 (TJ) (3)	Absolute difference (1) (TJ) (3)	Relative difference (2) % (3)	Explanations for differences
<b>Liquid fossil</b>	<i>Primary fuels</i>	<i>Crude oil</i>	NO	NO	NO	NO	
		<i>Orimulsion</i>	NO	NO	NO	NO	
		<i>Natural gas liquids</i>	NO	NO	NO	NO	
	<i>Secondary fuels</i>	<i>Gasoline</i>	6321.0	6233.1	87.9	1.4%	
		<i>Jet kerosene</i>	146.0	6107.5	-5961.5	-4083.2%	<i>In GHG inventory Reference approach amount of Jet kerosene used in international aviation is not taken into account to ensure consistency between Reference approach and Sectoral approach.</i>
		<i>Other kerosene</i>	NO	0.2	-0.2	-100.0%	<i>In GHG inventory fuel consumption is taken from CSB online database with values rounded to 1 TJ, while in AQ values are given in kilotons which need to be transformed into TJ using NCVs.</i>
		<i>Shale oil</i>	NO	NO	NO	NO	
		<i>Gas/diesel oil</i>	44734.0	46468.7	-1734.7	-3.9%	<i>In Reference approach it is not possible to input such data as statistical differences (1734 TJ in 2022). These amounts are taken into account in Energy balance, hence the Sectoral approach.</i>
		<i>Residual fuel oil</i>	113.0	112.7	0.3	0.3%	
		<i>Liquefied petroleum gases (LPG)</i>	3298.0	3298.4	-0.4	0.0%	
		<i>Ethane</i>	NO	NO	NO	NO	
		<i>Naptha</i>	NO	NO	NO	NO	
		<i>Bitumen</i>	2604.0	2604.2	-0.2	0.0%	
		<i>Lubricants</i>	846.0	845.5	0.5	0.1%	
<i>Petroleum coke</i>	NO	NO	NO	NO			
<i>Refinery feedstocks</i>	NO	NO	NO	NO			
<i>Other oil</i>	548.0	548.1	-0.1	0.0%			

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

FUEL TYPES			Apparent consumption reported in GHG inventory (TJ) (3)	Apparent consumption using data reported pursuant to Regulation (EC) No 1099/2008 (TJ) (3)	Absolute difference (1) (TJ) (3)	Relative difference (2) % (3)	Explanations for differences
	<i>Other liquid fossil</i>		NO	NO	NO	NO	
	<i>Liquid fossil total</i>		58610.0	66218.4	-7608.4	-13.0%	<i>See the explanation above.</i>
<b>Solid fossil</b>	<i>Primary fuels</i>	<i>Anthracite</i>	NO	NO	NO	NO	
		<i>Coking coal</i>	NO	NO	NO	NO	
		<i>Other bituminous coal</i>	470.0	470.0	0.0	0.0%	
		<i>Sub-bituminous coal</i>	NO	NO	NO	NO	
		<i>Lignite</i>	NO	NO	NO	NO	
		<i>Oil shale and tar sand</i>	NO	NO	NO	NO	
	<i>Secondary fuels</i>	<i>BKB and patent fuel</i>	NO	NO	NO	NO	
		<i>Coke oven/gas coke</i>	NO	NO	NO	NO	
		<i>Coal tar</i>	NO	NO	NO	NO	
	<i>Other solid fossil</i>		NO	7.1	-7.1	-100.0%	<i>In GHG inventory Peat briquettes are reported under Peat.</i>
	<i>Solid fossil totals</i>		470.0	477.1	-7.1	-1.5%	
<b>Gaseous fossil</b>		<i>Natural gas (dry)</i>	29040.0	29039.7	0.3	0.0%	
<b>Other gaseous fossil</b>			NO	NO	NO	NO	
<b>Gaseous fossil totals</b>			29040.0	29039.7	0.3	0.0%	
	<i>Waste (non-biomass fraction)</i>		IE	2095.4	-2095.4	-100.0%	<i>To ensure consistency between Reference and Sectoral Approach, the amounts of waste consumed are reported under category "Other fossil fuels", because in Sectoral approach there is no category "Waste".</i>
<b>Other fossil fuels</b>			1740.0	0.6	1739.4	100.0%	<i>To ensure consistency between Reference and Sectoral Approach, the amounts of waste consumed are reported</i>

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

FUEL TYPES		Apparent consumption reported in GHG inventory (TJ) (3)	Apparent consumption using data reported pursuant to Regulation (EC) No 1099/2008 (TJ) (3)	Absolute difference (1) (TJ) (3)	Relative difference (2) % (3)	Explanations for differences
						<i>under category "Other fossil fuels", because in Sectoral approach there is no category "Waste".</i>
<b>Peat</b>		92.0	84.9	7.1	7.7%	<i>In GHG inventory Peat briquettes are reported under Peat.</i>
<b>Total</b>		89952.0	97916.1	-7964.1	-8.9%	<i>See the explanation above.</i>

(1) Apparent consumption reported in GHG inventory minus apparent consumption using data reported pursuant to Regulation (EC) No 1099/2008

(2) Absolute difference divided by apparent consumption reported in GHG inventory

(3) Data to be reported up to one decimal point for kt and % values

**A.3.4 REPORTING CONSISTENCY OF REPORTED EMISSIONS WITH DATA FROM THE EMISSIONS TRADING SYSTEM**

Category(1)		Greenhouse gas inventory emissions [kt CO <sub>2</sub> ](3)	Verified emissions under Directive 2003/87/EC [kt CO <sub>2</sub> ](3)	Ratio in % (Verified emissions/ inventory emissions)(3)	Comment(2)
1.A Fuel combustion activities, total	CO <sub>2</sub>	6320.4	1112.0	18%	
1.A Fuel combustion activities, stationary combustion	CO <sub>2</sub>	3154.2	1112.0	35%	
1.A.1 Energy industries	CO <sub>2</sub>	999.0	826.8	83%	
1.A.1.a Public electricity and heat production	CO <sub>2</sub>	951.0	807.0	85%	
1.A.1.b Petroleum refining	CO <sub>2</sub>	NO	NO	NO	
1.A.1.c Manufacture of solid fuels and other energy industries	CO <sub>2</sub>	48.1	19.8	41%	
Iron and steel (for GHG inventory combined CRF categories 1.A.2.a + 2.C.1 + 1.A.1.c and other relevant CRF categories that include emissions from iron and steel (e.g. 1A1a, 1B1) (4)	CO <sub>2</sub>	0	0	0%	
1.A.2 Manufacturing industries and construction	CO <sub>2</sub>	601.9	280.1	47%	
1.A.2.a Iron and steel	CO <sub>2</sub>	0.6	0	0%	
1.A.2.b Non-ferrous metals	CO <sub>2</sub>	0.5	NO	NO	
1.A.2.c Chemicals	CO <sub>2</sub>	24.2	5.5	23%	
1.A.2.d Pulp, paper and print	CO <sub>2</sub>	4.1	NO	NO	
1.A.2.e Food processing, beverages and tobacco	CO <sub>2</sub>	68.9	7.3	11%	
1.A.2.f Non-metallic minerals	CO <sub>2</sub>	252.4	248.8	99%	
1.A.2.g Other	CO <sub>2</sub>	251.3	18.4	7%	
1.A.3 Transport	CO <sub>2</sub>	3141.7	NO	NO	
1.A.3.e Other transportation (pipeline transport)	CO <sub>2</sub>	NO	NO	NO	
1.A.4 Other sectors	CO <sub>2</sub>	1553.3	5.1	0%	
1.A.4.a Commercial/institutional	CO <sub>2</sub>	464.8	5.1	1%	
1.A.4.c Agriculture/Forestry/Fisheries	CO <sub>2</sub>	540.3	NO	NO	
1.B Fugitive emissions from Fuels	CO <sub>2</sub>	98.5	NO	NO	
1.C CO <sub>2</sub> Transport and storage	CO <sub>2</sub>	NO	NO	NO	
1.C.1 Transport of CO <sub>2</sub>	CO <sub>2</sub>	NO	NO	NO	
1.C.2 Injection and storage	CO <sub>2</sub>	NO	NO	NO	
1.C.3 Other	CO <sub>2</sub>	NO	NO	NO	

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

Category(1)		Greenhouse gas inventory emissions [kt CO <sub>2</sub> ](3)	Verified emissions under Directive 2003/87/EC [kt CO <sub>2</sub> ](3)	Ratio in % (Verified emissions/ inventory emissions)(3)	Comment(2)
<b>2.A Mineral products</b>	CO <sub>2</sub>	547.3	578.0	106%	
<b>2.A.1 Cement production</b>	CO <sub>2</sub>	540.1	570.6	106%	<i>Difference is caused due to different methodologies used in emission calculation from cement production. There is only one cement plant in Latvia which uses Tier 1 method in ETS reporting. For inventory Tier 2 method from 2006 IPCC Guidelines is used.</i>
<b>2.A.2 Lime production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.A.3 Glass production</b>	CO <sub>2</sub>	0.7	0.9	129%	<i>Difference is caused because under EU ETS soda use in wastewater neutralization is reported under 2.A.3 Glass production, but in GHG inventory soda use in wastewater neutralization in glass fibre production company is reported in separate subsector 2.A.4.b Other use of soda ash.</i>
<b>2.A.4 Other process uses of carbonates</b>	CO <sub>2</sub>	6.5	6.5	100%	
<b>2.B Chemical industry</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.1 Ammonia production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.3 Adipic acid production (CO<sub>2</sub>)</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.4 Caprolactam, glyoxal and glyoxylic acid production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.5 Carbide production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.6 Titanium dioxide production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.7 Soda ash production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.B.8 Petrochemical and carbon black production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C Metal production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C.1 Iron and steel production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C.2 Ferroalloys production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C.3 Aluminium production</b>	CO <sub>2</sub>	NO	NO	NO	

Category(1)		Greenhouse gas inventory emissions [kt CO <sub>2</sub> ](3)	Verified emissions under Directive 2003/87/EC [kt CO <sub>2</sub> ](3)	Ratio in % (Verified emissions/ inventory emissions)(3)	Comment(2)
<b>2.C.4 Magnesium production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C.5 Lead production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C.6 Zinc production</b>	CO <sub>2</sub>	NO	NO	NO	
<b>2.C.7 Other metal production</b>	CO <sub>2</sub>	NO	NO	NO	

(1) The allocation of verified emissions to disaggregated inventory categories at four digit level must be reported where such allocation of verified emissions is possible and emissions occur. The following notation keys should be used:

NO = not occurring; IE = included elsewhere; C = confidential

Negligible = small amount of verified emissions may occur in respective CRF category, but amount is < 5 % of the category.

(2) The column comment should be used to give a brief summary of the checks performed and if a Member State wants to provide additional explanations with regard to the allocation reported.

(3) Data to be reported up to one decimal point for kt and % values.

(4) The be filled on the basis of combined CRF categories pertaining to 'Iron and Steel', to be determined individually by each Member State; the stated formula is for illustration purposes only.



**A.3.5 TRANSPORT****Distribution of road transport fleet by subsectors and layers, year 2022**

Segment	Euro Standard	Population	Average mileage per car
<b>Passenger Cars, Petrol</b>			
Small	Euro 2	1892	5415.9
Small	Euro 3	8045	6722.0
Small	Euro 4	11970	7159.2
Small	Euro 5	9214	13373.1
Small	Euro 6	17168	10782.3
Medium	Euro 1	9989	5200.8
Medium	Euro 2	29310	7165.7
Medium	Euro 3	19915	9198.5
Medium	Euro 4	26043	12251.0
Medium	Euro 5	14969	13340.8
Medium	Euro 6	18898	12524.6
Large	Euro 2	3873	7830.4
Large	Euro 3	7147	12551.1
Large	Euro 4	8347	11538.0
Large	Euro 5	3876	14470.6
Large	Euro 6	4105	14231.1
<b>Passenger Cars, Diesel</b>			
Small	Euro 2	16	6091.0
Small	Euro 3	1851	6091.0
Small	Euro 4	2289	9103.5
Small	Euro 5	2654	8219.4
Small	Euro 6	2152	12512.8
Medium	Euro 1	11292	7035.2
Medium	Euro 2	24595	7774.0
Medium	Euro 3	83496	8646.3
Medium	Euro 4	82798	13340.8
Medium	Euro 5	56937	11717.2
Medium	Euro 6	30367	17593.9
Large	Euro 1	7809	10773.9
Large	Euro 2	14371	11569.3
Large	Euro 3	75043	9954.4
Large	Euro 4	37177	15010.8
Large	Euro 5	32289	13746.5
Large	Euro 6	6133	19433.6
<b>Passenger Cars</b>			
LPG	Euro 1	2426	10343.2
LPG	Euro 2	6618	12411.9
LPG	Euro 3	9500	15059.7
LPG	Euro 4	10435	17211.1
LPG	Euro 5	3711	17583.5
LPG	Euro 6	653	17583.5
CNG	Euro 4	14	13496.6
CNG	Euro 5	117	13496.6
CNG	Euro 6	144	13496.6
Battery electric	Euro 6	3772	9208.3
PHEV Petrol	Euro 6	787	10148.2
PHEV Diesel	Euro 6	130	10886.6
<b>Light Commercial Vehicles</b>			
Petrol	Euro 1	19	15303.3

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

Segment	Euro Standard	Population	Average mileage per car
<i>Petrol</i>	<i>Euro 2</i>	127	17827.1
<i>Petrol</i>	<i>Euro 3</i>	301	18765.4
<i>Petrol</i>	<i>Euro 4</i>	459	18852.6
<i>Petrol</i>	<i>Euro 5</i>	425	20865.6
<i>Petrol</i>	<i>Euro 6</i>	267	22834.4
<i>Diesel</i>	<i>Euro 1</i>	694	20556.6
<i>Diesel</i>	<i>Euro 2</i>	3479	24257.3
<i>Diesel</i>	<i>Euro 3</i>	9990	25542.2
<i>Diesel</i>	<i>Euro 4</i>	17584	29370.3
<i>Diesel</i>	<i>Euro 5</i>	15710	29370.3
<i>Diesel</i>	<i>Euro 6</i>	9668	30570.7
<i>LPG</i>	<i>Euro 1</i>	26	20853.9
<i>LPG</i>	<i>Euro 2</i>	212	26133.8
<i>LPG</i>	<i>Euro 3</i>	200	29137.7
<i>LPG</i>	<i>Euro 4</i>	270	31390.6
<i>LPG</i>	<i>Euro 5</i>	192	33493.3
<i>LPG</i>	<i>Euro 6</i>	56	33943.9
<i>CNG</i>	<i>Euro 4</i>	13	20285.4
<i>CNG</i>	<i>Euro 5</i>	39	20285.4
<i>CNG</i>	<i>Euro 6</i>	62	20285.4
<i>Battery electric</i>	<i>Euro 6</i>	109	15609.4
<i>PHEV Petrol</i>	<i>Euro 6</i>	1	18929.4
<b>Heavy Duty Trucks, Diesel</b>			
<i>Rigid &lt;=7,5 t</i>	<i>Euro I</i>	12	19657.0
<i>Rigid &lt;=7,5 t</i>	<i>Euro II</i>	270	26671.7
<i>Rigid &lt;=7,5 t</i>	<i>Euro III</i>	365	28635.5
<i>Rigid &lt;=7,5 t</i>	<i>Euro IV</i>	402	29338.9
<i>Rigid &lt;=7,5 t</i>	<i>Euro V</i>	695	32333.2
<i>Rigid &lt;=7,5 t</i>	<i>Euro VI</i>	560	36980.1
<i>Rigid 7,5 - 12 t</i>	<i>Euro II</i>	54	31437.3
<i>Rigid 7,5 - 12 t</i>	<i>Euro III</i>	335	33672.5
<i>Rigid 7,5 - 12 t</i>	<i>Euro IV</i>	528	34647.6
<i>Rigid 7,5 - 12 t</i>	<i>Euro V</i>	321	36157.7
<i>Rigid 7,5 - 12 t</i>	<i>Euro VI</i>	298	39656.5
<i>Rigid 12 - 14 t</i>	<i>Euro II</i>	45	31437.3
<i>Rigid 12 - 14 t</i>	<i>Euro III</i>	49	33672.5
<i>Rigid 12 - 14 t</i>	<i>Euro IV</i>	112	34647.6
<i>Rigid 12 - 14 t</i>	<i>Euro V</i>	139	36157.7
<i>Rigid 12 - 14 t</i>	<i>Euro VI</i>	99	39656.5
<i>Rigid 14 - 20 t</i>	<i>Euro I</i>	288	30394.9
<i>Rigid 14 - 20 t</i>	<i>Euro II</i>	500	37758.2
<i>Rigid 14 - 20 t</i>	<i>Euro III</i>	695	38649.9
<i>Rigid 14 - 20 t</i>	<i>Euro IV</i>	172	40195.9
<i>Rigid 14 - 20 t</i>	<i>Euro V</i>	747	41267.3
<i>Rigid 14 - 20 t</i>	<i>Euro VI</i>	1345	44581.5
<i>Rigid 20 - 26 t</i>	<i>Euro I</i>	158	36214.6
<i>Rigid 20 - 26 t</i>	<i>Euro II</i>	491	44498.1
<i>Rigid 20 - 26 t</i>	<i>Euro III</i>	618	46352.2
<i>Rigid 20 - 26 t</i>	<i>Euro IV</i>	618	46815.7
<i>Rigid 20 - 26 t</i>	<i>Euro V</i>	809	47001.1
<i>Rigid 20 - 26 t</i>	<i>Euro VI</i>	667	53420.3
<i>Rigid 26 - 28 t</i>	<i>Euro I</i>	47	33594.5
<i>Rigid 26 - 28 t</i>	<i>Euro II</i>	77	39077.0
<i>Rigid 26 - 28 t</i>	<i>Euro III</i>	180	44395.1

Segment	Euro Standard	Population	Average mileage per car
Rigid 26 - 28 t	Euro IV	76	46815.7
Rigid 26 - 28 t	Euro V	172	47001.1
Rigid 26 - 28 t	Euro VI	176	52828.7
Rigid 28 - 32 t	Euro I	1	28349.9
Rigid 28 - 32 t	Euro II	117	39077.0
Rigid 28 - 32 t	Euro III	220	44395.1
Rigid 28 - 32 t	Euro IV	143	46815.7
Rigid 28 - 32 t	Euro V	263	47001.1
Rigid 28 - 32 t	Euro VI	288	52828.7
Rigid >32 t	Euro II	65	39077.0
Rigid >32 t	Euro III	216	44395.1
Rigid >32 t	Euro IV	190	46815.7
Rigid >32 t	Euro V	113	47001.1
Rigid >32 t	Euro VI	96	52828.7
Articulated 14 - 20 t	Euro II	179	38127.2
Articulated 14 - 20 t	Euro III	1296	49889.3
Articulated 14 - 20 t	Euro IV	1549	51061.3
Articulated 14 - 20 t	Euro V	4167	63387.9
Articulated 14 - 20 t	Euro VI	3971	64014.1
Articulated 20 - 28 t	Euro II	54	39712.1
Articulated 20 - 28 t	Euro III	260	51314.1
Articulated 20 - 28 t	Euro IV	270	53260.5
Articulated 20 - 28 t	Euro V	803	61261.5
Articulated 20 - 28 t	Euro VI	1299	66850.1
Articulated 28 - 34 t	Euro II	2	39712.1
Articulated 28 - 34 t	Euro III	22	51314.1
Articulated 28 - 34 t	Euro IV	12	53260.5
Articulated 28 - 34 t	Euro V	18	61261.5
Articulated 28 - 34 t	Euro VI	36	66850.1
Articulated 40 - 50 t	Conventional	7	39712.1
Articulated 40 - 50 t	Euro I	32	51314.1
Articulated 40 - 50 t	Euro II	57	53260.5
Articulated 40 - 50 t	Euro III	37	61261.5
<b>Heavy Duty Trucks</b>			
CNG	Euro 4	8	33809.0
CNG	Euro 5	46	33809.0
CNG	Euro 6	86	33809.0
Petrol	Conventional	467	28375.8
<b>Buses, Diesel</b>			
Buses <3.5t	Euro 2	12	13897.9
Buses <3.5t	Euro 3	2	17270.9
Buses <3.5t	Euro 4	54	25673.8
Buses <3.5t	Euro 5	9	25690.1
Urban Buses Midi <=15 t	Euro I	7	38627.3
Urban Buses Midi <=15 t	Euro II	4	41909.7
Urban Buses Midi <=15 t	Euro III	29	45361.1
Urban Buses Midi <=15 t	Euro IV	29	47333.3
Urban Buses Midi <=15 t	Euro V	76	48122.2
Urban Buses Midi <=15 t	Euro VI	212	51031.2
Urban Buses Standard 15 - 18 t	Euro I	4	38261.1
Urban Buses Standard 15 - 18 t	Euro II	2	41909.7
Urban Buses Standard 15 - 18 t	Euro III	15	45361.1
Urban Buses Standard 15 - 18 t	Euro IV	15	47333.3
Urban Buses Standard 15 - 18 t	Euro V	39	48319.4

Segment	Euro Standard	Population	Average mileage per car
Urban Buses Standard 15 - 18 t	Euro VI	118	50883.3
Urban Buses Articulated >18 t	Euro I	7	36577.6
Urban Buses Articulated >18 t	Euro II	3	41909.7
Urban Buses Articulated >18 t	Euro III	27	45361.1
Urban Buses Articulated >18 t	Euro IV	27	47333.3
Urban Buses Articulated >18 t	Euro V	67	48122.2
Urban Buses Articulated >18 t	Euro VI	203	51031.2
Coaches Standard <=18 t	Euro I	39	30031.5
Coaches Standard <=18 t	Euro II	107	30688.8
Coaches Standard <=18 t	Euro III	331	36676.9
Coaches Standard <=18 t	Euro IV	127	37612.5
Coaches Standard <=18 t	Euro V	81	39296.7
Coaches Standard <=18 t	Euro VI	289	41168.0
Coaches Articulated >18 t	Euro I	93	25637.6
Coaches Articulated >18 t	Euro II	134	29566.1
Coaches Articulated >18 t	Euro III	264	36302.7
Coaches Articulated >18 t	Euro IV	192	37462.8
Coaches Articulated >18 t	Euro V	309	38922.4
Coaches Articulated >18 t	Euro VI	528	41168.0
<b>Buses</b>			
Petrol	Euro II	1	18165.0
LPG	Euro III	1	28647.2
CNG	Euro IV	38	52513.7
Battery electric	Euro VI	63	24666.9
<b>L-Category, Petrol</b>			
Mopeds 2-stroke <50 cm <sup>3</sup>	Conventional	426	807.4
Mopeds 2-stroke <50 cm <sup>3</sup>	Euro 1	1639	811.5
Mopeds 2-stroke <50 cm <sup>3</sup>	Euro 2	4125	951.9
Mopeds 2-stroke <50 cm <sup>3</sup>	Euro 3	6900	1003.2
Mopeds 2-stroke <50 cm <sup>3</sup>	Euro 4	4287	1040.0
Mopeds 2-stroke <50 cm <sup>3</sup>	Euro 5	1398	1067.0
Motorcycles 2-stroke >50 cm <sup>3</sup>	Conventional	273	807.4
Motorcycles 2-stroke >50 cm <sup>3</sup>	Euro 1	619	888.3
Motorcycles 2-stroke >50 cm <sup>3</sup>	Euro 2	1438	981.9
Motorcycles 2-stroke >50 cm <sup>3</sup>	Euro 3	2031	1052.6
Motorcycles 2-stroke >50 cm <sup>3</sup>	Euro 4	1932	1182.3
Motorcycles 2-stroke >50 cm <sup>3</sup>	Euro 5	366	1200.4
Motorcycles 4-stroke 250 - 750 cm <sup>3</sup>	Conventional	356	1124.7
Motorcycles 4-stroke 250 - 750 cm <sup>3</sup>	Euro 1	1111	1277.3
Motorcycles 4-stroke 250 - 750 cm <sup>3</sup>	Euro 2	2328	1465.3
Motorcycles 4-stroke 250 - 750 cm <sup>3</sup>	Euro 3	4650	1783.2
Motorcycles 4-stroke 250 - 750 cm <sup>3</sup>	Euro 4	3642	2372.1
Motorcycles 4-stroke 250 - 750 cm <sup>3</sup>	Euro 5	704	2526.4
Motorcycles 4-stroke >750 cm <sup>3</sup>	Conventional	356	1124.7
Motorcycles 4-stroke >750 cm <sup>3</sup>	Euro 1	1003	1277.3
Motorcycles 4-stroke >750 cm <sup>3</sup>	Euro 2	2023	1465.3
Motorcycles 4-stroke >750 cm <sup>3</sup>	Euro 3	3549	1783.2
Motorcycles 4-stroke >750 cm <sup>3</sup>	Euro 4	2824	2372.1
Motorcycles 4-stroke >750 cm <sup>3</sup>	Euro 5	568	2526.4
Quad & ATVs	Euro 4	1746	249.5

### **A.3.6 FUGITIVE EMISSIONS**

#### **Methodology for calculation of technological losses of natural gas in the internal user gas supply system A/S "GASO"**

The methodology is a technically and economically justified application for determining the technological losses of natural gas in internal gas supply systems of users.

In accordance with the Cabinet of Ministers' regulations of February 7, 2017 no. 78, "Regulations of natural gas trade and use", the property boundary for gas users is determined at the place after the gas pipeline inlet of the inlet valve or other boundary point.

The methodology covers the technological losses of natural gas in internal gas supply systems of users, which occur after the inlet of the gas pipeline of the inlet valve or after another point determined by the boundary line.

Technological losses of natural gas in gas pipelines owned by the users and installed are classified as follows:

- natural gas losses through leaks in the internal system of the district residential houses with gas stoves. These are natural gas losses from gas leaks in gas pipelines and hearths owned by the users, the size of which is not fixed with the help of meter;
- additional natural gas losses in gas heating boilers and (or) hot water preparation. These are additional natural gas losses from gas leaks in gas heating boilers and (or) hot water preparation devices, the size of which is not fixed with the help of gas meters.

#### **Calculation of the technological losses of natural gas within users of inner supply system**

Gas leaks are not counted with the help of meter, because:

- residential houses with gas stoves, their total consumption is approximately fifteen times smaller than the minimum measurement limit of a gas stove;
- gas boilers and (or) hot water preparation devices, have their size approximately sixty times smaller than the minimum measurement limit of gas meter.

The formulas for natural gas losses and gas system leaks in residential houses with gas stoves are as follows:

$$(1) Q_{gas} = q \times N \times n [m^3], \text{ where}$$

$Q_{gas}$  - gas losses from leakages or leaks in the internal gas system,  $m^3$ ;

$N$  – number of days,  $d_n$ ;

$n$  – number of appartments, pieces (gab);

$q$  – the size of leaks in gas internal system leaks in residential houses with gas stoves

$q = 0.031 m^3/d_n \times \text{apartment}$ .

In addition to natural gas losses in gas heating boilers and (or) hot water preparation devices, the following formula is used:

$$(2) Q_{gas} = q \times N \times n [m^3], \text{ where}$$

$Q_{gas}$  - additional natural gas losses from leaks in heating boilers and (or) hot water preparation devices,  $m^3$ ;

$N$  – number of days,  $d_n$ ;

n – number of apartments, pieces (gab);

q – size of leaks in heating boilers and (or) hot water preparation outlets  $0.014 \text{ m}^3/\text{d}_n$ .

### **Methodology for calculating technological losses of natural gas in the distribution gas pipeline system A/S "GASO"**

The methodology is a technically and economically justified application for determining technological losses of natural gas in the distribution system. In order to carry out accurate calculations, it is necessary to determine the boundaries of the ownership of gas pipelines and equipment between the operator of the natural gas transmission system (hereinafter - the Transmission Operator) and the operator of the natural gas distribution system (hereinafter - the Distribution Operator), as well as the boundaries of the ownership of gas pipelines and equipment between the Distribution Operator and the user of natural gas.

The methodology covers technological losses of natural gas in gas pipelines and equipment of the distribution system, which arise from the property boundary with the natural gas transmission system on the one hand and the property boundary with the natural gas user on the other hand.

The total amount of natural gas losses depends on the technical condition of the gas supply system.

#### **Classification of natural gas technological losses distribution system**

Technological losses of natural gas can be divided into the following groups:

##### **1<sup>st</sup> group. Technological losses of natural gas by leaking gas into the atmosphere without burning.**

The amount of unburned gas released into the atmosphere is formed by the following operations:

1. filling the pipeline with gas (releasing it from air), a certain amount of gas-air mixture is released into the atmosphere. These operations are called to the flushing of gas pipelines. Discharge of gas pipelines of the distribution system, regardless of the distribution of gas pipelines, is carried out at a small overpressure of gas (pressure that exceeds atmospheric pressure), the value of which is close to the overpressure of gas in a low-pressure gas pipeline (2000 Pa);
2. when repairing (maintenance) gas pipelines (releasing them from gas), the overpressure in gas pipelines (gas pressure in gas pipelines that is greater than atmospheric pressure) is reduced to the minimum possible value. The remaining overpressure (gas pressure in the pipeline, which cannot be reduced by the equipment of the users) is reduced by burning the gas in the degassing and flushing device of the pipeline. Therefore, when carrying out gas pipeline repairs, the amount of gas removed from the atmosphere is made up of the remaining amount of gas in the geometric volume of the gas pipeline at atmospheric pressure;
3. when the gas pressure is reduced in the Gas regulation point (hereinafter - GRP) and cabinet-style gas regulation point (hereinafter - SGRP), the pressure in the gas pipelines for those using gas is reduced to the gas pressure at the GRP or SGRP outlet. The residual gas pressure is reduced by releasing the gas to atmosphere;
4. when carrying out gas pipeline repairs under constant gas pressure.

Considering the information given above, the possible losses of natural gas in the distribution system, by leaking gas to the atmosphere and not burning it, are as follows:

5. the amount of natural gas that is released into the atmosphere by blowing with gas to release the gas pipeline from the air, after the completion of construction works, repair, or other works, putting the gas pipeline into operation;
6. the amount of natural gas that is in the geometric volume of the gas pipeline at atmosphere pressure and after the pressure decreases, when the gas pipeline has to be released from gas;
7. the amount of natural gas released into the atmosphere from gas pipelines and pressure regulation equipment, reducing the gas pressure of the user's equipment to the output pressure of the GRP or SGRP;
8. the amount of natural gas released into the atmosphere during the repair of condensate drains, hydraulic locks, gas inlet nodes, at constant gas pressure. Its amount depends on the gas pressure of the pipeline, the area of the opening through which the gas escapes, the density of the gas, the temperature, and the time of the gas escape.

**2<sup>nd</sup> group. Technological losses of natural gas by leaking gas into the atmosphere and burning it.**

The technological losses of natural gas, which occur when gas pressure is reduced in gas pipelines by releasing gas to the atmosphere and burning, are formed by the difference between the amount of gas in the pipeline, which is at the pressure (absolute pressure) used, and the amount of gas in the pipeline at atmospheric pressure, up to which it decreases during the combustion process.

**3<sup>rd</sup> group. Natural gas technological losses from gas leaks through gas system leaks/non dense parts.**

Natural gas losses arising from gas leaks/non dense parts depend on the technical condition of the gas system, gas pressure, technical maintenance and the used gas leak detection equipment.

Natural gas losses from gas leaks/non dense parts consist of:

1. Gas leaks through gas system leaks/non dense parts from:
  - low pressure distribution system for gas pipelines;
  - medium pressure distribution system for gas pipelines;
  - high pressure distribution systems for gas pipelines.

When calculating gas leaks, through leaks/non dense parts the unit of mass of gas leaks  $m^3/m^2 \times d_n$  is applied. It is applied to the average size of permanent gas leakages of gas devices in relation to the surface unit of pipe per day.

2. Gas leaks from the distribution system for the gas regulation devices (GRP, SGRP).

**4<sup>th</sup> group. Technological losses of natural gas without gas release to the atmosphere.**

It consists of the amount of natural gas that is necessary to fill the geometric volume of newly constructed gas pipelines with gas and to achieve the desired gas overpressure.

**5<sup>th</sup> group. Accidental emissions.**

These are unplanned natural gas losses that occur as a result of pipeline damage. These, unplanned natural gas losses, can be burned or released to the atmosphere unburned.

**Calculations of natural gas technological loss in distribution system (1<sup>st</sup> group)**

**1 The technological loss of natural gas will be buried by leaking the gas into the atmosphere without burning it**

**1.1 The amount of gas, that will be used to flush the gas pipeline with gas, putting it into operation after the completion of construction works, as well as for repair, assembly or other works, when the gas pipeline was freed from gas**

The amount of natural gas released into the atmosphere consists of a gas-air mixture. The amount of natural gas is calculated according to the formula:

$$(1) Q_{g\ddot{a}ze} = 0.20 \frac{Q_{sist} \times (p_a + p_g) T_{20}}{p_a \times (T_0 + t_g)} [m^3], \text{ where}$$

$Q_{g\ddot{a}ze}$  – amount of natural gas for gas pipeline flushing,  $m^3$ ;

$Q_{sist}$  – geometric volume of gas pipeline,  $m^3$ ;

$p_a$  – atmosphere pressure, Pa;

$p_g$  – gas pressure in the pipeline, 200 Pa (In distribution system valves, gas pipelines are purged with gas, the pressure of which is close to the time of gas pipeline flush, 2000 Pa);

$T_{20}$  – absolute temperature in standard conditions, K;

$T_0$  – absolute temperature in normal conditions, K;

$t_g$  – temperature of the gas, °C (annual average temperature = 10 °C);

0.20 - a coefficient that does take into account the quality of the flushing system and flushing conditions.

The geometrical volume of the gas pipeline ( $Q_{sist.}$ ) is calculated by the formula:

$$(2) Q_{sist} = \frac{\pi d^2}{4} L = \frac{3.14 \times 0.5^2}{4} 100 = 19.625 m^3, \text{ where}$$

Inserting the obtained value into formula (1), we get

$$Q_{g\ddot{a}ze} = 0.20 \frac{Q_{sist} \times (p_a + p_g) T_{20}}{p_a \times (T_0 + t_g)} = 0.20 \times 19.625 \frac{(101325 + 2000) \times 293.15}{101325 \times (273.15 + 10)} = 4.14 m^3$$

In order to determine the amount of natural gas for flushing the pipeline with gas, without carrying out burials, a table below has been provided.

**The amount of natural gas for flushing the pipeline with gas**

Pipeline approximate size	Pipeline inner diameter d, m	Pipeline length L, m	Pipeline inner volume $Q_{sist}$ , $m^3$	Gas amount flushing in pipeline with gas, $m^3$
PE25	0.019	100	0.028	0.006
DN25 and PE32	0.025	100	0.049	0.010
DN32 and PE40	0.032	100	0.080	0.017
DN40 and PE50	0.04	100	0.126	0.027



Pipeline approximate size	Pipeline inner diameter d, m	Pipeline length L, m	Pipeline inner volume $Q_{sist}$ , m <sup>3</sup>	Gas amount flushing in pipeline with gas, m <sup>3</sup>
DN50 and PE63	0.05	100	0.196	0.041
DN60 and PE75	0.06	100	0.283	0.060
DN70 and PE90	0.07	100	0.385	0.081
DN80	0.08	100	0.503	0.106
PE110	0.09	100	0.636	0.134
DN100 and PE125	0.1	100	0.785	0.166
PE140	0.115	100	1.039	0.219
DN125 and PE160	0.125	100	1.227	0.259
DN150 and PE180	0.15	100	1.767	0.373
PE200	0.164	100	2.112	0.446
PE225	0.184	100	2.659	0.561
DN200 and PE250	0.2	100	3.142	0.663
DN250	0.25	100	4.909	1.036
PE315	0.258	100	5.228	1.103
PE355	0.29	100	6.605	1.394
DN300	0.3	100	7.069	1.492
DN350	0.35	100	9.621	2.031
DN400	0.4	100	12.566	2.652
DN450	0.45	100	15.904	3.357
DN500	0.5	100	19.635	4.144
DN600	0.6	100	28.274	5.968
DN700	0.7	100	38.485	8.123
DN800	0.8	100	50.266	10.610

### 1.2 Amount of natural gas for degassing the pipeline before repairs or other works when the pipeline must be degassed

The formula for calculating the amount of natural gas is:

$$(3) Q_{g\ddot{a}ze} = Q_{sist} [m^3]$$

Given formula (3) is an application of formula (1) without a coefficient for the case when the gas pressure in the pipeline is reduced to the atmospheric pressure and the gas temperature correction is not taken into account, because the given value has a small effect, where

$Q_{g\ddot{a}ze}$  - amount of gas for releasing the gas pipeline before repairs or ongoing works, when the gas pipeline must be released from the gas, m<sup>3</sup>;

$Q_{sist}$  - geometric volume of the gas pipeline, m<sup>3</sup>.

### 1.3 The amount of gas is reduced by reducing the gas pressure in the GRP or SGRP

The amount of natural gas is calculated according to the formula:

$$(4) Q_{g\ddot{a}ze} = \frac{Q_{sist} \times (p_a + p_g) T_{20}}{p_a \times (T_0 + t_g)} [m^3], \text{ where}$$

$Q_{g\grave{a}ze}$  – amount of gas when gas pressure is reduced in GRP or SGRP, m<sup>3</sup>;

$Q_{sist}$  – geometric volume of gas pipelines and equipment, m<sup>3</sup>;

$p_a$  – atmospheric pressure, Pa;

$p_g$  – gas pressure of the gas pipeline and equipment after it reduces the pressure of the used ear gas up to the pressure of the GRP or SGRP outlet, Pa;

$T_{20}$  – absolute temperature in standard conditions, K;

$T_0$  – absolute temperature in normal conditions, K;

$t_g$  – temperature of the gas, °C.

In order to determine the natural gas losses, when the gas pressure is reduced in the GRP or SGRP, without making any calculations, a table below has been provided.

#### Natural gas amount determination by performing gas pressure reduction in GRP or SGRP

No.	Gas pressure GRP or SGRP Exit $p_g$ , Pa	GRP or SGRP pipeline inner geometrical volume $Q_{sist}$ , m <sup>3</sup>	Natural gas amount by performing gas pressure reduction in GRP or SGRP, m <sup>3</sup>
1	2000	0.015	0.016
2	30 0000	0.4	1.5

#### 1.4 The amount of gas will be determined during the repair of condensate vents, hydraulic valves and gas inlets using a special relief device

The formula for the amount of natural gas is:

$$(5) Q_{g\grave{a}ze} = q \times n \text{ [m}^3\text{]}, \text{ where}$$

$Q_{g\grave{a}ze}$  – Natural gas amount, m<sup>3</sup>;

$q$  – Natural gas consumption, m<sup>3</sup>/unit;

$n$  – the number of condensate drains, hydraulic valves, gas inlets.

Repair of one low-pressure condensate drain (hydraulic drain) under pressure: 1.0 m<sup>3</sup>/unit.

One low-pressure gas inlet repair under pressure: 3.6 m<sup>3</sup>/unit.

One medium pressure condensate drain repair under pressure: 60 m<sup>3</sup>/unit.

Natural gas quantity norms are calculated according to the formula:

$$(6) Q_{g\grave{a}ze} = 106 \frac{(p_a + p_g) F \tau}{\rho \sqrt{273.15 + t_g}} \text{ (m}^3\text{)} \text{ } \text{pie } (p_a + p_g) / p_a \geq 1.84, \text{ where}$$

$Q_{g\grave{a}ze}$  – amount of natural gas, m<sup>3</sup>;

$p_a$  – atmospheric pressure, MPa;

$p_g$  – pressure of gas, mm<sup>3</sup>;

$F$  – space of the opening, where gas flows, mm<sup>2</sup>;

$\tau$  – gas flow speed in time (experimental), h;

$\rho$  – gas absolute density, kg/ m<sup>3</sup> (0.695 kg/ m<sup>3</sup>);

$t_g$  – gas temperature, °C (taken 10 °C).

For low-pressure gas pipeline condensate drains, hydraulic valves - 490.6 mm<sup>2</sup>.

For low pressure gas inputs - 1962.5 mm<sup>2</sup>.

For medium pressure gas pipeline condensate drains - 1962.5 mm<sup>2</sup>.

For low-pressure gas pipeline condensate drains, hydraulic valves - 0.0083 h.

For low-pressure gas inputs - 0.0083 h.

For condensate drains of medium pressure gas pipelines - 0.0083 h.

$$(7) Q_{g\ddot{a}ze} = 461 \frac{(p_a + p_g)^{0.24} p_a^{0.76} F \tau}{\rho \sqrt{273.15 + t}} \sqrt{1 - \left(\frac{p_a}{p_g + p_a}\right)^{0.24}} [m^3] \text{ pie } (p_a + p_g) / p_a < 1.84$$

### Calculation of the amount of burned natural gas (2<sup>nd</sup> group)

The amount of burned natural gas, which is produced by burning the gas in the combustion device until the pressure in the gas pipeline is equal to the atmospheric pressure, is calculated according to the formula:

$$(8) Q_{g\ddot{a}ze} = \frac{Q_{sist} \times (p_a + p_g) T_{20}}{p_a \times (T_0 + t_g)} - \frac{Q_{sist} \times T_{20}}{T_0 + t_g} [m^3], \text{ where}$$

$Q_{g\ddot{a}ze}$  – amount of natural gas burned, m<sup>3</sup>;

$Q_{sist}$  – geometric volume of gas pipeline, m<sup>3</sup>;

$p_a$  – atmosphere pressure, Pa;

$p_g$  – gas pressure in the pipeline, Pa;

$T_{20}$  – absolute temperature in standard conditions, K;

$T_0$  – absolute temperature in normal conditions, K;

$t_g$  – temperature of the gas, °C.

### **Determination of gas burned, when we know diameter and length of pipeline**

Pipeline approx. size	Pipeline inner diameter d, m	Pipeline length L, m	Pipeline inner volume, $Q_{sist}$ , m <sup>3</sup>	Amount of low pressure gas under pressure 2000 Pa to fill the pipeline, m <sup>3</sup>	Amount of medium pressure gas under pressure 300000 Pa to fill the pipeline, m <sup>3</sup>	Amount of 1 <sup>st</sup> category high pressure gas under pressure 600000 Pa to fill the pipeline, m <sup>3</sup>	Amount of 2 <sup>nd</sup> category high pressure gas under pressure 1200000 Pa to fill the pipeline, m <sup>3</sup>
PE25	0.019	100	0.028	0.001	0.085	0.170	0.341
DN25 and PE32	0.025	100	0.049	0.001	0.148	0.295	0.590
DN32 and PE40	0.032	100	0.080	0.002	0.242	0.484	0.967
DN40 and PE50	0.04	100	0.126	0.003	0.378	0.756	1.511
DN50 and PE63	0.05	100	0.196	0.004	0.590	1.181	2.361
DN60 and PE75	0.06	100	0.283	0.006	0.850	1.700	3.401
DN70 and PE90	0.07	100	0.385	0.008	1.157	2.314	4.629
DN80	0.08	100	0.503	0.010	1.511	3.023	6.045

Pipeline approx. size	Pipeline inner diameter d, m	Pipeline length L, m	Pipeline inner volume, $Q_{\text{sis}}, \text{m}^3$	Amount of low pressure gas under pressure 2000 Pa to fill the pipeline, $\text{m}^3$	Amount of medium pressure gas under pressure 300000 Pa to fill the pipeline, $\text{m}^3$	Amount of 1 <sup>st</sup> category high pressure gas under pressure 600000 Pa to fill the pipeline, $\text{m}^3$	Amount of 2 <sup>nd</sup> category high pressure gas under pressure 1200000 Pa to fill the pipeline, $\text{m}^3$
PE110	0.09	100	0.636	0.013	1.913	3.826	7.651
DN100 and PE125	0.1	100	0.785	0.016	2.361	4.723	9.446
PE140	0.115	100	1.039	0.021	3.123	6.246	12.492
DN125 and PE160	0.125	100	1.227	0.025	3.690	7.380	14.759
DN150 and PE180	0.15	100	1.767	0.035	5.313	10.627	21.253
PE200	0.164	100	2.112	0.042	6.351	12.703	25.406
PE225	0.184	100	2.659	0.053	7.995	15.990	31.980
DN200 and PE250	0.2	100	3.142	0.063	9.446	18.892	37.784
DN250	0.25	100	4.909	0.098	14.759	29.519	59.037
PE315	0.258	100	5.228	0.105	15.719	31.438	62.876
PE355	0.29	100	6.605	0.133	19.860	39.720	79.440
DN300	0.3	100	7.069	0.142	21.253	42.507	85.013
DN350	0.35	100	9.621	0.193	28.929	57.857	115.713
DN400	0.4	100	12.566	0.252	37.783	75.568	151.135
DN450	0.45	100	15.904	0.319	47.820	95.640	191.280
DN500	0.5	100	19.635	0.394	59.037	118.075	236.148
DN600	0.6	100	28.274	0.567	85.013	170.028	340.053
DN700	0.7	100	38.485	0.772	115.712	231.426	462.850
DN800	0.8	100	50.266	1.008	151.134	302.271	604.539

At one and the same geometric volume, there is a linear relationship between the gas pressure and the amount of burned gas. Thus, without calculating the amount of burned gas at a specific gas pressure, which is not shown in the table, the interpolation cell can be determined.

### The calculation of technological loss of natural gas from gas leakage through gas system leaks/non dense parts. (3<sup>rd</sup> group)

The amount of gas losses from gas leakages or gas system leaks/non dense parts in low, medium and high pressure distribution systems in gas pipelines are calculated by the following formula:

$$(9) Q_{g\ddot{a}ze} = k \times q \times F \left( \frac{\text{m}^3}{\text{m}^2} \times d_n \right), \text{ where}$$

$Q_{g\ddot{a}ze}$  – gas losses from gas leaks or gas system leaks/non dense parts,  $\text{m}^3$ ;

$q$  – leakage size,  $\text{m}^3/\text{m}^2 \times d_n$  for low-pressure distribution pipelines  $q = 0.00072 \text{ m}^3/\text{m}^2 \times d_n$ ;  
for medium and high pressure gas pipelines  $q = 0.00143 \text{ m}^3/\text{m}^2 \times d_n$ ;

F – pipeline inner area m<sup>2</sup>;

k – coefficient, which, using experimental data, takes into account the used gas drop detection apparatus. For low pressure distribution pipelines k=0.4. For medium and high pressure gas pipelines k=0.31.

Pipeline inner surface area of the gas pipeline is determined by the formula:

$$(10) \quad F = \pi \times d_{vid} \times L [m^2], \text{ where}$$

$\pi$  - 3.14;

$d_{vid}$  – average diameter  $d_{vid}$  of the pipeline, m;

L – pipeline length, m.

Pipeline average diameter is calculated by formula:

$$(11) \quad d_{vid} = \frac{d_1^2 \times L_1 + d_2^2 \times L_2 + \dots + d_n^2 \times L_n}{d_1 \times L_1 + d_2 \times L_2 + \dots + d_n \times L_n} [m], \text{ where}$$

$d_1, d_2, \dots, d_n$  – corresponding inner diameter, m

$L_1, L_2, \dots, L_n$  corresponding pipeline.

The norm of gas leaks for medium and high-pressure gas pipelines is  $0.00143 \text{ m}^3/\text{m}^2 \times d_n$ . It is obtained by calculation of the maximum allowable pressure drop, passing the high and medium pressure gas pipelines into operation. Knowing the maximum allowable pressure drop, you can calculate/estimate the maximum allowable air loss (m<sup>3</sup>) during pipeline testing, which in turn characterizes the maximum allowable gas leak size at the maximum allowable pressure drop gas pipeline.

In order to be able to determine the amount of natural gas losses from leaks/non dense parts in the gas system during the year, without making calculations, table below has been provided.

#### Determination of gas leaks trough gas system non dense parts per year

Estimated size of the pipeline	Pipeline inner diameter d, m	Pipeline length L, m	Pipeline inner area F, m <sup>3</sup>	Gas loses from gas leaks in the system non dense parts in low pressure system gaspipes, m <sup>3</sup> /a	Gas loses from gas leaks in the system non dense parts in medium and high pressure system gaspipes, m <sup>3</sup> /a
PE25	0.019	1000	59.69	6.3	9.6
DN25 and PE32	0.025	1000	78.54	8.3	12.6
DN32 and PE40	0.032	1000	100.53	10.6	16.1
DN40 and PE50	0.04	1000	125.66	13.2	20.2
DN50 and PE63	0.05	1000	157.08	16.5	25.2
DN60 and PE75	0.06	1000	188.50	19.8	30.3
DN70 and PE90	0.07	1000	219.91	23.1	35.3
DN80	0.08	1000	251.33	26.4	40.4
PE110	0.09	1000	282.74	29.7	45.4
DN100 and PE125	0.1	1000	314.16	33.0	50.5

Estimated size of the pipeline	Pipeline inner diameter d, m	Pipeline length L, m	Pipeline inner area F, m <sup>3</sup>	Gas losses from gas leaks in the system non dense parts in low pressure system gaspipes, m <sup>3</sup> /a	Gas losses from gas leaks in the system non dense parts in medium and high pressure system gaspipes, m <sup>3</sup> /a
PE140	0.115	1000	361.28	38.0	58.0
DN125 and PE160	0.125	1000	392.70	41.3	63.1
DN150 and PE180	0.15	1000	471.24	49.5	75.7
PE200	0.164	1000	515.22	54.2	82.7
PE225	0.184	1000	578.05	60.8	92.8
DN200 and PE250	0.2	1000	628.32	66.0	100.9
DN250	0.25	1000	785.40	82.6	126.1
PE315	0.258	1000	810.53	85.2	130.2
PE335	0.29	1000	911.06	95.8	146.3
DN300	0.3	1000	942.48	99.1	151.4
DN350	0.35	1000	1099.56	115.6	176.6
DN400	0.4	1000	1256.64	132.1	201.8
DN450	0.45	1000	1413.72	148.6	227.0
DN500	0.5	1000	1570.80	165.1	252.3
DN600	0.6	1000	1884.96	198.1	302.7
DN700	0.7	1000	2199.12	231.2	353.2
DN800	0.8	1000	2513.28	264.2	403.6

Calculation of Natural gas loss in gas pressure reduction points GRP and SGRP.

(14)  $Q_{g\ddot{a}ze} = 0.4 \times q \times N [m^3/d_n]$ , where

$Q_{g\ddot{a}ze}$  – leaks from gas pressure reduction point (GRP), m<sup>3</sup>/d<sub>n</sub>

q – size of the leaks, 0.288 m<sup>3</sup>/d<sub>n</sub>;

N – number of GRP and SGR, pieces;

0.4 - the coefficient, which takes into account the gas leak, reduces the results of reconstruction and renovation by replacing old Russian-made equipment with modern European-made equipment.

#### Calculation of natural gas losses without gas leak into atmosphere (4<sup>th</sup> group)

It consists of the use of natural gas for filling the gas pipeline with gas after the completion of construction works and putting them into operation.

Natural gas consumption is calculated according to the formula:

(15)  $Q_{g\ddot{a}ze} = \frac{Q_{sist} \times (p_a + p_g) T_{20}}{p_a \times (T_0 + t_g)} [m^3]$ , where

$Q_{g\ddot{a}ze}$  – amount of natural gas for filling of gaspipe after construction works and putting them into operation, m<sup>3</sup>;

$Q_{sist}$  – geometric volume of gas pipeline, m<sup>3</sup>;

$p_a$  – atmosphere pressure, Pa;

$p_g$  – gas pressure in the pipeline, Pa;

$T_{20}$  – absolute temperature in standard conditions, K;

$T_0$  – absolute temperature in normal conditions, K;

$t_g$  – temperature of the gas, °C.

**NOTE.** During the repair work, or other work, when the pipeline was degassed, the amount of gas used to fill the pipeline with gas is not calculated, because the given amount of natural gas is counted in the gas losses at the degassing outlet of the pipeline.

Pipeline inner geometrical volume  $Q_{sist}$  is calculated by the formula:

$$(16) Q_{sist} = \frac{\pi d^2}{4} \times L = \frac{3.14 \times 0.5^2}{4} \times 100 = 19.625 \text{ m}^3$$

When you put result into formula (15), we get:

$$Q_{g\ddot{a}ze} = \frac{Q_{sist} (p_a + p_g) T_{20}}{p_a (T_0 + t_g)} = 19.625 \frac{(101325 + 2000) \times 293.15}{101325 (273.15 + 10)} = 20.72 \text{ m}^3$$

**Determination of the amount of natural gas for filling the pipeline with gas after the completion of the construction works, putting them into operation**

Assumed pipeline size	Inner diameter of pipeline d, m	Pipeline length L, m	Pipeline inner volume $Q_{sist}$ , m <sup>3</sup>	Gas consumption to fill low pressure 2000 Pa pipeline, m <sup>3</sup>	Gas consumption to fill medium pressure 300000 Pa pipeline, m <sup>3</sup>	Gas consumption to fill 1 <sup>st</sup> category high pressure 600000 Pa pipeline, m <sup>3</sup>	Gas consumption to fill 2 <sup>nd</sup> category high pressure 1200000 Pa pipeline, m <sup>3</sup>
PE25	0.019	100	0.028	0.030	0.115	0.200	0.370
DN25 and PE32	0.025	100	0.049	0.052	0.198	0.346	0.641
DN32 and PE40	0.032	100	0.080	0.085	0.325	0.567	1.050
DN40 and PE50	0.04	100	0.126	0.133	0.508	0.885	1.641
DN50 and PE63	0.05	100	0.196	0.207	0.793	1.383	2.563
DN60 and PE75	0.06	100	0.2683	0.298	1.142	1.992	3.691
DN70 and PE90	0.07	100	0.385	0.406	1.555	2.711	5.024
DN80	0.08	100	0.502	0.530	2.031	3.541	6.562
PE110	0.09	100	0.636	0.671	2.570	4.482	8.306
DN100 and PE125	0.1	100	0.785	0.828	3.173	5.533	10.254
PE140	0.115	100	1.038	1.096	4.196	7.318	13.561
DN125 and PE160	0.125	100	1.227	1.294	4.958	8.646	16.022
DN150 and PE180	0.15	100	1.766	1.864	7.139	12.450	23.071

Assumed pipeline size	Inner diameter of pipeline d, m	Pipeline length L, m	Pipeline inner volume $Q_{sist}$ , m <sup>3</sup>	Gas consumption to fill low pressure 2000 Pa pipeline, m <sup>3</sup>	Gas consumption to fill medium pressure 300000 Pa pipeline, m <sup>3</sup>	Gas consumption to fill 1 <sup>st</sup> category high pressure 600000 Pa pipeline, m <sup>3</sup>	Gas consumption to fill 2 <sup>nd</sup> category high pressure 1200000 Pa pipeline, m <sup>3</sup>
PE200	0.164	100	2.111	2.228	8.534	14.882	27.579
PE225	0.184	100	2.658	2.805	10.743	18.734	34.715
DN200 and PE250	0.2	100	3.140	3.314	12.692	22.133	41.015
DN250	0.25	100	4.906	5.178	19.831	34.583	64.087
PE315	0.258	100	5.225	5.515	21.121	36.832	69.254
PE355	0.29	100	6.602	6.967	26.685	46.535	86.235
DN300	0.3	100	7.065	7.456	28.557	49.800	92.285
DN350	0.35	100	9.616	10.149	38.869	67.783	125.610
DN400	0.4	100	12.560	13.255	50.768	88.533	164.062
DN450	0.45	100	15.896	16.776	64.253	112.049	207.641
DN500	0.5	100	19.625	20.711	79.325	138.332	256.346
DN600	0.6	100	28.260	29.825	114.228	199.198	369.139
DN700	0.7	100	38.465	402.594	155.477	271.131	502.439
DN800	0.8	100	50.240	53.021	203.072	354.130	656.247

### Calculation of accident leaks (5<sup>th</sup> group)

Accident emissions are unplanned natural gas losses that occur as a result of pipeline damage.

If the area of the damage is much smaller than the area of the pipeline cut (gas pressure did not drop), then  $Q_{g\bar{a}ze}$  the natural gas losses are calculated according to the formulas:

$$(17) Q_{g\bar{a}ze} = 106 \frac{(p_a + p_g) F \tau}{\rho \sqrt{273.15 + t_g}} [m^3] \text{ pie } (p_a + p_g)/p_a \geq 1.84, \text{ where}$$

$p_a$  - atmospheric pressure, MPa;

$p_g$  - gas pressure, MPa;

F - pipeline damage area, mm<sup>2</sup>;

r - gas leakage time, h;

p - gas density, kg/m<sup>3</sup>;

$t_g$  - gas temperature, °C.

$$(18) Q_{g\bar{a}ze} = 461 \frac{(p_a + p_g)^{0.24} p_a^{0.76} F \tau}{\rho \sqrt{273.15 + t}} \sqrt{1 - \left(\frac{p_a}{p_g + p_a}\right)^{0.24}} [m^3] \text{ pie } (p_a + p_g)/p_a < 1.84$$

If the damaged area of the pipeline is comparable to the cross-section area of the pipeline, then the gas pressure in the pipeline drops and becomes a multi-parameter function. Then the calculations are made according to a different methodology.

### Calculation of natural gas technological losses in pipeline system

The total technological losses of natural gas are estimated by the  $Q_{total}$  distribution system by summing the natural gas loss estimation points of this methodology.



## Summary for methodology of calculating the technological loss of natural gas in the Joint Stock Company "CONEXUS BALTIC GRID"

This summary displays descriptive information. The literature from gas infrastructure theory is used for calculation formulas in methodologies. The protected information in this summary is marked with "[...]".

### UNDERGROUND GAS STORAGE

1. The operation of Incukalns underground gas storage (UGS) is provided by the structural unit "Incukalns Underground Gas Storage" of joint stock company "Conexus Baltic Grid".
2. Incukalns UGS consists of underground geological formations where natural gas is stored with underground and aboveground technological equipment, used to inject natural gas from the gas transmission system into the underground porous rock storage and extracted from it. The Incukalns UGS boundary with the natural gas transmission system is the Incukalns UGS connection point to the natural gas transmission system.
3. The calculation of natural gas losses in Incukalns UGS in many cases is based on the natural gas loss norms. Natural gas loss norms are determined based on the normative technical documentation related to the relevant period's technological equipment. When changing technological equipment, the loss norms are also changed.
4. To make the most efficient use of the energy in natural gas, along with the amount of natural gas released into the environment and the associated costs, before carrying out the repair work, the pressure of natural gas in the pipelines and equipment of the Incukalns UGS is reduced to a minimum level by transferring natural gas to the transmission system.

[...]

6. Technological losses of natural gas in the Incukalns UGS are classified as follows.
  - 6.1. Losses due to the release of natural gas into the atmosphere, incl.:
    - 6.1.1. losses incurred in the Incukalns UGS during the purging of connecting pipelines to get rid of hydrate formations, oil, mud and water;
    - 6.1.2. losses incurred in the Incukalns UGS during condensate release from condensate collectors, contactors, separators, filter-separators, filters;
    - 6.1.3. losses incurred in the Incukalns UGS during the start-up and shutdown of gas engine compressors in compressor station No 2;
    - 6.1.4. losses incurred in the Incukalns UGS during the natural gas release from gas engine driven compressors and gas air cooling facilities;
    - 6.1.5. losses incurred in the Incukalns UGS during natural gas release from condensate collectors, contactors, separators, filter separators, filters;
    - 6.1.6. losses incurred in the Incukalns UGS during the partial reduction of natural gas pressure in pipelines and equipment;
    - 6.1.7. losses incurred in the Incukalns UGS during the release of air from natural gas purification and drying facilities;
    - 6.1.8. losses incurred in the Incukalns UGS during the opening or closing of valves;
    - 6.1.9. losses incurred in the Incukalns UGS during conducting geophysical surveys of storage wells;
    - 6.1.10. losses incurred in the Incukalns UGS from natural gas leaks, including:
      - 6.1.10.1. from leaks in the valves of the gas pipeline sections;
      - 6.1.10.2. from leaks at compressor seals;
      - 6.1.10.3. from leaks in storage well aboveground equipment ('Christmas tree');
      - 6.1.10.4. from gas leakage through annulus.

- 6.2. The amount of burned natural gas in the Incukalns UGS;
  - 6.3. Incident emissions in the Incukalns UGS.
  7. Formulas for calculation losses (for point 6) due to the release of natural gas into the atmosphere.
- [...]
11. If the damage area of the Incukalns UGS technological equipment is comparable to the cross-sectional area of the technological equipment, then the natural gas pressure in the technological equipment decreases and becomes a function of various parameters. In such cases, the calculation of the amount of natural gas losses is carried out using a different methodology or determined by expertise.
  12. The total amount of natural gas technological losses in the Incukalns UGS is calculated by summing up the amount of natural gas losses calculated in accordance with points 7-10 (calculation formulas for point 6) of this methodology.
  13. Calculation of natural gas technological losses in weight and energy units.

The amount of technological losses of natural gas in the Incukalns UGS is initially calculated in volume units (in cubic meters), however, in practice, it is necessary to determine the amount of natural gas losses in mass and energy units as well.

To calculate the amount of natural gas losses in mass units for a specified period, the volume-based amount of natural gas losses in the Incukalns UGS for the specified period is multiplied by the weighted average (for leaks - arithmetic average) volume density of natural gas for the specified period.

To calculate the amount of natural gas losses in energy units for a specified period, the volume-based amount of natural gas losses in the Incukalns UGS for the specified period is multiplied by the weighted average (for leaks - the arithmetic average) higher heating value of natural gas for the specified period.

### **GAS TRANSMISSION SYSTEM**

1. The methodology for calculating natural gas technological losses in the transmission gas pipeline system has been developed by considering the impact of the systematically implemented technological equipment modernization process in the natural gas transmission system on the amount of natural gas losses.
2. The transmission gas pipeline system consists of gas pipeline sections with valves and the necessary technological equipment for their operation, as well as gas regulation stations with the technological equipment necessary for their operation.

The operation of the transmission gas pipeline system is ensured by the structural unit "Gas Transmission" of the joint stock company "Conexus Baltic Grid".

The boundary of the gas transmission pipeline system is defined by:

- with neighbouring countries, it is the national border;
- with the Incukalns underground gas storage (hereinafter - Incukalns UGS), it is the Incukalns UGS connection point to the transmission gas pipeline system;
- with the distribution system, it is the location of the dielectric joints beyond the gas regulation station on the outlet gas pipeline.

The calculation of natural gas losses is often based on natural gas loss norms. Natural gas loss norms are determined based on the normative technical documentation, related to the relevant period's technological equipment. When changing technological equipment, the loss norms are also changed.

Considering the continuous improvement process of the technical equipment for detecting natural gas leaks, the result is an increasing capability to detect and prevent natural gas leaks with ever higher precision.

To make the most efficient use of the energy in natural gas along with the amount of natural gas released into the environment and the associated costs, before carrying out the repair work, the pressure of natural gas in the pipelines and equipment is reduced to a minimum level by transferring natural gas to the users.

[...]

5. Technological losses of natural gas in the gas transmission pipeline system are classified as follows:
  - 5.1. losses due to the release of natural gas into the atmosphere, including:
    - 5.1.1. losses during the purging of the transmission gas pipeline with natural gas, putting the transmission gas pipeline into operation after completion of construction works, as well as during repairs, installation, and other works when the transmission gas pipeline has been released from natural gas,
    - 5.1.2. losses during the release of natural gas from transmission gas pipeline before starting repairs or other work when the transmission gas pipeline needs to be completely released from natural gas,
    - 5.1.3. losses when reducing the gas pressure in the gas regulation station (hereafter GRS) to completely release the technological equipment and communications from natural gas,
    - 5.1.4. losses in the GRS during filter release from condensate,
    - 5.1.5. losses in GRS during gas pressure regulator testing,
    - 5.1.6. losses in the GRS's odorization equipment while reducing the gas pressure to atmospheric pressure,
    - 5.1.7. losses from natural gas leaks.
  - 5.2. Losses incurred by burning natural gas during repair works on the gas pipeline system, technological equipment, or communications of transmission gas pipeline system, reducing the pressure in the transmission gas pipeline system, including:
    - 5.2.1. reducing the pressure in the transmission gas pipeline system to atmospheric pressure,
    - 5.2.2. partially reducing the pressure in the transmission gas pipeline system.
  - 5.3. Incident emissions.
6. Formulas for calculating losses (for point 5) due to the release of natural gas into the atmosphere.

[...]

10. If the damage area of the transmission gas pipeline is comparable to the cross-sectional area of the pipeline, then the natural gas pressure in the pipeline decreases and becomes a function of various parameters. In such cases, the calculation of the amount of natural gas losses is carried out using a different methodology or determined by expertise.
11. The total amount of technological losses of natural gas in the gas transmission pipeline system is calculated by summing up the amount of natural gas losses calculated in accordance with methods in 5.1-5.3 paragraph.
12. Calculation of natural gas technological losses in weight and energy units.

The amount of technological losses of natural gas is initially calculated in volume units (in cubic meters), however, in practice, it is necessary to determine the amount of natural gas losses in mass and energy units as well.

To calculate the amount of natural gas losses in mass units for a specified period, the volume-based amount of natural gas losses for the specified period is multiplied by the weighted average (for leaks - arithmetic average) volume density of natural gas for the specified period.

To calculate the amount of natural gas losses in energy units for a specified period, the volume-based amount of natural gas losses for the specified period is multiplied by the weighted average (for leaks - the arithmetic mean) higher heating value of natural gas for the specified period.

**A.3.7 AGRICULTURE****Manure Management Systems distribution (MMS), 1990-2022, %**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
<b>Dairy cows</b>																																		
Pasture/Range/Paddock	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	
Solid storage	0.83	0.83	0.82	0.82	0.81	0.81	0.8	0.79	0.78	0.77	0.76	0.72	0.72	0.71	0.7	0.7	0.69	0.67	0.64	0.62	0.6	0.58	0.56	0.54	0.53	0.48	0.46	0.44	0.44	0.42	0.41	0.37	0.35	
Liquid/ Slurry	0.054	0.06	0.07	0.07	0.08	0.08	0.09	0.1	0.11	0.12	0.13	0.18	0.19	0.19	0.2	0.21	0.22	0.24	0.27	0.29	0.27	0.28	0.25	0.24	0.27	0.33	0.35	0.36	0.31	0.36	0.32	0.36	0.43	
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.04	0.05	0.11	0.14	0.13	0.13	0.13	0.14	0.19	0.16	0.22	0.23	0.18	
<b>Sheep</b>																																		
Pasture/Range/Paddock	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.24	0.26	0.29	0.32	0.35	0.38	0.38	0.38	
Solid storage	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.77	0.74	0.71	0.68	0.65	0.62	0.62	0.62	
Liquid/ Slurry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Goats</b>																																		
Pasture/Range/Paddock	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	
Solid storage	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.90	0.90	0.90	0.90	0.90	0.90	
Liquid/ Slurry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Horses</b>																																		
Pasture/Range/Paddock	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.18	0.21	0.25	0.30	0.35	0.35	0.35	
Solid storage	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.86	0.82	0.79	0.75	0.70	0.65	0.65	0.65	

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Sows and boars</b>																																		
<b>Pasture/Range/Paddock</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Solid storage</b>	0.72	0.71	0.69	0.68	0.66	0.64	0.62	0.6	0.57	0.55	0.53	0.48	0.44	0.4	0.37	0.33	0.3	0.28	0.25	0.23	0.21	0.18	0.16	0.14	0.12	0.10	0.09	0.08	0.05	0.05	0.04	0.04	0.04	
<b>Liquid/ Slurry</b>	0.28	0.29	0.31	0.32	0.34	0.36	0.38	0.41	0.43	0.45	0.47	0.52	0.56	0.6	0.63	0.67	0.7	0.72	0.75	0.77	0.71	0.71	0.61	0.56	0.52	0.60	0.60	0.56	0.56	0.50	0.46	0.50	0.46	
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.08	0.11	0.24	0.3	0.36	0.31	0.32	0.36	0.39	0.45	0.50	0.47	0.50	
<b>Piglets</b>																																		
<b>Pasture/Range/Paddock</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Solid storage</b>	0.72	0.71	0.7	0.68	0.67	0.65	0.63	0.6	0.58	0.56	0.53	0.49	0.45	0.41	0.37	0.34	0.31	0.28	0.26	0.23	0.21	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.05	0.05	0.04	0.04	0.04	
<b>Liquid/ Slurry</b>	0.28	0.29	0.3	0.32	0.33	0.35	0.38	0.4	0.42	0.45	0.47	0.51	0.55	0.59	0.63	0.67	0.69	0.72	0.74	0.77	0.71	0.71	0.60	0.56	0.52	0.59	0.60	0.56	0.56	0.50	0.46	0.50	0.46	
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.08	0.11	0.23	0.3	0.36	0.31	0.32	0.36	0.39	0.45	0.50	0.47	0.50	
<b>Fattening and young breeding pigs</b>																																		
<b>Pasture/Range/Paddock</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Solid storage</b>	0.71	0.7	0.68	0.67	0.65	0.63	0.61	0.58	0.56	0.54	0.52	0.47	0.43	0.39	0.35	0.32	0.29	0.27	0.24	0.22	0.20	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.05	0.05	0.04	0.04	0.04	
<b>Liquid/ Slurry</b>	0.29	0.3	0.32	0.33	0.35	0.37	0.39	0.42	0.44	0.46	0.49	0.53	0.57	0.61	0.65	0.68	0.71	0.73	0.76	0.78	0.72	0.72	0.61	0.56	0.52	0.60	0.60	0.57	0.56	0.50	0.47	0.50	0.46	
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.09	0.11	0.24	0.31	0.36	0.31	0.32	0.36	0.39	0.45	0.50	0.47	0.50	
<b>Laying hens</b>																																		
<b>Pasture/Range/Paddock</b>	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	
<b>Solid storage</b>	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.97	0.97	0.87	0.84	0.71	0.63	0.46	0.61	0.55	0.27	0.16	0.20	0.36	0.46	0.45	

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.10	0.13	0.26	0.35	0.51	0.36	0.42	0.70	0.80	0.77	0.61	0.50	0.51	
<b>Broilers</b>																																		
<b>Pasture/Range/Paddock</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
<b>Solid storage</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Turkeys</b>																																		
<b>Pasture/Range/Paddock</b>	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.17	0.20	0.22	0.25	0.26	0.30	0.30	NO	
<b>Solid storage</b>	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.83	0.81	0.78	0.75	0.74	0.70	0.70	1.00	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Ducks</b>																																		
<b>Pasture/Range/Paddock</b>	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.19	0.21	0.24	0.26	0.29	0.32	0.32	0.32		
<b>Solid storage</b>	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.81	0.79	0.76	0.74	0.71	0.69	0.69	0.69	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Geese</b>																																		
<b>Pasture/Range/Paddock</b>	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.18	0.19	0.22	0.24	0.27	0.29	0.29	0.29		
<b>Solid storage</b>	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.83	0.81	0.78	0.76	0.73	0.71	0.71	0.71	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022				
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO			
<b>Rabbits</b>																																					
<b>Pasture/Range/Paddock</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO			
<b>Solid storage</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
<b>Fur animals</b>																																					
<b>Pasture/Range/Paddock</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
<b>Solid storage</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
<b>Deer</b>																																					
<b>Pasture/Range/Paddock</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
<b>Solid storage</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Dairy cattle calves under 1 year</b>																																					
<b>Pasture/Range/Paddock</b>	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.09	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06		
<b>Solid storage</b>	0.88	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.91	0.91	0.88	0.88	0.84	0.81	0.82	0.83	0.83	0.82	0.78	0.81	0.76	0.76	0.80	0.80			
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00	
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.03	0.04	0.08	0.11	0.10	0.10	0.10	0.11	0.15	0.13	0.18	0.18	0.14	0.14			



ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
<b>Beef cattle calves under 1 year</b>																																		
Pasture/Range/Paddock	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Solid storage	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Liquid/ Slurry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Dairy cow young cattle, aged 1-2 years</b>																																		
Pasture/Range/Paddock	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.09	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	
Solid storage	0.88	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.91	0.91	0.88	0.88	0.84	0.81	0.82	0.83	0.83	0.82	0.78	0.81	0.76	0.76	0.80	
Liquid/ Slurry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.03	0.04	0.08	0.11	0.01	0.10	0.10	0.11	0.15	0.13	0.18	0.18	0.14		
<b>Beef young cattle, aged 1-2 years</b>																																		
Pasture/Range/Paddock	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	
Solid storage	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	
Liquid/ Slurry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Bulls over 2 year</b>																																		
Pasture/Range/Paddock	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	
Solid storage	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	
Liquid/ Slurry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Anaerobic digester	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Heifers over 2 years</b>																																		

ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Pasture/Range/Paddock</b>	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	
<b>Solid storage</b>	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b><i>Other cows over 2 year</i></b>																																	
<b>Pasture/Range/Paddock</b>	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	
<b>Solid storage</b>	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	
<b>Liquid/ Slurry</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Anaerobic digester</b>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

## Estimation of MMS

### 1 MMS distribution calculation

Latvia University of Life Sciences and Technologies under the research project (2017) „Lauksaimniecības sektora SEG emisiju aprēķina metodoloģijas un datu analīzes ar modelēšanas rīku izstrāde, integrējot klimata pārmaiņas” Nr.2014/94 [Development of methodology for calculating GHG emissions in the agricultural sector and data analysis with modeling tools integrating climate change]<sup>1</sup> developed Powersim dynamic model to evaluate manure management distribution (Figure 1). Each year input data of model is updated therefore not always in NIR MMS numbers are the same as in relevant research papers as the distribution is updated for each GHG inventory year.

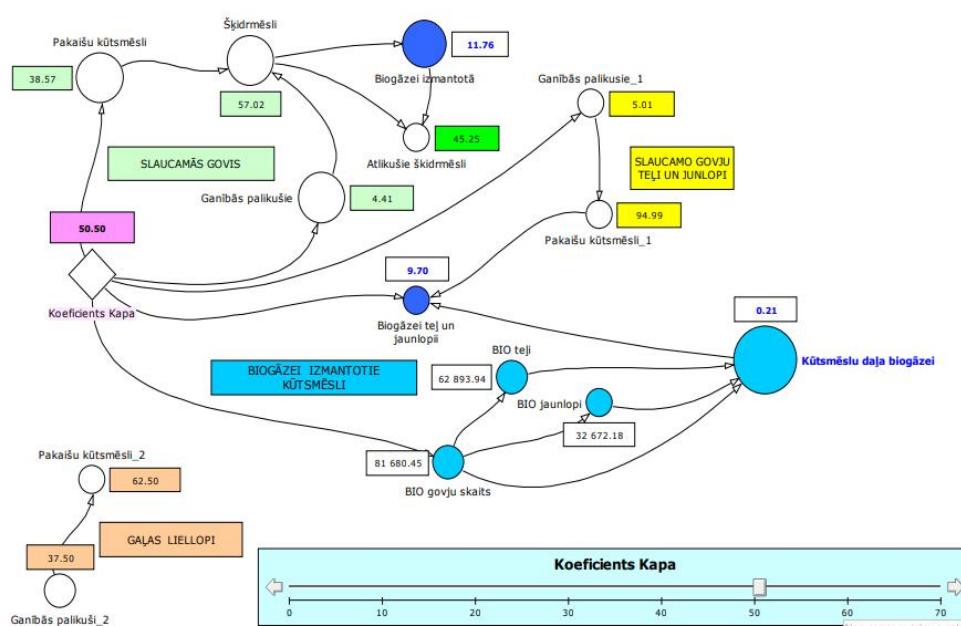


Figure 1. Powersim model for manure management system distribution estimation

### 2 Deep bedding

2006 IPCC Guidelines TABLE 10.18 Definitions of manure management systems explain that cattle and swine deep bedding means: “As manure accumulates, bedding is continually added to absorb moisture over a production cycle and possibly for as long as 6 to 12 months. This manure management system also is known as a bedded pack manure management system and may be combined with a dry lot or pasture”. However meaning of the term “deep bedding” has different characteristics in Latvia comparing to the IPCC 2006 Guidelines. The practice to use added bedding material continually for as long as 6 to 12 months was stopped before 1990. Also legislation acts set that deep cattle-shed is animal lodging where solid manure is accumulated at least half-year. According to 2006 IPCC and national assumptions if added bedding material is removed before 6 months of use the manure management system should be referred as solid manure.

Latvia uses extensive production systems for beef cattle. It means that young beef cattle spend more than half of year in pastures. Latvia has favorable weather conditions and pasture quality for that reason. Housing for beef cattle could be used only for winter months (December,

<sup>1</sup>[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_VARAM\\_2017\\_Lauksaimn\\_SEG\\_emisij\\_aprek\\_metodolog\\_un\\_datu\\_analiz\\_ar\\_model\\_riku\\_izstrad\\_integrej\\_klim\\_mainas.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_VARAM_2017_Lauksaimn_SEG_emisij_aprek_metodolog_un_datu_analiz_ar_model_riku_izstrad_integrej_klim_mainas.pdf)

January, and February). If holdings are using bedding material for winter housing, then it does not last longer than 3-4 months and after that all housing places are cleaned. Regarding to young cattle for milk they are intensively managed. It means that young cattle are moved to new feedlots after each 3 months. If young cattle are kept on bedding form age 0-3 months, after that time they are moved to new place and previous place is cleaned. Cattle are moved to new place because after age 3 months they have different feeding system and other welfare requirements, including density of cattle in the living place. In the new feedlot with bedding materials they spend time from age 3 to 6 months and after that time they are moved to new place after every 3 months.

After each move housing place is cleaned. It means that bedding material in Latvian farms is removed from the place most frequently after 3 months or at least 4 times in the year accord to life cycles of young cattle.

### **3 Grazing season**

The traditional grazing season in Latvia is from mid-May to early October or at least 140 days. However, there is great variety of grazing experience in Latvian farms. Big and intensive productions farms do not graze animals. Other farms also have different experience, there is same farms that use daily grazing, same farms use half day grazing with different lengths. Some farms let to animals spent noon or hot days in barn; same farms do not use this practice. During the research project scientists investigated long term data on pasture utilization based on agriculture census, they investigated the dynamic of pasture use practice change, they arranged farmers survey on pasture utilization and grazing practice. All factors that affect grazing periods were evaluated including general production practice in the farms and climatic and even meteorological conditions that also gives influence on grazing period. The research also gives discussion on grazing period in Latvia with references on literature data. Some sources indicate that the grazing period of cows in Latvia lasts 150 - 160 days. Concept of technological design of livestock buildings farms noted that the grazing period for cows lasts from 15 May to September 15, i.e. 120 days, but in addition from September 15 to October 15 (30 days) and 1-15 May (15 days) are transition periods. Many of factors influencing grazing days' change year to year and this is time consuming process to observe grazing period every year, therefore to give precise grazing period in Latvia, based on all information above scientists give recommendation to present grazing period not in days but in hours and describe it as pasture utilization rate ( $k_{g.gan}$ ).

Formula for that is:

$$k_{g.gan} = \frac{t_{g.gan}}{24 \cdot 365} ,$$

where  $t_{g.gan}$  is average grazing time in hours per year.

**ANNEX 4: NATIONAL ENERGY BALANCE OF LATVIA IN 2022 (TJ)**

	Oil products - total	Shale oil	LPG	Motor and aviation petrol	Petrol type jet fuel	Kerosene type jet fuel	Kerosene	Diesel oil	RFO	White spirit	Lubricants	Oil bitumen	Paraffin waxes	Petroleum coke	Other oil products	Used oils	Coal	Peat	Peat briquettes	Coke oven coke	Oil shale	Natural gas	Firewood	Wood wastes	Wood chips	Wood briquettes	Pelleted wood	Charcoal	Bioethanol	Biodiesel	Landfill gas	Sewage sludge gas	Other biogas	Straw
Production of primary energy resources	1054	-	-	-	-	-	-	-	-	-	1054	-	-	-	-	-	-	64	59	-	-	-	24603	5191	39475	1127	34723	-	-	3267	288	63	1972	116
Recycled products	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38
Imports	91099	-	9217	8045	-	8968	11	58457	118	57	1664	3979	461	-	122	0	1070	-	-	-	-	28975	398	1112	1381	232	6541	109	505	2780	-	-	-	119
Imported for bunkering	4613	-	-	-	-	-	-	3614	999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exports	25484	-	5935	1412	-	216	11	14634	-	3	1832	1339	1	-	96	5	161	4	12	-	-	-	4901	1336	9761	438	29237	179	-	5681	-	-	-	-
Bunkering	4613	-	-	-	-	-	-	3614	999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interproduct transfers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock changes	-2103	-	16	-312	-	-2645	0	911	-5	0	-40	-36	7	-	1	0	-439	25	-40	-	-	65	1048	3435	-613	-379	-8629	-66	-82	6	-	-	-	8
Statistical differences	1646	-	-	-88	-	-	-	1734	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross energy consumption	66217	-	3298	6233	-	6107	0	46468	113	54	846	2604	467	-	27	0	470	85	7	-	-	29040	21148	8402	30482	542	3398	-136	423	372	288	63	1972	281
Consumed in transformation sector	-911	-	-48	-	-	-	-	-788	-75	-	-	-	-	-	-	-	-30	-53	0	-	-	-15774	-829	-428	-22782	-1	-288	-	-	-	-162	-63	-1794	-11
Produced in transformation sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	204	-	-	-	-	-	-	
Transformation	-911	-	-48	-	-	-	-	-788	-75	-	-	-	-	-	-	-	-30	-53	0	-	-	-15774	-829	-428	-22782	-1	-288	204	-	-	-162	-63	-1794	-11
Electricity plants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public CHP	-747	-	-4	-	-	-	-	-743	-	-	-	-	-	-	-	-	-	-2	-	-	-	-13269	-	-379	-13027	-	-19	-	-	-	-17	-63	-1246	-7
Utoproducer CHP	-6	-	-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-121	-	-	-222	-	-	-	-	-	-145	-	-548	-
Public heat plants	-109	-	-18	-	-	-	-	-16	-75	-	-	-	-	-	-	-	-30	-2	-	-	-	-1890	-91	-14	-8570	-1	-165	-	-	-	-	-	-	-
Autoproducer heat plants	-49	-	-20	-	-	-	-	-29	-	-	-	-	-	-	-	-	-	-	0	-	-	-494	-221	-35	-963	0	-104	-	-	-	-	-	-	-4
Utilised heat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

	Oil products - total	Shale oil	LPG	Motor and aviation petrol	Petrol type jet fuel	Kerosene type jet fuel	Kerosene	Diesel oil	RFO	White spirit	Lubricants	Oil bitumen	Paraffin waxes	Petroleum coke	Other oil products	Used oils	Coal	Peat	Peat briquettes	Coke oven coke	Oil shale	Natural gas	Firewood	Wood wastes	Wood chips	Wood briquettes	Pelleted wood	Charcoal	Bioethanol	Biodiesel	Landfill gas	Sewage sludge gas	Other biogas	Straw	
Production of peat briquettes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Charcoal production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-517	-	-	-	-	204	-	-	-	-	-	-	
Energy sector	286	-	-	-	-	-	-	286	-	-	-	-	-	-	-	-	-	-	-	-	-	375	-	-	-	-	1	-	-	-	-	-	-	-	
Losses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	402	-	-	-	-	-	-	-	-	-	-	-	-	
Final consumption	65020	-	3250	6233	-	6107	0	45394	38	54	846	2604	467	-	27	0	440	32	7	-	-	12489	20319	7974	7700	541	3109	68	423	372	126	-	178	270	
Transport	48774	-	1508	5959	-	6107	-	34386	-	-	814	-	-	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	423	248	-	-	-	-	
International air transport	5961	-	-	0	-	5961	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Domestic air transport	161	-	-	15	-	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Road transport	41605	-	1508	5959	-	-	-	33355	-	-	814	-	-	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	423	211	-	-	-	-	
Rail transport	973	-	-	-	-	-	-	963	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	
Inland shipping	74	-	-	6	-	-	-	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pipeline transport	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industry and construction	5513	-	519	19	-	-	0	1813	38	53	-	2604	467	-	-	0	355	23	1	-	-	3204	3407	7296	7378	30	272	-	-	2	-	-	0	193	
Manufacture of metals	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	4	-	-	-	-	4	2	-	-	-	0	-	-	-	-	-	-	-	-
Manufacture of chemicals and chemical products	238	-	171	0	-	-	-	14	-	53	-	-	-	-	-	-	2	-	-	-	-	234	1	0	122	-	1	-	-	-	-	-	-	-	
Manufacture of other fabricated metal products	1	-	0	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-
Manufacture of other non-metallic mineral products	346	-	32	0	-	-	0	314	-	-	-	-	-	-	-	-	334	-	-	-	-	1071	10	-	25	0	2	-	-	2	-	-	-	-	157
Manufacture of motor vehicles	27	-	13	0	-	-	0	14	-	-	-	-	-	-	-	-	0	-	-	-	-	16	-	-	-	-	3	-	-	-	-	-	-	-	-

## ANNEXES TO THE LATVIA'S NATIONAL INVENTORY REPORT 1990 – 2022

	Oil products - total	Shale oil	LPG	Motor and aviation petrol	Petrol type jet fuel	Kerosene type jet fuel	Kerosene	Diesel oil	RFO	White spirit	Lubricants	Oil bitumen	Paraffin waxes	Petroleum coke	Other oil products	Used oils	Coal	Peat	Peat briquettes	Coke oven coke	Oil shale	Natural gas	Firewood	Wood wastes	Wood chips	Wood briquettes	Pelleted wood	Charcoal	Bioethanol	Biodiesel	Landfill gas	Sewage sludge gas	Other biogas	Straw
Machinery	34	-	20	0	-	-	-	14	-	-	-	-	-	-	-	-	1	-	-	-	-	181	12	12	21	8	37	-	-	-	-	-	-	-
Mining and quarrying	319	-	4	0	-	-	-	255	-	-	-	60	-	-	-	-	-	-	-	-	-	17	6	-	-	-	1	-	-	-	-	-	-	-
Manufacture of food products	317	-	116	1	-	-	-	162	38	-	-	-	-	-	-	0	9	-	0	-	-	979	67	0	143	12	26	-	-	-	-	-	0	32
Manufacture of paper and paper products	6	-	6	0	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	66	2	0	16	0	2	-	-	-	-	-	-	-
Manufacture of wood and wood products	600	-	39	4	-	-	-	389	-	-	-	-	168	-	-	-	-	23	1	-	-	224	3103	7140	6986	9	166	-	-	-	-	-	-	4
Construction	3289	-	102	14	-	-	-	629	-	-	-	2544	-	-	-	-	5	-	-	-	-	217	27	-	1	0	20	-	-	-	-	-	-	-
Manufacture of textiles	11	-	10	0	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	153	2	-	-	-	6	-	-	-	-	-	-	-
Other manufacturing	325	-	6	0	-	-	-	20	-	-	-	-	299	-	-	-	0	-	-	-	-	33	175	144	64	1	8	-	-	-	-	-	-	-
Other sectors	10733	-	1223	255	-	-	0	9195	0	1	32	-	-	-	27	0	85	9	6	-	-	9199	16912	678	322	511	2837	68	-	122	126	-	178	77
Other consumers - commercial and public sector	2058	-	398	32	-	-	0	1600	0	1	-	-	-	-	27	0	33	9	6	-	-	4692	1000	41	238	44	889	-	-	-	126	-	-	3
Households	2265	-	733	198	-	-	-	1334	-	-	-	-	-	-	-	52	-	-	-	-	-	4392	15822	319	-	467	1896	68	-	-	-	-	-	-
Crop and animal production	6180	-	89	24	-	-	-	6036	-	-	31	-	-	-	-	-	-	-	0	-	-	112	86	318	83	-	49	-	-	122	-	-	178	74
Fishing	230	-	3	1	-	-	-	225	0	-	1	-	-	-	-	-	-	-	-	-	-	3	4	-	1	-	3	-	-	-	-	-	-	-

**ANNEX 5: OTHER**

Additional information on CSB Integrated Statistical Data Management System (ISDMS).

ISDMS contents:

Following business application software modules are covering and supporting all phases of the statistical data processing:

Core metadata base module – the key part of the system ensures metadata collection and storage, defines all entire system processes starting from data collection and ending with output reports preparation. All System software modules are linked with the Core Metadata module.

Registers module – ensure system users with the full range of respondents data.

Data entry and validation module – generates data entry and validation applications, executes validation and data editing processes and storage clean data sets in the Micro Data Base.

Data collection modules – ensures electronic data collection CATI, CAPI, CAWI, CAWI mobile.

Data aggregation module – ensures data aggregation on different conditions and storage of the aggregated data sets in the Macro Data Base.

Data analysis module – via micro data export to MS Excel and/or Access ensures data analysis processes, MS OLAP tools are available for data analysis as well.

Data dissemination module – ensures data storage for publication at CSB web.

User's administration module – administrates user roles and rights.

ISDMS advantages:

- Standardized data entry, processing and storage procedures => process oriented data processing.
- Centralized processing and storage of all types of statistical data, including metadata, by using data warehouse technologies and OLAP tools.
- The system is connected to Business Register => direct respondent basic data retrieval and updating.
- Special import and export procedure is created for data exchange with other systems.

A link with PC Axis is created for electronic data dissemination.