

# AUSTRIA'S NATIONAL INVENTORY REPORT 2024

*Submission under Regulation (EU) No 2018/1999*

SUMMARY – ACCESSIBLE FORMAT  
REP-0909

VIENNA 2024

Since 23 December 2005 the Umweltbundesamt has been accredited as Inspection Body for emission inventories, Type A (ID No. 241), in accordance with EN ISO/IEC 17020 and the Austrian Accreditation Law (AkkG), by decree of Accreditation Austria (first decree, No. BMWA-92.715/0036-I/12/2005, issued by Accreditation Austria / Federal Ministry of Economics and Labour on 19 January 2006).

The information covered refers to the following accreditation scope of the IBE: 2006 IPCC GL for National Greenhouse Gas Inventories, 2006 GL Revised Supplementary KP and 2006 GL Supplement Wetlands ([akkreditierung-austria.gv.at/overview](http://akkreditierung-austria.gv.at/overview))



## **EXECUTIVE SUMMARY**

### **ES.1 BACKGROUND INFORMATION ON GREENHOUSE GAS (GHG) INVENTORIES AND CLIMATE CHANGE**

#### **ES.1.1 Background information on climate change**

Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. It undergoes natural variability. Since industrialisation started some 150 years ago, mankind has been influencing the climate via the emission of greenhouse gases. In 1992, by adopting the United Nations Convention on Climate Change, the countries of the world came together to prevent harmful effects of climate change. However, the Convention did not include binding commitments to limit GHG emissions. To go this step further the Kyoto Protocol was adopted in 1997: It sets binding emission limits for 37 industrialized countries for the period 2008–2012. An agreement on a second Kyoto commitment period from 2013 to 2020 was achieved 2012 at the 18<sup>th</sup> Conference of the Parties in Doha (Qatar) (UNFCCC CMP.8 ). The agreed reduction for the EU is 20% compared to 1990 emissions, which is in line with the climate and energy package 2020 of the EU.

The decision to negotiate a new global agreement for the period after 2020 was made at the Conference of the Parties in Durban in 2011. In December 2015, this was adopted at the 21<sup>st</sup> Conference of the Parties in Paris. It entered into force on November 4, 2016, as more than 55 Parties covering at least 55% of global GHG emissions ratified it.

The Paris Agreement established the long-term 2°C target for the first time in an international treaty. It also calls for additional efforts to limit temperature increases to 1.5°C. In contrast to the Kyoto Protocol, this new agreement includes not only industrialized but also newly industrializing and developing countries in order to take account of the change in the global distribution of GHG emissions. Plans for emission reductions (Nationally Determined Contributions, NDCs) of the participating countries have been submitted to the UNFCCC.

#### **ES.1.2 Background information on greenhouse gas inventories**

To be able to evaluate the trend of greenhouse gas emissions, especially the progress in achieving the emission reduction goal, it is necessary to regularly compile an inventory of GHG emissions.

## ES.2 SUMMARY OF NATIONAL EMISSION AND REMOVAL-RELATED TRENDS

In 2022 Austria's total greenhouse gas (GHG) emissions (without Land Use, Land Use Change and Forestry – LULUCF) amounted to 72.8 Mt CO<sub>2</sub> equivalents (CO<sub>2</sub>e). Compared to the 1990 base year<sup>1</sup>, 2022 GHG emissions without LULUCF decreased by 7.9%. Compared to 2021 GHG emissions decreased by 5.8%.

The most important gas in the Austrian GHG balance remains carbon dioxide (CO<sub>2</sub>) with a share of 84% in total 2022 emissions (without LULUCF). Emissions of CO<sub>2</sub> primarily result from combustion activities. Methane (CH<sub>4</sub>), which mainly arises from livestock farming and waste disposal, contributes 8.9% (2022) to total national GHG emissions. Nitrous oxide (N<sub>2</sub>O), with agricultural soils as the main source, contributes another 4.2% (2022). The remaining 2.5% are emissions of fluorinated compounds, which are mostly emitted from the use of these gases as substitutes for ozone depleting substances (ODS) in refrigeration equipment.

Table 1: Austria's greenhouse gas emissions by gas.

GHG emissions	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	PFCs	SF <sub>6</sub>	NF <sub>3</sub>	Total
	CO <sub>2</sub> equivalents (kt)							
1990	62 184	11 321	4 028	2.0	1 063	485	NO,NA	<b>79 083</b>
1995	64 061	10 515	3 871	324	75	1 134	6.0	<b>79 986</b>
2000	66 177	9 218	3 885	678	80	592	9.8	<b>80 640</b>
2005	79 092	8 519	3 200	1 109	150	509	26	<b>92 605</b>
2010	72 008	7 917	3 014	1 434	71	346	3.9	<b>84 793</b>
2011	69 901	7 684	3 108	1 527	66	317	3.8	<b>82 607</b>
2012	67 274	7 551	3 082	1 607	46	321	8.0	<b>79 889</b>
2013	67 767	7 431	3 066	1 678	45	315	9.1	<b>80 310</b>
2014	64 166	7 274	3 148	1 752	48	324	9.9	<b>76 721</b>
2015	66 357	7 188	3 163	1 850	45	319	13	<b>78 935</b>
2016	67 217	7 110	3 251	1 828	46	405	5.7	<b>79 863</b>
2017	69 598	7 081	3 196	1 857	40	412	11	<b>82 195</b>
2018	66 562	6 853	3 156	1 890	29	398	15	<b>78 903</b>
2019	67 946	6 711	3 149	1 755	35	450	13	<b>80 058</b>
2020	62 176	6 607	3 105	1 650	27	455	11	<b>74 030</b>
2021	65 757	6 622	3 143	1 431	23	371	12	<b>77 360</b>
2022	61 489	6 498	3 040	1 411	26	365	14	<b>72 844</b>

Note: Global warming potentials (GWPs) according to the 5<sup>th</sup> Assessment Report (Ipcc 2013) (100 years time horizon): carbon dioxide (CO<sub>2</sub>) = 1; methane (CH<sub>4</sub>) = 28; nitrous oxide (N<sub>2</sub>O) = 265; sulphur hexafluoride (SF<sub>6</sub>) = 23 500; nitrogen trifluoride (NF<sub>3</sub>) = 16 100; hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) consist of different substances, therefore GWPs have to be calculated individually depending on the substances

<sup>1</sup> Austria's base year under the UNFCCC is 1990. Under the EU Effort Sharing, the base year is 2005 (relates only to emissions not included in the EU Emissions Trading Scheme). Unless otherwise specified, references to the base year in this report refer always to 1990.

Over the period 1990–2022 CO<sub>2</sub> emissions decreased by 1.1%, mainly due to decreasing emissions from energy industries and the residential sector. During the same period CH<sub>4</sub> emissions decreased by 43%, mainly due to lower emissions from solid waste disposal sites, to a smaller extent also from enteric fermentation. N<sub>2</sub>O emissions decreased by 25% due to lower emissions from the chemical industry (nitric acid production) and from agricultural soils. HFC emissions increased remarkably between 1990 and 2022 (from 2.0 to 1 411 kt CO<sub>2</sub>e), whereas PFC and SF<sub>6</sub> emissions decreased by 98% and 25% respectively. NF<sub>3</sub> emissions amounted to 14 kt CO<sub>2</sub>e in 2022 compared to zero emissions in 1990.

### ES.3 OVERVIEW OF SOURCE AND SINK CATEGORY EMISSION ESTIMATES AND TRENDS

The dominant sector regarding GHG emissions in Austria is *Energy*, causing 67% of total national GHG emissions in 2022 (67% in 1990), followed by the sectors *Industrial Processes and Other Product Use* (22% in 2022) and *Agriculture* (10% in 2022).

Table 2: Austria's greenhouse gas emissions by sector.

GHG source and sink categories	1.	2.	3.	4.	5.	6.
	Energy	IPPU	Agriculture	LULUCF	Waste	Other
	CO <sub>2</sub> equivalents (kt)					
1990	52 666	13 633	8 416	-11 682	4 367	NO*
1995	54 161	13 625	8 145	-19 334	4 055	NO
2000	55 290	14 417	7 657	-13 958	3 277	NO
2005	66 714	15 653	7 196	-18 099	3 041	NO
2010	59 279	15 938	7 287	-19 439	2 289	NO
2011	56 970	16 130	7 363	-15 035	2 143	NO
2012	54 829	15 732	7 312	-5 443	2 016	NO
2013	55 004	16 122	7 311	-5 911	1 873	NO
2014	51 279	16 248	7 447	-7 286	1 747	NO
2015	53 062	16 750	7 479	-6 234	1 644	NO
2016	54 285	16 437	7 595	-6 667	1 546	NO
2017	55 999	17 191	7 549	-2 930	1 457	NO
2018	54 553	15 535	7 435	5 222	1 381	NO
2019	54 935	16 470	7 324	2 437	1 329	NO
2020	49 994	15 461	7 297	-5 843	1 278	NO
2021	51 916	16 892	7 322	-11 076	1 230	NO
2022	48 464	15 929	7 277	-4 474	1 174	NO

\*not occurring

## ES.4 OTHER INFORMATION

### Overview of Emission Estimates and Trends of Indirect GHGs and SO<sub>2</sub>

Emissions of indirect greenhouse gases decreased in the period from 1990 to 2022: NO<sub>x</sub> by 48%, CO by 62%, NMVOC by 70%, and SO<sub>2</sub> by 85%. The most important emission source for NO<sub>x</sub>, SO<sub>2</sub> and CO is *Energy* (fuel combustion). The most important emission sources for NMVOC are *Industrial Processes and Other Product Use and Agriculture*.

Table 3: Emissions of indirect GHGs and SO<sub>2</sub> 1990–2022.

	NO <sub>x</sub>	CO	NMVOC	SO <sub>2</sub>
	[kt]			
1990	218	1 247	328	74
1995	198	972	244	47
2000	211	726	177	31
2005	246	623	153	26
2010	204	578	134	16
2011	196	560	129	15
2012	191	560	127	15
2013	192	564	121	14
2014	185	529	115	14
2015	182	539	111	14
2016	174	534	110	13
2017	165	525	110	13
2018	153	483	107	11
2019	144	496	106	11
2020	123	472	108	10
2021	122	537	108	11
2022	113	480	100	11
<b>1990–2022</b>	<b>-48%</b>	<b>-62%</b>	<b>-70%</b>	<b>-85%</b>

## **Imprint**

Owner and Editor: Umweltbundesamt GmbH  
Spittelauer Laende 5, 1090 Vienna/Austria

*This publication is only available in electronic format at <https://www.umweltbundesamt.at/>.*

© Umweltbundesamt GmbH, Vienna, 2024  
All Rights reserved