United Nations
Framework Convention on
Climate Change

Summary of GHG Emissions for Annex I

Base year (Convention) = 1990

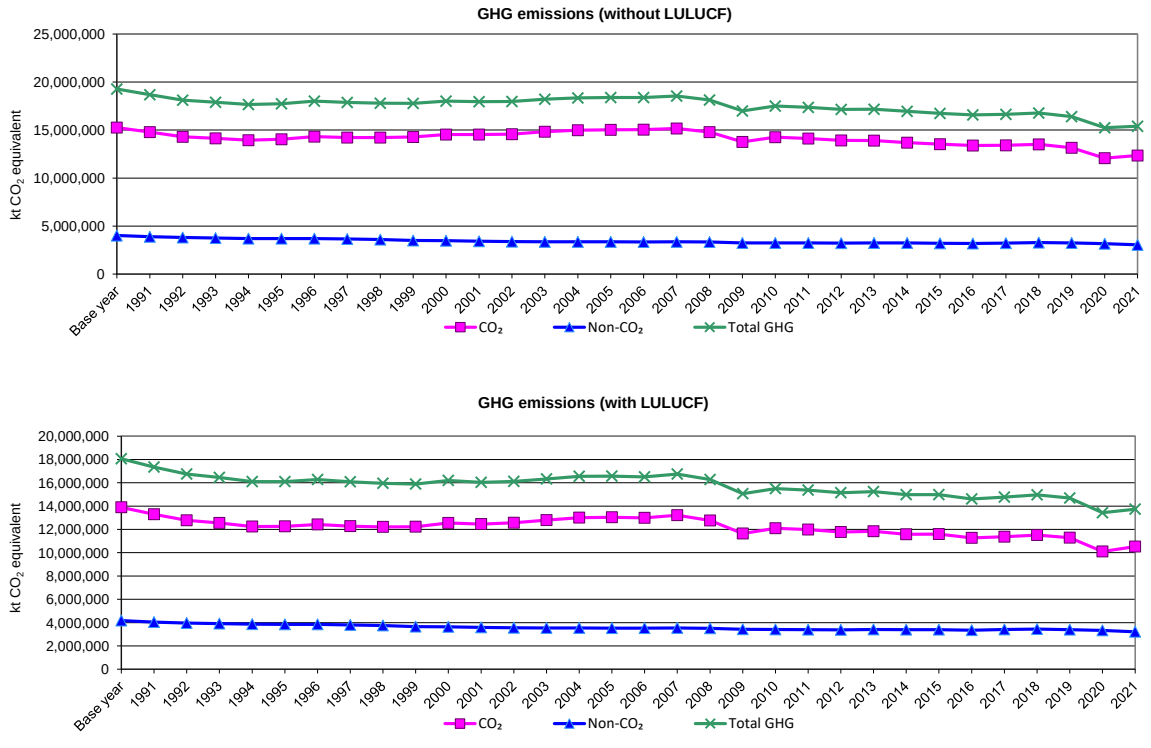
	Emissions, in kt CO_2 equivalent		
	Base year	2000	Last Inventory Year (2021)
CO_2 emissions without LULUCF	15,258,975.9	14,543,685.6	12,351,794.2
CO_2 net emissions/removals by LULUCF	-1,368,063.4	-1,986,085.6	-1,825,854.1
CO_2 net emissions/removals with LULUCF	13,890,912.5	12,557,600.0	10,525,940.0
GHG emissions without LULUCF	19,279,121.1	18,018,035.4	15,400,768.0
GHG net emissions/removals by LULUCF	-1,214,346.7	-1,819,850.9	-1,663,361.4
GHG net emissions/removals with LULUCF	18,064,774.3	16,198,184.5	13,737,406.6
Indirect CO_2	13,963.9	11,296.0	6,038.1

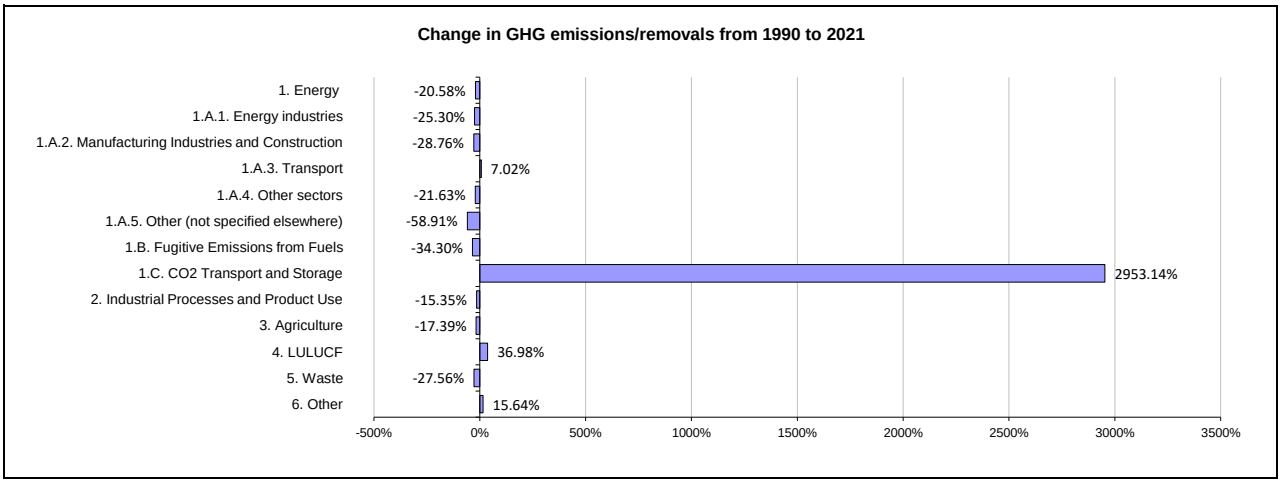
	Changes in emissions, in percent		
	From Base year to 2000	From 2000 to Last Inventory Year (2021)	From Base year to Last Inventory Year (2021)
CO_2 emissions without LULUCF	-4.69%	-15.07%	-19.05%
CO_2 net emissions/removals by LULUCF	45.17%	-8.07%	33.46%
CO_2 net emissions/removals with LULUCF	-9.60%	-16.18%	-24.22%
GHG emissions without LULUCF	-6.54%	-14.53%	-20.12%
GHG net emissions/removals by LULUCF	49.86%	-8.60%	36.98%
GHG net emissions/removals with LULUCF	-10.33%	-15.19%	-23.95%

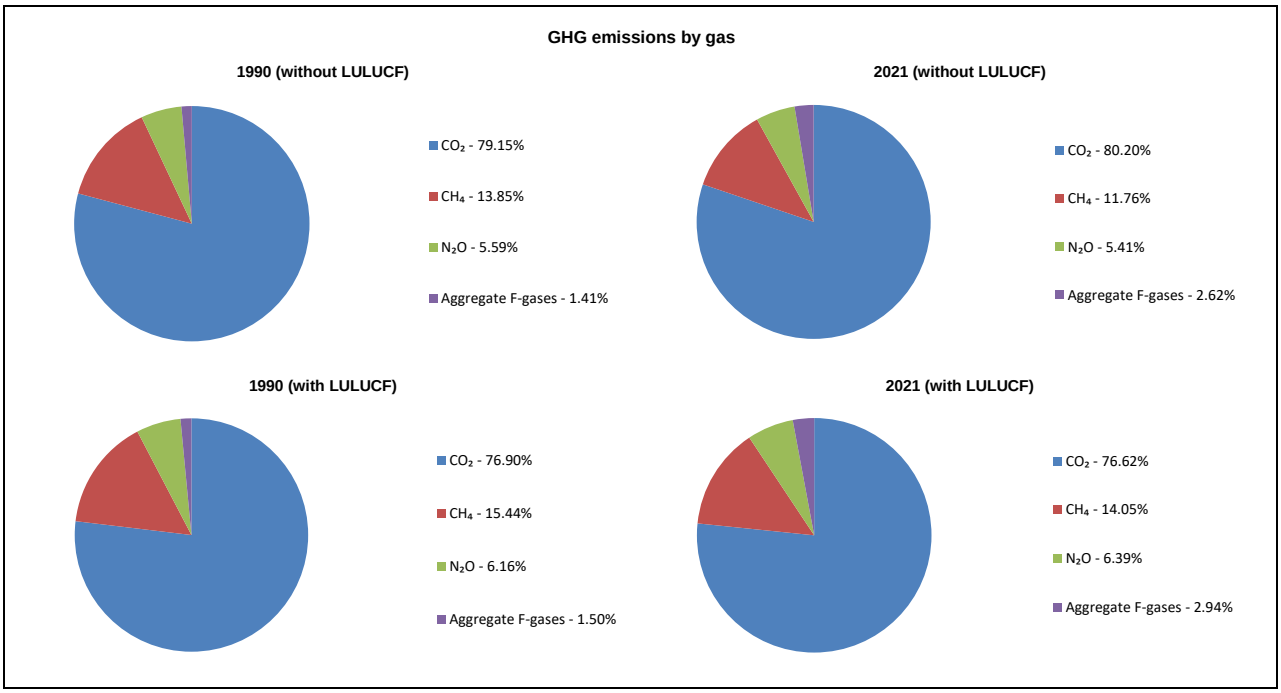
	Average annual growth rates, in percent per year		
	From Base year to 2000	From 2000 to Last Inventory Year (2021)	From Base year to Last Inventory Year (2021)
CO_2 emissions without LULUCF	-0.48%	-0.77%	-0.68%
CO_2 net emissions/removals by LULUCF	3.80%	-0.40%	0.94%
CO_2 net emissions/removals with LULUCF	-1.00%	-0.84%	-0.89%
GHG emissions without LULUCF	-0.67%	-0.74%	-0.72%
GHG net emissions/removals by LULUCF	4.13%	-0.43%	1.02%
GHG net emissions/removals with LULUCF	-1.08%	-0.78%	-0.88%

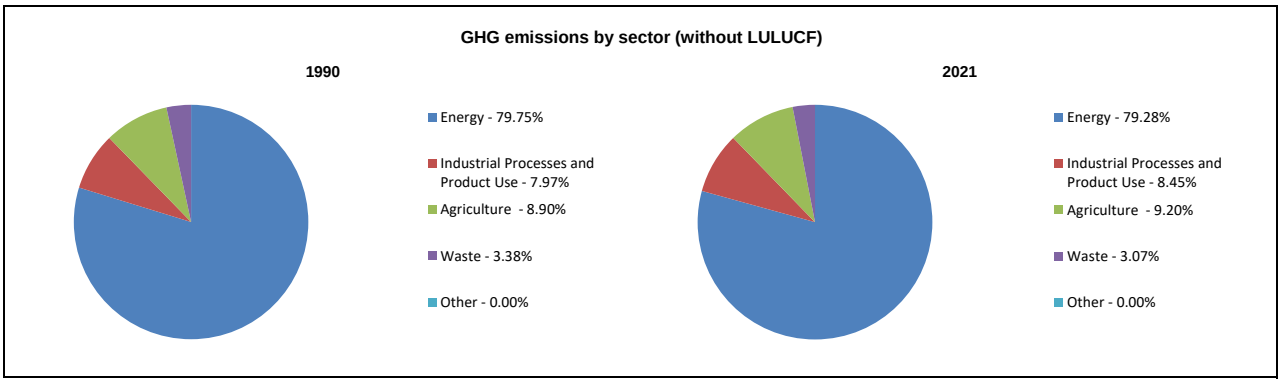
The base year under the Climate Change Convention is 1990 except for Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986), as defined by decisions 9/CP.2 and 11/CP.4.

Total GHG emissions, without and with LULUCF

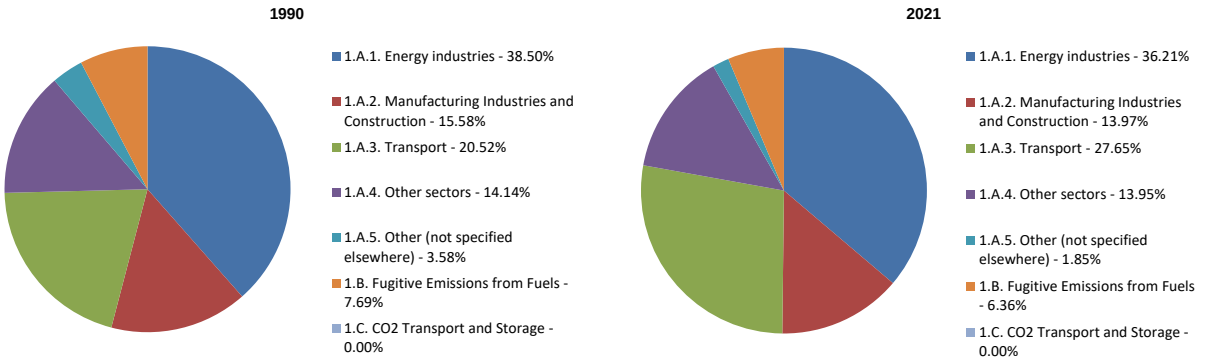



Change in GHG emissions/removals from 1990 to 2021
1. Energy
1.A.1. Energy industries
1.A.2. Manufacturing Industries and Construction
1.A.3. Transport
1.A.4. Other sectors
1.A.5. Other (not specified elsewhere)
1.B. Fugitive Emissions from Fuels
1.C. CO2 Transport and Storage
2. Industrial Processes and Product Use
3. Agriculture
4. LULUCF
5. Waste
6. Other
-20.58%
-25.30%
-28.76%
7.02%
-21.63%
-58.91%
-34.30%
2953.14%
-15.35%
-17.39%
36.98%
-27.56%
15.64%
-500%
0%
500%
1000%
1500%
2000%
2500%
3000%
3500%

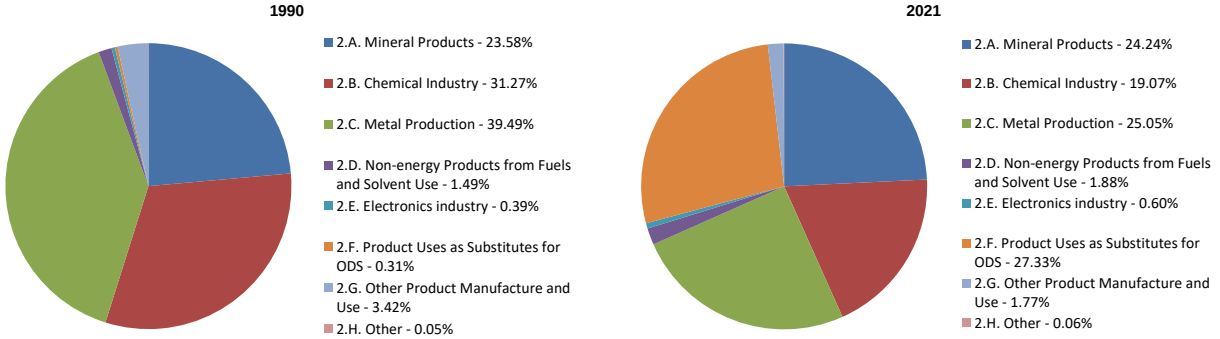

GHG emissions by gas
1990 (without LULUCF)
CO₂ - 79.15%
CH₄ - 13.85%
N₂O - 5.59%
Aggregate F-gases - 1.41%
2021 (without LULUCF)
CO₂ - 80.20%
CH₄ - 11.76%
N₂O - 5.41%
Aggregate F-gases - 2.62%
1990 (with LULUCF)
CO₂ - 76.90%
CH₄ - 15.44%
N₂O - 6.16%
Aggregate F-gases - 1.50%
2021 (with LULUCF)
CO₂ - 76.62%
CH₄ - 14.05%
N₂O - 6.39%
Aggregate F-gases - 2.94%


GHG emissions by sector (without LULUCF)
1990
Energy - 79.75%
Industrial Processes and Product Use - 7.97%
Agriculture - 8.90%
Waste - 3.38%
Other - 0.00%
2021
Energy - 79.28%
Industrial Processes and Product Use - 8.45%
Agriculture - 9.20%
Waste - 3.07%
Other - 0.00%

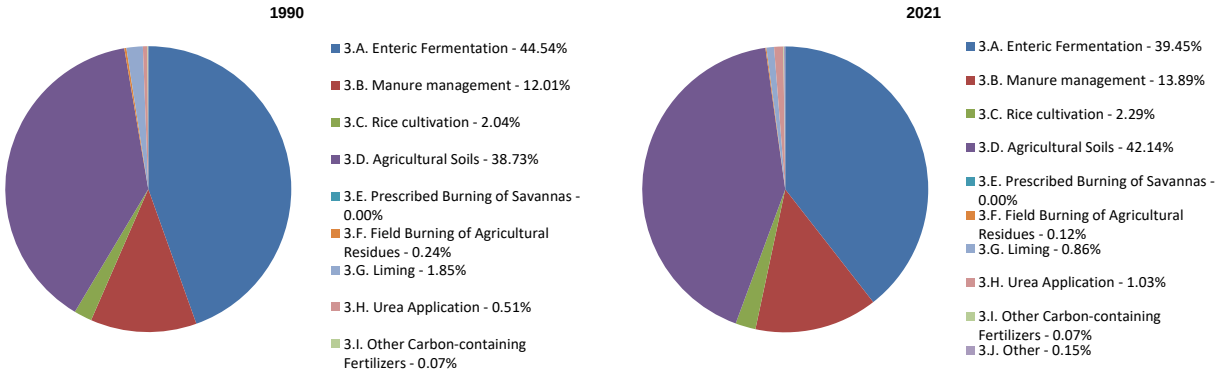
Breakdown of GHG emissions within the energy sector



Breakdown of GHG emissions within the industrial processes and product use sector

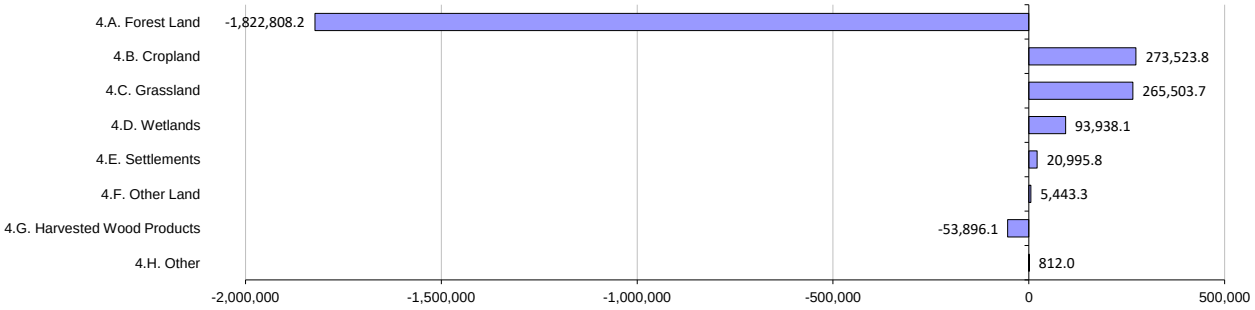


Breakdown of GHG emissions within the agriculture sector

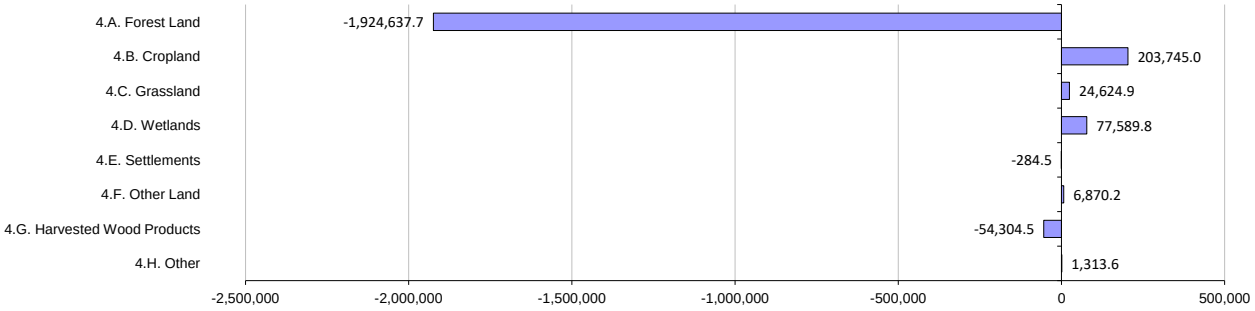


Breakdown of GHG emissions/removals within the LULUCF sector (kt CO_2 equivalent)

1990

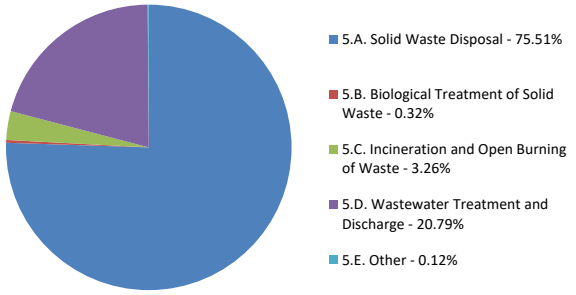
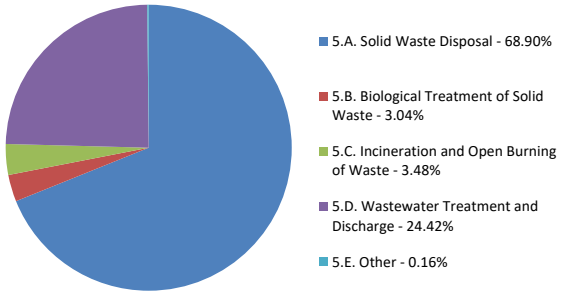


2021



Breakdown of GHG emissions within the waste sector

1990



2021