United Nations
Framework Convention on
Climate Change

# Summary of GHG Emissions for New Zealand

**Base year (Convention) = 1990**

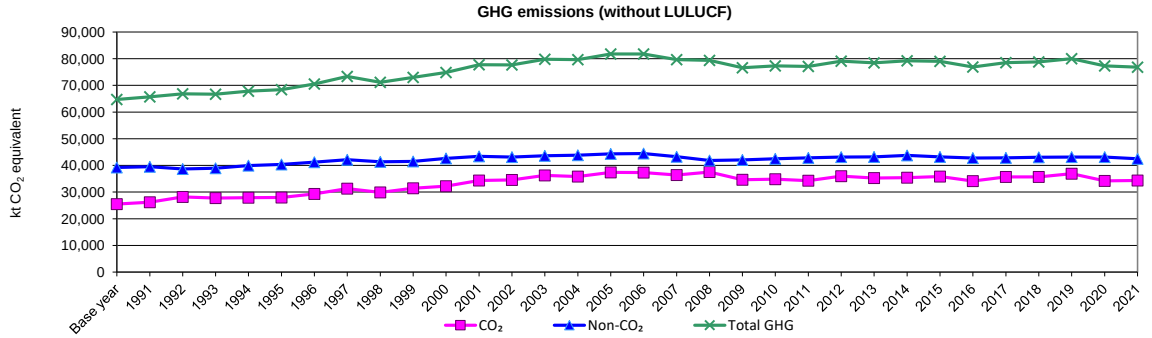
| | Emissions, in kt $CO_2$ equivalent | | |
|---|---|---|---|
| | Base year | 2000 | Last Inventory Year (2021) |
| $CO_2$ emissions without LULUCF | 25,502.5 | 32,245.5 | 34,318.0 |
| $CO_2$ net emissions/removals by LULUCF | -20,565.2 | -27,267.5 | -21,358.2 |
| $CO_2$ net emissions/removals with LULUCF | 4,937.3 | 4,978.0 | 12,959.8 |
| GHG emissions without LULUCF | 64,720.1 | 74,850.5 | 76,824.6 |
| GHG net emissions/removals by LULUCF | -20,171.2 | -26,789.0 | -21,078.2 |
| GHG net emissions/removals with LULUCF | 44,548.8 | 48,061.5 | 55,746.4 |
| Indirect $CO_2$ | NO,NE | NO,NE | NO,NE |

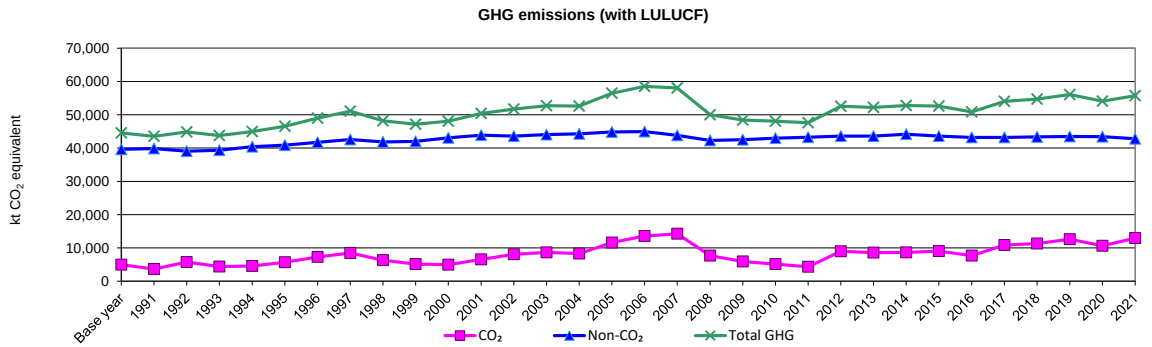
| | Changes in emissions, in percent | | |
|---|---|---|---|
| | From Base year to 2000 | From 2000 to Last Inventory Year (2021) | From Base year to Last Inventory Year (2021) |
| $CO_2$ emissions without LULUCF | 26.44% | 6.43% | 34.57% |
| $CO_2$ net emissions/removals by LULUCF | 32.59% | -21.67% | 3.86% |
| $CO_2$ net emissions/removals with LULUCF | 0.82% | 160.34% | 162.49% |
| GHG emissions without LULUCF | 15.65% | 2.64% | 18.70% |
| GHG net emissions/removals by LULUCF | 32.81% | -21.32% | 4.50% |
| GHG net emissions/removals with LULUCF | 7.88% | 15.99% | 25.14% |

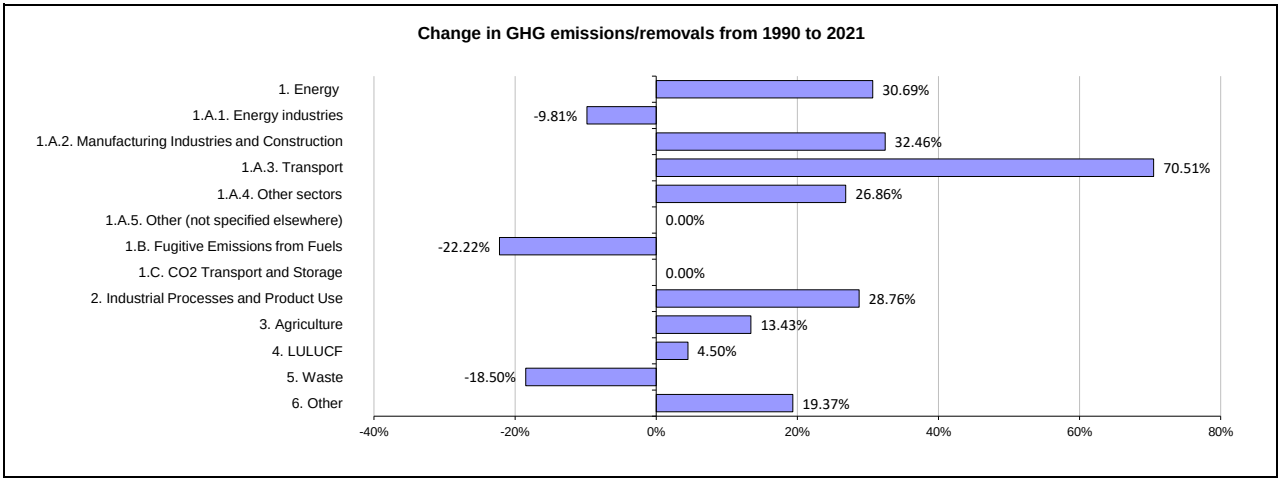
| | Average annual growth rates, in percent per year | | |
|---|---|---|---|
| | From Base year to 2000 | From 2000 to Last Inventory Year (2021) | From Base year to Last Inventory Year (2021) |
| $CO_2$ emissions without LULUCF | 2.37% | 0.30% | 0.96% |
| $CO_2$ net emissions/removals by LULUCF | 2.86% | -1.16% | 0.12% |
| $CO_2$ net emissions/removals with LULUCF | 0.08% | 4.66% | 3.16% |
| GHG emissions without LULUCF | 1.46% | 0.12% | 0.55% |
| GHG net emissions/removals by LULUCF | 2.88% | -1.14% | 0.14% |
| GHG net emissions/removals with LULUCF | 0.76% | 0.71% | 0.73% |

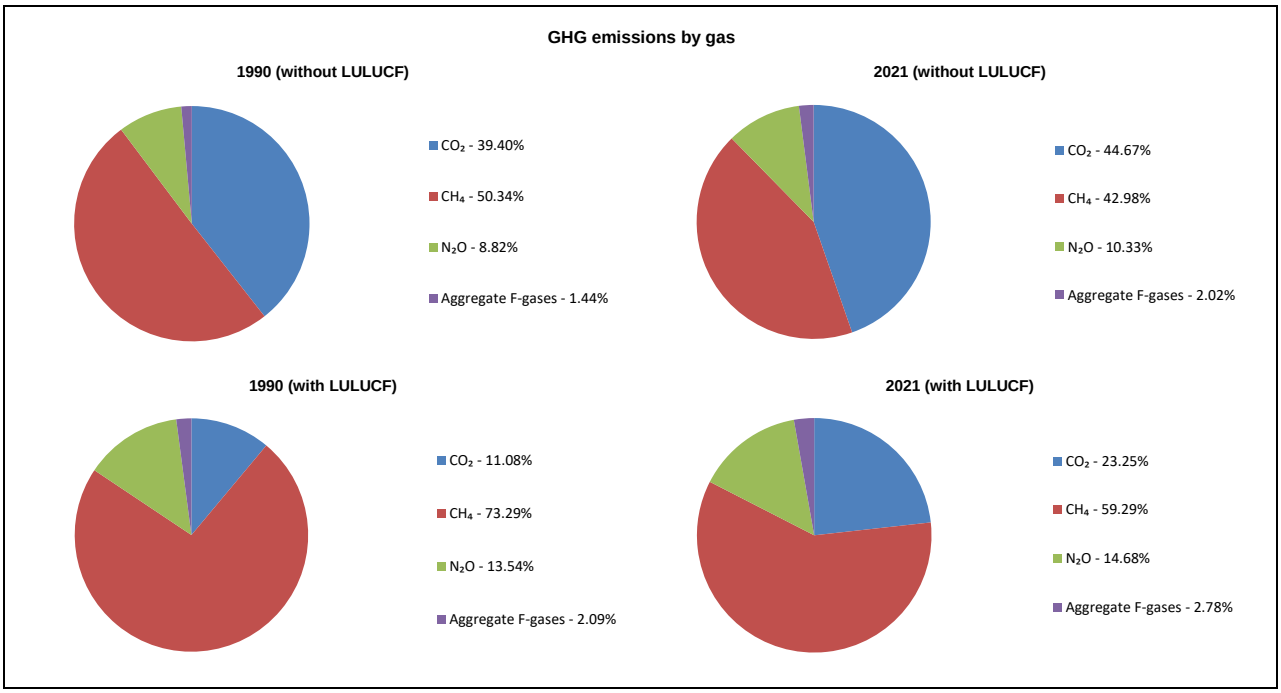
The base year under the Climate Change Convention is 1990 except for Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986), as defined by decisions 9/CP.2 and 11/CP.4.

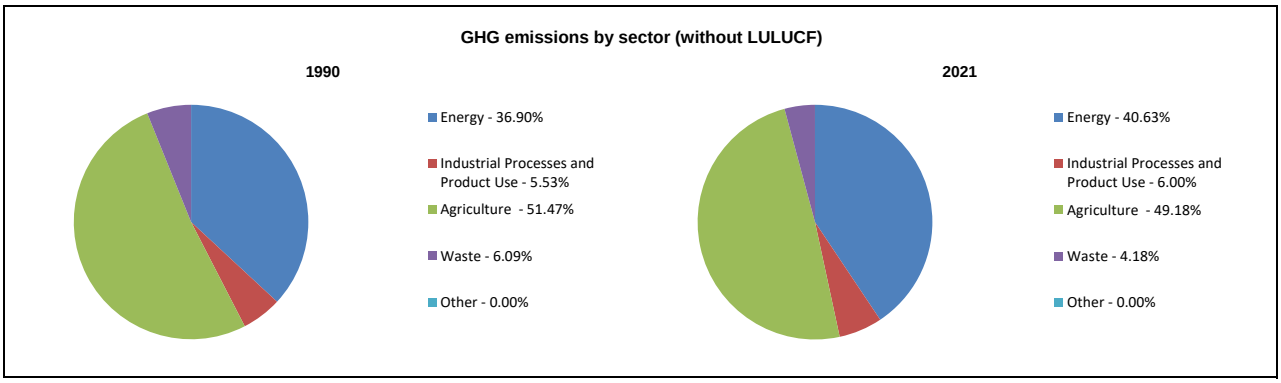
**Total GHG emissions, without and with LULUCF**

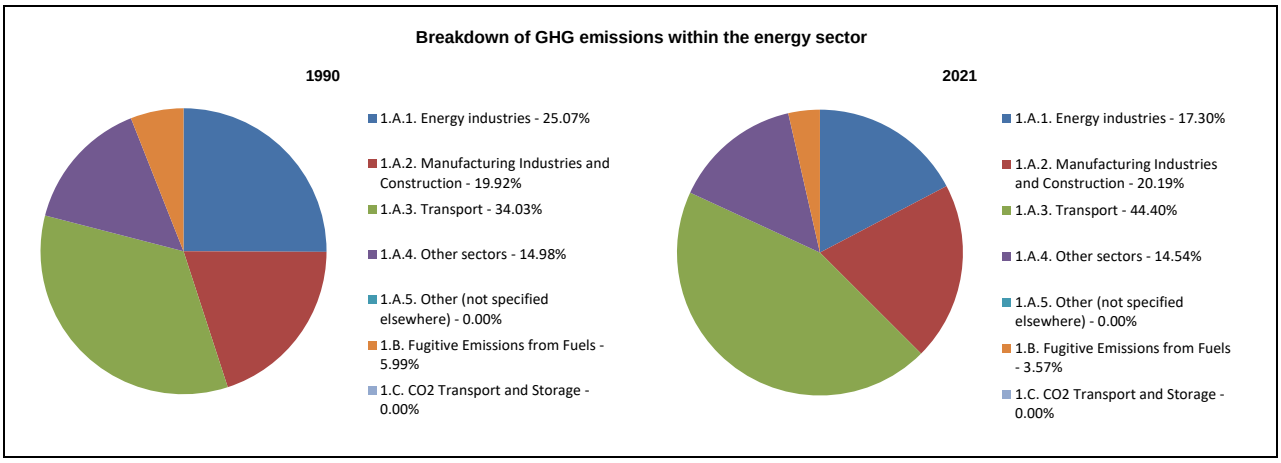


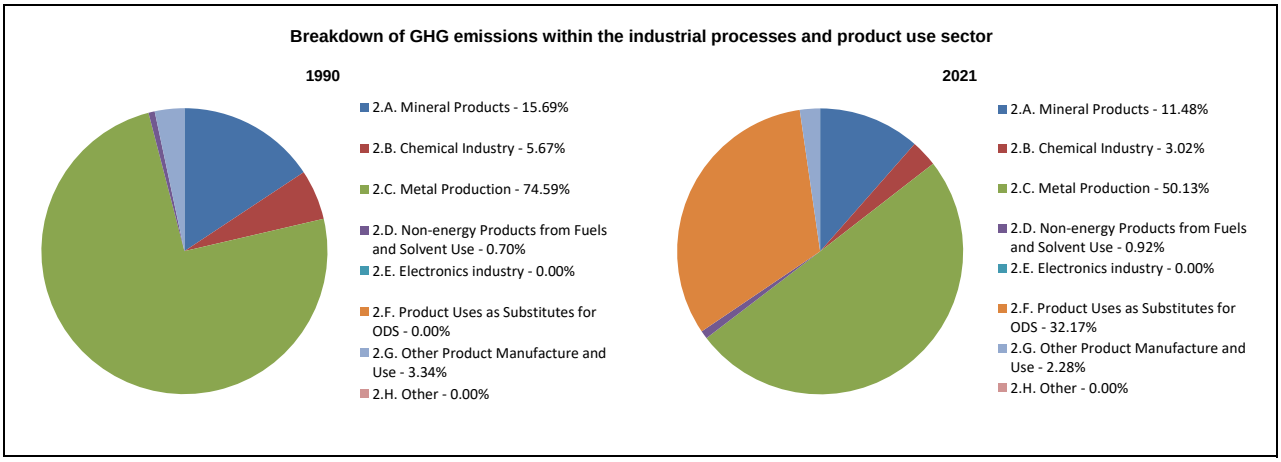



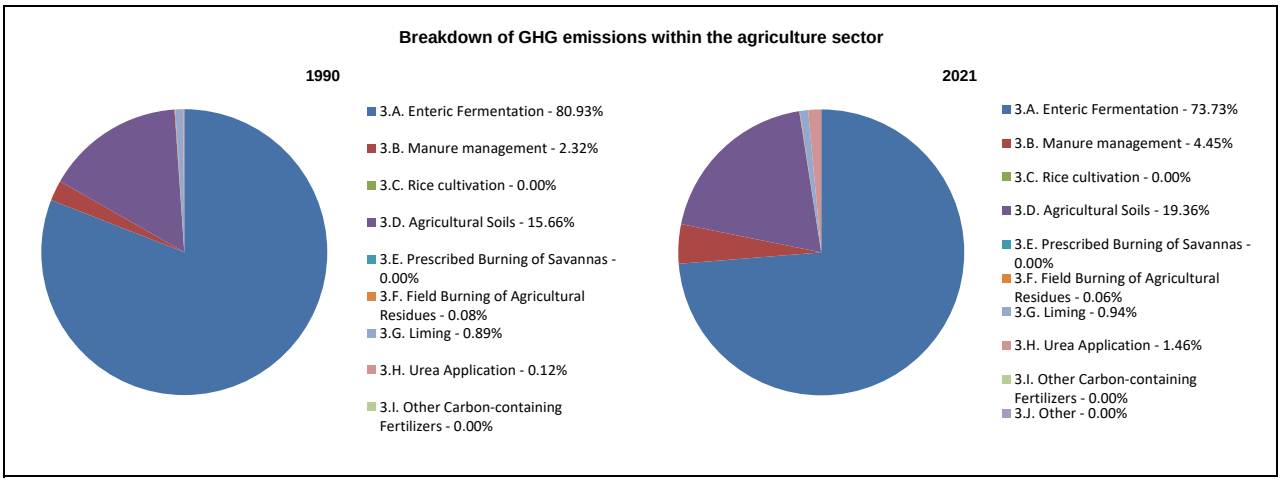

Change in GHG emissions/removals from 1990 to 2021
1. Energy
1.A.1. Energy industries
1.A.2. Manufacturing Industries and Construction
1.A.3. Transport
1.A.4. Other sectors
1.A.5. Other (not specified elsewhere)
1.B. Fugitive Emissions from Fuels
1.C. CO2 Transport and Storage
2. Industrial Processes and Product Use
3. Agriculture
4. LULUCF
5. Waste
6. Other
30.69%
-9.81%
32.46%
70.51%
26.86%
0.00%
-22.22%
0.00%
28.76%
13.43%
4.50%
-18.50%
19.37%
-40%
-20%
0%
20%
40%
60%
80%

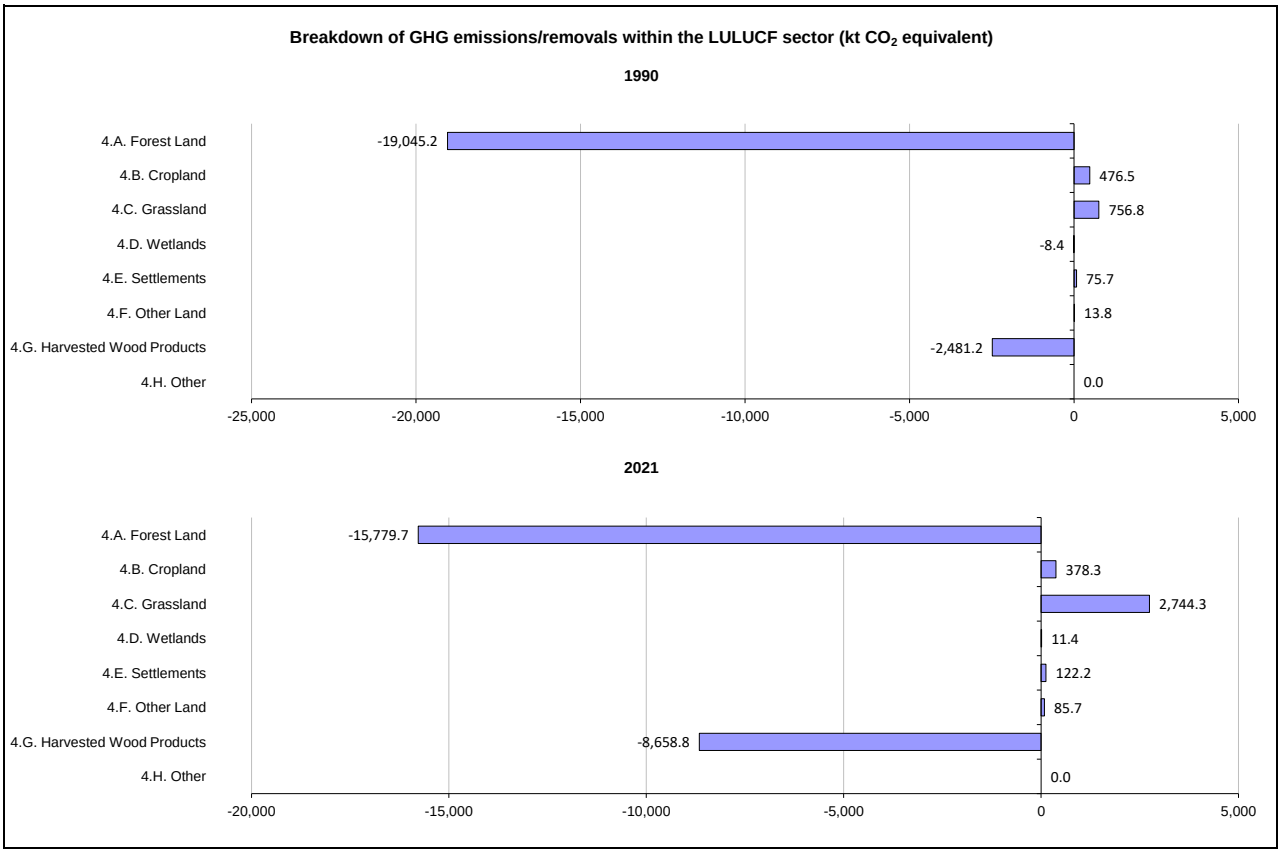

GHG emissions by gas
1990 (without LULUCF)
CO₂ - 39.40%
CH₄ - 50.34%
N₂O - 8.82%
Aggregate F-gases - 1.44%
2021 (without LULUCF)
CO₂ - 44.67%
CH₄ - 42.98%
N₂O - 10.33%
Aggregate F-gases - 2.02%
1990 (with LULUCF)
CO₂ - 11.08%
CH₄ - 73.29%
N₂O - 13.54%
Aggregate F-gases - 2.09%
2021 (with LULUCF)
CO₂ - 23.25%
CH₄ - 59.29%
N₂O - 14.68%
Aggregate F-gases - 2.78%

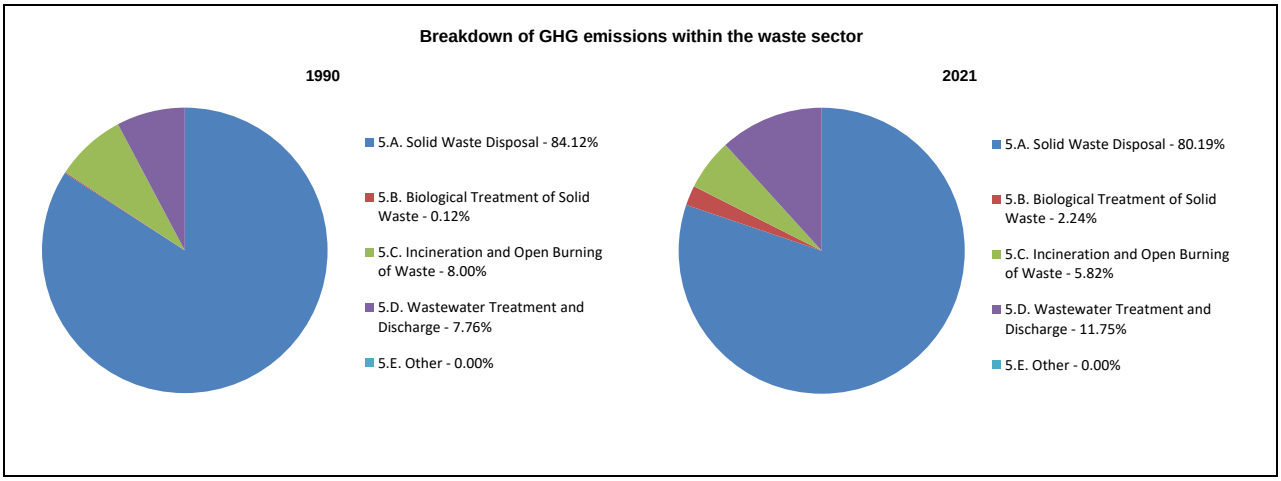

GHG emissions by sector (without LULUCF)
1990
Energy - 36.90%
Industrial Processes and Product Use - 5.53%
Agriculture - 51.47%
Waste - 6.09%
Other - 0.00%
2021
Energy - 40.63%
Industrial Processes and Product Use - 6.00%
Agriculture - 49.18%
Waste - 4.18%
Other - 0.00%


Breakdown of GHG emissions within the energy sector
1990
1.A.1. Energy industries - 25.07%
1.A.2. Manufacturing Industries and Construction - 19.92%
1.A.3. Transport - 34.03%
1.A.4. Other sectors - 14.98%
1.A.5. Other (not specified elsewhere) - 0.00%
1.B. Fugitive Emissions from Fuels - 5.99%
1.C. CO2 Transport and Storage - 0.00%
2021
1.A.1. Energy industries - 17.30%
1.A.2. Manufacturing Industries and Construction - 20.19%
1.A.3. Transport - 44.40%
1.A.4. Other sectors - 14.54%
1.A.5. Other (not specified elsewhere) - 0.00%
1.B. Fugitive Emissions from Fuels - 3.57%
1.C. CO2 Transport and Storage - 0.00%


Breakdown of GHG emissions within the industrial processes and product use sector
1990
2.A. Mineral Products - 15.69%
2.B. Chemical Industry - 5.67%
2.C. Metal Production - 74.59%
2.D. Non-energy Products from Fuels and Solvent Use - 0.70%
2.E. Electronics industry - 0.00%
2.F. Product Uses as Substitutes for ODS - 0.00%
2.G. Other Product Manufacture and Use - 3.34%
2.H. Other - 0.00%
2021
2.A. Mineral Products - 11.48%
2.B. Chemical Industry - 3.02%
2.C. Metal Production - 50.13%
2.D. Non-energy Products from Fuels and Solvent Use - 0.92%
2.E. Electronics industry - 0.00%
2.F. Product Uses as Substitutes for ODS - 32.17%
2.G. Other Product Manufacture and Use - 2.28%
2.H. Other - 0.00%


Breakdown of GHG emissions within the agriculture sector
1990
3.A. Enteric Fermentation - 80.93%
3.B. Manure management - 2.32%
3.C. Rice cultivation - 0.00%
3.D. Agricultural Soils - 15.66%
3.E. Prescribed Burning of Savannas - 0.00%
3.F. Field Burning of Agricultural Residues - 0.08%
3.G. Liming - 0.89%
3.H. Urea Application - 0.12%
3.I. Other Carbon-containing Fertilizers - 0.00%
2021
3.A. Enteric Fermentation - 73.73%
3.B. Manure management - 4.45%
3.C. Rice cultivation - 0.00%
3.D. Agricultural Soils - 19.36%
3.E. Prescribed Burning of Savannas - 0.00%
3.F. Field Burning of Agricultural Residues - 0.06%
3.G. Liming - 0.94%
3.H. Urea Application - 1.46%
3.I. Other Carbon-containing Fertilizers - 0.00%
3.J. Other - 0.00%


Breakdown of GHG emissions/removals within the LULUCF sector (kt $CO_2$ equivalent)
1990
4.A. Forest Land
4.B. Cropland
4.C. Grassland
4.D. Wetlands
4.E. Settlements
4.F. Other Land
4.G. Harvested Wood Products
4.H. Other
-19,045.2
476.5
756.8
-8.4
75.7
13.8
-2,481.2
0.0
-25,000
-20,000
-15,000
-10,000
-5,000
0
5,000
2021
4.A. Forest Land
4.B. Cropland
4.C. Grassland
4.D. Wetlands
4.E. Settlements
4.F. Other Land
4.G. Harvested Wood Products
4.H. Other
-15,779.7
378.3
2,744.3
11.4
122.2
85.7
-8,658.8
0.0
-20,000
-15,000
-10,000
-5,000
0
5,000


Breakdown of GHG emissions within the waste sector
1990
5.A. Solid Waste Disposal - 84.12%
5.B. Biological Treatment of Solid Waste - 0.12%
5.C. Incineration and Open Burning of Waste - 8.00%
5.D. Wastewater Treatment and Discharge - 7.76%
5.E. Other - 0.00%
2021
5.A. Solid Waste Disposal - 80.19%
5.B. Biological Treatment of Solid Waste - 2.24%
5.C. Incineration and Open Burning of Waste - 5.82%
5.D. Wastewater Treatment and Discharge - 11.75%
5.E. Other - 0.00%