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GHG EMISSIONS OF ALL WORLD COUNTRIES

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Contents

Abstract

The Emissions Database for Global Atmospheric Research (EDGAR) provides greenhouse gas (GHG) emissions time series for all countries and for all anthropogenic sectors from 1970 until 2024, including emissions and removals from land use and forestry. The report contributes to the Paris Agreement process with an independent quantitative overview of global GHG emissions, based on the IEA-EDGAR CO_2, EDGAR CH_4, EDGAR N_2O and EDGAR F-gases version EDGAR_2025_GHG (2025).

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This booklet was produced with input from many colleagues, gathered over several years. The International Energy Agency (IEA) energy use statistics and the corresponding CO_2 emissions are fundamental to the EDGAR database and the authors would like to thank the IEA for the long-standing collaboration. The authors are grateful to the European Commission's Directorate-General for Climate Action (DG CLIMA) (V. Pollard, R. Lake, J. Genet, C. Lilburn, S. Santacroce, J. Salay) for their reviews and guidance. The authors would also like to thank the Food and Agriculture Organisation (FAO) (F. Tubiello), United States Geological Survey (USGS) (R. Schulte, L. Apodaca, A. Hatfield), the International Fertiliser Association (IFA) (L. Cross, J. de Sousa), the World Steel Association, the Energy Institute (EI), and the Global Gas Flaring Reduction Partnership (GGFR), the Payne Institute at the Colorado School of Mines and the U.S. National Oceanic and Atmospheric Administration (NOAA), for the provision of data. An extra thank to Paul Dowling (JRC, Unit C.6) for his thorough review and proofreading.

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Executive summary

Policy context

Most countries around the world are preparing plans and implementing actions to tackle climate change. At the global level, about 107 countries, covering in total around 82% of current global GHG emissions, as of June 2024, had adopted net-zero pledges either in law or in other policy documents[1].

The Paris Agreement requires each of its Parties to prepare, communicate and maintain successive Nationally Determined Contributions (NDCs) that are intended to achieve its targets. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The next round of NDCs, with a horizon to 2035, is due to be adopted by all parties in 2025. Moreover, under the transparency framework of the Paris Agreement, all Parties must report bottom-up inventories of national greenhouse gas emissions and track progress towards the implementation and achievement of their NDCs. This reporting is to be contained in Biennial Transparency Reports (BTRs); Parties may submit their inventory reports as part of the BTR or separately, and Annex I[2] countries must continue submitting inventories annually.

The European Climate Law[3] has set the target for the European Union to reduce its net domestic greenhouse gas (GHG) emissions by at least 55% by 2030 compared to 1990 levels and to become climate neutral (net zero greenhouse gas emissions) by 2050.

On the 14th of July 2021, the European Commission proposed a package of legislative actions (known as the "Fit for 55" package[4]) covering climate, energy, land use, transport and taxation, that will lead the EU to achieve its 2030 GHG emissions reduction target comparing with 1990. Most measures in the package have now been already adopted or enacted. The European Commission

(1) Of the large emitters, Canada, Brazil, Australia and the European Union have pledged to reach climate neutrality by 2050, China and Saudi Arabia by 2060, while India targets net zero emissions by 2070, https://www.un.org/en/climatechange/net-zero-coalition

(2) Annex I Parties comprise the industrialised countries that were members of the OECD (Organisation for Economic Co-operation and Development) in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States

(3) Regulation (EU) 2021/1119, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R1119

(4) https://ec.europa.eu/clima/eu-action/european-green-deal/delivering-european-green-deal_en

analysis[5] of Member State (MS) national energy and climate plans (NECPs) estimated that the EU is close to achieve around a 54% reduction by 2030, with additional pending measures potentially raising this to around 55%, though gaps remain, including sectors like transport, agriculture, and land use.

The European Climate Law also mandates that the EU adopts a 2040 climate target as an intermediate step on the path to climate neutrality by 2050. In July 2025[6], the Commission published its proposal for an amendment to the EU Climate Law setting a 2040 EU climate target of a 90% reduction in net greenhouse gas (GHG) emissions, compared to 1990 levels, as requested by the Commission Political Guidelines for 2024-2029. The proposal has now been submitted to the European Parliament and the Council for discussion and adoption under the ordinary legislative procedure. A future agreed EU climate target will serve as the basis for the post-2030 EU policy framework that will be developed thereafter.

The Europe's decarbonisation goals are fully integrated into the Competitive Compass[7] and the Clean Industrial Deal[8], which focus primarily on enhancing the sustainability, competitiveness, and autonomy of EU industries, and provide concrete actions to position decarbonisation as a key driver of growth for European industries.

Bottom-up national emission inventories are an essential component of reporting and tracking progress towards the goals of the Paris Agreement. However, national inventory reports are not yet available for all countries and years. In addition, although generally compliant with IPCC guidelines, they could be dependent on individual national reporting processes and methodological choices, that can present data gaps for specific sectors. Currently, except for

(5) https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1337

(6) Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality {SWD(2025) 524 final}, https://climate.ec.europa.eu/document/download/e1b5a957-c6b9-4cb2-a247-bd28bf675db6_en

(7) Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. A Competitiveness Compass for the EU, https://commission.europa.eu/document/download/10017eb1-4722-4333-add2-e0ed18105a34_en

(8) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation, https://commission.europa.eu/document/download/9db1c5c8-9e82-467b-ab6a-905feeb4b6b0_en?filename=Communication%20-%20Clean%20Industrial%20Deal_en.pdf

Annex I parties, there is no obligation to include long-term series of emissions up to the most recent year.

The European Commission's in-house Emissions Database for Global Atmospheric Research (EDGAR)[9] offers an independent estimate of global GHG emissions, timely updated every year, including extended time series of emissions (up to the year t-1). The EDGAR database compiles global GHG emissions, making use of international statistics and a globally consistent methodology across countries, complementing official national inventories reported by the EU Member States to the European Environmental Agency and by Parties to the United Nations Framework Convention on Climate Change (UNFCCC).

EDGAR relies on several sources of international statistics. Foremost among these is the International Energy Agency (IEA). To harmonise global GHG emission estimates, this booklet incorporates IEA CO_2 emissions from fossil fuel combustion sources named IEA-EDGAR CO_2 emission dataset (v4), which are complemented with in-house EDGAR_2025_GHG (2025) estimates for CH_4, N_2O and F-gas emissions. EDGAR completes the global picture with emissions time-series for each country, contributing to enhanced transparency and providing an additional source with which national and global estimates can be compared. The reliability, independence and completeness of the EDGAR GHG emission estimates make them a valuable quantitative information source in support of the complex international scientific and political discussions on climate mitigation.

This report presents the latest update to the most recent years of the GHG emission time series, including emissions from anthropogenic sectors and Land Use, Land Use Change and Forestry (LULUCF) up to 2024.

For all countries, including the EU and its 27 Member States[10], EDGAR emissions may differ from official national inventories due to differences in data sources,

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([9]) EDGAR (Emissions Database for Global Atmospheric Research) Community GHG Database, a collaboration between the European Commission, Joint Research Centre (JRC), the International Energy Agency (IEA), and comprising IEA-EDGAR CO_2, EDGAR CH_4, EDGAR N_2O, EDGAR F-GASES version EDGAR_2025_GHG (2025), European Commission, https://edgar.jrc.ec.europa.eu/report_2025

([10]) Hereafter the EU27

methodologies and approaches, although both are, in principle, based on the Intergovernmental Panel on Climate Change (IPCC) guidelines for GHG reporting.

Whenever available, officially reported data, are the reference for tracking progress towards policy targets, as they are usually more complete and detailed for individual countries or regions. For the EU, for example, the national inventory data shall be used as the basis for assessing EU climate progress. Overall, the EU GHG emissions trend in EDGAR is consistent with the data reported to the UNFCCC. Although the figures are not identical, the differences between inventories generally fall within the uncertainty ranges inherent to these types of estimate (for more info see also Banja et al., 2025).

Key conclusions

According to the latest data, global GHG emissions in 2024 reached 53.2 Gt CO_{2eq} (excluding LULUCF). The pace of global GHG emissions continues to rise following the drop in 2020, with the 2024 figure representing the highest level recorded. This marks an increase of 1.3%, or 665 Mt CO_{2eq}, compared to 2023.

Taking a longer-term perspective and focusing on the top ten emitters in 2024 — namely China, the United States, the EU27, India, the Russian Federation, Indonesia, Brazil, Japan, Iran, and Saudi Arabia — the European Union showed the most significant relative decrease. The EU's GHG emissions were nearly 35% lower in 2024 than in 1990, illustrating a decoupling of territorial GHG emissions from economic growth. Over the same period, Russia's emissions decreased by 15.7%, while those of the United States fell by nearly 5%.

In contrast, major developing economies such as China and India have experienced substantial increases. From 1990 to 2024, China's emissions rose more than four-fold, while India's nearly tripled. Brazil's emissions doubled over the same period showing a very small increase in 2024 (+0.2%) compared to the previous year.

Globally, LULUCF has acted as a rather stable net sink for CO_2 emissions since 2000, if the contribution of wildfire related GHG emissions is excluded[11]. In 2024, this sector was a net sink of about 1.3 Gt CO_{2eq}, excluding wildfires,

([11]) Net LULUCF emissions are provided with and without the contribution of wildfires due to the high variability of fire emissions which may completely offset the trend of the LULUCF sector.

equivalent to 2.4% of global GHG emissions of that year. Global deforestation was responsible for net CO_2 emissions of about 3.7 Gt CO_2 in 2024, equivalent to 9.3% (or 6.9%) of the total anthropogenic CO_2 (or GHG) emissions.

In 2024, the EU27 LULUCF was estimated, according to the EDGAR methodology, to be a net sink of 168 Mt CO_{2eq} (or 173 Mt CO_{2eq} when excluding wildfires), which is approximately 21% (or 29% when excluding wildfires) less than in 1990.

Wildfire emissions in 2024 contributed 2.1 Gt CO_{2eq}. This figure is below the 2023 contribution (3.5 Gt CO_{2eq}) and the long-term annual average (2.9 Gt CO_{2eq}). However, wildfire emissions were higher than average in North America, driven by wildfires in Canada, and in Latin American and the Caribbean, where both Brazil and Bolivia experienced extremely severe fire seasons. In the EU27 wildfire emissions contributed 4.9 Mt CO_{2eq}. Wildfire emissions were lower than average across most of the continent, except for Portugal, where large wildfires in September resulted in the highest emissions since 2017.

Main findings

Since the beginning of the 21st century, global GHG emissions have followed a largely upward trajectory, interrupted only in 2009 and 2020 by the global financial crisis and the COVID-19 pandemic, respectively. This rise is largely attributed to higher fossil CO_2 emissions from China, India, and other emerging economies.

Based on the emission estimates for 2024 provided by EDGAR, global GHG emissions (excluding LULUCF) increased by 1.3% compared to 2023, reaching 53.2 Gt CO_{2eq}. In 2024, the majority of GHG emissions consisted of fossil CO_2, which accounted for 74.5% of total emissions, while CH_4 contributed to 17.9% of the total, N_2O to 4.8% and F-gases to 2.8%.

Global fossil CO_2 emissions have increased by nearly 75% since 1990. The increase in CH_4 and N_2O emissions has followed a somewhat slower pace: CH_4 increased by nearly 30% and N_2O by 34.4% between 1990 and 2024, while F-gases have seen a four-fold increase (+310.4%) over the same period.

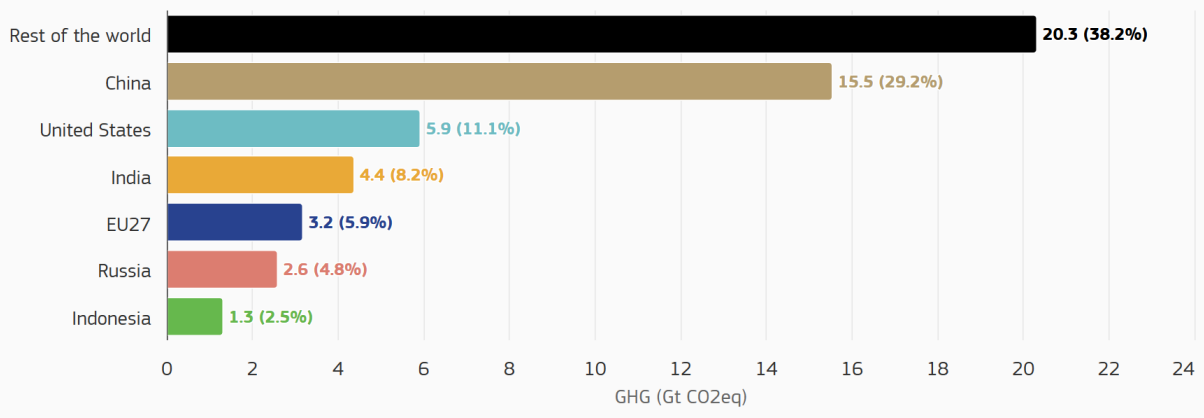
China, the United States, India, the EU27, Russia and Indonesia were the world's six largest GHG emitters in 2024 (see Figure 1). Together they account for 51.4% of global population, 62.5% of global gross domestic product PPP (WB,

2025), 64.2% of global fossil fuel consumption[12] (EI, 2025) and 61.8% of global GHG emissions. Among these top emitters, in 2024 China, USA, India, Russia and Indonesia increased their emissions compared to 2023, with Indonesia having the largest increase in relative terms (nearly + 5%) and India the largest absolute increase by 164.8 Mt CO_{2eq}.

In 2024, the EU27's GHG emissions, excluding LULUCF, were nearly 35% lower than in 1990 reaching 3.2 Gt CO_{2eq}. Comparing with 2023, EU27 emissions decreased by 1.8% (-57.9 Mt CO_{2eq}) and the EU27 share of global emissions decreased from 6.1% in 2023 to 5.9% in 2024.

Out of the 18 countries and regions contributing more than 1% to the total global greenhouse gas emissions (see Table 1), five of them decreased their GHG emissions in 2024, (namely the EU27, Japan, Mexico, Germany, and South Korea) while the others increased their emissions.

Figure 1. GHG emissions and contribution of the six largest emitting economies and the rest of the world in 2024 (in Gt CO_{2eq} and percentage of the global total)



Source: JRC, 2025

Representing 1.2% of global GHG emissions in 2024, emissions from international aviation have continued their recovery from the significant decrease caused by the COVID-19 crisis, increasing by 7.6% between 2023 and 2024. In 2024, GHG emissions from international aviation were only 1.7% (-10.9 Mt CO_{2eq}) below the level they had in the year before the COVID-19 crisis.

([12]) Defined as the sum of all coal, liquid fossil fuels and natural gas primary energy consumption.

On the contrary, emissions from international shipping, which represent 1.4% of global GHG emissions, have dropped by 2.0% over period 2023-2024.

Table 1. 2024 GHG emissions (Mt CO_{2eq}), shares in global emissions[13], changes relative to 2023[14], emissions per capita (t CO_{2eq}/cap), and CAGR[15] (1990-2024) (%) for countries and regions accounting for over 1% of global GHG emissions, including international aviation and international shipping.

Country	2024 emissions	2024 share in global	2024 emissions per capita	Change emissions 2023-2024	CAGR (1990-2024)
China	15536.1	29.2%	10.8	0.8%	4.3%
United States	5912.6	11.1%	17.3	0.4%	-0.1%
India	4371.2	8.2%	3.0	3.9%	3.5%
EU27	3164.7	5.9%	7.1	-1.8%	-1.3%
Russia	2575.7	4.8%	18.0	2.5%	-0.5%
Indonesia	1323.8	2.5%	4.7	5.0%	4.1%
Brazil	1299.2	2.4%	5.9	0.2%	2.1%
Japan	1063.3	2.0%	8.5	-2.8%	-0.6%
Iran	1054.8	2.0%	12.2	2.4%	3.5%
Saudi Arabia	838.9	1.6%	22.8	2.5%	3.8%
Canada	768.1	1.4%	19.8	1.7%	0.8%
Mexico	686.8	1.3%	4.9	0.2%	1.3%
Germany	674.4	1.3%	8.2	-1.6%	-1.8%
South Korea	668.2	1.3%	12.8	-0.3%	2.3%
Australia	591.5	1.1%	22.3	0.7%	0.7%
Vietnam	584.3	1.1%	5.7	7.6%	5.6%
Türkiye	579.5	1.1%	6.8	2.7%	2.8%
South Africa	569.8	1.1%	9.3	2.6%	1.0%
Global	53206.4		6.6	1.3%	1.5%
International Aviation	622.3	1.2%		7.6%	2.6%
International Shipping	737.3	1.4%		-2.0%	1.9%

Source: JRC, 2025

Quick guide

The main sections of this booklet present an overview of the global and regional trends of GHG emissions. A brief and representative analysis describes the role of top emitters (by country and sector) in the evolution of emissions over a 54-year period. Section 3 is devoted to preliminary estimation of LULUCF CO_2 emissions and removals, and GHG emissions from wildfires. Then, for each country, a fact sheet is provided with time series of GHG emissions from all anthropogenic activities except land use, land-use change, forestry, and large-scale biomass burning which are provided in Annex 7 for world macro-regions.

([13]) In Table 1, countries are ranked by their GHG emission share in the global total (countries with a share over 1% are shown, alongside international shipping and aviation).

([14]) It is important to acknowledge that year-to-year variations in emissions are estimated with an accuracy level of approximately ±0.5% (Olivier et al., 2016) when relying on robust statistical activity data (such as IEA energy balance data or CO_2 emissions from fossil fuel combustion for the period 1970-2022). For the data spanning 2022-2024, the accuracy can range up to ±2% (based on a Fast-Track approach), contingent upon regional, sectoral, and fuel-specific contributions. Emission magnitudes, on the other hand, have a range of accuracy that depends on the level of aggregation (for example global or country level, total emission, or specific sector, as detailed by Solazzo et al., 2021), as well as the substance, with N_2O in particular having higher levels of uncertainty, and CO_2 the least. Global total GHG emissions are estimated with an uncertainty of approximately -9% to +16%, while the average uncertainty for country-level total CO_2 emissions is between -12.0% and +22.0% (95% confidence interval). Policy makers and the scientific community should consider these uncertainties when using these data for further analysis.

([15]) Compound annual growth rate (CAGR) calculates annual changes over a specified number of years as if the value had grown at a steady rate each year.

1. Introduction

Scope

In December 2015, the Paris Agreement brought together 195 nations to undertake ambitious efforts to combat climate change and required all parties to the agreement to put forward their best efforts through "nationally determined contributions" (NDC). Acknowledging the need to ensure environmental integrity, an enhanced transparency framework was created and 5-yearly Global Stocktakes were planned from 2023 onwards. Global emissions reported in this context are not currently on track with the modelled global mitigation pathways consistent with the Paris Agreement temperature goal. According to the latest UNEP Emission Gap Report (UNEP, 2024), global GHG emissions would need to decline by about 42% by 2030, compared to 2019 levels, in order to follow least-cost pathways consistent with limiting warming to 1.5 °C by 2100.

The Emissions Database for Global Atmospheric Research (EDGAR) contributes to global climate action by offering an independent and quantitative view of global GHG emissions. EDGAR is a global database that provides estimates of country and sector-specific GHG emissions (CO_2, CH_4, N_2O and F-gases) implementing a transparent state-of-the-art methodology (Janssens-Maenhout et al., 2019; IPCC, 2006a; IPCC, 2019b). As such, it supports efforts to provide consistent and transparent emission estimates that are global in scope and can inform climate action under the Paris Agreement, although the conception and early versions of EDGAR far precede the Paris Agreement.

EDGAR estimates of GHG emissions use global statistics and state-of-the-art scientific knowledge of emission mechanisms for a wide range of anthropogenic activities. The methodology used is transparent and in line with the most recent scientific literature and Intergovernmental Panel on Climate Change (IPCC) guidelines (IPCC, 2006a; IPCC, 2019b). The EDGAR Community GHG emission database used in this report comprises IEA-EDGAR CO_2[16], EDGAR CH_4, EDGAR N_2O and EDGAR F-gases version EDGAR_2025_GHG (2025). This edition of the report also includes annual macro-regional estimates of CO_2 emissions from

([16]) IEA-EDGAR CO_2 dataset incorporates IEA CO_2 emissions from fossil fuel combustion (1970-2023), extended up to 2024 with a Fast-Track (FT) methodology and JRC computed CO_2 process emissions (1970-2024), as described in Annex 1.

Land Use, Land Use Change and Forestry (LULUCF) sector from 1990 to 2024, including GHG emissions and removals from Forest Living Biomass and Deforestation emissions from the European Forest Observatory[17] and emissions from wildfires from the Global Wildfire Information System (GWIS)[18], as part of the continuous improvement and expanding coverage of the EDGAR database.

A combination of reliability, independence, transparency and completeness makes EDGAR a valuable quantitative tool to support the complex international scientific and political discussions on climate mitigation. EDGAR data contributes to the Paris Agreement's Global Stocktakes and, more generally, provides decision makers with a resource that fills knowledge gaps and allows the benchmarking of reported data with robust and scientifically sound data. Previous editions of this booklet have been regularly presented to the annual Conference of Parties (COP) to the UNFCCC.

Overview

This booklet presents the trends of global GHG emissions from 1990 to 2024 together with emissions and removals from LULUCF and wildfires. EDGAR applies a bottom-up methodology, a summary of which is available in the Annex 1 of this booklet, together with data sources and references. For each country, as well as for the world and the EU27 emissions, a fact-sheet with time series of GHG is provided which reveals sector-specific trends and trends in emissions per capita and per GDP. The upper panel of the fact sheet includes emissions from 1990 until 2024 by aggregated sectors, together with a pie chart indicating the relative share of each GHG to the country total in 2024. An overview table with total emissions by country for the years 1990, 2005 (Kyoto protocol), 2015 (Paris Agreement) and 2024 is also reported, together with per capita and per GDP emissions and population data. Finally, the bottom panel of each fact-sheet shows the changes of emissions by sector for the last available year (2024) compared to 1990, 2005 and 2023. All data presented in this booklet are available for download and further analysis from the EDGAR website https://edgar.jrc.ec.europa.eu/report_2025.

(17) https://forest-observatory.ec.europa.eu/

(18) https://gwis.jrc.ec.europa.eu/

Related and future JRC work

The EDGAR database aims to inform policy makers and the scientific community in the field of GHG emissions and budgets. It complements and supports the Paris Agreement's Global Stocktake process. It also underpins analyses of the co-benefits of air pollution and GHG emission mitigation strategies, supports the development of independent verification systems and helps in the understanding of emissions and their uncertainty ranges. EDGAR depends on several sources of international statistics for the underlying data. Foremost among these is the International Energy Agency (IEA). The IEA and the JRC are committed to the yearly co-production of consistent fossil CO_2 emission estimates up to the year t-1, directly using IEA CO_2 emissions from fossil fuel combustion (up to t-2 extended by the JRC with a Fast-Track approach (Guizzardi et al., 2025b) and JRC computations of CO_2 process emissions.

In addition, the EDGAR framework and the JRC experience in compiling emissions inventories are shared and compared within the international emissions community of the Global Emissions InitiAtive (GEIA) where EDGAR is represented in the Scientific Steering Committee.

EDGAR GHG emissions presented in the yearly EDGAR booklets also contributed to the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) Working Group III on climate mitigation (Dhakal et al., 2022) and are regularly used in the yearly UNEP Emission Gap Reports.

EDGAR also supports the IPCC Task Force on National Greenhouse Gas Inventories, compiling and refining guidelines for national GHG emission inventories and providing training support and knowledge databases to visualise emission hot spots. EDGAR supports the Arctic Monitoring and Assessment Programme (AMAP) of the Arctic Council by providing methane (CH_4), unintentional Persistent Organic Pollutant (POPs) and mercury (Hg) emission data. Finally, EDGAR air pollutant emission estimates contribute to the United Nations Economic Commission for Europe (UNECE) Convention on Long-Range Transboundary Air Pollution (CLRTAP) and the Task Force on Hemispheric Transport of Air Pollution (TF-HTAP) with the compilation of global air pollutant emission mosaics[19] (Crippa et al., 2023; Guizzardi et al., 2025a) and to global

(19) https://edgar.jrc.ec.europa.eu/dataset_htap_v3

atmospheric modelling activities to enhance the scientific understanding of the intercontinental transport of air pollution and related impacts.

Ongoing developments of EDGAR include the extension of historical and up to date emissions with short-term projections in support to the global efforts towards carbon neutrality, and the development of high spatial resolution emissions in support of European sub-national climate territorial policies, as used in the EU Cohesion Reports (European Commission 2022, 2024). Moreover, starting from the EDGAR-FOOD work[20], EDGAR will further provide tools and data to move from a sector-based approach to a system perspective.

Thanks to their transparency, completeness and high level of detail, EDGAR data are also being used by an ever-increasing pool of researchers, policy makers and engaged citizens as a reliable source of information on climate-relevant emissions.

(20) https://edgar.jrc.ec.europa.eu/edgar_food

2. Global GHG emissions from 1970 to 2024

The evolution of global GHG emissions (excluding LULUCF) over the period 1970-2024 is illustrated in Figure 2. Emission trends for the main activity sectors (namely power industry[21], industrial combustion and processes[22], transport[23], buildings[24], agriculture[25], waste[26] and fuel exploitation[27]) are also shown. In 2024, global GHG emissions reached 53.2 Gt CO_{2eq}[28], which is 1.3% higher than in 2023. Compared to 2023, emissions increased across all sectors, with the power industry recording the largest rise in absolute terms (+235.2 Mt CO_{2eq} or +1.5%), keeping however, the role of dominant sector with a share of nearly 30% in global GHG emissions. Fuel exploitation had in 2024 the largest relative increase by +1.6% (+93.6 Mt CO_{2eq}).

Figure 3 shows total annual GHG emissions of the EU27 and the other five top-emitting countries in the world (China, the United States, India, Russia and Indonesia) from 1970 to 2024 including also uncertainty bands showing the 95% confidence interval of the emission estimates[29]. The corresponding per capita CO_2 emissions (in t CO_{2eq}/cap) and the world average are represented in Figure 4. Figure 5 depicts GHG emissions per unit of GDP PPP (in t CO_{2eq}/k USD) in top emitting economies and for the world average.

([21]) Power industry includes power and heat generation plants (public and auto-producers).

([22]) Industrial combustion and processes includes combustion for industrial manufacturing and industrial process emissions (e.g. non-metallic minerals, non-ferrous metals, solvents and other product use, chemicals, etc.).

([23]) Transport includes road transport, rail transport, domestic aviation, domestic shipping and inland waterway transport for each country. International shipping and aviation also belong to this sector and are presented separately in the country factsheets due to their international nature. Figure 2 includes also international shipping and aviation under the transport sector.

([24]) Buildings includes small-scale non-industrial stationary combustion.

([25]) Agriculture includes agriculture livestock (enteric fermentation, manure management), agriculture soils (fertilisers, lime application, rice cultivation, direct soil emissions, indirect N_2O emissions from agriculture), field burning of agricultural residues.

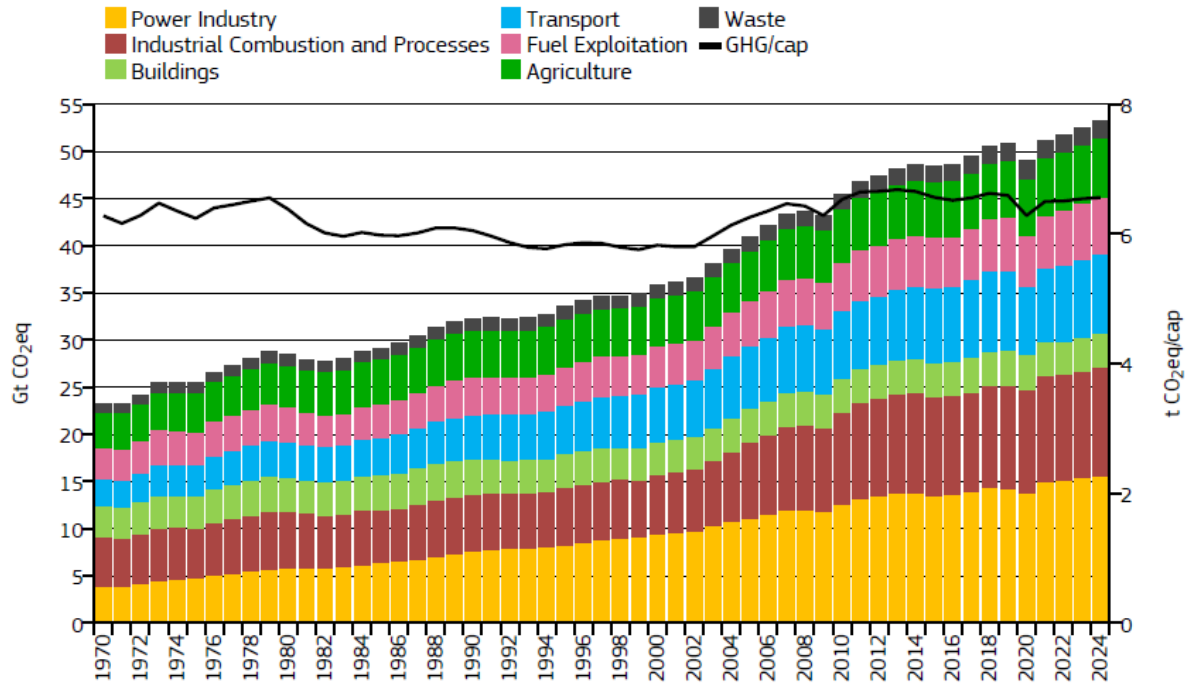
([26]) Waste includes solid waste disposed on land, solid waste composted and hazardous solid waste processing/storage, waste water handling, waste incineration.

([27]) Fuel exploitation: fuel extraction, transformation and refineries activities, including venting and flaring.

([28]) Total GHG consists of CO_2, CH_4, N_2O and F-gas emissions which are expressed in CO_{2eq} using their Global Warming Potential values established in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. More details are provided in Annex 1.

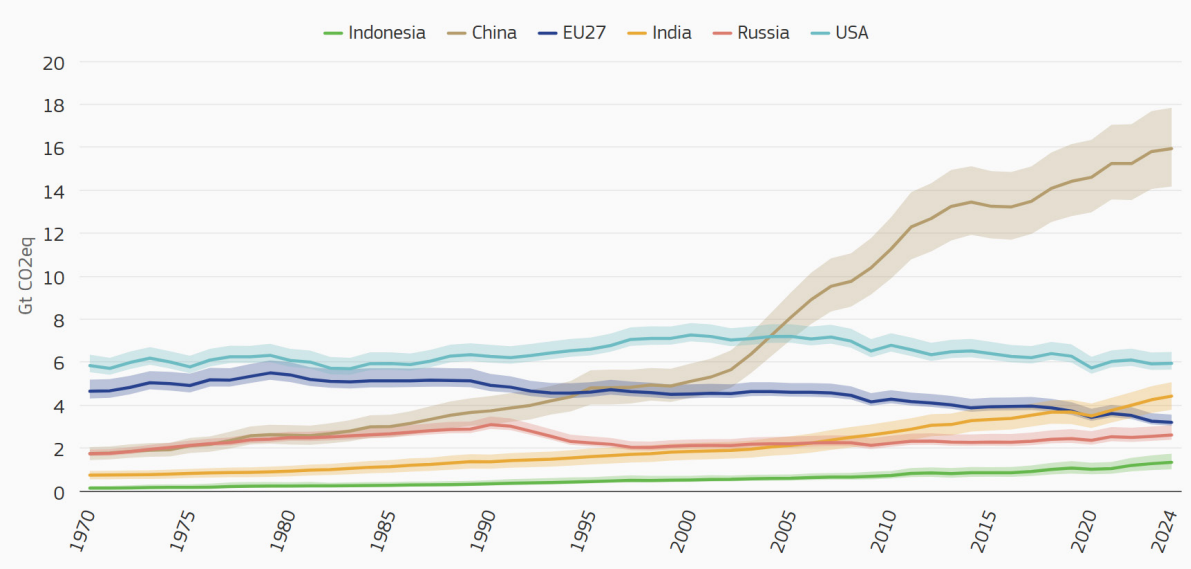
([29]) The estimated uncertainty considers the accuracy of both activity data and emission factor statistics. The tiered model of IPCC (IPCC, 2006a) is used to estimate the uncertainty, assigning lower/higher uncertainty to more/least developed countries (Solazzo et al., 2021). The overall accuracy depends on the degree of aggregation (global or country level, total or sector-specific, etc.).

Figure 2. Global GHG emissions by sector (left axis, bars) and per capita (right axis, black line), 1970-2024 (in Gt CO_{2eq})



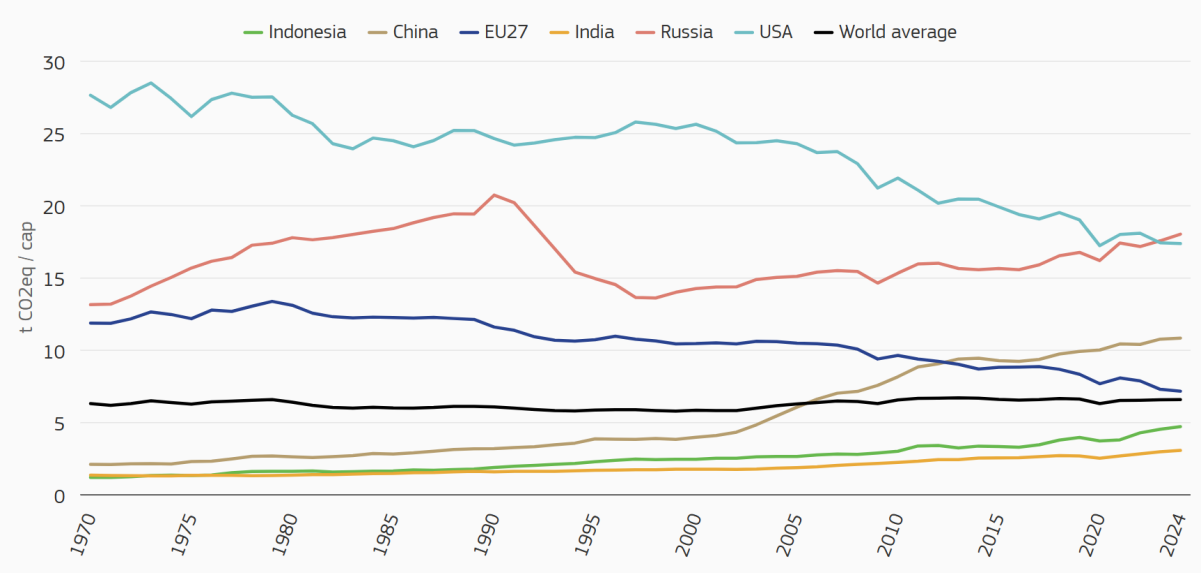
Source: JRC, 2025

Figure 3. GHG emissions in top emitting economies and estimated uncertainty (coloured bands), 1970-2024 (in Gt CO_{2eq})



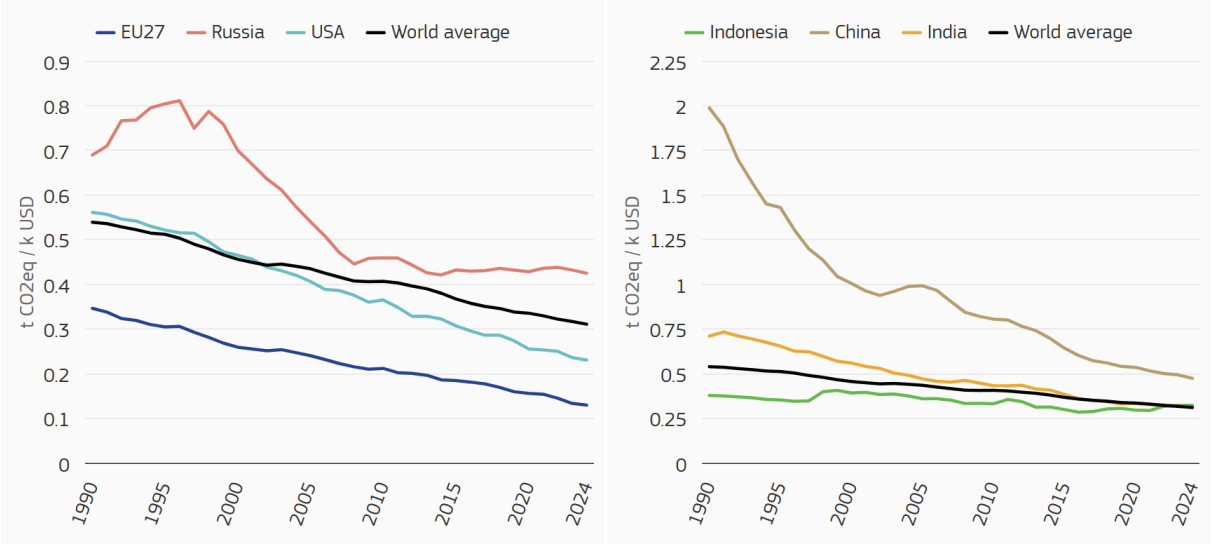
Source: JRC, 2025

Figure 4. GHG emissions per capita in top emitting economies, 1970-2024, (t CO_{2eq}/cap)



Source: JRC, 2025

Figure 5. GHG emissions per unit of GDP PPP in top emitting economies, 1990-2024 (t CO_{2eq}/k USD)[30]



Source: JRC, 2025

([30]) On the left hand side industrialised countries are represented while emerging economies are on the right hand side.

Global greenhouse gas emissions increased by 1.3% or 665 Mt CO_{2eq} in 2024, reaching a new record high of 53.2 Gt CO_{2eq}. Among the 18 countries and regions each accounting for more than 1% of global emissions, only five experienced a decrease in their total GHG emissions in 2024 compared to 2023: the EU27 (-1.8%), Japan (-2.8%), Germany (-1.6%), and South Korea (-0.3%).

All other top emitters saw an increase in their emissions. Notably, Vietnam recorded the largest rise (+7.6%), followed by Indonesia (nearly +5%), India (+3.9%), Turkey (+2.7%), and South Africa (+2.6%), Saudi Arabia (+2.5%), and Russia (+2.5%). China's and the United States' GHG emissions increased more modestly, by 0.8% and 0.4%, respectively. The increase of GHG emissions in Brazil and Mexico took place by only +0.2%.

Global GHG emissions per capita increased by 8.4% from 6.1 t CO_{2eq}/cap to 6.6 t CO_{2eq}/cap between 1990 and 2024 (see Table 1). In terms of emissions intensity per GDP PPP in 2024 they reached 0.308 tCO_{2eq}/k USD, 1.9% lower than in 2023.

Table 2 shows GDP PPP[31] and emission intensity for 2024 together with emission intensity change between 2024 and 2023 for the world and the top emitters, including the EU27.

In 2024, the majority of GHG emissions consisted of CO_2, resulting from the combustion of fossil fuels (74.5%). CH_4 contributed 17.9% to the total, while the remaining share of emissions comprised N_2O (4.8%) and F-gases (2.8%). Fossil CO_2 emissions experienced a significant global increase of just below 75% since 1990. In the same period CH_4 increased by nearly 30% and N_2O by 34.4%, while F-gases have seen a four-fold increase (+310.4%).

([31]) GDP: Gross Domestic Product GDP, expressed in Purchasing Power Parity (PPP) (constant 2021 international $, USD). The difference with GDP nominal is that GDP PPP is adjusted for the difference in the level of prices and is in constant prices (but not adjusted for inflation). GDP PPP data (expressed as billion USD, 2021 prices and PPPs) are mainly sourced from World Bank (WB, 2025) and complemented for missing countries with IEA GDP data (IEA, 2024a). For countries where the 2024 GDP data were not available (i.e. Syria, Gibraltar, Greenland, North Korea), the 2023 value was considered also for 2024.

Table 2. Top emitters GDP (PPP), GDP (PPP) change in 2024, GHG emission intensity relative to GDP (PPP) in 2024 (expressed in t CO_{2eq}/ kUSD GDP), and changes 2023-2024.

Country	GDP PPP 2024 (Billion of USD)	GDP PPP change 2023-2024	Emissions/GDP PPP 2024	Emissions/GDP PPP change 2023 - 2024
World	172734.9	3.2%	0.308	-1.9%
China	33606.1	5.0%	0.462	-4.0%
United States	25675.5	2.8%	0.230	-2.4%
India	14240.7	6.5%	0.307	-2.4%
EU27	24444.4	1.1%	0.129	-2.9%
Russia	6074.7	4.1%	0.424	-1.5%
Indonesia	4102.2	5.0%	0.323	-0.1%
Brazil	4165.3	3.4%	0.312	-3.1%
Japan	5715.0	0.1%	0.186	-2.9%
Iran	1491.9	3.5%	0.707	-1.0%
Saudi Arabia	2201.6	1.3%	0.381	1.2%
Canada	2340.7	1.5%	0.328	0.2%
Mexico	2883.3	1.5%	0.238	-1.3%
Germany	5247.3	-0.2%	0.129	-1.4%
South Korea	2659.8	2.0%	0.251	-2.3%
Australia	1628.2	1.0%	0.363	-0.4%
Vietnam	1455.8	7.1%	0.401	0.5%
Türkiye	3018.3	3.2%	0.192	-0.4%
South Africa	5247.3	-0.2%	0.129	2.0%

Source: JRC, 2025

In the **EU27**, there was a 1.8% (or 57.9 Mt CO_{2eq}) decrease in total GHG emissions in 2024 compared to 2023, as indicated in Table 1, continuing the EU27 decades-long decreasing trend. In 2024, nine EU27 countries experienced an increase in their emission levels compared to the previous year. In terms of contribution to the EU27's GHG emissions in 2024, Germany remained the largest emitter sharing 21.3% of the EU27 GHG emissions, followed by France (11.9%), Italy (11.7%), Poland (11.0%) and Spain (9.0%).

All sectors, except transport and buildings, experienced a decrease in their GHG emissions in 2024 compared to 2023. The largest relative drop was observed in the power industry sector, representing 19% of EU27 GHG emissions, with a decreased by 8.5% (-55.7 Mt CO_{2eq}). Fuel exploitation showed the second-highest decrease, falling by 1.9% below the 2023 levels. From a longer-term perspective, GHG emissions in the EU27[32] have been on a decreasing trend over the past three decades (see Figure 3), and in 2024 they were 3.2 Gt CO_{2eq}, representing a reduction from the 1990 level just below 35% (-1.7 Gt CO_{2eq}).

([32]) As mentioned in the executive summary, EDGAR emission estimates aim to contribute to the upcoming UNFCCC Global Stocktakes, complementing officially reported national emission inventories which are also based on IPCC reporting guidelines and reviewed by UNFCCC. The EDGAR data are different from those used to track the accomplishment of EU reduction policies and officially submitted to UNFCCC.

The EU27's share of global emissions has also decreased over the last decades (from 15.1% in 1990 to 5.9% in 2024).

CO_2 accounted for 77.8% of the EU27 GHG emissions in 2024. CH_4 contributed 13.5%, N_2O 6.5% and F-gases with 2.2%. Since 1990 fossil CO_2 emissions in the EU27 have decreased by 35.3%, CH_4 by 38.3%, and N_2O by 34.6%. Over the same time span, emissions related to F-gases increased by 35.3%. In terms of per-capita emissions, the EU27's GHG emissions amounted to 7.1 t CO_{2eq} per person in 2024 (see Table 1), representing a 1.8% decrease compared to 2023. GHG emissions per unit of GDP PPP reached 0.129 t CO_{2eq}/k USD in 2024, indicating an 2.9% decrease compared to 2023.

China's GHG emissions increased only by 0.8% in 2024 compared to 2023, reaching 15.5 Gt CO_{2eq} (see Table 1). China's GHG emissions in 2024 were around four times larger than in 1990 and accounted for 29.2% of global GHG emissions (in 1990, this share was 11.5%). This increase is mainly due to increased economic activity which resulted in an increase of CO_2 emissions, which were 5.4 times higher than in 1990 and accounted for 84.5% in total national GHG whereas the non-CO_2 GHG gases, i.e. CH_4, F-gases and N_2O, contributed 9.6%, 2.7% and 3.2%, respectively in 2024. The main sectors contributing to the CO_2 emissions in 2024 were power industry (50.1%), industrial combustion (21.3%), processes (10.6%) and transport (7.1%). The contributions to CH_4 emissions were from fuel exploitation (49.6%), agriculture (33.6%) and waste (13.2%) sectors, while for N_2O they were from agriculture (58.9%), power industry (15.3%) and processes (9.1%). Per-capita GHG emissions in 2024 were 10.8 t CO_{2eq}/cap, while GHG emission per GDP PPP amounted to 0.462 t CO_{2eq}/kUSD, having the second highest GHG intensity among top emitting economies (see Table 2).

Emissions of GHGs in the **United States** increased in 2024 by 0.4% in comparison with 2023 (see Table 1), reaching about 5.9 Gt CO_{2eq} (see Table 1). The contributions to the total national emissions by substance in 2024 were 78.4% for CO_2, 14.3% for CH_4, 3.6% for N_2O and 3.7% for F-gases. Overall, emissions were only 4.9% lower in 2024 than in 1990. Emissions mostly fell between 2005 and 2020 (see Figure 3), primarily due to decreases in CO_2 emissions in the power industry, transport and buildings sectors, by 39.6%, by 16.6% and by 12.7% respectively. In 2024, emissions per unit of GDP PPP were 0.230 t CO_{2eq}/kUSD, i.e., 2.4% lower than in 2023 (see Table 2), continuing the decreasing trend of the previous years. Per-capita GHG emissions in 2024 (17.4

t CO_{2eq}/cap) were just below to Russia's value which is the highest among six top emitters (see Figure 4).

India's GHG emissions increased by 3.9% (or 0.17 Gt CO_{2eq}) in 2024 compared to 2023 (see Table 1). In the last three decades, India's emissions have increased continuously and were around three times higher in 2024 than in 1990 (see Figure 3). In 2024, the shares of CO_2, CH_4, F-gases and N_2O in total national emissions expressed in CO_{2eq} were 72.2%, 19.7%, 1.7% and 6.5%, respectively. The increase in GHG emissions from 1990 in India is mainly due to the increase in CO_2 emissions from power industry, processes, and transport, which were between seven and five times higher respectively in 2024 compared to 1990. With a share of approximately 8.2% in the total global emissions in 2024, India is the third largest emitting economy after China and the United States. However, India's per-capita emissions (3.0 t CO_{2eq}/cap in 2024) are six times lower than those of the United States and Russia, four times and three times lower than those of China and the EU27 and two times lower than those of Brazil. India's emissions per unit of GDP PPP were 0.307 t CO_{2eq}/kUSD in 2024, i.e., 2.4% lower than in 2023.

In 2024, **Russia**'s GHG emissions increased by 2.5% compared to 2023 (see Table 1). Compared to 1990, emissions were 15.7% lower in 2024 (see Figure 3). With a 4.8% share of global emissions in 2024, Russia was the fifth largest emitter after China, the United States, India and the EU27. Per-capita emissions (18.0 t CO_{2eq}/cap in 2024) were comparable to the United States, and higher than those of China (by 66.7%) and the EU27 (by 152.5%) (see Figure 4). Emissions per unit of GDP PPP were 0.424 t CO_{2eq}/k USD in 2024, i.e., 1.6% lower than in 2023 (see Table 2).

In 2024, **Indonesia's** GHG emissions increased by nearly 5% (+62.5 Mt CO_{2eq}) compared with year 2023 (see Table 1), becoming the sixth largest emitter after China, the United States, India, the EU27 and Russia. Comparing with 1990, emissions increased nearly four-fold (+291.6%), reaching 1.3 Gt CO_{2eq}. In 2024, Indonesia's emissions accounted for 2.5% of global GHG emissions. Just around 61% of Indonesia's total emissions come from CO_2. The relative increase of CO_2 and CH_4 between 2023 and 2024 has followed similarly the same pace rising by nearly 5.3% each. Indonesia's per capita emissions were 4.7 t CO_{2eq}/cap in 2024, a rise of 4.1% from 2023. Emissions per unit of GDP PPP were 0.323 t CO_{2eq}/k USD in 2024, i.e., 0.1% lower than in 2023 (see Table 2).

3. Global GHG emissions from LULUCF from 1990 to 2024

This edition of the EDGAR booklet includes annual estimates of CO_2 emissions and removals from Land Use, Land-Use Change and Forestry (LULUCF), identified as one of the key sectors for tackling climate change and for compliance with emission reduction strategies (IPCC 2019a). The inclusion of emissions from LULUCF helps to provide a more complete overview of global CO_2 fluxes. However, LULUCF is an extremely complex sector to account for in terms of carbon emissions and removals, due to the inherent complexity of terrestrial ecosystems and the difficulty of disentangling anthropogenic and natural fluxes. In producing their inventories, countries use a variety of approaches and data types, employing locally-derived parameters and methodologies (e.g. stock difference vs. gain/loss), and making assumptions based on local knowledge. By definition, National Greenhouse Gas Inventories produced in the framework of International Climate Treaties should be produced using the best locally available knowledge, parameters and datasets. Comparing different estimates with the inventories can be therefore difficult due to the different approaches and assumptions. Also, in the case of Non-Annex I countries, the frequency of reporting can vary considerably, as only since 2024, with the new Enhanced Transparency Framework under the Paris Agreement countries are required to produce a proper Inventory biennially, and several countries did not yet comply with this obligation. Until then, reporting was very irregular, with only a few reports available for most countries in the last decades. On the contrary, EDGAR data are produced with yearly data at the global level, using a globally consistent approach allowing comparability across all countries.

It is important, however, to clarify that EDGAR data are not produced to substitute or challenge estimates provided by individual countries, in particular in the case of Annex I countries, which often use advanced methods (Tier 2 or Tier 3) and reliable local data and assumptions.

EDGAR data are a reference IPCC-compliant benchmark for all countries, and a valuable source of information for areas where official estimations are lacking, limited and poorly documented (e.g. several developing countries).

This version of the EDGAR-LULUCF dataset includes independent estimates of the emissions and removals from the Forest living biomass pools (i.e., above- and below-ground biomass), the emissions from deforestation, the emissions

from biomass burning, and the emissions from organic soils under cropland and grassland. Whenever available, officially reported data, are the reference for tracking progress towards policy targets, as they are usually more complete and detailed for individual countries or regions. For the EU, for example, the national inventory data should be used as the basis for assessing EU climate progress.

Emissions and removals from Forest and Deforestation are estimated within the new Global land use carbon flux hub of the European Forest Observatory, while emissions from biomass burning come from the Global Wildfire Information System (GWIS) (Artés et al., 2019). Emissions from organic soils under cropland and grassland were estimated with a consistent IPCC Tier 1 approach using climate-specific default emission factors for geo-spatially-defined areas of drained cropland and grassland. These areas are identified through the Harmonized World Soil Database and annual land cover maps from ESA-CCI, consistent with methods applied within the FAOSTAT Land Cover statistics. The EF values for N_2O and CO_2 emissions are those specified in Chapter 2 of the IPCC Wetlands Supplement for drained inland organic soils (IPCC 2014).

The other LULUCF fluxes (i.e., non-forest categories and organic soils from land uses different from cropland and grassland) were collected from a compilation of the official country reporting to the UNFCCC (Grassi et al., 2022), including the first submission of the Biennial Transparency Reports (BTR) under the Paris Agreement.

We focus on Forest Land (i.e. managed forest existing for at least 20 years and land converted to Forest Land within the previous 20 years) and Deforestation (land converted from Forest Land to other land uses in the previous 20 years) because these categories are crucial in terms of absolute CO_2 fluxes. However, their reporting is often incomplete (especially in developing countries) and the attribution of anthropogenic vs. natural fluxes is very uncertain. Furthermore, living biomass is by far the most important carbon pool (typically representing >80% of the net CO_2 flux, based on data from Annex I countries). The estimates presented here combine satellite-derived data to track land use and deforestation with specific default IPCC factors for forest growth and biomass removals from deforestation. Country statistics for forest harvest are used to estimate removals. The IPCC factors provided in the IPCC Guidelines are often very uncertain and show a high variability across different continents (even for the same tree species or forest types). Our estimates are based on the IPCC Tier 1 approach, i.e. the most basic yet widely applicable approach to estimate GHG

fluxes. However, we identified some criticalities in the basic methodology and we propose and implemented some changes to make estimates more realistic and solid (see Annex 2 for details).

Fire emissions are estimated through a Tier 1 approach implemented using satellite imagery as input data, and cropland and grassland organic soils emissions are derived from maps of land cover and soil types.

In terms of attribution of anthropogenic fluxes, the approach used here is, in principle, comparable with what most countries include in their GHG reporting prepared following the IPCC Guidelines for National GHG inventories (IPCC, 2006a; IPCC, 2019b), but differs from the global models used in the IPCC reports (e.g., IPCC, 2022). Global models typically consider as managed forest only those areas subject to intense harvest, whereas countries may define managed forest more broadly within their GHG Inventories and thereby include a much larger area. In addition, countries generally include in their GHG inventories most of the natural response of land to human-induced environmental changes (e.g., CO_2 fertilisation, etc.), while the global model approach treats this response as part of the non-anthropogenic flux (Grassi et al., 2021; IPCC, 2019a). Our approach is closer to country GHG inventories because we filter the total satellite-derived forest area with non-intact forest area, which is a reasonable proxy for countries' managed forests (Grassi et al., 2021), and because the IPCC growth factors are expected to incorporate most of the recent human-induced environmental changes.
The harmonization between GHG official reporting and Global Models is a crucial issue in today's debate on strategies to reach net zero emissions and was the subject of an IPCC Expert Meeting held at the JRC in Ispra in July 2024.

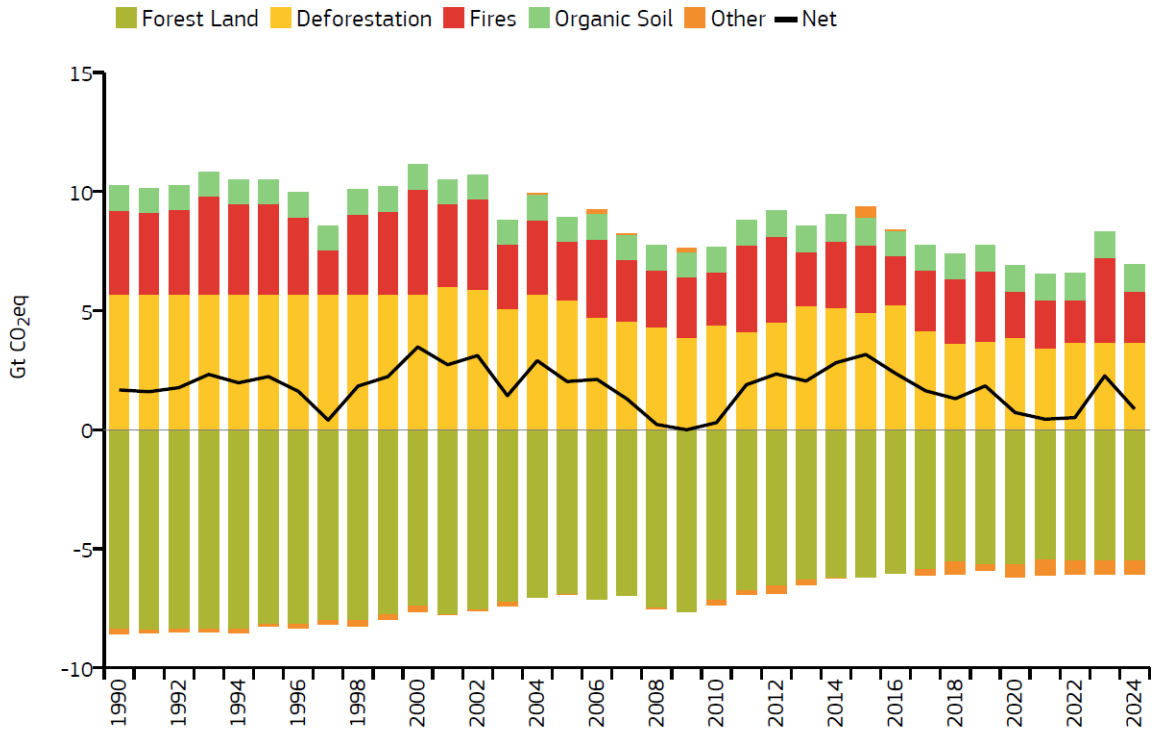
For the other LULUCF fluxes, we use a compilation of countries' data officially reported to the UNFCCC (Grassi et al., 2022). These include for the first time the Biennial Transparency Reports (BTR) GHG inventories, whose first submission by the end of 2024 made available for the first time proper GHG inventories also for a large number of Non-Annex I countries (in principle for the complete time series 1990-2024, with 2024 assumed to be equal to 2023, although some submissions are still incomplete and required gap filling). When GHG Inventories are not available, other sources of data are National Communications, Biennial Update Reports, Nationally Determined Contributions and REDD+ submissions for Non-Annex I parties (often incomplete time series, gap-filled when necessary).

Beside the estimates we produced, in this booklet we aggregated the data available from reporting covering the rest of LULUCF into categories aimed at being a minimum common denominator between the detailed reporting of Annex I countries, the often coarse reporting from non-Annex I countries, and the output by the global models (Grassi et al., 2023; Friedlingstein et al., 2022). These categories are 'other than cropland and grassland organic soils' which are added to the Organic Soils category.

The category 'other' includes all the fluxes not covered in the previous categories, e.g. from non-biomass forest pools and from other land use categories such as cropland, grassland, wetlands, settlements, and Other Land. We also include in EDGAR-LULUCF part of the emissions associated with wild fires from the GWIS database (see details in Annex 3).

Since emissions from forest fires in tropical regions can be assumed to be mostly associated to deforestation practices (e.g. Van der Werf et al., 2017), to avoid double-counting with the Deforestation component we excluded from the EDGAR dataset CO_2 emissions from biomass burning in tropical forests, following the approach adopted also in other fire emissions datasets (e.g. GFED), while non-CO_2 gases, which are not covered in the Deforestation component, were included. Moreover, CH_4 and N_2O emissions arising from crop burning were also removed from the Fire component to avoid double-counting with EDGAR emissions from the sector which covers the burning of agricultural residues. GHG emissions and removals from LULUCF are presented below for the world (see Figure 6) and for the EU27 (see Figure 7) from 1990 to 2024.

Figure 6. Global GHG emissions and removals from LULUCF sector (in Gt CO_{2eq}), 1990-2024



Source: JRC, 2025

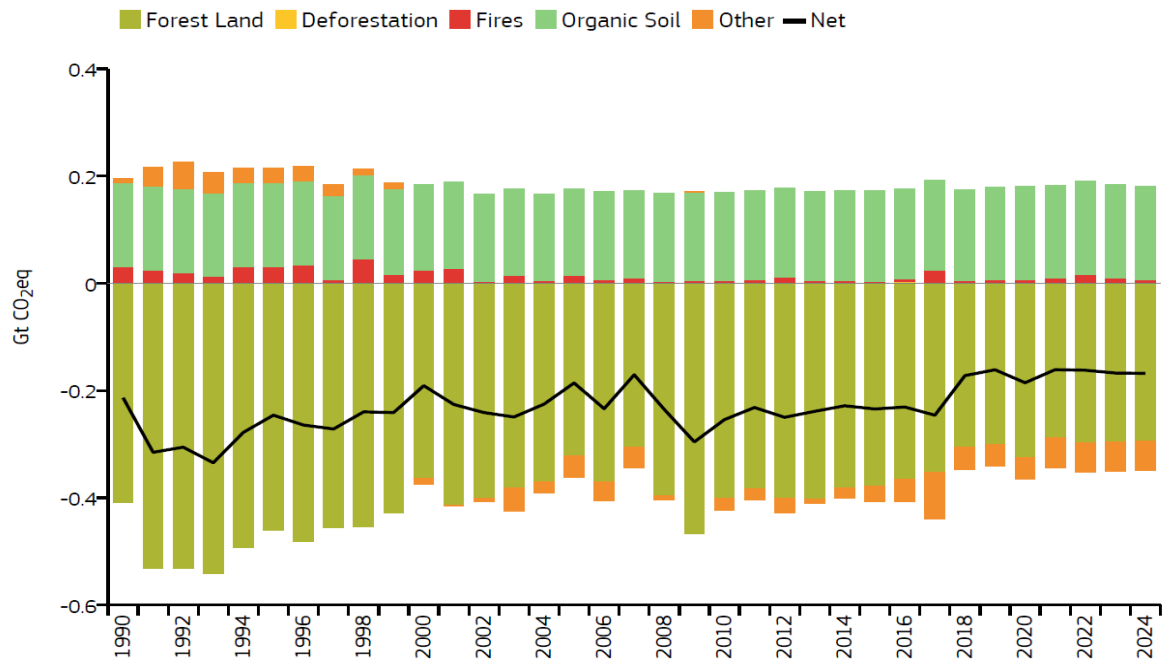
Global: The LULUCF sector was estimated to remove about 1.3 Gt CO_{2eq} excluding wildfires in 2024, representing 2.4% of global GHG emissions excluding LULUCF of 2024. When including fires, the LULUCF sector represents a source of GHG emissions in 2024, accounting for 0.9 Gt CO_{2eq}. In 2024, based on GWIS data, global wildfires contributed 2.1 Gt CO_{2eq} to LULUCF emissions, which is 28% less than the multiannual average wildfire emissions. However, North America and Latin America's contribution was significantly higher than expected. Latin America's 2024 fire season was particularly dramatic and several countries in the region recorded the largest burned area in recent years. Also Canada, although not as dramatic as the 2023 fire season, experienced large wildfires.

Based on our estimates, managed forests (living biomass, excluding deforestation) are by far the largest CO_2 removal category, with an estimated 5.5 Gt in 2024, equivalent to 13.9% of global fossil CO_2 emissions (excluding LULUCF) emitted in the same period. This independently estimated net removal is slightly lower than what countries include in their GHG reports (about 6.3 Gt CO_2, Grassi et al. 2022); the difference may be explained by different

methodologies and assumptions between country reports and our approach. In most cases, it can be assumed that the local data and approaches used in country GHG reports which use Tier 2 or Tier 3 methods are better suited for GHG reporting than the global-scale implementation of a default IPCC Tier 1 approach, as done in our study.

For the same year, global deforestation was responsible for net CO_2 emissions of 3.7 Gt CO_2, equivalent to 9.3% (or 6.9%) of the total anthropogenic CO_2 (or GHG) emissions. Among the other components, in 2024 organic soils contributed rather stable emissions of about 1.1 Gt CO_2. The large difference between the net LULUCF estimates in this booklet and those from the IPCC reports (which report net anthropogenic land-use emissions of about 5 to 6 Gt CO_2/yr, IPCC, 2022) can be to a large extent explained by different approaches in assessing the "anthropogenic" CO_2 removals, i.e. this booklet (consistently with most country GHG reports) consider as anthropogenic the part of the CO_2 removals that global models (as reflected in the IPCC reports) consider as natural. Once the difference in defining the 'anthropogenic' sink between countries and models are understood, LULUCF estimates can be largely reconciled at global and regional level (Grassi et al. 2021; Grassi et al., 2023).

Figure 7. EU27 GHG emissions and removals from LULUCF sector (in Gt CO_{2eq}), 1990-2024



Source: JRC, 2025

The EU27: The LULUCF sector produced a net removal of CO_2 emissions of 0.168 Gt CO_{2eq} (or 0.173 Gt CO_2 when excluding wildfires) in 2024, approximately 21% less than the 1990s levels (or 29% when excluding wildfires). Total GHG emissions from this sector including wildfires represent approximately 6.7% of the EU27 fossil GHG emissions excluding LULUCF.

Living biomass in managed forests is by far the most important carbon sink, with an estimated net 0.294 Gt CO_2 in 2024, equivalent to 11.9% of fossil CO_2 emitted in the EU27 in the same period excluding LULUCF. The other components (non-biomass forest pools, deforestation, organic soils and other) were offsetting each other, with a net emission of 0.121 Gt CO_2 in 2024. Based on our estimates, wildfire emissions represent a minor component for the EU27 in 2024, with a contribution of 0.005 Gt CO_{2eq}, although this figure obviously varies greatly according to the fire season severity (0.021 Gt CO_{2eq} were emitted in 2017). It is important to highlight that these data are not aimed at criticising nor challenging what is produced by Member States in their reporting process under the climate agreements, which are by definition produced with the best data and methods locally available and with several country-specific assumptions. This study is, on the contrary, part of a global methodologically coherent estimation at IPCC Tier 1 level.

4. Conclusions

The Emissions Database for Global Atmospheric Research (EDGAR) is a comprehensive inventory of anthropogenic emission time series from 1970 until 2024 for GHG. The data used in this report consists of the IEA-EDGAR CO_2, EDGAR CH_4, EDGAR N_2O and EDGAR F-gases, which are included in the EDGAR_2025_GHG (2025) dataset. An IPCC-based bottom-up emission calculation methodology is applied to all countries, demonstrating that consistent inventories can be developed for all countries within the limitations of the quality of the available data.

EDGAR complements the national inventories and reporting prepared by Parties to the Paris Agreement, in particular by producing a timely independent emissions estimates[33] based on the consistent application of homogeneous information and methodological tools across countries. In particular, the time series of EDGAR can provide collective emissions trend information for all countries that will be needed for the Paris Agreement's Global Stocktake beyond 2023 and for the Biennial Transparency Reports.

Overall, EDGAR provides an important input to the analysis of global GHG emission trends with its 54-year time series and is a reference product for the scientific community, policy makers and citizens interested in the climate debate.

This report shows that global GHG emissions from anthropogenic activities have increased by nearly 1.5% annually on average since 1990, and they were nearly 65% higher in 2024 than in 1990. In 2024, among the six major economies collectively contributing 61.8% to global GHG emissions (China, USA, India, EU27, Russia, and Indonesia), only the European Union decreased its emissions compared to the previous year (-1.8%), while all others either kept rather stable (China +0.8%; USA +0.4%) or increased their emissions (India +3.9%; Russia +2.5%, Indonesia +5%). Nevertheless, all major emitters reduced their emission intensity in terms of GHG emissions per unit of GDP.

This edition of the EDGAR booklet also includes estimates of GHG emissions from Land Use, Land Use Change and Forestry, finding a global emission from LULUCF approximately 0.9 Gt CO_{2eq} in 2024 (including wildfires). The net global

(33) In the official National Inventory Reports, the latest reporting year can be up to two years prior to the submission year.

flux actually reflects the offsetting between much larger removals (mostly from forest land) and emissions (mostly from deforestation and fires), each close to around 6 Gt CO_{2eq}, and includes emissions from the exceptional fire season in Latin America and Canada in 2024. In the EU27, LULUCF reduced its absorption capacity significantly compared to 1990, but nevertheless it is still an important net removal, equal to 0.168 Gt CO_{2eq} in 2024 (including wildfires).

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List of abbreviations and definitions

Abbreviations	Definitions
AR5	Fifth Assessment Report of IPCC
AR6	Sixth Assessment Report of IPCC
Cap	capita (population)
BGS	British Geological Society
CH4	Methane, greenhouse gas with GWP-100 = 28-30 under IPCC AR5
CO2	Carbon dioxide
DG CLIMA	Directorate-General for Climate Action, European Commission
EDGAR	Emissions Database for Global Atmospheric Research
EI	Energy Institute (formerly British Petroleum Company plc)
EIA	Energy Information Administration (of the U.S.)
EU27	European Union with 27 Member States
F-gases	Fluorinated gases
GCSA	Global Cement and Concrete Association
GDP	Gross Domestic Product
GGFR	Global Gas Flaring Reduction Partnership of the World Bank
GHG	Greenhouse Gas
Gt	Gigatonnes (1000 megatonnes = 10^9 metric tonnes)
GWP-100	Global Warming Potential over a 100-year period
IEA	International Energy Agency of the OECD (Paris)
IFA	International Fertiliser Association
IMF	International Monetary Fund

Abbreviations	Definitions
IPCC	Intergovernmental Panel on Climate Change
JRC	Joint Research Centre of the European Commission
k USD	1000 US Dollar GDP
LULUCF	Land use, land-use change and forestry
MS	Member State
Mt	Megatonnes (10^6 tonnes or 1 tera gramme) mass of a given (greenhouse gas) substance
NBSC	National Bureau of Statistics of China
NOAA	U.S. National Oceanic and Atmospheric Administration
N2O	Nitrous oxide, greenhouse gas with GWP-100 = 265 under IPCC AR5
n/a	Not Available
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing Power Parity
t	tonne (1 t or 1 mega gramme) mass of a given (greenhouse gas) substance
UNFCCC	United Nations Framework Convention on Climate Change
UNPD	United Nations Population Division
USD	U.S. Dollar
USDA	United States Department of Agriculture
USGS	United States Geological Survey
Worldsteel	Word Steel Association
yr	Year

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Annexes

Annex 1. Bottom-up methodology for global GHG emissions compilation

The EDGAR_2025_GHG (2025) emissions presented in this report include IEA-EDGAR CO_2 data (v4)[34] (IEA 2024b) covering fossil CO_2 emissions from combustion and processes, EDGAR CH_4, EDGAR N_2O and EDGAR F-gases up to 2024. In EDGAR, the emissions per country and compound are calculated on an annual basis and sector-wise by multiplying the country-specific activity and technology mix data by country-specific emission factors and reduction factors for installed abatement system for each sector. For the greenhouse gas emission factors, the global default values recommended in the IPCC 2006 guidelines (IPCC, 2006a) were used and where recommended, region-specific values were applied for other sources.

Regarding GHG emissions, all anthropogenic activities leading to climate relevant emissions are included (see Table 3), except biomass/biofuel combustion (short-cycle carbon) in the power, industry, buildings, transport, and agricultural sectors for CO_2 only. Large-scale biomass burning and land use, land-use change and forestry (LULUCF) are now part of the EDGAR estimations for CO_2 emissions.

EDGAR makes use of the IPCC sectorial classification, and a consistent bottom-up emission calculation methodology is applied to all countries, so that emissions of different countries can be compared, considering their respective levels of detail, uncertainties or data limitations. In particular, for developing countries with less robust and systematic statistical data infrastructures and limited experience in reporting their emission inventories, EDGAR can provide information and support them in complying with their inventory preparation.

In order to compute emissions up to the year t-1 for all sectors and gases, a Fast-Track approach is applied. For combustion sources, both IEA-EDGAR CO_2 (v4) emissions and non-CO_2 GHGs are extended until 2023 using the IEA Energy

[34] IEA-EDGAR CO_2 emissions from fossil fuel combustion are those reported by IEA from 1990 to 2022. Emissions from 1970 to 1989 are still based on IEA data, but complemented with additional statistics gathered over the years and included in previous releases of the EDGAR database. Furthermore, it includes non-energy use emissions computed from the IEA energy balances (IEA, 2024a) which are however not reported in the IEA CO_2 emissions (IEA, 2024b).

Balances[35] (2025) and the Energy Institute (EI, 2025) detailed statistics by fuel type for the years 2023 and 2024, while still assuming the same sectoral breakdown as in the last year of the IEA energy balance statistics. As a consequence of this approach, the emissions for the Fast-Track years (2023-2024) reported in this booklet will be updated in subsequent editions of this booklet, using future releases of the complete IEA energy balance statistics up to most recent years for all countries. For agriculture related sources, USDA (2025) data are used to extend FAOSTAT statistics up to 2024. For the other sectors with lower contributions to global GHG emissions, the time series have been extended for the latest years using proxy data and relative changes in activity data and trends to be applied to the latest available year. More details on the assumptions of the Fast-Track methdology are included in the following description of each emitting sector when relevant.

(35) The IEA Energy Balances released in April every year provide detailed statistics for countries included in the 'IEA Family and beyond'. More specifically they cover: Albania, Algeria, Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Curaçao, Cyprus, Czechia, Denmark, Ecuador, Egypt, Finland, France and Monaco, Germany, Ghana, Greece, Guatemala, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel and Palestine, State of, Italy, San Marino and the Holy See, Japan, Kenya, Luxembourg, Malta, Mauritius, Mexico, Morocco, Netherlands, New Zealand, Norway, Paraguay, Poland, Portugal, Romania, Senegal, Singapore, Slovakia, South Africa, South Korea, Spain and Andorra, Sweden, Switzerland and Liechtenstein, Thailand, Tunisia, Türkiye, United Kingdom, United States, Zambia.

Table 3. Main activities included in EDGAR emissions estimations

GHG (fossil CO_2, CH_4, N_2O, F-gases)		**IPCC 2006 categories**	**LULUCF (CO_2, CH_4, N_2O)**		**IPCC 2006 categories**
POWER INDUSTRY	Power and heat generation plants (public and auto-producers)	1A1a	**FOREST LAND**	Forest land remaining forest land and other lands converted to forest	3B1
INDUSTRIAL COMBUSTION AND PROCESSES	Combustion for industrial manufacturing, industrial processes (e.g. iron and steel, cement, aluminium, chemicals, production, solvents, etc.)	1A2+2+5A (only from non-agricultural activities)	**DEFORESTATION**	Deforestation including tropical fires	3B2bi+3B3bi+3B5bi+3B6bi
BUILDINGS	Small scale non-industrial stationary combustion	1A4+1A5	**ORGANIC SOIL**	Drainage of organic soils	
TRANSPORT	Road, non-road, domestic and international aviation, inland waterways and international shipping	1A3	**OTHER**	Non biomass forest pools, cropland, grassland, settlements, wetlands and other lands	3B2+3B3+3B4+3B5+3B6
AGRICULTURE	Livestock (enteric fermentation, manure management), agricultural soils (fertilisers, lime application, rice cultivation, direct soil emissions, indirect N_2O emissions from agriculture), field burning of agricultural residues	3A+3C1b+3C2+3C3+3C4+3C5+3C6+3C7+5A (only from agricultural activities)	**FIRES**	Forest fires (boreal, temperate), peat fires, shrubland fires, non-tropical savannah fires	3C1a (excluding tropical areas)+3C1c+3C1d
FUEL EXPLOITATION	Fuel extraction, transformation and refineries activities, including venting and flaring	1B+5B			
WASTE	Solid waste disposed on land, solid waste composted and hazardous solid waste processing/storage, waste water handling, waste incineration	4			

Source: JRC, 2025

For combustion sources: detailed IEA-EDGAR CO_2 (v4) emissions (IEA,2024b) are used for the period 1970-2022 (IEA, 2024a) together with CH_4 and N_2O emissions from EDGAR_2025_GHG (2025). To extend GHG emission time series from combustion sources up to 2024, trends based on detailed IEA energy statistics (2025) and EI (2025) consumption data by fuel type (coal, oil and gas) are applied to the corresponding latest available values. In particular, EI (2025) oil regional consumption data trends from Jet/Kerosene fuel are applied to domestic aviation emissions to extend them up to 2024. To extend GHG emissions from international aviation transport, we rely on the latest data from the Industry Statistics from IATA Statistics (IATA, 2025), while for shipping (international and domestic) we use fuel oil regional consumption statistics from EI (2025). Biofuel combustion related emissions are extended using FAOSTAT (2025) data for primary solid biomass and charcoal, while biodiesel and biogasoline are derived from EI (2025). Detailed description of the Fast-Track methodology is provided by Guizzardi et al. (2025b).

For the countries belonging to "Other Africa"[36], "Other Non-OECD Asia"[37] and "Other Non-OECD Americas"[38] in the IEA classification: the combined share of CO_2 emissions from all these countries in global total is very small, e.g. in 2022, this was less than 1%. To allocate the corresponding activity data and emissions to each single country, we used splitting factors derived from the U.S. Energy Information Administration (EIA, 2025) country specific data on fuel consumption and production of coal, oil and natural gas. Consequently, the uncertainties in GHG emission estimations for these countries are larger than the ones for individually reported countries, in particular for the sectorial subdivision. Additional reliable data and information are needed to further improve their GHG emissions allocation.

For the fugitive emissions: CO_2 emissions from coke production for 2023 and 2024 follow the same relative change as reported for the crude steel

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([36]) Includes Burkina Faso; Burundi; Cape Verde; Central African Republic; Chad; Comoros; Djibouti; Gambia; Guinea; Guinea-Bissau; Lesotho; Liberia; Malawi; Mali; Mauritania; Namibia (until 1990); Réunion (until 2010); Sao Tome and Principe; Seychelles; Sierra Leone; and Somalia..

([37]) Includes Afghanistan; Bhutan; Cambodia (until 1994); Cook Islands; East Timor; Fiji; French Polynesia; Kiribati; Lao People's Democratic Republic (until 1999); Macau, China; Maldives; Mongolia (until 1984); New Caledonia; Palau (from 1994); Papua New Guinea; Samoa; Solomon Islands; Tonga and Vanuatu.

([38]) Includes Anguilla, Antigua and Barbuda; Aruba; Bahamas; Barbados; Belize; Bermuda; Bonaire; British Virgin Islands; Cayman Islands; Dominica; Falkland Islands (Malvinas); French Guiana (until 2010); Grenada; Guadeloupe (until 2010); Martinique (until 2010); Montserrat; Puerto Rico (for natural gas); Saba (from 2012); Saint Eustatius (from 2012); Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Sint Maarten (from 2012); Suriname (until 1999); and the Turks and Caicos Islands.

production by the World Steel Association (worldsteel, 2025a). CO_2 flared at oil and gas extraction facilities for 1994 onwards is based on the total amount of gas flared derived from satellite observation of the intensity of flaring lights per country (GGFR/NOAA, 2025). CH_4 emissions from venting are estimated based on data and information from UNFCCC (2023), EPA (2023) and Höglund-Isaksson (2017). Compared to previous EDGAR CH_4 emission estimates, we also include fugitive emissions from abandoned mines following the methodology of the IPCC 2019 Refinements (IPCC, 2019b).

For the metal industry: the largest contribution is from blast furnaces, which in addition to the CO_2 emissions from blast furnace gas combustion (accounted for under the energy sector) emit also CO_2 from the coke/coal input as reducing agent and limestone used for iron and steel production. Here the crude steel production statistics reported by World Steel Association (worldsteel, 2025a) are used as input to calculate CO_2 emissions. Ferro-alloys production data are from USGS (2025) and BGS (2024) up to 2022 which are further extended to the year 2024 using the pig iron production trends and data from World Steel Association (worldsteel, 2025b), USGS (2025), BGS (2024) and NBSC (2025) for China.

For non-metallic minerals: CO_2 emissions from carbonates used in cement clinker production are based on reported or estimated cement clinker production. Cement production was calculated from cement production reported by the USGS (2025), except for China for the latest years (NBSC, 2025). The clinker-to-cement ratio is based on the clinker production data until 2021 from UNFCCC (2023) for the Annex I countries, and for USA up to 2023 using USGS (2024) data; for China it is calculated from World Cement (2022). For Brazil, Egypt, Philippines and Thailand, we used clinker production ratios from the GCSA (2023) up to the year 2019 and then applied a constant trend. The changes in the lime production from USGS (2025) are applied to extrapolate CO_2 emissions from all other carbonate uses (glass production, etc.). Concerning the feedstock use for chemicals production, the ammonia production from USGS (2025) is used, except for urea consumption and production, where data are provided by the International Fertiliser Industry Association (IFA, 2025). It is assumed that small soil liming emissions follow the gross ammonia production trend.

For **waste**: GHG emissions from waste **incineration** (without energy recovery) include both controlled incineration and open burning of municipal solid waste (MSW), industrial solid waste, biogenic waste, clinical waste, sewage sludge,

waste from cremation[39], and other waste types. For Annex I countries, the main source of activity data is the UNFCCC Locator or CRT tables (UNFCCC, 2025a), with population data used to fill backward trends in industrialised (Annex I) countries. For non-Annex I countries, per capita waste generation figures from the IPCC are used, along with country- or region-specific data and urban population estimates for the year 2000. The fraction of MSW incinerated in 2000 is derived from IPCC estimates, adjusted for regional context. The dataset is further complemented by reports submitted by non-Annex I countries to the UNFCCC on annual net emissions/removals under waste incineration (UNFCCC, 2025b). The year 2000 is taken as the base year, and population data are used to project both backward and forward trends.

CH_4 and N_2O emissions associated with **wastewater handling** have been updated until 2024, following the IPCC (2006c) methodology as outlined in Janssens-Maenhout et al. (2019). These updates consider the latest statistics from FAOSTAT (2025) on meat, pulp, sugar production, average protein supply, as well as data from UN (2025) and RFA (2025) for alcohol production. The population data, both urban and rural, are sourced from UNDP (2019).

Emissions from **landfills** are calculated using the first-order exponential decay method (FOD), in accordance with the 2006 IPCC Guidelines. For Annex I countries, waste data reported by parties via the UNFCCC Locator tool, CRT tables, Eurostat, and national statistics—such as in the case of China—are used. To account for the global domain, additional sources include UN statistics on municipal solid waste (MSW) collection and landfill disposal, as well as per capita MSW generation rates and disposal fractions from the IPCC Guidelines. For non-Annex I countries, a constant per capita landfill waste estimate is maintained based on the latest available year, as recommended by the IPCC Guidelines. In developing countries, municipal waste collection is assumed to occur only in urban areas, using urban population data from UN statistics (UNDP, 2019; Janssens-Maenhout et al., 2019). For more detailed information, refer to Oreggioni et al. (2021).

The emissions from waste **composting** are calculated using the UNFCCC Locator or CRT tables for the Annex-I countries. The methodology applied is that of IPCC using the emission factor for “wet weight waste” for both CH_4 and N_2O.

(39) Data sourced from https://www.cremation.org.uk

In the case of non-Annex I countries, UNSD/ENVSAT (2025) country data are utilized. The urban population is employed to address the backward and upward trends, following a similar procedure as applied to waste incineration.

Hazardous waste emissions from processing/storage are estimated using sources as Eurostat for the EU27, UK, Turkey and Western Balkan countries (Eurostat, 2025) and the UNSD/ENVSTAT (2025). The Non-Annex I countries are categorised into two groups: (i) countries with UNSD/ENVSTAT data on hazardous waste, and (ii) countries without UNSD/ENVSTAT data on hazardous waste. Additional data sources used are the biennial data from EPA[40] for the USA (last year 2023). The IPCC Guidelines do not provide specific methodologies for estimating emissions from hazardous waste storage facilities, likely due to the assumption that such facilities are designed to minimize emissions or that emissions from storage are negligible compared to those from treatment or disposal processes. In its estimations, EDGAR includes emissions (CH_4 and NMVOCs) from this type of waste, which will be reported under category 5.E – Other Waste in the 2025 release.

For agriculture: The agricultural sector includes various activities such as the application of urea and agricultural lime, enteric fermentation, rice cultivation, manure management, fertilizer use (both synthetic and manure-based), agricultural waste burning in fields, and emissions from cultivated organic soils (histosols). The current analysis does not consider large-scale biomass burning from savannah. Estimation of emissions from the agricultural sector relies on activity data obtained from FAOSTAT (2025) and emission factors provided by the IPCC Guidelines (2006b) and 2019 Refinement IPCC Guidelines (IPCC 2019a). CH_4 emission factors for enteric fermentation in both dairy and non-dairy cattle have been updated following the IPCC 2006 Tier 2 methodology. **CH_4 emissions from rice cultivation** have been updated following the 2019 IPCC Refinement using a Tier 1 approach that accounts for country-specific water regimes. Another methodological update concerns emissions from **histosols**, where a consistent IPCC Tier 1 approach is applied globally using climate-specific default emission factors for geospatially-defined areas of drained cropland and grassland. These areas are identified through the Harmonized World Soil Database and annual land cover maps from ESA-CCI,

(40) https://rcrapublic.epa.gov/rcrainfoweb/action/modules/br/trends/view

consistent with methods applied within the FAOSTAT Land Cover statistics. The EF values for N_2O and CO_2 emissions are those specified in Chapter 2 of the IPCC Wetlands Supplement for drained inland organic soils (IPCC 2014). Under the Fast Track procedure, agriculture-related emissions are extended up to 2024 using crop- and livestock-specific data at the macro-regional level from USDA (2025).

Fluorinated gases (F-gases): EDGAR_2025_GHG (2025) includes, among other substances, the fluorinated gases (F-gases), a class of man-made chemicals used in a wide range of industrial applications. F-gases play an important role in some key sectors of the economy, such as the production of magnesium and aluminium or the semiconductor manufacturing. F-gases represent a set of powerful greenhouse gases which is significantly contributing to climate change. F-gases include three main groups: (1) Hydrofluorocarbons (HFCs) mainly used as refrigerants, blowing agents for foams and solvents; (2) Perfluorocarbons (PFCs) used in the electronics sector (3) sulphur hexafluoride (SF_6) used mainly as insulating gas, in high voltage switchgear and in the production of magnesium and aluminium (refer to Table 4). Details on the methodology and data sources used are provided in Olivier et al. (2022).

Table 4. Overview on F-gases by sector included in EDGAR_2025_GHG (2025)

Substances	SF6	NF3	**PFCs:** C2F6, C3F8, C4F10, C5F12, C6F14, c-C4F8, CF4.	**HFCs:** HFC-23, HFC-32, HFC-41, HFC-125, HFC-134, HFC-134a, HFC-143, HFC-143a, HFC-152a, HFC-227ea, HFC-236fa, HFC-245fa, HFC-365mfc, HFC-131b, HFC-43-10-mee. **HCFCs:** HCFC-141b, HCFC-142b.
Industrial processes	Non-Ferrous metal production Chemical industry Electronic industry Electrical equipment	Electronic industry	Non-Ferrous metal production Electronic industry PFC use in fire extinguishers Other application	Refrigeration and air conditioning Fire extinguishers Solvents Aerosols Foam blowing Other application

Source: JRC, 2025

Changes compared to previous editions of the report

The current version of this report includes several updates compared to the previous edition which may result in differences in final emission estimates by country and by sector. The main changes are summarised here below:

- **Updated statistics** and data sources are used for all emitting sectors, thus resulting in possible differences with previous estimates.

- **Refinement of the Fast-Track methodology:** for the fossil fuel combustion sectors, the latest IEA statistics (IEA, 2025) for the IEA family and beyond countries are used in the Fast-Track approach to best estimate the emissions for the year t-2. This improvement will reduce differences in the estimates of the t-2 emissions for these sectors between two consecutive releases of EDGAR GHG emissions.

- **CH_4 emission estimates have been improved revising the emission factors of rice cultivation, waste landfilling and waste incineration.** These updates result in around 6% lower global CH_4 emissions on average, which is however in the range of uncertainty for CH_4 emissions (which is between ±30% and ±60% as 95% confidence interval). In the agricultural sector, CH_4 emissions from **rice cultivation** were refined using updated regional defaults and country-specific data. Improved allocation of water regimes now relies on sources such as UNFCCC national communications, FAO and USDA data, IPCC 2000 defaults, and peer-reviewed literature. Cultivation periods are aligned with data from the International Rice Research Institute (IRRI), and baseline emission factors assume continuous flooding without organic amendments, based on the 2006 IPCC Guidelines and the 2019 Refinement. This update expands country coverage for baseline emission factors and refines scaling factors, enhancing the accuracy of methane emission estimates from rice cultivation. Methodology for **waste incineration** emissions have been revised by explicitly distinguishing between controlled incineration and open burning, a differentiation not previously implemented in EDGAR. This has affected the distribution of waste flows leading to the revision of the allocation of waste quantities between controlled incineration and open burning, along with a corresponding update of the emission factors for key substances. For

waste landfilling, using information from UNFCCC submissions the recovery rates have been revised for all Annex I countries and several non-Annex I countries e.g. Argentina and Bolivia. The CH_4 emission factors were updated using revised input parameters for the FOD method. For China, data on landfilled waste for period 2000-2022 are sourced from national statistics on waste.

Annex 2. Methodology for the estimation of emissions from Land Use, Land-Use Change and Forestry (LULUCF)

The EDGAR-LULUCF component is the fifth release of a dataset developed by the JRC. It includes estimates of carbon emissions and removals from living biomass in the Forest Land sector, and emissions from Deforestation, Biomass Burning, and Organic soils in cropland and grassland.
The net fluxes from the other land use categories, namely land uses other than cropland and grassland on Organic Soils, and the remaining categories and pools grouped under the "Other" term, are derived from a dataset based on the official country GHG reports submitted to UNFCCC (see Grassi et al. 2022). The resulting dataset is largely complete on most land uses for developed countries, while the GHG reports from several developing countries are still rather incomplete (in this case, gap-filling was done to ensure a complete time series, see Grassi et al. 2023). Compared to the previous versions of this report, with the coming into force of the reporting requirements established by the Paris Agreement, this year we used the Biennial Transparency Report (BTR) submissions, which for the first time provide a complete GHG Inventory.
The dataset is produced through a geographically explicit, remote sensing based global scale implementation of the IPCC Tier 1 Gain/Loss approach for Greenhouse Gas Inventories (GHGI), as outlined in the IPCC Guidelines (IPCC, 2006a and 2019b Refinement). The methodology combines activity data (areas of land stable in the different land use categories, and conversions among them) and various default factors and country statistics to estimate separately the carbon removals (gains) and emissions (losses). Tier 1 is the most basic and widely-applicable approach, while Tier 2 requires the use of locally-derived parameters, and Tier 3 involves more advanced modelling. Parties to the UNFCCC are required to use at least Tier 2 when estimating categories and carbon pools most significant for their GHG inventory.
In the Tier 1 approach, activity data are modelled into gains and losses through a series of default emission factors and parameters (forest growth rate, Biomass Conversion and Expansion Factors, wood density, carbon density, root-to-shoot ratio etc.) available for the whole world. The IPCC Guidelines contain tables with default parameters values compiled from existing literature, varying by geographical area (continents) and vegetation characteristics (broad leaf/needle leaf, naturally growing/planted forest, age class, etc.).
Compared to last year, the set of parameters used this year has been further updated reflecting recent updates in the IPCC Guidelines.

LIVING BIOMASS IN FOREST LAND: Forest Land includes the "Forest Land remaining Forest Land" category (i.e. managed forest existing from at least 20

years) and the areas converted to forest land in the previous 20 years, covered by the "Land converted to Forest Land" category.
The activity data for the Gains consist in the areas of the different land use categories, which we assessed by means of one of the most widely used recent spatial land cover datasets, the "Land cover classification gridded maps from 1992 to present derived from satellite observations", part of the Copernicus Climate Change Service (C3S). This dataset guarantees backward compatibility with the ESA Climate Change Initiative (CCI) Land Cover Dataset (ESA, 2017) previously released for the years 1992-2015.
The C3S Land Cover dataset currently furnishes annual global land cover maps for the period 1992-2022 at approximately 300m spatial resolution at the equator developed harmonizing data from different sensors, such as AVHRR from 1992 to 1999, SPOT-Vegetation from 1998 to 2012, MERIS (2003-2012), PROBA-V and Sentinel-3 OLCI (S3 OLCI) from 2013. Data are released with a two-year delay, meaning that the latest available global map refers at the moment to 2022.
The legend consists of 22 classes, which follow the FAO Land Cover Classification System (LCCS). The Land Cover maps were converted to IPCC land use classes by means of a conversion table which considers, for each of the 22 LCCS classes, the shares within the pixel of the different IPCC land use categories (Forest Land-partitioned in broadleaf and needle leaf, Cropland, Grassland, Settlements, Wetlands, and Other Land), based on the definition of each LCCS classes. For each pixel of the map, these shares were then converted to actual land areas belonging to the various IPCC categories used within GHG inventories. An Intact Forest layer (Potapov et al., 2017) was used to distinguish managed from unmanaged forest, assuming intact forests to be a good proxy for unmanaged forests (see Grassi et al. 2021).
In the case of the losses, the activity data are the statistics of forest harvest. The reliability of wood harvest statistics is a key issue due to the difficulties in tracking actual harvest including informal logging (mainly in the case of fuelwood) and illegal logging (mainly for Industrial Roundwood), which may account for very significant amounts of wood, sometimes even several times the official numbers. We therefore tried to find ways to include at least an estimate of these untracked amounts.
In the case of Industrial Roundwood we used the country harvest production statistics (industrial roundwood and fuelwood, partitioned in broadleaf and needle leaf) from the FAOSTAT database, when possible corrected for illegal, not registered in official statistics, using estimates from different datasets (see Kleinschmit et al. 2016). In the case of Fuelwood, we used a new dataset developed by FAO (Steel et al., in press) aimed at furnishing more reliable estimates taking into account informal logging.

Based on research in literature, in this work we propose and implement 3 methodological changes in the standard IPCC Tier 1 approach for living biomass emissions and removals to address some limitations of the original approach.

1. We introduce a third age class for forests above 100 years of age. The standard IPCC Tier 1 approach considers two forest age classes, 0-20 years old and above 21 years old. From the previous results we found that using a single class for older forests overestimates the forest gain, as it does not consider the ageing of forests which reduces the carbon absorption capability of trees. Within the standard IPCC framework, a 21 years old forest absorbs like a 300 years old forest. We therefore subdivided the "above 21 years old" class in two classes, a 21-100 years old class and another one for forests above 100 years old. For these "older" forests, we used the parameters for primary forests furnished by the IPCC Guidelines.
2. We found an error in the IPCC formula for assessing losses from fuelwood harvest. The Guidelines multiply the harvested fuelwood volume by the Biomass Conversion and Expansion Factor (BCEF), which expands the merchantable volume (the stem) to the whole tree and convert it to dry matter. However, the fuelwood statistics generally already include the whole tree and this resulted in an overestimation of the carbon lost. We therefore propose to amend the formula by removing the BCEF and leaving only the parameter indicating the share of wood left on the field during harvesting (~10% according to the Guidelines) multiplied by the wood density. This error was reported to and the solution discussed with the IPCC staff in charge of the Guidelines.
3. From the exam of literature, we found that in Southern Asia a large part of the fuelwood (between 80% and 95%) is actually collected outside forests. The share of forest fuelwood collection in India ranged from 35% in the 70s to 17% in the 90s.
   This leads to an evident overestimation of the C losses from forest harvesting. We therefore introduced a parameter aimed at reducing the share of the total fuelwood harvest to be assigned to forests.

In the IPCC methodology the appropriate parameters are assigned to each forest type according to vegetation/climate/management characteristics, which we identified through ancillary spatial and statistical datasets such as the FAO-GEZ (Global Ecological Zones dataset, FAO 2013), the FAO Forest Resource Assessment (FRA), etc. Compared to last year, the ancillary data used were updated. The shares for the 0-20, 21-100 and over 100 years old age classes were obtained at the country level from the GFAD 1.1 database (Poulter et al. 2019). The shares of Naturally-growing and Planted were also updated using the latest

FAO-FRA. Also the growing stock data used along with the climatic zone to select the BCEFs were updated. This allowed the partitioning of each pixel area according to vegetation characteristics essential to select the correct parameters in each context, such as the tree type (broadleaf or needle leaf), the type of forest (e.g., Tropical Rainforest, Temperate Continental Forest, etc., from FAO/GEZ), the vegetation characteristics (planted trees or natural grown forest), and the forest age class (less or equal 20 years old, between 21 and 100, and over 100 years old).

Losses for year 2023 are produced from the FAOSTAT data, while 2024 harvest data are estimated through an interpolation of the previous 5 years.

DEFORESTATION: in the case of Deforestation, the activity data (deforested areas) are obtained from the maps of the "Global Maps of Forest Cover Changes and their Drivers" on the EU Observatory on Deforestation and Forest Degradation (https://forest-observatory.ec.europa.eu). These maps combine the Tropical Moist Forest (TMF) forest cover change 1990-2022 dataset for the tropical moist forest developed at the JRC (Vancutsem et al. 2021), and the Global Forest Change 2000-2022 Dataset (Hansen et al., 2013), also based on Landsat, for the rest of the World. The dataset analyses time series of satellite data to identify permanent conversion from forest to other land uses, subdividing Deforestation according to the drivers identified by Curtis et al. (2018): Urbanization, Shifting Agriculture, and Commodity-Driven Deforestation. All events which resulted in impacts on forest cover over a period of 2.5 years were considered deforestation processes, resulting in deforested land when no regrowth was observed for more than 3 years.
Biomass removed from deforested areas is estimated using IPCC default factors, with different forest types identified through the FAO GEZ map, and then converted to Carbon content. According to the Tier 1 assumptions, carbon is assumed to be released in the atmosphere in the year of the conversion.

BIOMASS BURNING: Biomass burning emissions are based on the Global Wildfire Information System (GWIS) data and discussed in Annex 3.

CROPLAND AND GRASSLAND ORGANIC SOILS: CO_2 and N_2O emissions from cropland and grassland organic soils are estimated with a consistent IPCC Tier 1 approach using climate-specific default emission factors for geospatially-defined areas of drained cropland and grassland. These areas are identified through the Harmonized World Soil Database and annual land cover maps from ESA-CCI, consistent with methods applied within the FAOSTAT Land Cover statistics. The EF values for N_2O and CO_2 emissions are those specified in Chapter 2 of the IPCC Wetlands Supplement for drained inland organic soils (IPCC 2014).

The results were evaluated in comparison with the available official country GHG reporting, generally produced using more advanced Tiers, as it is the case of Annex I countries.
In general, our estimates are quite close to the country reporting in the case of Annex I countries. Some differences for a limited number of countries can be easily explained with specific local country assumptions, which obviously cannot be implemented in a global homogeneous study. This is a promising result, because Annex I inventories are generally produced using state-of-the-art methods and data, and a good agreement with them speaks in favor of the reliability of the methodology.
In other areas the country estimates are often less reliable, and possible differences can be caused by several factors. For example, in the case of Africa our estimates for Forest living biomass show a reduction in the net Forest sink, due to an increase in losses, while the country reports show a slight increase in the sink. However, our data reflect the actual trend of the forest production in the continent, which is increasing, while it is not clear why this is not detected in the country data. Also, several countries adopt stock-difference methods which are very different from our gain/loss approach, and in fact we notice the biggest discrepancies between our results and country data where stock difference approaches are implemented.
In the case of Deforestation, we also compared our results, along with the official reporting, also with those of various models, such as the Global Forest Watch (GFW) and the Global Carbon Budget (GCB). Our results are in line with the official reporting and with the GCB, showing a decreasing emissions trend in global deforestation in the last 20 years.

The Tier 1 estimates presented here are aimed to provide a globally-consistent overview for LULUCF using IPCC official default methodologies. These estimates can provide useful information on areas for which no or little official estimations are available (e.g. several African countries). It is however important to highlight that the EDGAR-LULUCF estimates are expressly not aimed at challenging nor verifying the estimates produced by individual countries, generally made using locally available data and parameters at Tier 2, or advanced Tier 3 modelling approaches.
By definition, each country should use the best locally available data and expertise to produce its inventories, while we are on purpose adopting a global Tier 1 approach, using the best data and parameters available at the global scale, inevitably less precise and reliable.

The new deforestation data will be shortly available in the European Forest Observatory portal (https://forest-observatory.ec.europa.eu/) in the new Global land use carbon flux hub.

Annex 3. Methodology for the estimation of emissions from large scale biomass burning

Estimates of atmospheric emissions due to biomass burning have conventionally been derived adopting 'bottom up' inventory-based methods (Seiler & Crutzen, 1980). The IPCC AFOLU guidelines thus estimate the emissions as:

$$L = A \times Mb \times Cf \times Gef \qquad \text{[Equation 1]}$$

where:

L [g] is the quantity of emitted gas or particulate

A [m^2] is the area affected by fire

Mb [g m^{-2}] is the fuel loading per unit area

Cf [g g^{-1}] is the combustion factor i.e. the proportion of biomass consumed as a result of fire

Gef [g g^{-1}] is the emission factor or emission ratio, i.e. the amount of gas released for each gaseous species per unit of biomass load consumed by the fire.

As the methodology developed is based on the IPCC Tier 1 approach for Greenhouse Gas Inventories (GHGI), as outlined in the IPCC Guidelines (IPCC, 2006b and 2019b Refinement), the parameters of equation 1 are typically not available for each pixel, but reference values are used instead, for instance those given in tables 2.4, 2.5 and 2.6 of the IPCC guidelines. Those reference values are stratified by landcover class, and it is convenient to rewrite equation 1 as:

$$L_{lc} = A_{lc} \times Mb_{lc} \times Cf_{lc} \times Gef_{lc} \qquad \text{[Equation 2]}$$

where:

L_{lc} [g] is the quantity of emitted gas or particulate for landcover class *lc*

A_{lc} [m^2] is the total area burned in landcover class *lc*

Mb_{lc}, Cf_{lc} and Gef_{lc} are the fuel load, the combustion factor and the emission factor derived from the IPCC tables for landcover class *lc*.

The total emission over the whole area of interest is the summation of L_{lc} for all the landcover areas:

$$L = \sum L_{lc} \qquad \text{[Equation 3]}$$

The IPCC 2006 AFOLU guidelines (IPCC, 2006b) contain tables for biomass consumed as a function of the landcover, but the vegetation types used are not immediately compatible with the legend of any of the current landcover products. To this end, a procedure was developed to combine data on area burned, landcover, JRC climatic characterization and soil classification map, as described in the following.

- **Area burned**

The area burned used is derived from the GlobFire Database developed under the umbrella of the Global Wildfire Information System (GWIS) (Artés et al., 2019). This burned area product is derived from the most recent Collection 6 Moderate Resolution Imaging Spectroradiometer (MODIS) burned area product (MCD64A1), which maps the extent of fire at 500m resolution and the approximate day of burning (Giglio et al., 2018).

- **Landcover**

The Annual International Geosphere-Biosphere Programme (IGBP) classification legend of the global MODIS landcover product MCD12A1 (Friedl & Sulla-Menashe, 2019) was used. The MCD12A1 global land product is part of the standard MODIS suite, and has been produced at annual intervals since the beginning of the mission. The current Collection 6 version has a spatial resolution of 500m, and it is distributed in the same sinusoidal tiled geometry as the MCD64A1 product, allowing for the computation of stratified total area burned A_{lc} in equation 2 without the need for resampling or reprojection. For each pixel, the MCD12A1 product provides a class label assigned following different legends to cover the needs of multiple user communities. The IPCC legend (LC_Type1) was used in the present application.

- **JRC climatic characterisation and soil classification map**

The Climatic Zone and Soil Type raster maps were created by the Joint Research Centre in support of the European Commission guidelines for the calculation of land carbon stocks for the purpose of Annex V to Directive 2009/28/EC. The Climatic Zone layer is defined based on the classification of IPCC (IPCC, 2006b). Soil types are classified according to the World Reference Base (WRB). The

raster data layers were resampled and reprojected to the MODIS sinusoidal projection, and tiled into the MODIS geometry, to ensure interoperability with the MODIS MCD64A1 and MCD12A1 products.

The result of the merged approach is a 500 m landcover map, which uses a set of vegetation classes compatible with the IPCC tables. The procedure is fully automatic, and is repeated for every year from 2000 to 2019, to ensure that the statistics are generated using the most appropriate landcover information for the year.

For the period between 1982 to 1999, where MODIS burned area data were not available, images from the Advanced Very High Resolution Radiometer Long Term Data Record burned area product (AVHRR-LTDR) were used. The final burned area product (designated as FireCCILT10) (Otón et al., 2021) estimated BA in a spatial resolution of 0.05° for the period between 1982 and 2017 (excluding 1994, due to input data gaps).

This product is the longest global burned area product currently available, extending almost 20 years back from the existing NASA (MODIS) and European Space Agency (ESA) burned area products. Despite FireCCILT10 and MCD64A1 are based on different sensors and methodologies, Otón et al. (2021) reported high correlation values (r^2 >0.9) between burned area estimations from both with better agreement in tropical regions rather than boreal regions. Spatial trends were found to be similar to existing global burned area products, but temporal trends showed unstable annual variations, most likely linked to the changes in the AVHRR sensor and orbital decays of the NOAA satellites.

The methodology applied for this period was similar to the one developed for the MODIS period (2000-2019), including the resampling and reprojection to the MODIS sinusoidal projection, and tiled into the MODIS geometry, to ensure interoperability with the MCD12A1 products.

Annex 4. Content of country fact sheet

For each country, a fact sheet is provided with the time series of GHG emissions from all anthropogenic activities except land use, land-use change, forestry and large scale biomass burning. The upper panel of the fact sheet includes GHG annual totals from 1990 until 2024 per sector. A pie chart is also shown representing the share of each individual GHG (fossil CO_2, CH_4, N_2O, F-gases) to the 2024 country total rounded at the first digit[41]. Then, an overview table with total emissions by country for the years 1990, 2005 (Kyoto Protocol), 2015 (Paris Agreement), and 2024 is also reported, together with per capita, per GDP (PPP constant 2021 international $, USD) emissions, and population data. Along with the summary of the GHG emission time series for each country, a graphical visualisation aids the interpretation of the emission changes by sector over time at the bottom of each page.

The graphs compare GHG emissions for the last available year (2024) with the emission levels of the previous year (2023) and of two key years: 1990 (base year for national greenhouse gases inventory) and 2005, when the Kyoto Protocol came into effect. Emissions stalling, rising or dampening for the year 2024 are expressed in terms of % change with respect to these two years, for sectors specified as follow:

[41] The sum of the rounded shares may differ from 100% by a percentage point.

Legend of the sectors:


Power Industry - Power and heat generation plants (public & autoproducers)


Industrial Combustion and Processes - Combustion for industrial manufacturing and processes


Buildings – Small scale non-industrial stationary combustion


Transport – Mobile combustion (road & rail & ship & aviation)


Fuel Exploitation – Fuel extraction, transformation and refinieries


Agriculture – Agricultural soils, livestock, field burning of agricultural residues, indirect N_2O emissions from agriculture


Waste – Solid waste disposal and waste water treatment


All sectors – Sum of all sectors. The pie chart represents the GHG sectorial share in 2024.


indicates a reduction in 2024 emissions by the amount expressed by the percentage value (in green)


indicates growth in 2024 emissions by the amount expressed by the percentage value (in red)


In the cases where 2024 emissions have reduced or have grown by less than 5% with respect to the reference year, or have stalled, a horizontal orange arrow is shown. Also in this case the amount is expressed by the percentage value (in orange)

An “n/a” is used to indicate either a sector missing throughout the time series (meaning that no data are reported for that sector) or that no data are available for the reference years or 2024. When computing the emission trend for the sum of all sectors, no value is reported in the case of incomplete statistics for the most emitting sectors for the year 1990 (as for example Greenland).

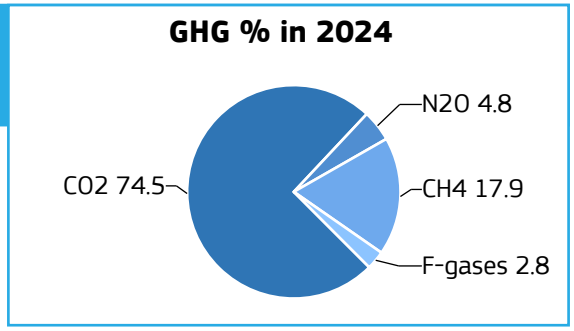
Country-specific GHG emission time series data can be downloaded at the following website: https://edgar.jrc.ec.europa.eu/report_2025.

Annex 5. GHG emissions for the world, international transport and the EU27

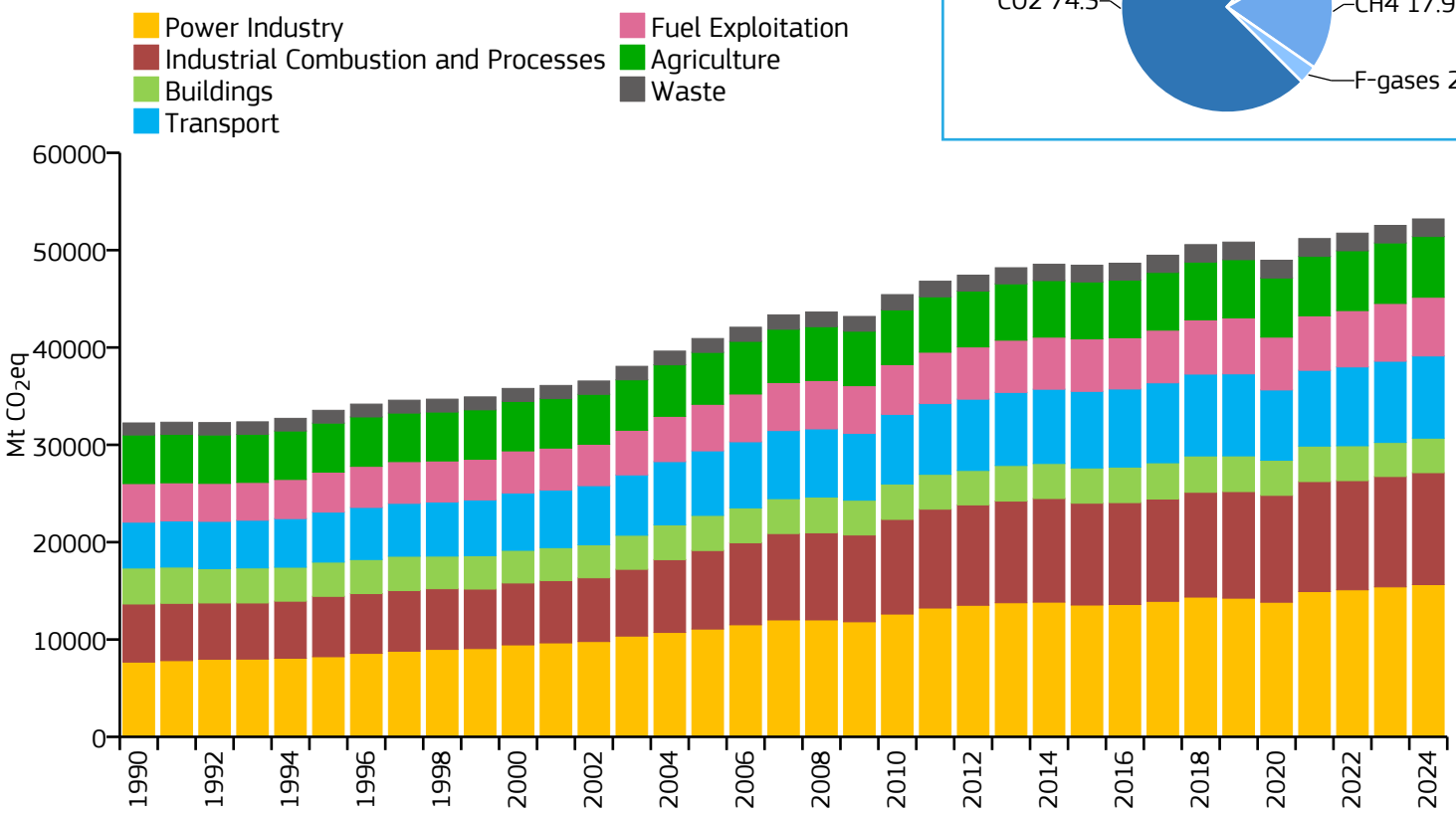
Global totals for all countries, including international shipping and aviation, followed by the international transport sector (shipping and aviation).

Total EU27 emissions from Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

WORLD



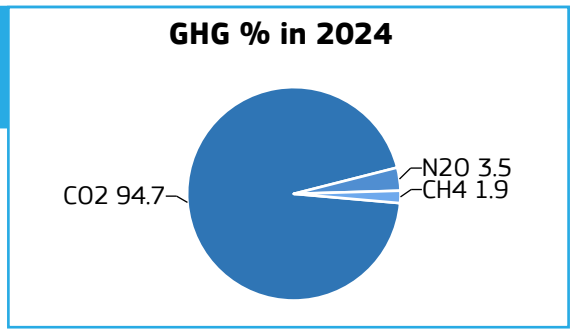
GHG emissions by sector



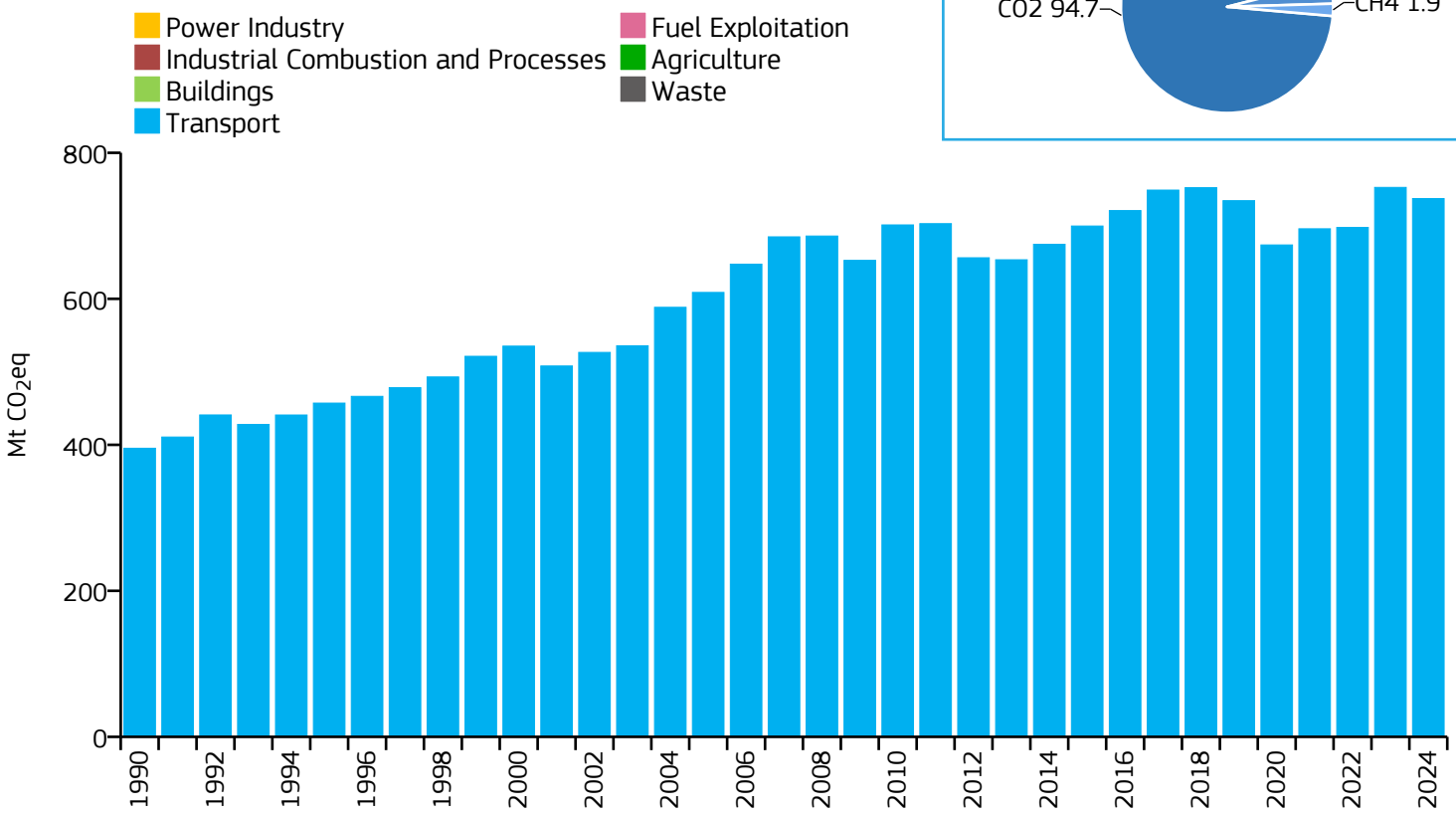
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	53206.401	6.562	0.308	8.109G
2015	48451.421	6.564	0.366	7.381G
2005	40919.625	6.256	0.434	6.540G
1990	32249.867	6.051	0.538	5.330G

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +104%	↗ +41%	→ +2%
Industrial Combustion and Processes	↗ +93%	↗ +43%	→ +1%
Buildings	→ -4%	→ -2%	→ +1%
Transport	↗ +79%	↗ +27%	→ +1%
Fuel Exploitation	↗ +52%	↗ +26%	→ +2%
Agriculture	↗ +25%	↗ +17%	→ 0%
Waste	↗ +46%	↗ +27%	→ 0%
All sectors	↗ +65%	↗ +30%	→ +1%

International Shipping



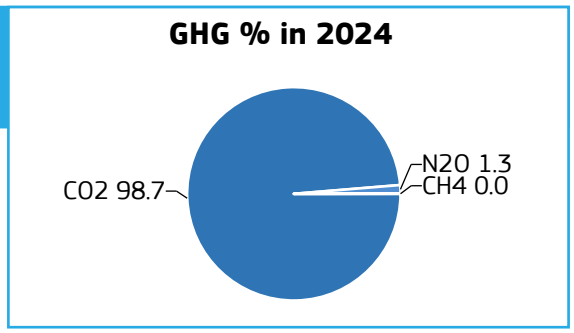
GHG emissions by sector



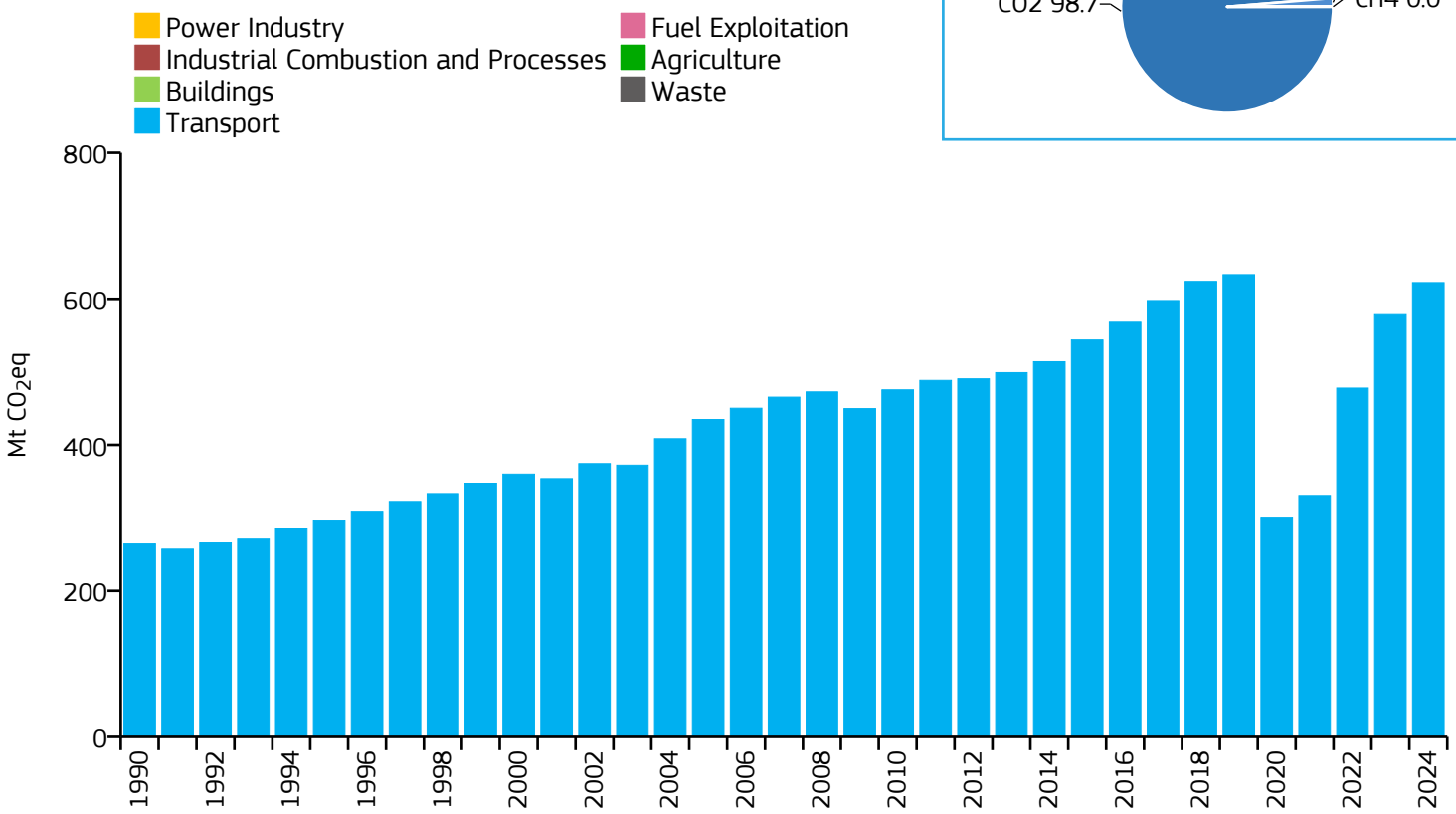
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	737.322	n/a	n/a	n/a
2015	699.705	n/a	n/a	n/a
2005	608.741	n/a	n/a	n/a
1990	395.323	n/a	n/a	n/a

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	n/a	n/a
Industrial Combustion and Processes	n/a	n/a	n/a
Buildings	n/a	n/a	n/a
Transport	↗ +87%	↗ +21%	→ -2%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	n/a	n/a	n/a
Waste	n/a	n/a	n/a
All sectors	n/a	n/a	n/a

International Aviation



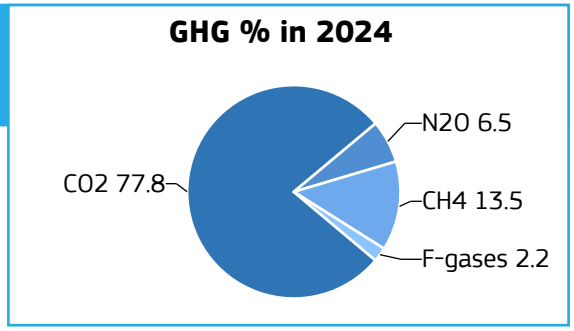
GHG emissions by sector



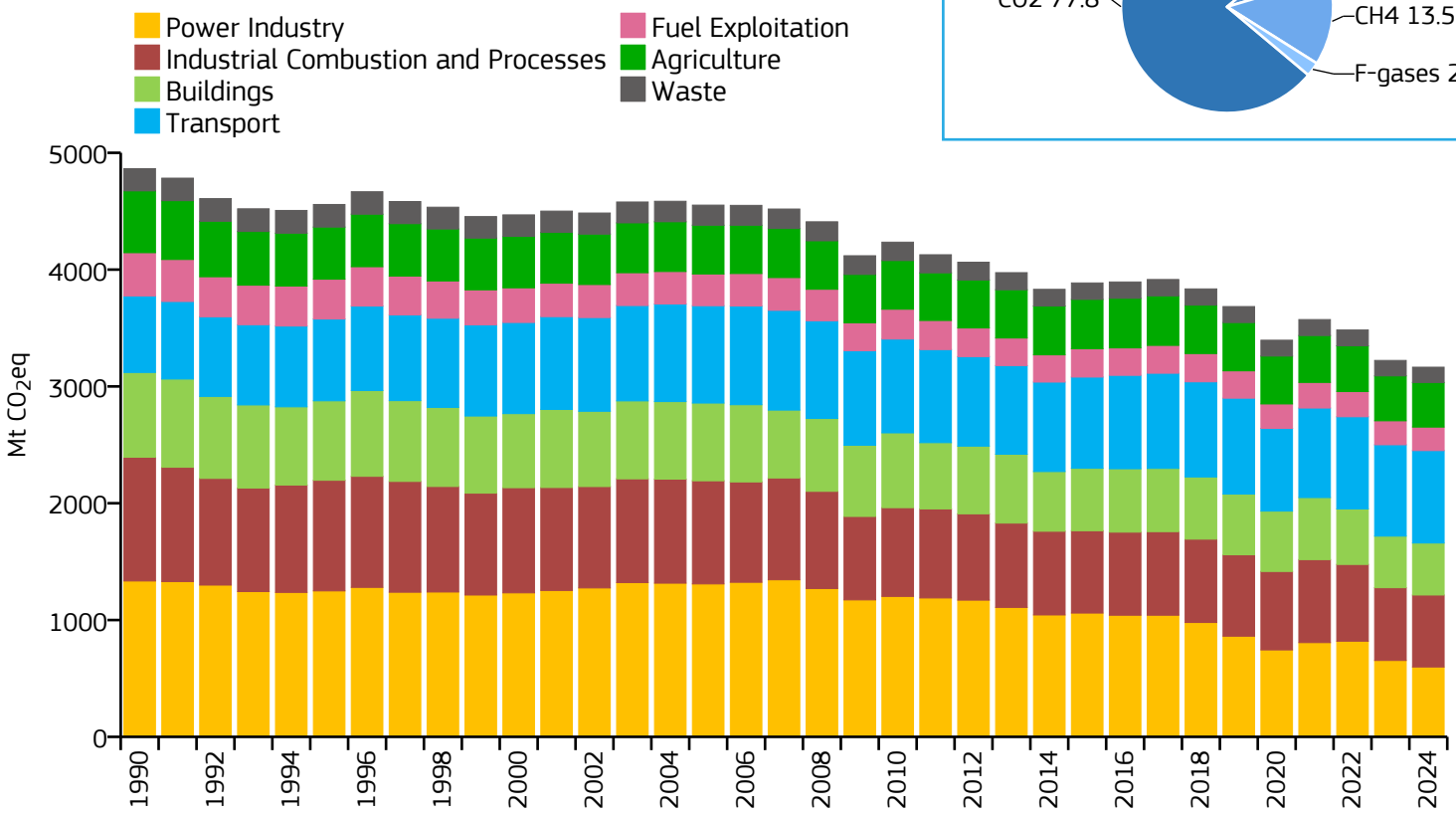
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	622.334	n/a	n/a	n/a
2015	543.596	n/a	n/a	n/a
2005	434.717	n/a	n/a	n/a
1990	264.257	n/a	n/a	n/a

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	n/a	n/a
Industrial Combustion and Processes	n/a	n/a	n/a
Buildings	n/a	n/a	n/a
Transport	↗ +136%	↗ +43%	↗ +8%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	n/a	n/a	n/a
Waste	n/a	n/a	n/a
All sectors	n/a	n/a	n/a

EU27



GHG emissions by sector



Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	3164.665	7.138	0.129	443.364M
2015	3885.944	8.790	0.184	442.095M
2005	4552.224	10.461	0.240	435.163M
1990	4864.277	11.576	0.346	420.198M

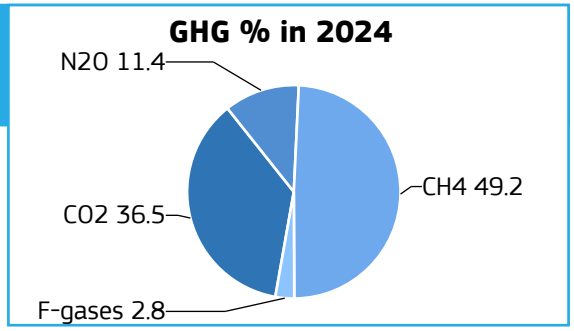
	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-55%	-54%	-9%
Industrial Combustion and Processes	-42%	-30%	-1%
Buildings	-39%	-33%	+1%
Transport	+21%	-5%	+1%
Fuel Exploitation	-46%	-26%	-2%
Agriculture	-28%	-8%	-1%
Waste	-31%	-24%	-1%
All sectors	-35%	-30%	-2%

Annex 6. GHG emissions by country

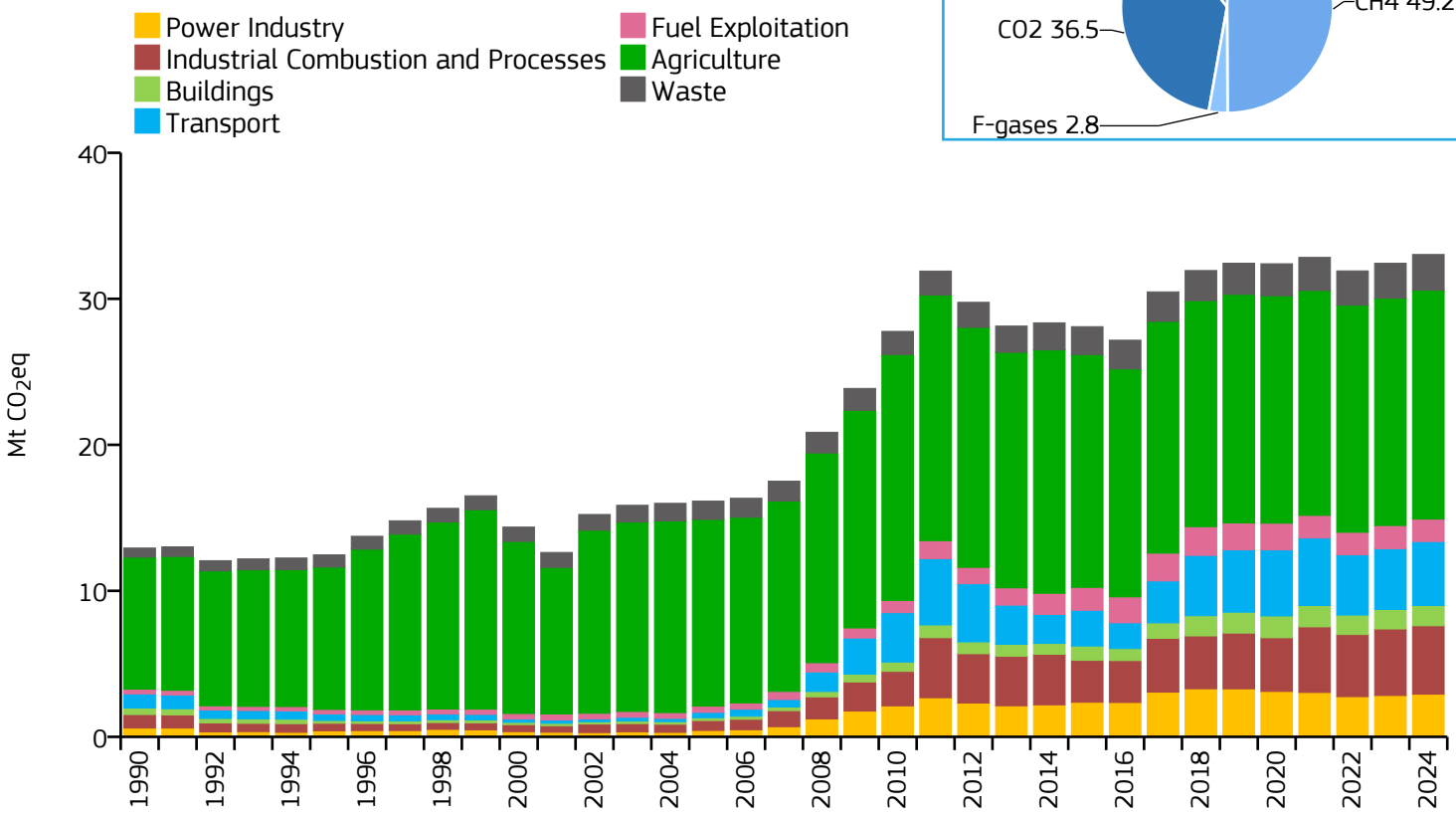
The following countries are presented:

Afghanistan; Albania; Algeria; Angola; Anguilla; Antigua and Barbuda; Argentina; Armenia; Aruba; Australia; Austria; Azerbaijan; Bahamas; Bahrain; Bangladesh; Barbados; Belarus; Belgium; Belize; Benin; Bermuda; Bhutan; Bolivia; Bosnia and Herzegovina; Botswana; Brazil; British Virgin Islands; Brunei; Bulgaria; Burkina Faso; Burundi; Cabo Verde; Cambodia; Cameroon; Canada; Cayman Islands; Central African Republic; Chad; Chile; China; Colombia; Comoros; Congo; Cook Islands; Costa Rica; Côte d'Ivoire; Croatia; Cuba; Curaçao; Cyprus; Czechia; Democratic Republic of the Congo; Denmark; Djibouti; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Estonia; Eswatini; Ethiopia; Falkland Islands; Faroes; Fiji; Finland; France and Monaco; French Guiana; French Polynesia; Gabon; Georgia; Germany; Ghana; Gibraltar; Greece; Greenland; Grenada; Guadeloupe; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; Hong Kong; Hungary; Iceland; India; Indonesia; Iran; Iraq; Ireland; Israel and Palestine, State of; Italy, San Marino and the Holy See; Jamaica; Japan; Jordan; Kazakhstan; Kenya; Kiribati; Kuwait; Kyrgyzstan; Laos; Latvia; Lebanon; Lesotho; Liberia; Libya; Lithuania; Luxembourg; Macao; Madagascar; Malawi; Malaysia; Maldives; Mali; Malta; Martinique; Mauritania; Mauritius; Mexico; Moldova; Mongolia; Morocco; Mozambique; Myanmar/Burma; Namibia; Nepal; Netherlands; New Caledonia; New Zealand; Nicaragua; Niger; Nigeria; North Korea; North Macedonia; Norway; Oman; Pakistan; Palau; Panama; Papua New Guinea; Paraguay; Peru; Philippines; Poland; Portugal; Puerto Rico; Qatar; Réunion; Romania; Russia; Rwanda; Saint Helena, Ascension and Tristan da Cunha; Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Samoa; São Tomé and Príncipe; Saudi Arabia; Senegal; Serbia and Montenegro; Seychelles; Sierra Leone; Singapore; Slovakia; Slovenia; Solomon Islands; Somalia; South Africa; South Korea; Spain and Andorra; Sri Lanka; Sudan and South Sudan; Suriname; Sweden; Switzerland and Liechtenstein; Syria; Taiwan; Tajikistan; Tanzania; Thailand; The Gambia; Timor-Leste; Togo; Tonga; Trinidad and Tobago; Tunisia; Türkiye; Turkmenistan; Turks and Caicos Islands; Uganda; Ukraine; United Arab Emirates; United Kingdom; United States; Uruguay; Uzbekistan; Vanuatu; Venezuela; Viet Nam; Western Sahara; Yemen; Zambia; Zimbabwe.

Afghanistan



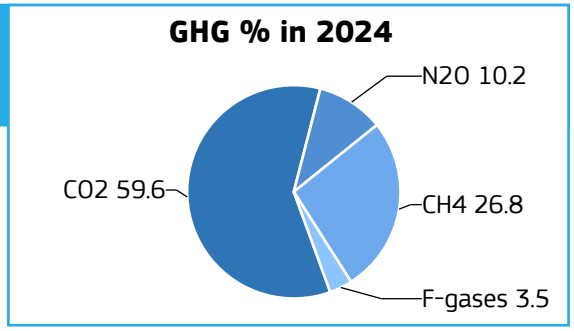
GHG emissions by sector



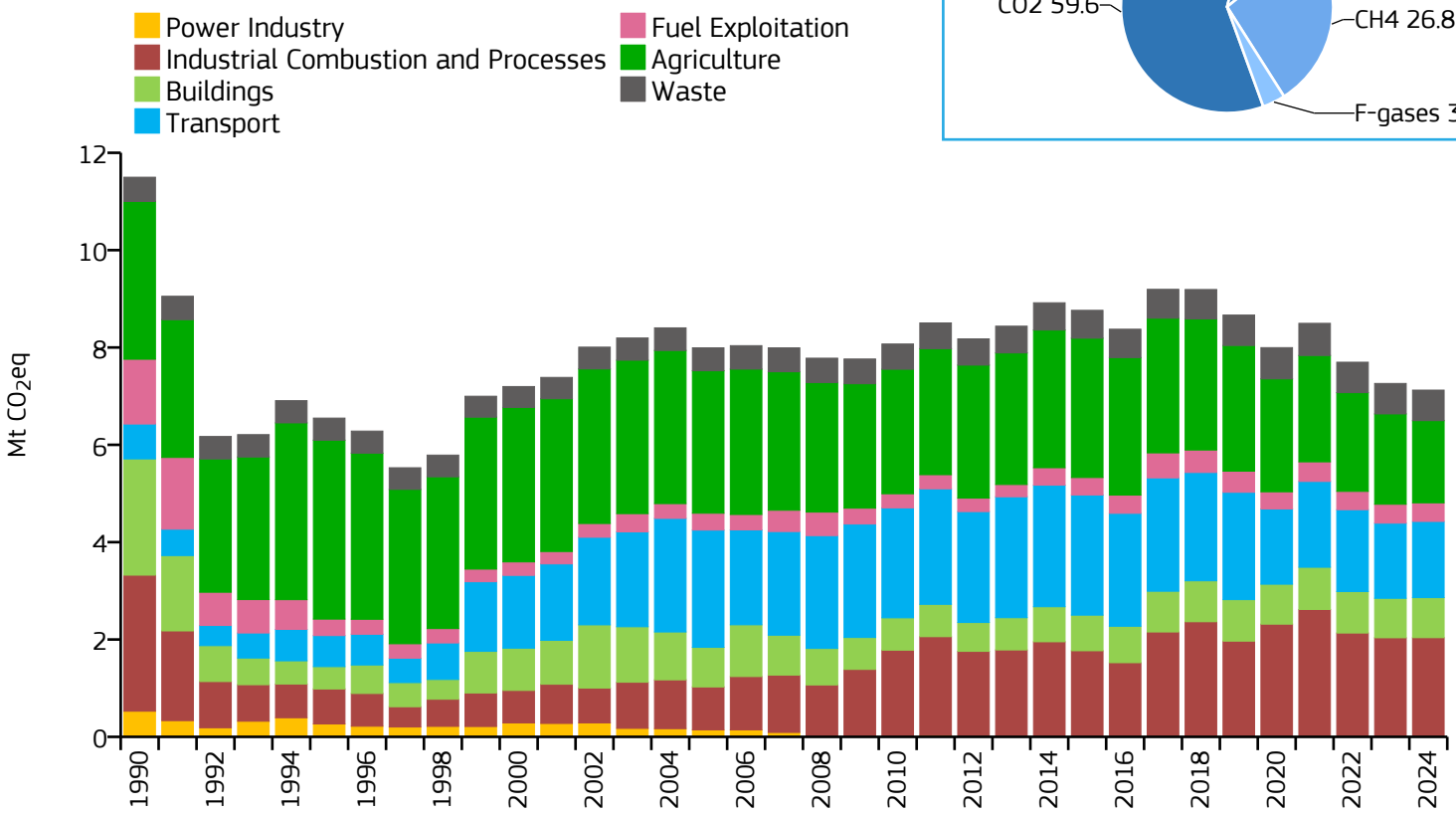
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	33.035	0.796	0.402	41.520M
2015	28.093	0.833	0.280	33.736M
2005	16.145	0.644	0.347	25.071M
1990	12.932	1.056	0.242	12.249M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+3%
Industrial Combustion and Processes	> +300%	> +300%	+3%
Buildings	+212%	> +300%	+4%
Transport	> +300%	> +300%	+5%
Fuel Exploitation	> +300%	+258%	-3%
Agriculture	+73%	+23%	+1%
Waste	+291%	+95%	+2%
All sectors	+155%	+105%	+2%

Albania



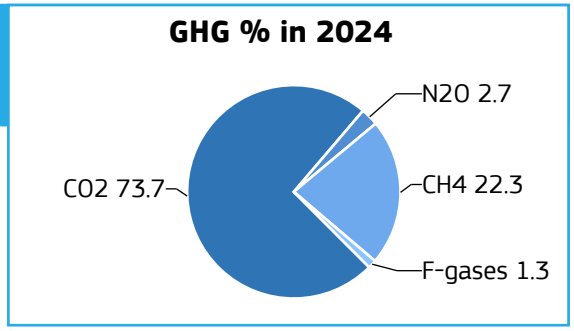
GHG emissions by sector



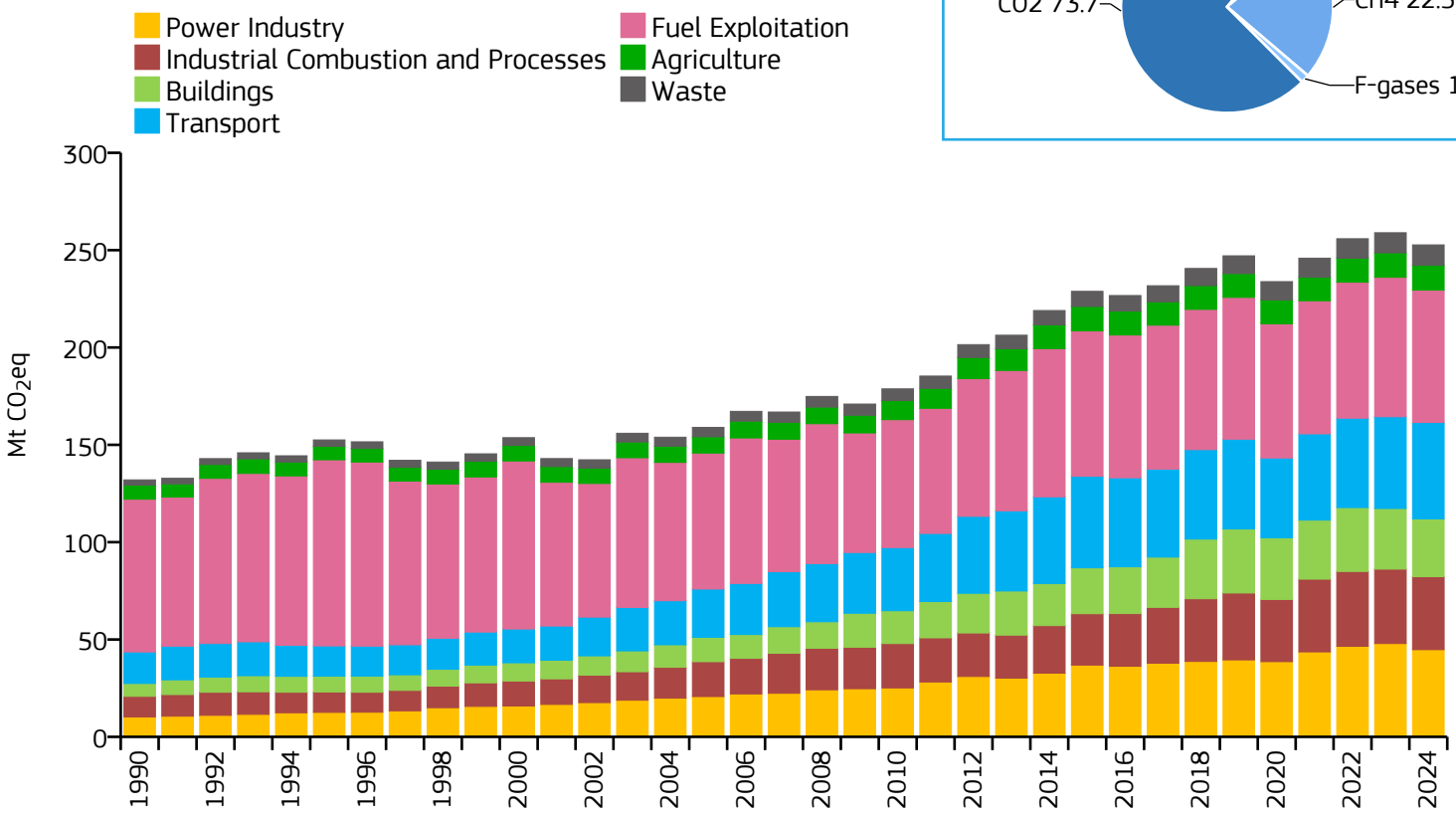
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	7.124	2.417	0.139	2.947M
2015	8.763	2.998	0.231	2.923M
2005	7.993	2.596	0.296	3.079M
1990	11.498	3.504	0.629	3.281M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	n/a	n/a
Industrial Combustion and Processes	-27%	+131%	0%
Buildings	-66%	+1%	+1%
Transport	+118%	-35%	+1%
Fuel Exploitation	-71%	+10%	-1%
Agriculture	-48%	-42%	-9%
Waste	+26%	+33%	0%
All sectors	-38%	-11%	-2%

Algeria



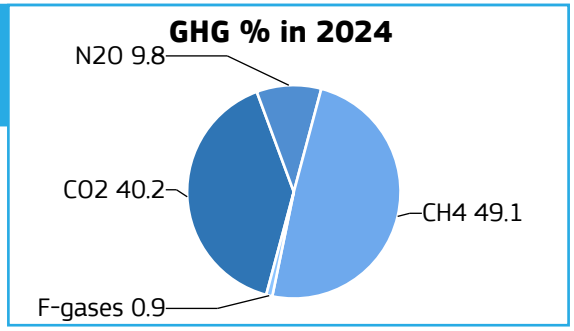
GHG emissions by sector



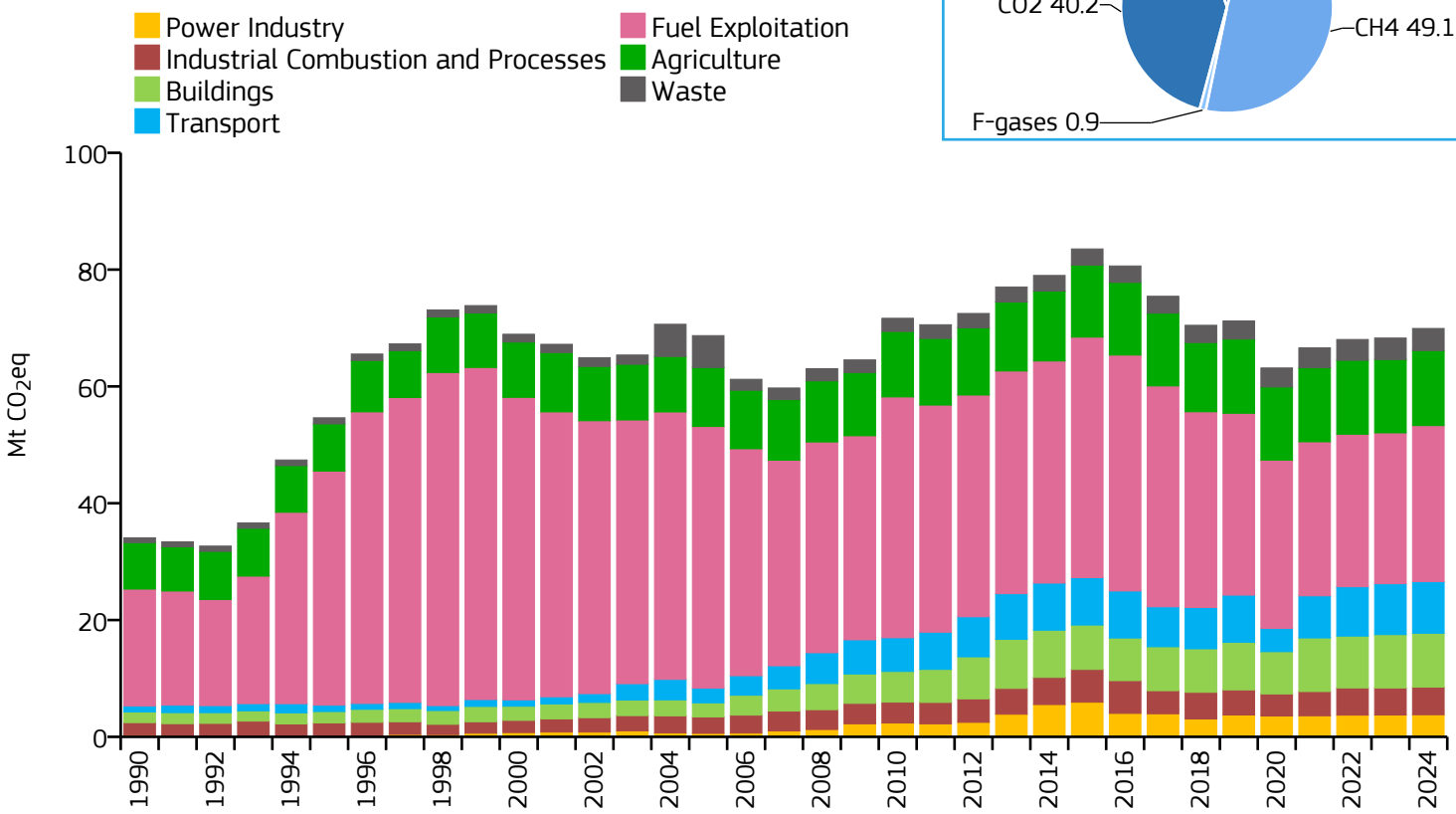
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	252.700	5.523	0.349	45.753M
2015	228.833	5.739	0.375	39.871M
2005	158.964	4.775	0.349	33.288M
1990	132.003	5.094	0.444	25.912M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +116%	↘ -7%
Industrial Combustion and Processes	↗ +255%	↗ +109%	→ -2%
Buildings	↗ > +300%	↗ +137%	→ -5%
Transport	↗ +206%	↗ +100%	→ +5%
Fuel Exploitation	↘ -13%	→ -3%	→ -5%
Agriculture	↗ +77%	↗ +52%	→ +1%
Waste	↗ +285%	↗ +117%	→ +2%
All sectors	↗ +91%	↗ +59%	→ -2%

Angola



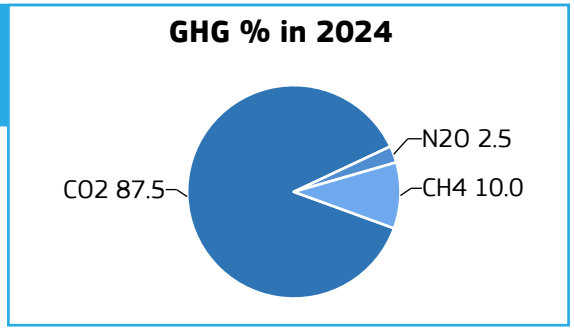
GHG emissions by sector



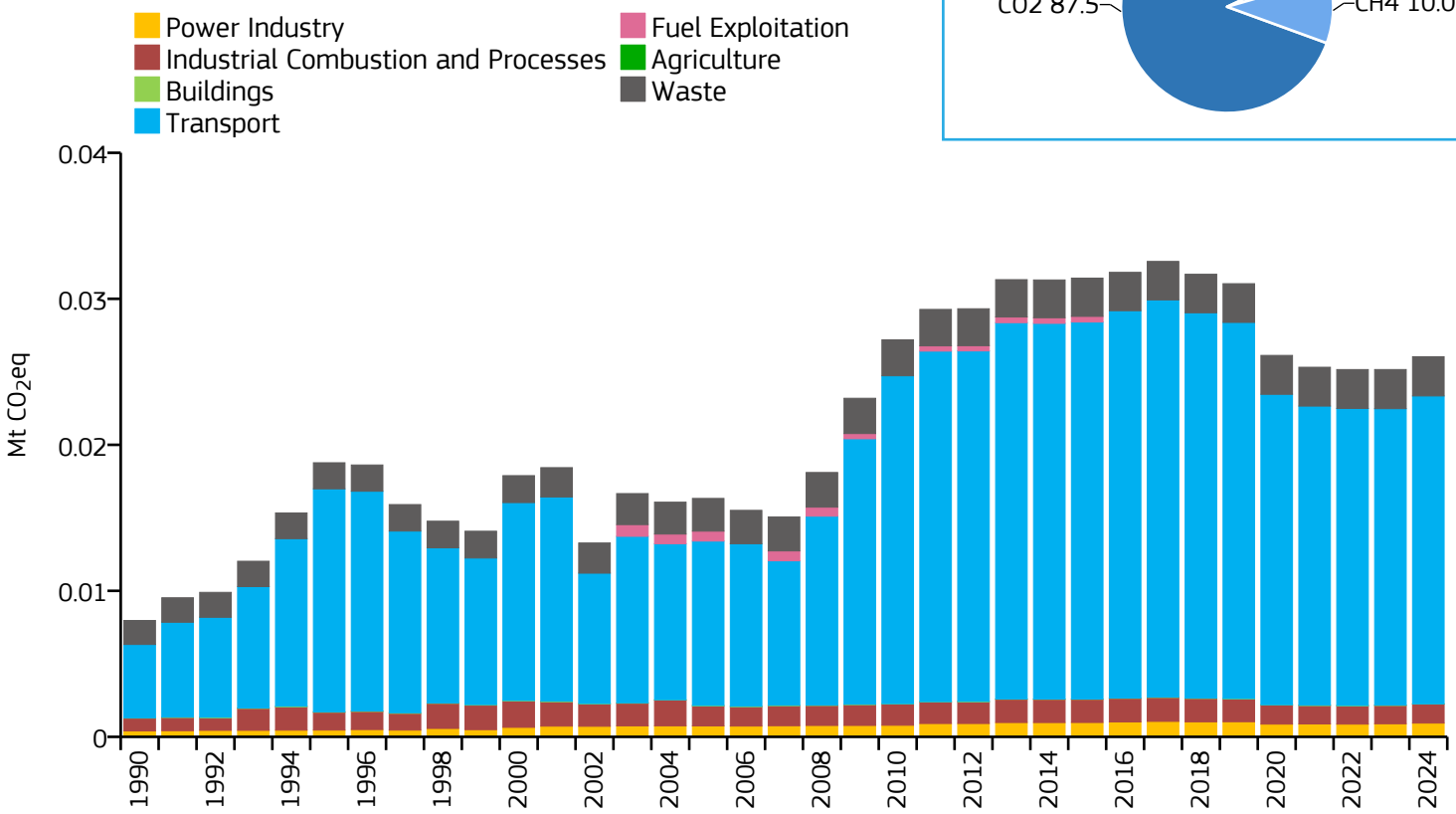
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	69.923	1.877	0.251	37.257M
2015	83.537	2.999	0.297	27.859M
2005	68.699	3.514	0.454	19.552M
1990	34.085	2.800	0.397	12.171M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	→ +1%
Industrial Combustion and Processes	↗ +120%	↗ +68%	→ +2%
Buildings	↗ > +300%	↗ +281%	→ +1%
Transport	↗ > +300%	↗ +252%	→ +1%
Fuel Exploitation	↗ +34%	↘ -40%	→ +3%
Agriculture	↗ +61%	↗ +27%	→ +2%
Waste	↗ > +300%	↘ -31%	→ +3%
All sectors	↗ +105%	→ +2%	→ +2%

Anguilla



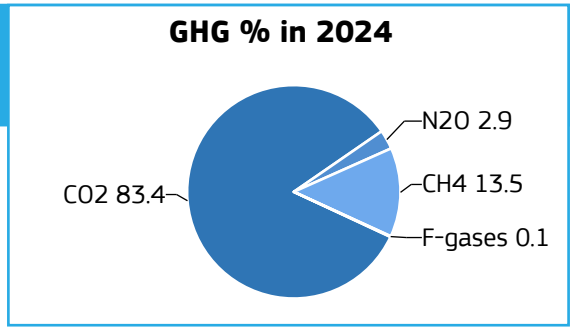
GHG emissions by sector



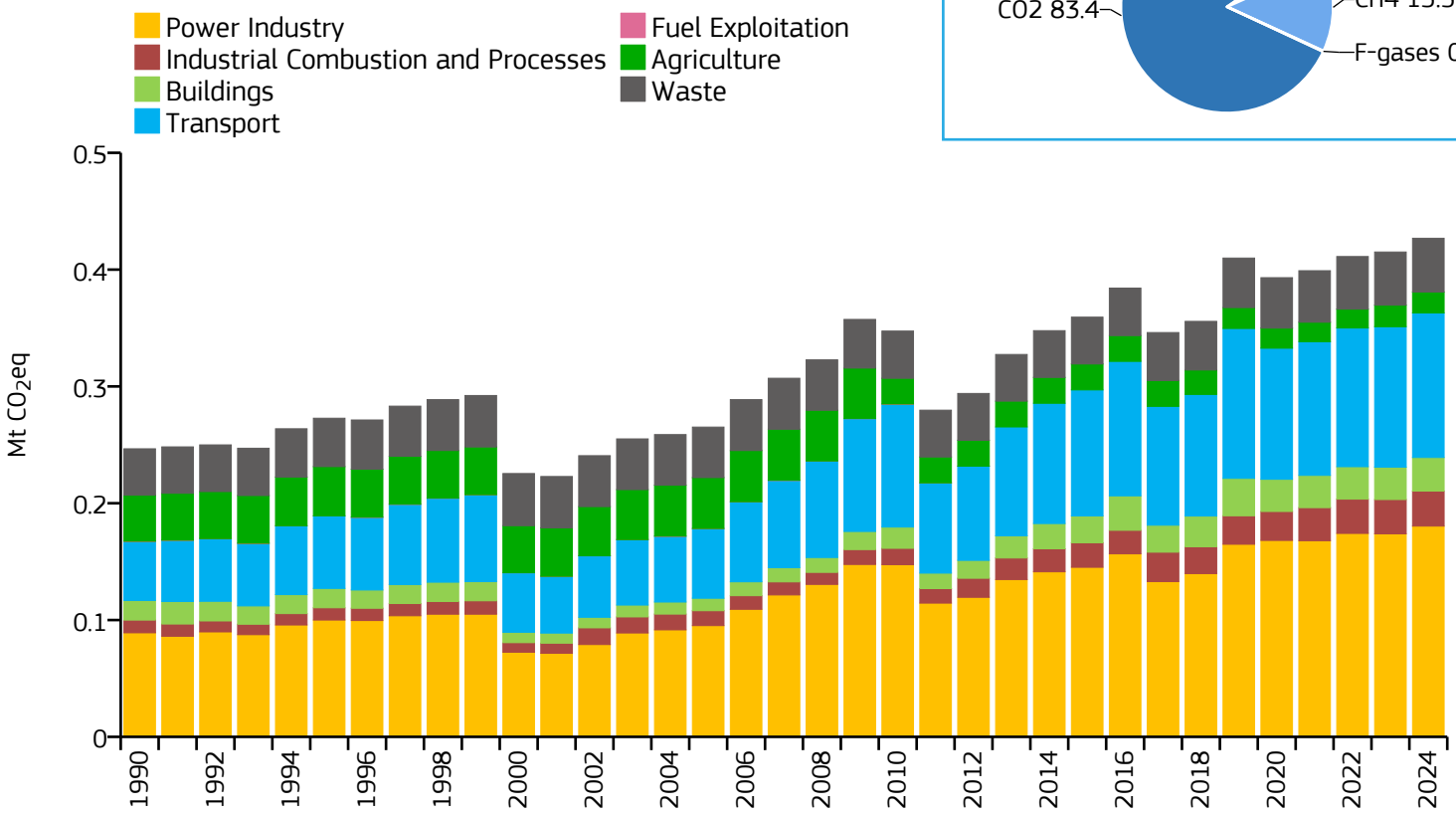
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.026	1.627	0.082	16.000k
2015	0.031	2.150	0.114	14.611k
2005	0.016	1.292	0.034	12.638k
1990	0.008	0.956	0.029	8.334k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+134%	+26%	+5%
Industrial Combustion and Processes	+48%	-6%	+4%
Buildings	-22%	-12%	+4%
Transport	> +300%	+87%	+4%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	n/a	n/a	n/a
Waste	+64%	+20%	0%
All sectors	+227%	+59%	+3%

Antigua and Barbuda



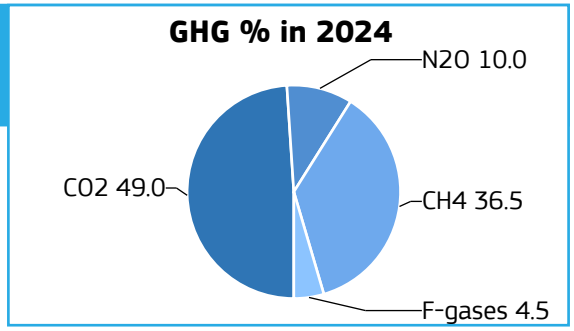
GHG emissions by sector



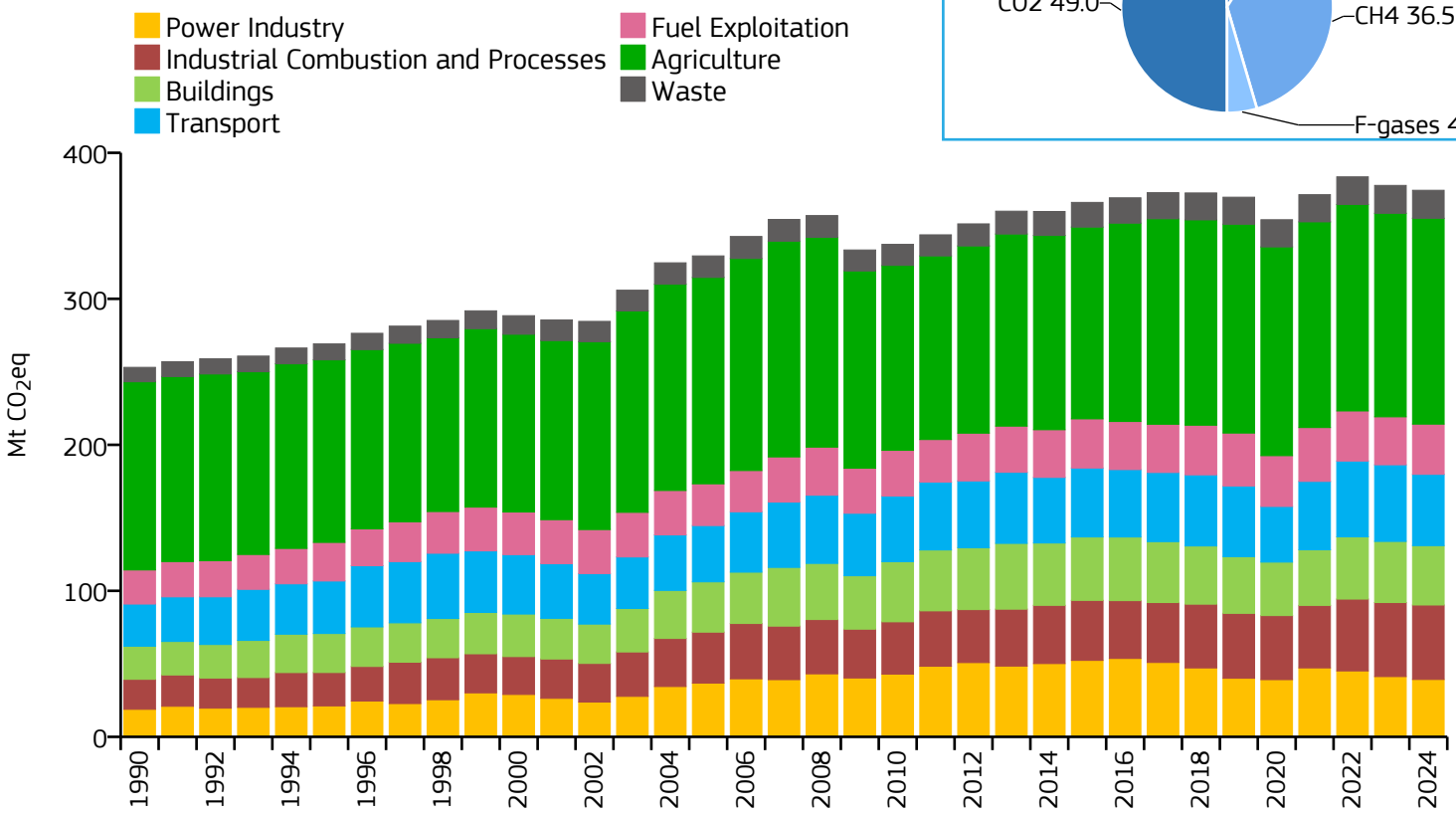
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.427	3.880	0.154	110.000k
2015	0.359	3.596	0.156	99.923k
2005	0.265	2.971	0.120	89.253k
1990	0.247	3.698	0.186	66.696k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+103%	+89%	+4%
Industrial Combustion and Processes	+174%	+135%	+2%
Buildings	+72%	+170%	+4%
Transport	+144%	+107%	+3%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	-55%	-59%	-3%
Waste	+16%	+6%	+1%
All sectors	+73%	+61%	+3%

Argentina



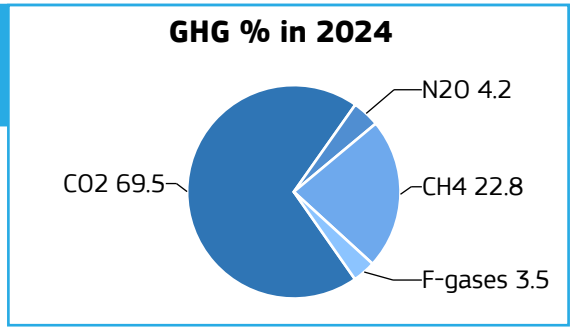
GHG emissions by sector



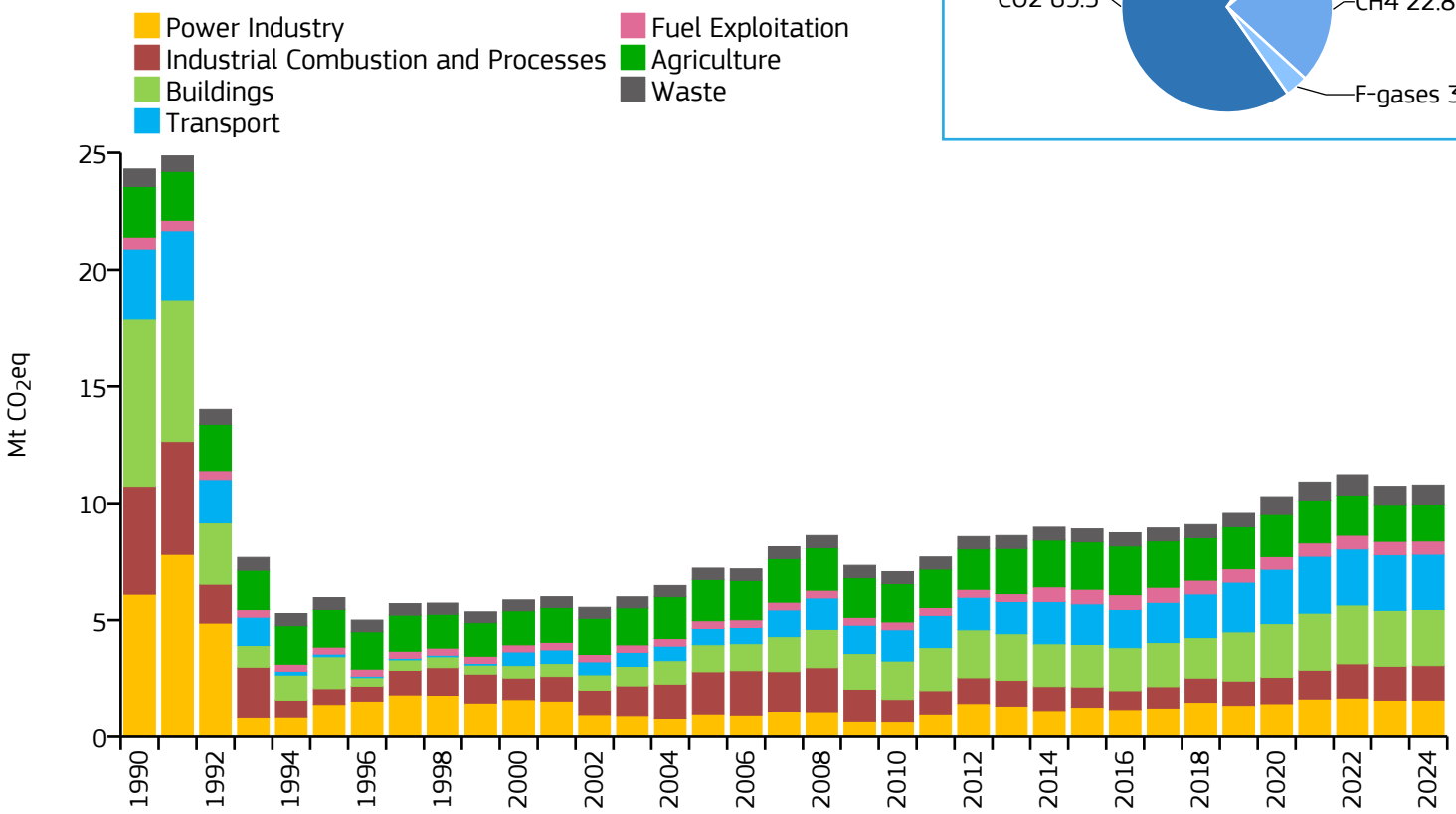
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	374.345	7.949	0.309	47.096M
2015	366.041	8.431	0.294	43.418M
2005	329.385	8.414	0.361	39.145M
1990	253.065	7.732	0.454	32.730M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+108%	+7%	-5%
Industrial Combustion and Processes	+148%	+46%	+1%
Buildings	+79%	+18%	-3%
Transport	+69%	+27%	-7%
Fuel Exploitation	+47%	+20%	+5%
Agriculture	+9%	0%	+1%
Waste	+94%	+30%	0%
All sectors	+48%	+14%	-1%

Armenia



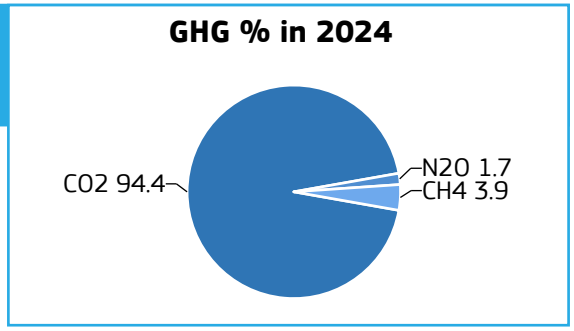
GHG emissions by sector



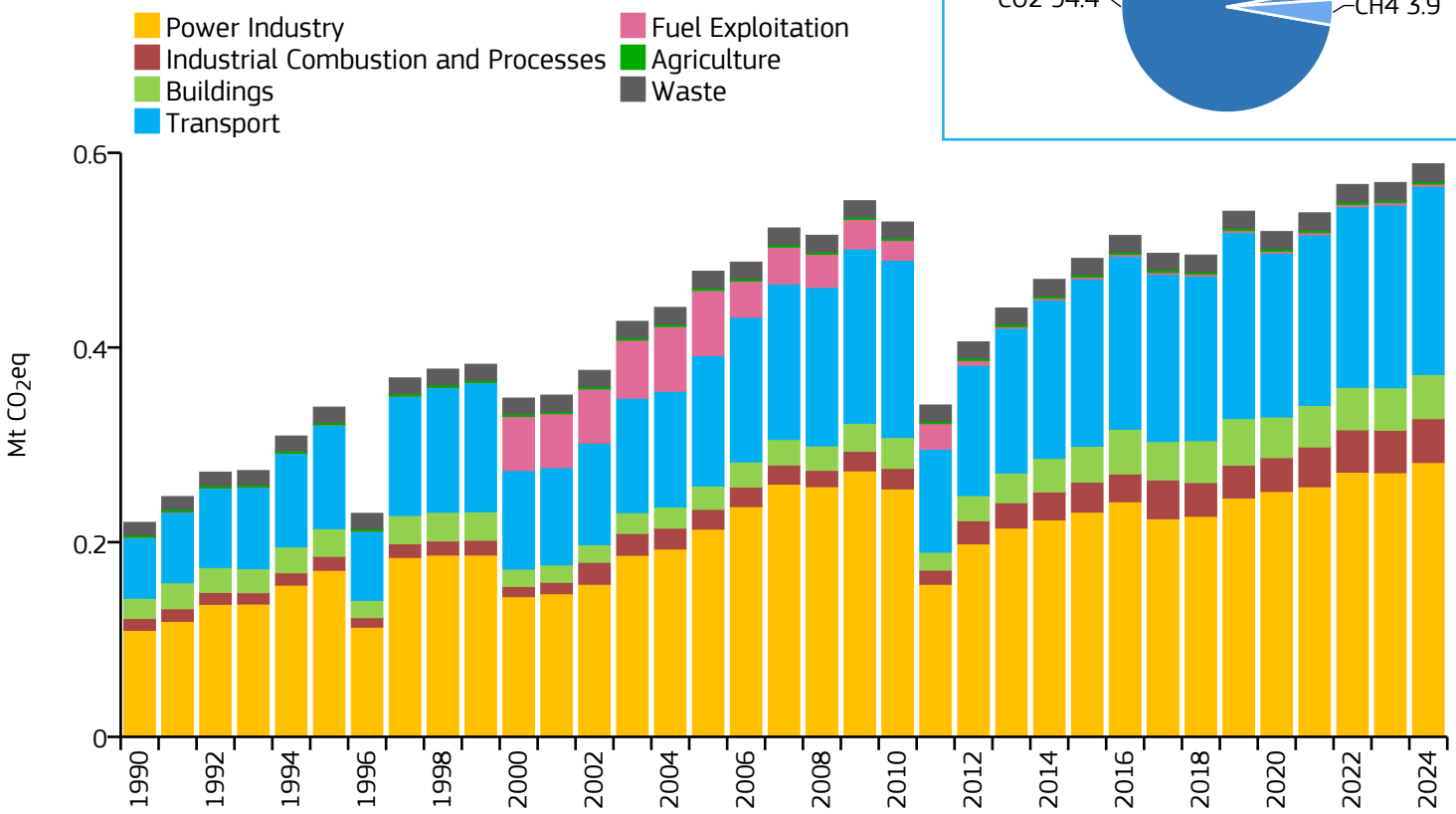
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	10.781	3.669	0.177	2.938M
2015	8.897	3.050	0.226	2.917M
2005	7.220	2.422	0.274	2.981M
1990	24.307	6.870	1.115	3.538M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-74%	+66%	0%
Industrial Combustion and Processes	-68%	-20%	+2%
Buildings	-66%	+107%	0%
Transport	-22%	+241%	-1%
Fuel Exploitation	+12%	+71%	-2%
Agriculture	-27%	-10%	0%
Waste	+8%	+68%	+5%
All sectors	-56%	+49%	+1%

Aruba



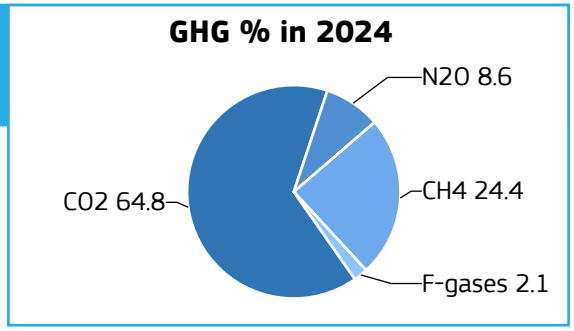
GHG emissions by sector



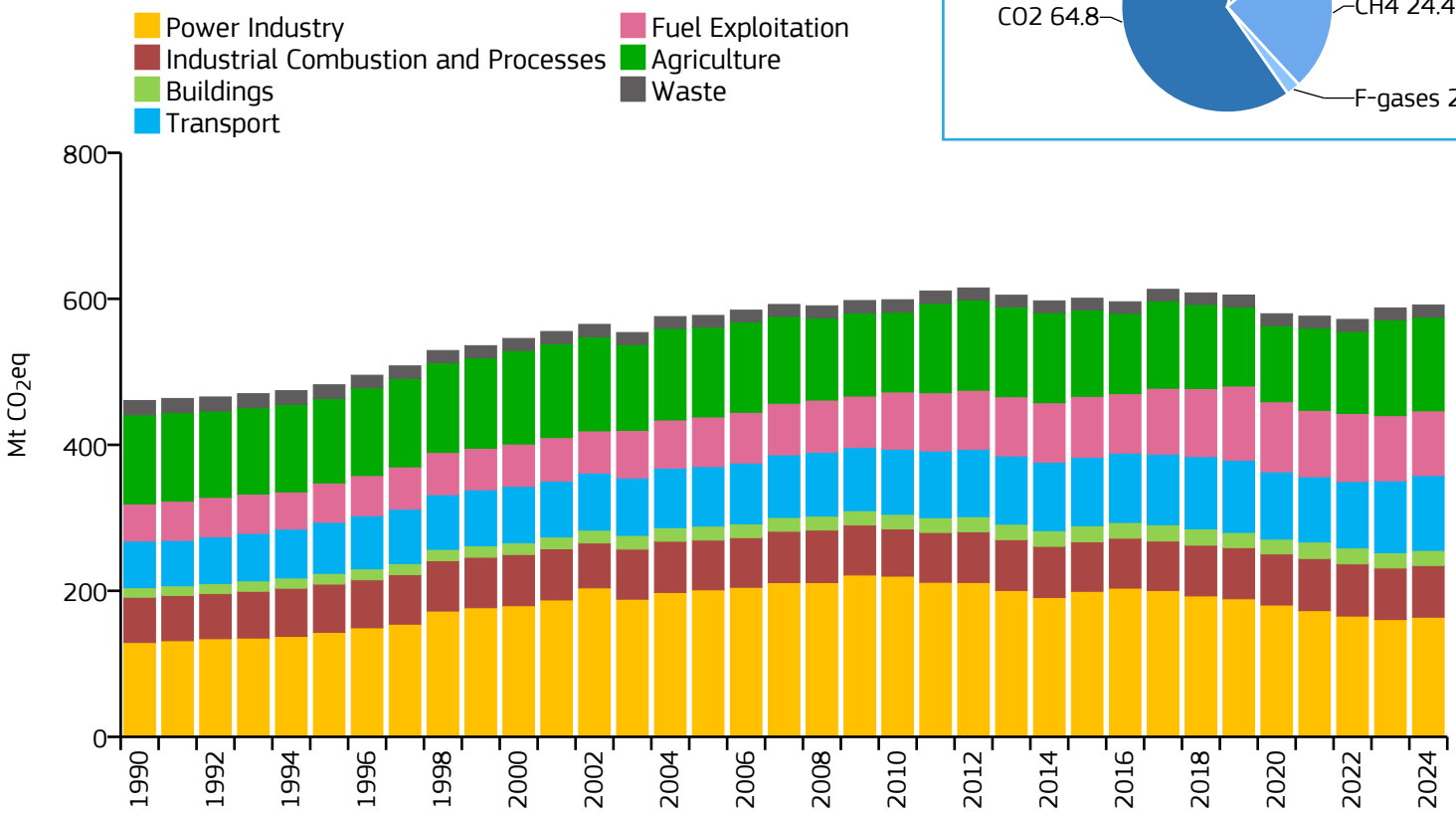
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.589	5.451	0.127	108.000k
2015	0.492	4.711	0.128	104.341k
2005	0.478	4.781	0.121	100.031k
1990	0.220	3.545	0.102	62.149k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +158%	↗ +32%	→ +4%
Industrial Combustion and Processes	↗ +270%	↗ +121%	→ +4%
Buildings	↗ +119%	↗ +88%	→ +4%
Transport	↗ +210%	↗ +44%	→ +3%
Fuel Exploitation	↗ > +300%	↘ -96%	→ 0%
Agriculture	→ +5%	→ +2%	→ 0%
Waste	↗ +41%	↗ +7%	→ +1%
All sectors	↗ +167%	↗ +23%	→ +3%

Australia



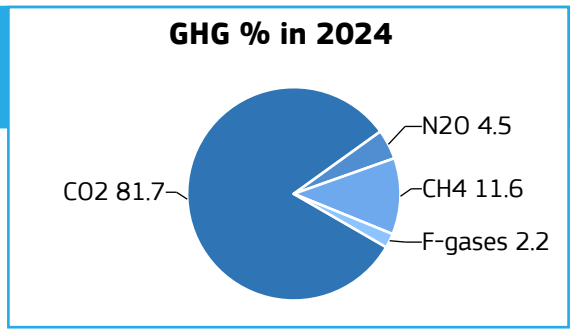
GHG emissions by sector



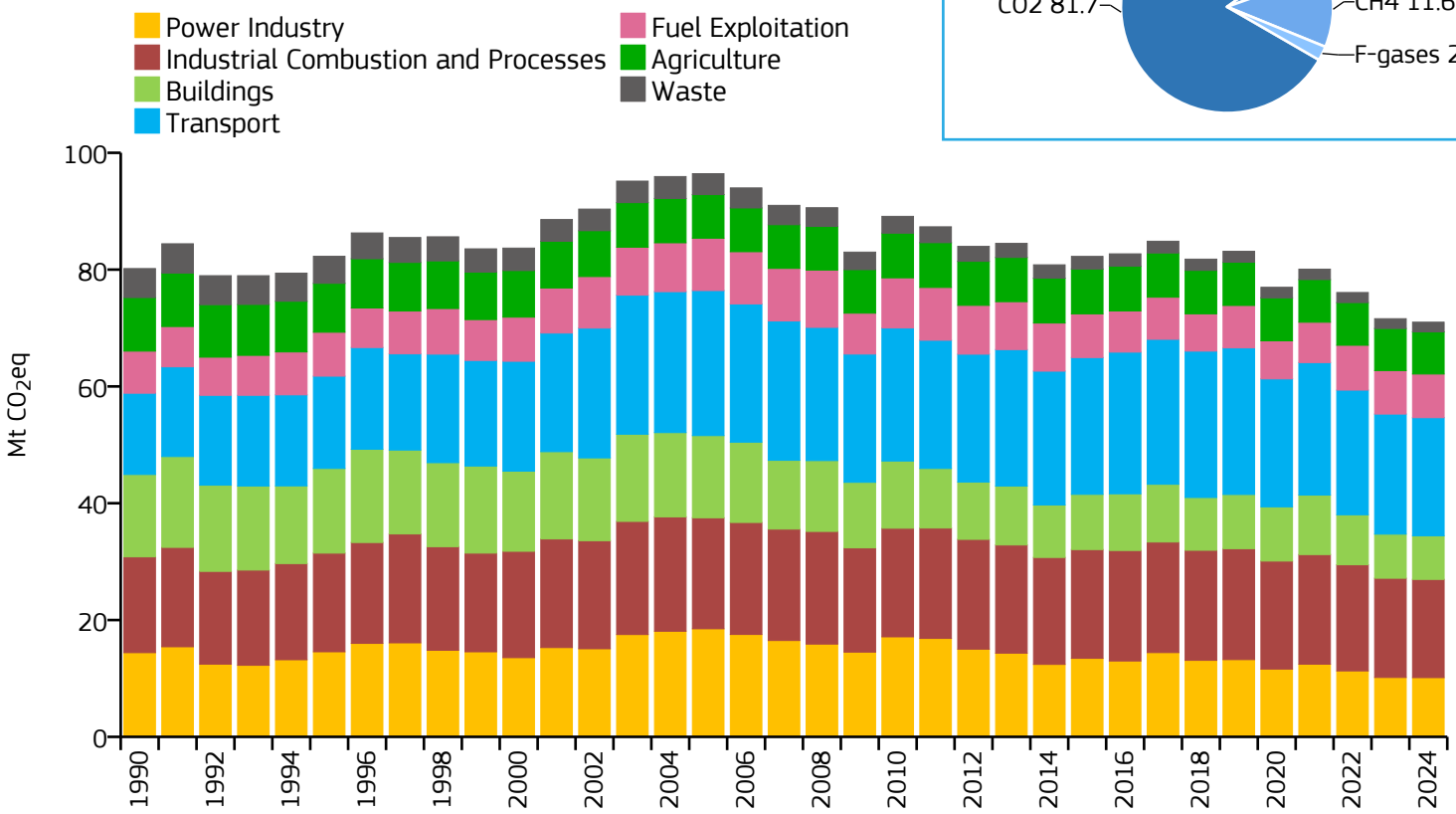
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	591.454	22.258	0.363	26.573M
2015	600.750	25.242	0.453	23.800M
2005	577.228	28.521	0.573	20.239M
1990	460.700	27.034	0.746	17.041M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+27%	-19%	+2%
Industrial Combustion and Processes	+14%	+4%	0%
Buildings	+59%	+9%	-1%
Transport	+61%	+26%	+4%
Fuel Exploitation	+74%	+30%	-1%
Agriculture	+5%	+4%	-2%
Waste	-14%	+4%	+1%
All sectors	+28%	+2%	+1%

Austria



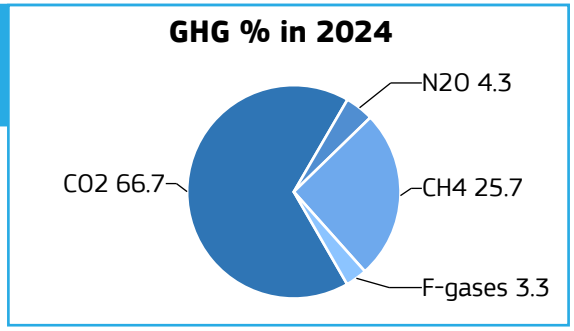
GHG emissions by sector



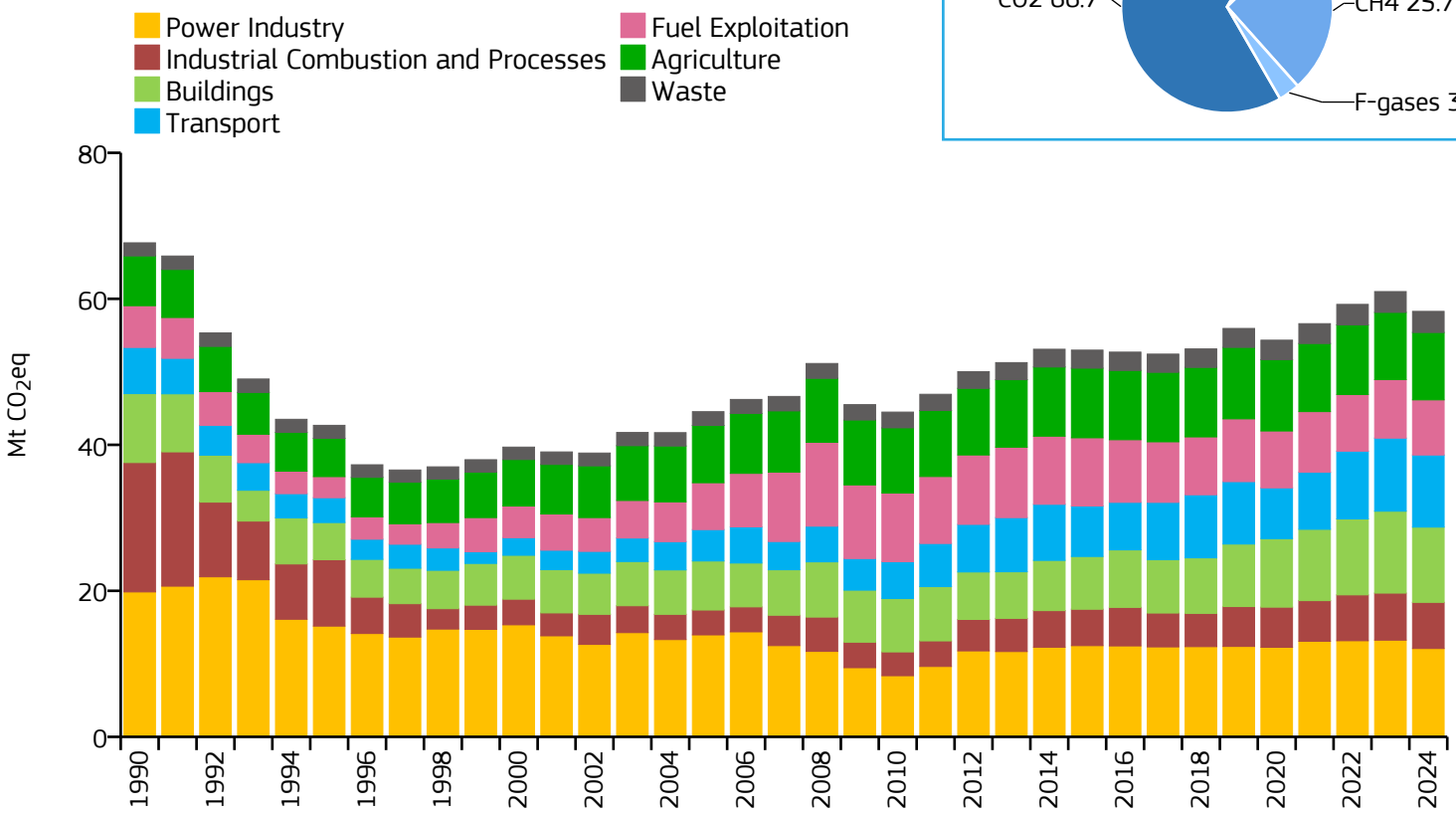
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	71.000	8.014	0.122	8.860M
2015	82.262	9.479	0.156	8.679M
2005	96.427	11.683	0.206	8.254M
1990	80.177	10.380	0.241	7.724M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↘ -30%	↘ -45%	→ 0%
Industrial Combustion and Processes	→ +3%	↘ -12%	→ -1%
Buildings	↘ -47%	↘ -47%	→ -1%
Transport	↗ +45%	↘ -19%	→ -2%
Fuel Exploitation	→ +4%	↘ -17%	→ 0%
Agriculture	↘ -21%	→ -3%	→ 0%
Waste	↘ -66%	↘ -54%	→ -1%
All sectors	↘ -11%	↘ -26%	→ -1%

Azerbaijan



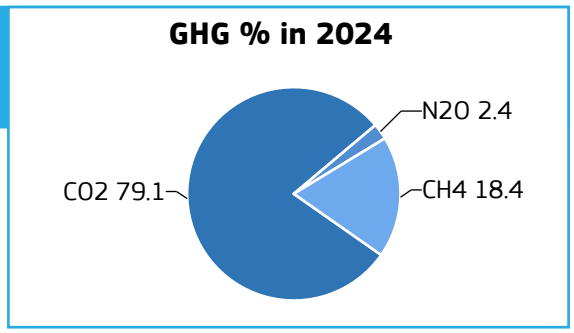
GHG emissions by sector



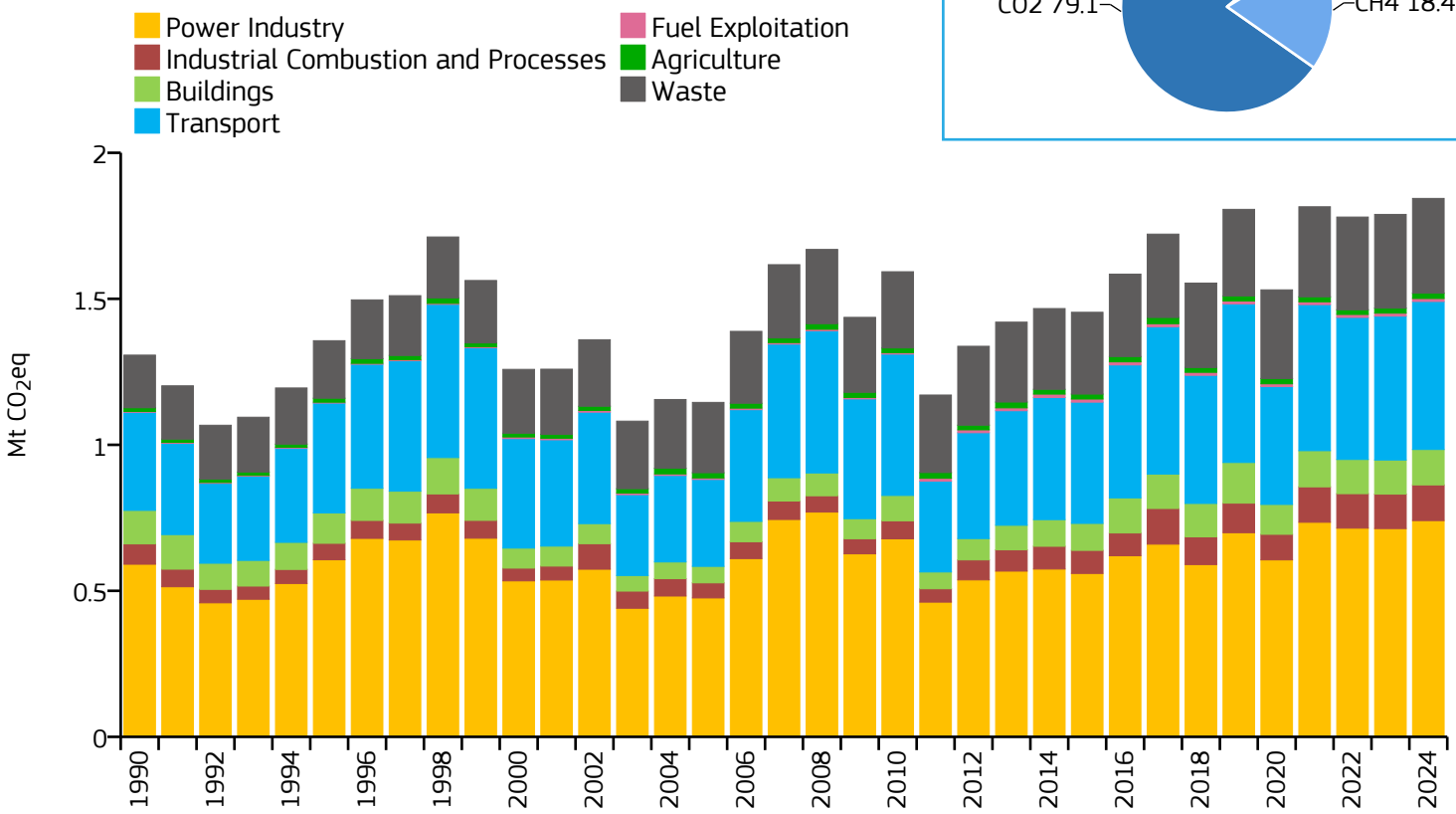
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	58.280	5.613	0.259	10.383M
2015	52.971	5.508	0.265	9.617M
2005	44.539	5.216	0.528	8.539M
1990	67.673	9.344	0.875	7.243M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-39%	-13%	-9%
Industrial Combustion and Processes	-64%	+86%	-2%
Buildings	+9%	+53%	-8%
Transport	+56%	+130%	-1%
Fuel Exploitation	+32%	+18%	-6%
Agriculture	+35%	+18%	0%
Waste	+61%	+54%	+1%
All sectors	-14%	+31%	-4%

Bahamas



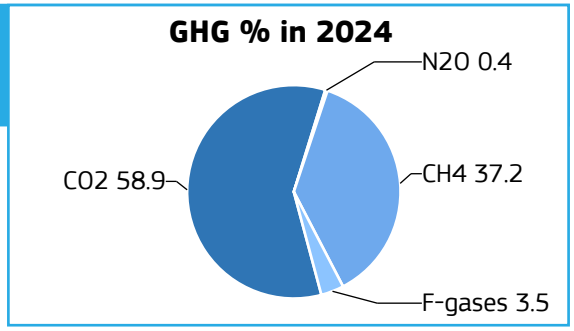
GHG emissions by sector



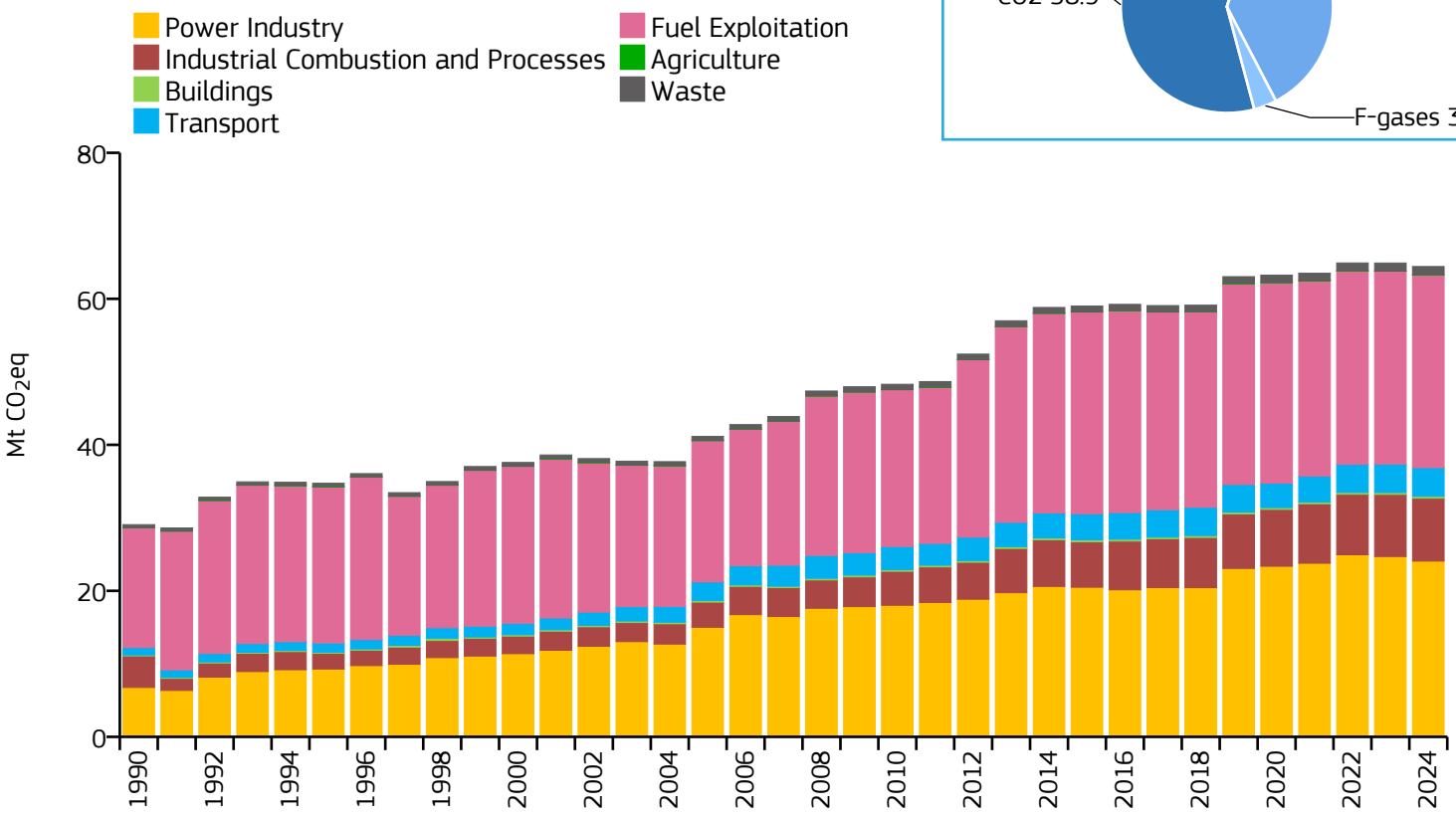
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.844	4.380	0.128	421.000k
2015	1.454	3.758	0.115	386.838k
2005	1.145	3.479	0.094	329.249k
1990	1.307	5.099	0.143	256.336k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+25%	+56%	+4%
Industrial Combustion and Processes	+75%	+137%	+4%
Buildings	+6%	+115%	+4%
Transport	+51%	+70%	+3%
Fuel Exploitation	+262%	+93%	0%
Agriculture	+44%	+2%	+6%
Waste	+80%	+35%	+1%
All sectors	+41%	+61%	+3%

Bahrain



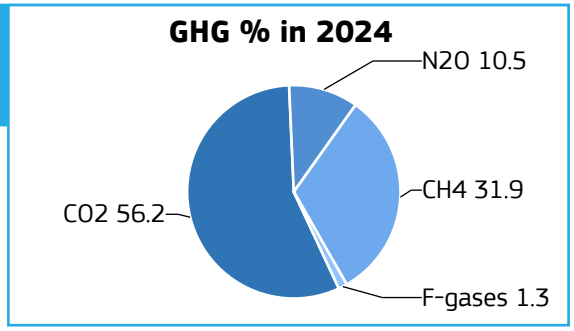
GHG emissions by sector



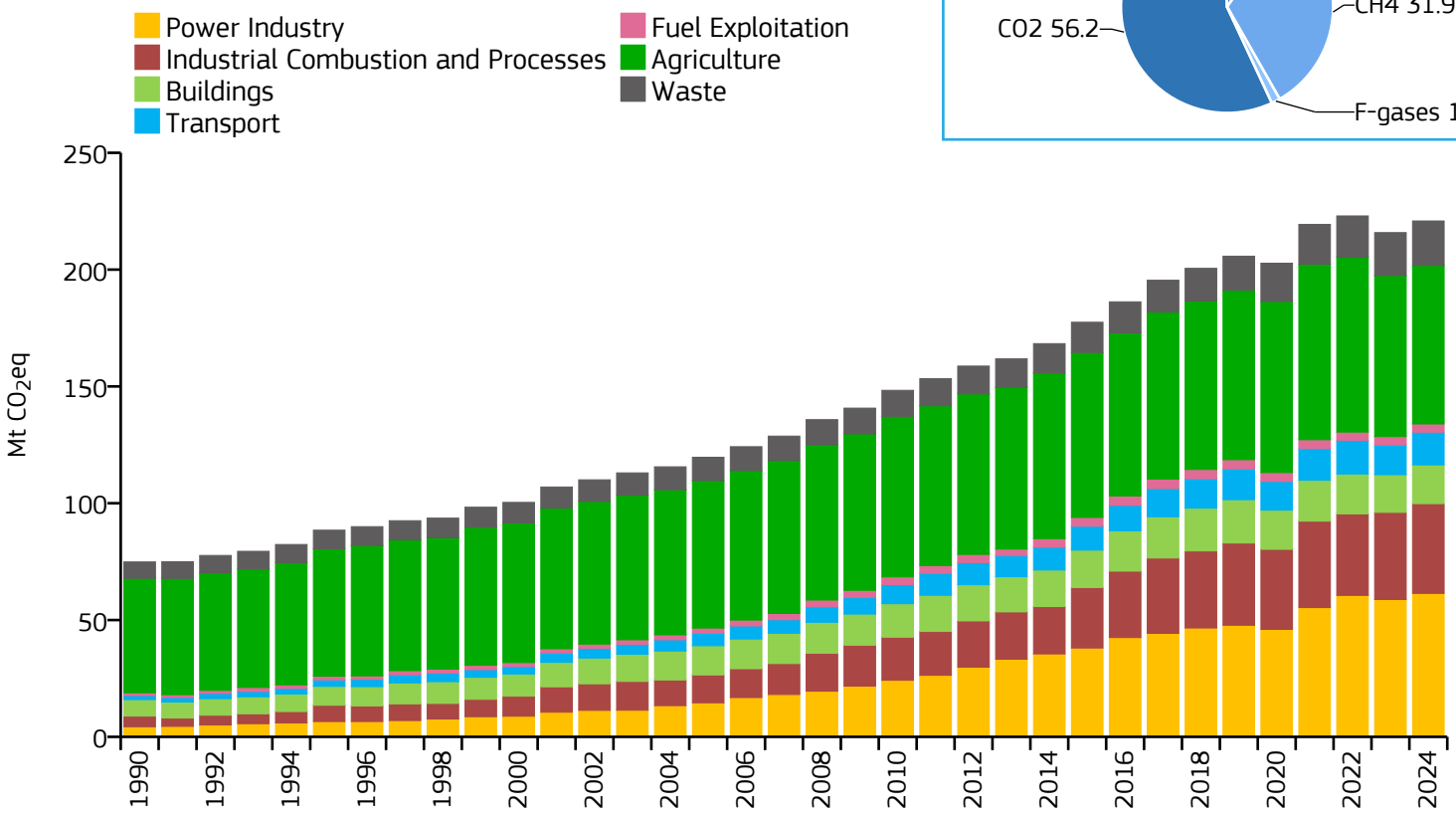
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	64.422	35.127	0.687	1.834M
2015	59.005	43.011	0.795	1.372M
2005	41.152	46.282	0.866	889.168k
1990	29.067	58.610	1.349	495.931k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+256%	+60%	-3%
Industrial Combustion and Processes	+99%	+150%	+1%
Buildings	+110%	+12%	+1%
Transport	+287%	+55%	+1%
Fuel Exploitation	+61%	+36%	0%
Agriculture	+7%	+13%	0%
Waste	+176%	+102%	+2%
All sectors	+122%	+57%	-1%

Bangladesh



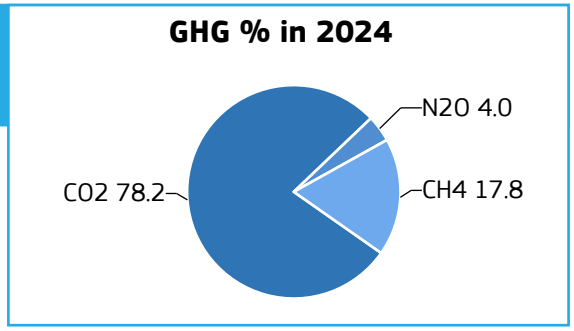
GHG emissions by sector



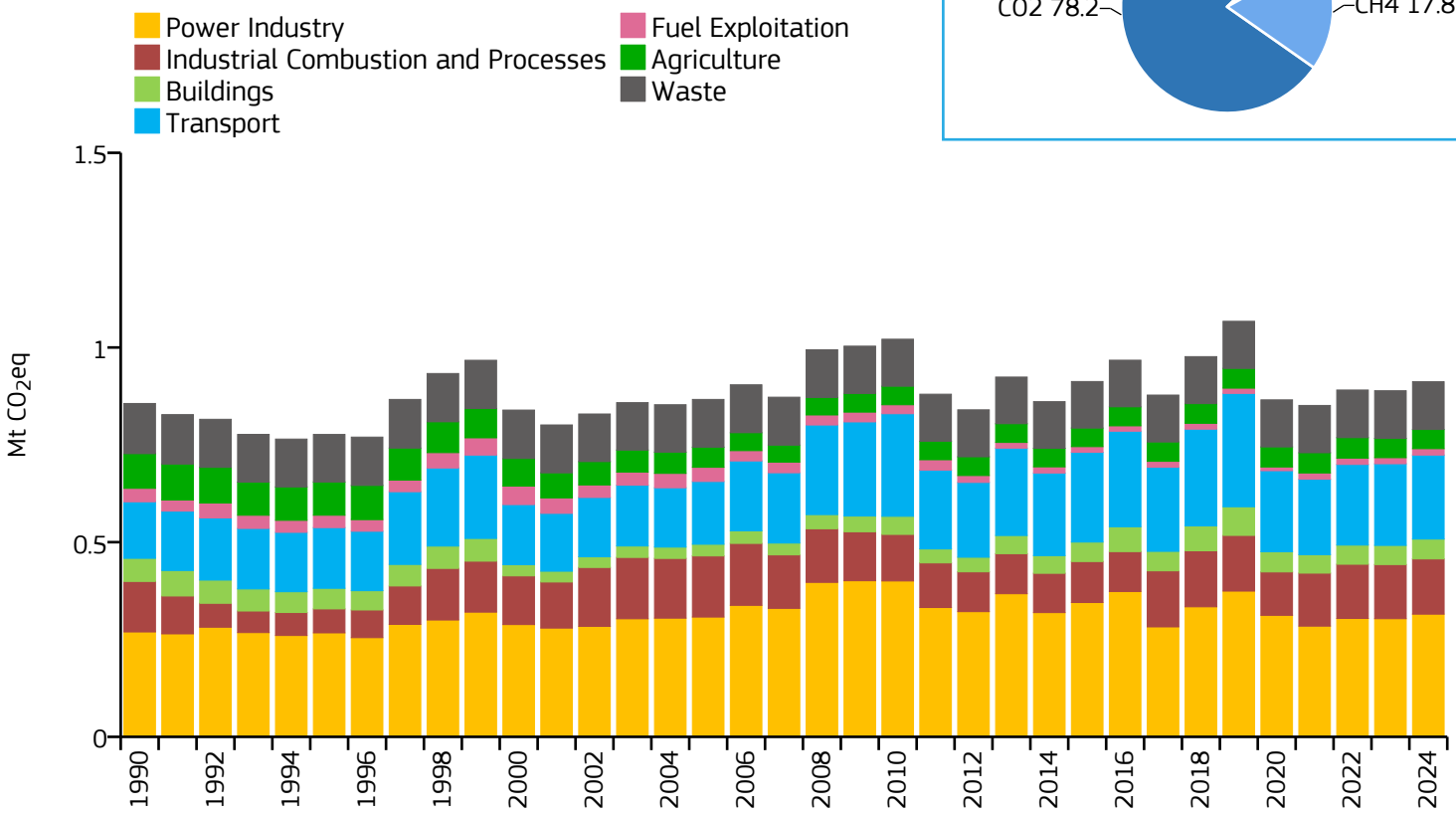
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	220.827	1.250	0.150	176.631M
2015	177.462	1.101	0.208	161.201M
2005	119.673	0.834	0.256	143.431M
1990	74.874	0.705	0.324	106.189M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+4%
Industrial Combustion and Processes	> +300%	+222%	+3%
Buildings	+135%	+33%	+3%
Transport	> +300%	+164%	+10%
Fuel Exploitation	+196%	+56%	-3%
Agriculture	+38%	+8%	-2%
Waste	+171%	+90%	+4%
All sectors	+195%	+85%	+2%

Barbados



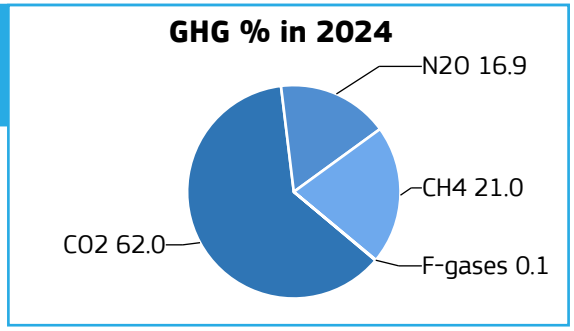
GHG emissions by sector



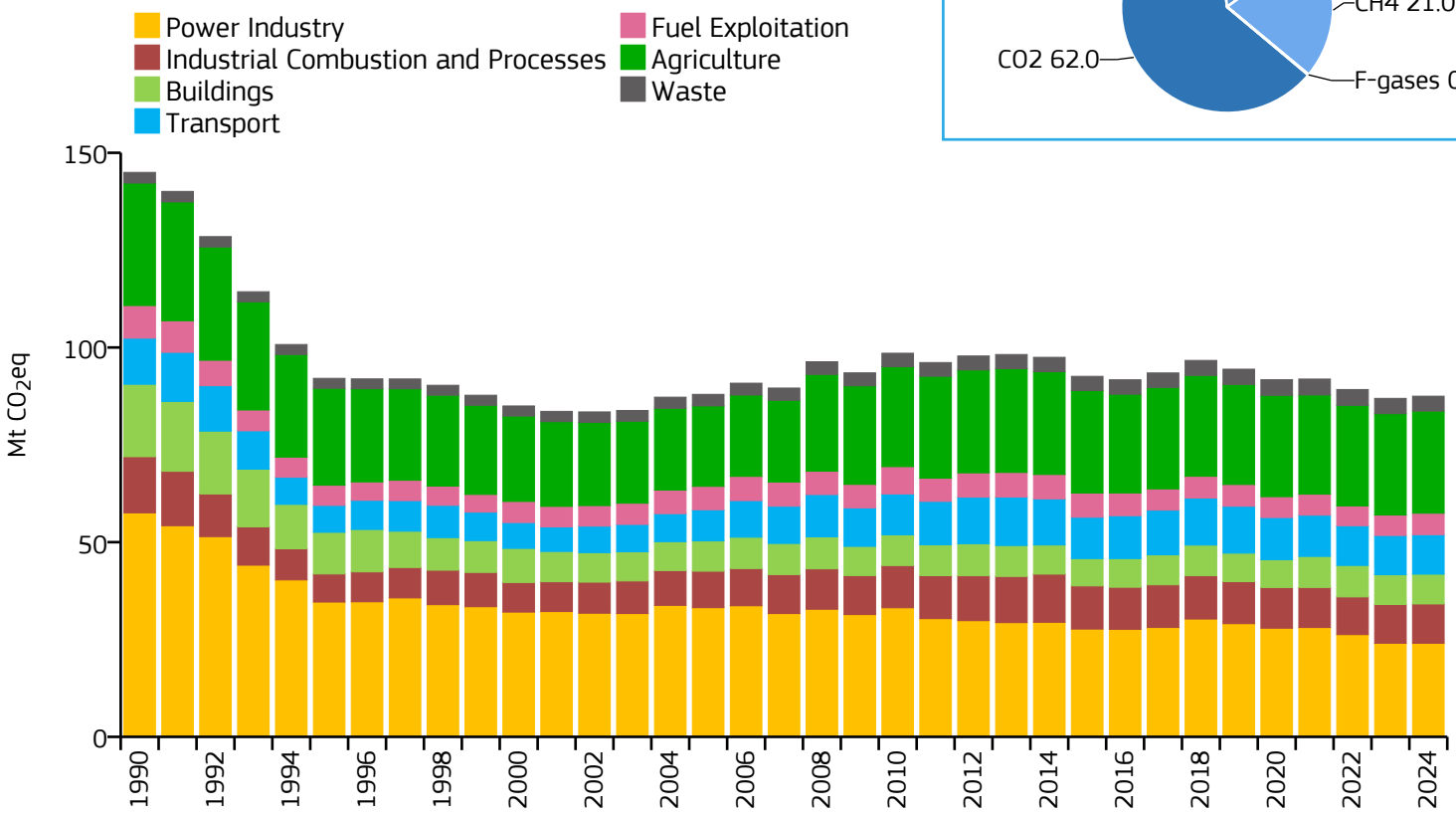
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.912	3.156	0.162	289.000k
2015	0.913	3.211	0.177	284.217k
2005	0.867	3.163	0.165	274.009k
1990	0.856	3.288	0.195	260.374k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+17%	+2%	+4%
Industrial Combustion and Processes	+9%	-10%	+2%
Buildings	-14%	+70%	+4%
Transport	+49%	+34%	+3%
Fuel Exploitation	-53%	-55%	+5%
Agriculture	-45%	-5%	0%
Waste	-5%	0%	0%
All sectors	+7%	+5%	+3%

Belarus



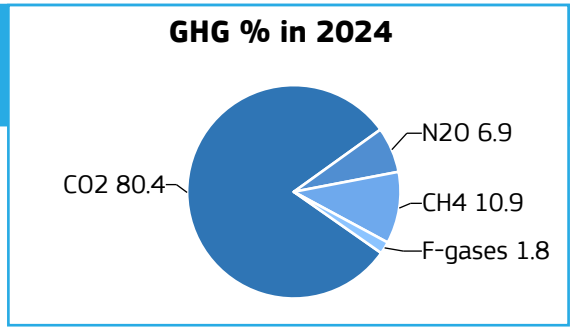
GHG emissions by sector



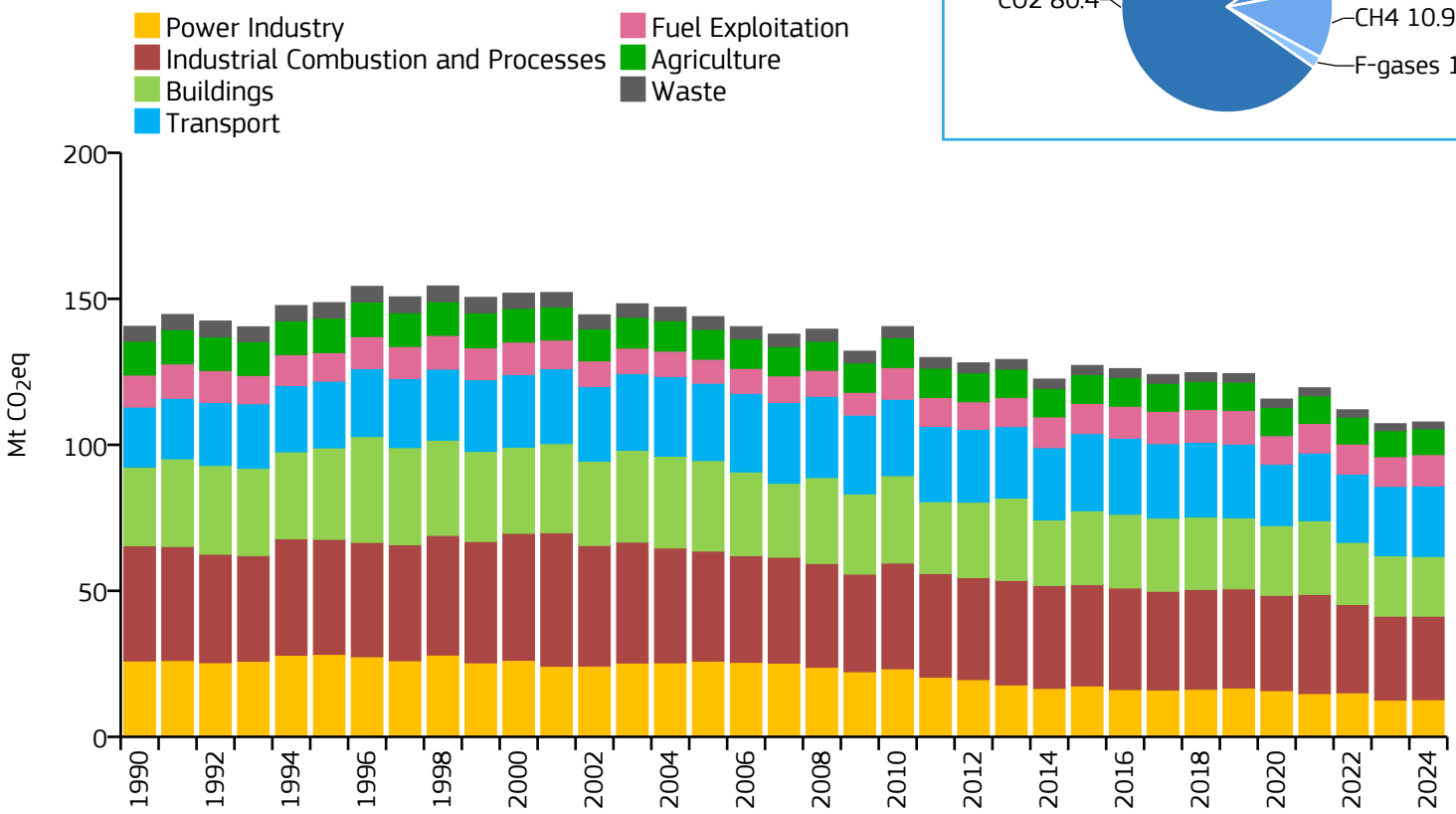
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	87.491	9.371	0.330	9.336M
2015	92.588	9.761	0.384	9.486M
2005	87.962	9.142	0.549	9.622M
1990	144.971	14.190	1.152	10.217M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-58%	-28%	0%
Industrial Combustion and Processes	-30%	+8%	+1%
Buildings	-59%	-2%	0%
Transport	-14%	+27%	+1%
Fuel Exploitation	-34%	-8%	+5%
Agriculture	-17%	+27%	+1%
Waste	+39%	+29%	-3%
All sectors	-40%	-1%	+1%

Belgium



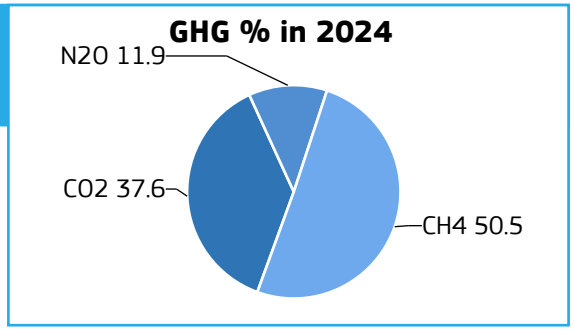
GHG emissions by sector



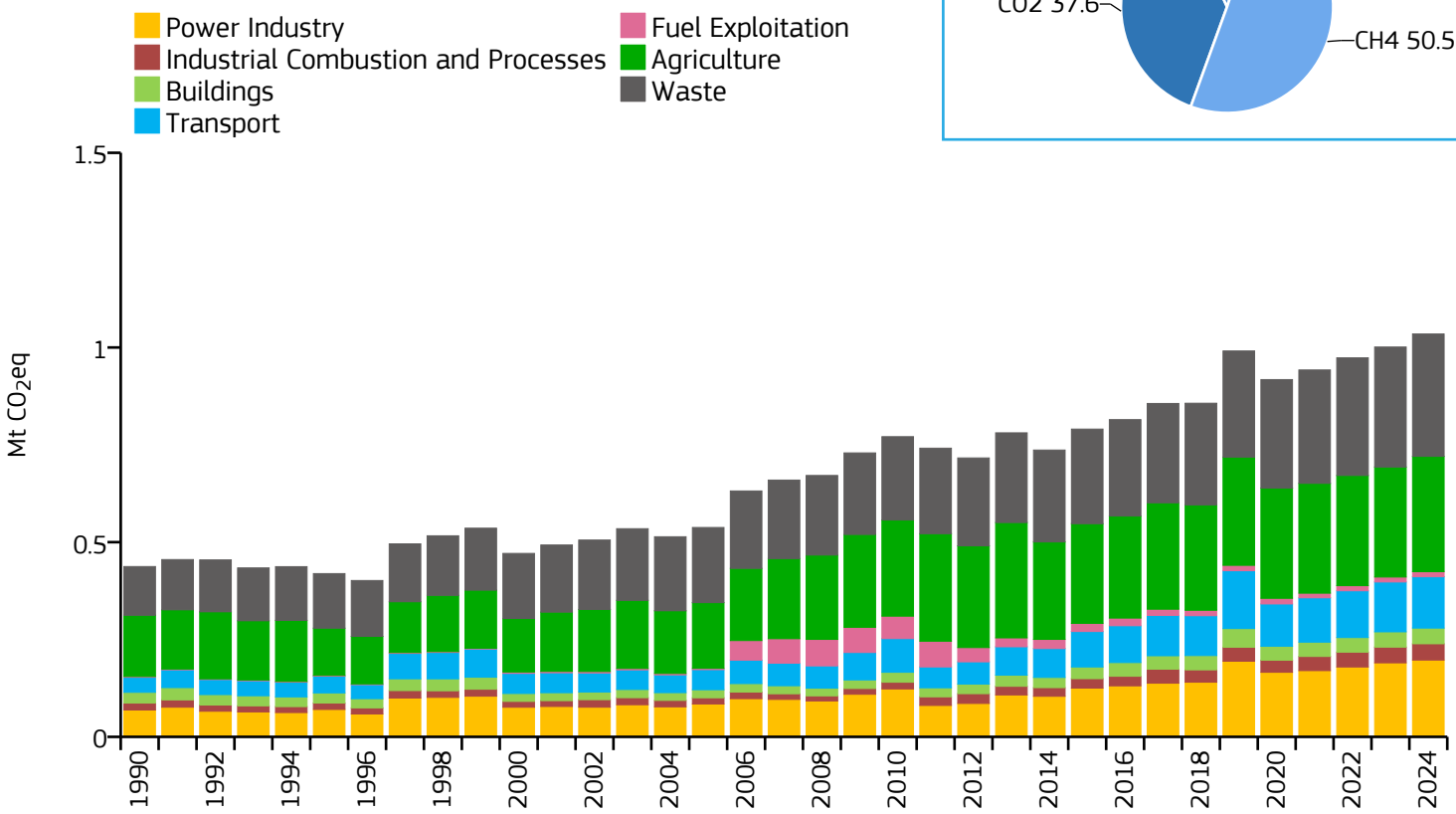
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	107.824	9.150	0.144	11.784M
2015	127.192	11.268	0.196	11.288M
2005	143.915	13.645	0.253	10.547M
1990	140.573	14.048	0.339	10.006M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-51%	-51%	+1%
Industrial Combustion and Processes	-27%	-24%	-1%
Buildings	-24%	-34%	-1%
Transport	+18%	-9%	+2%
Fuel Exploitation	-2%	+30%	+5%
Agriculture	-24%	-13%	-1%
Waste	-55%	-47%	-3%
All sectors	-23%	-25%	+1%

Belize



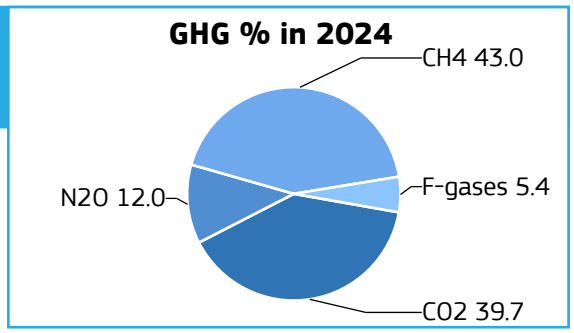
GHG emissions by sector



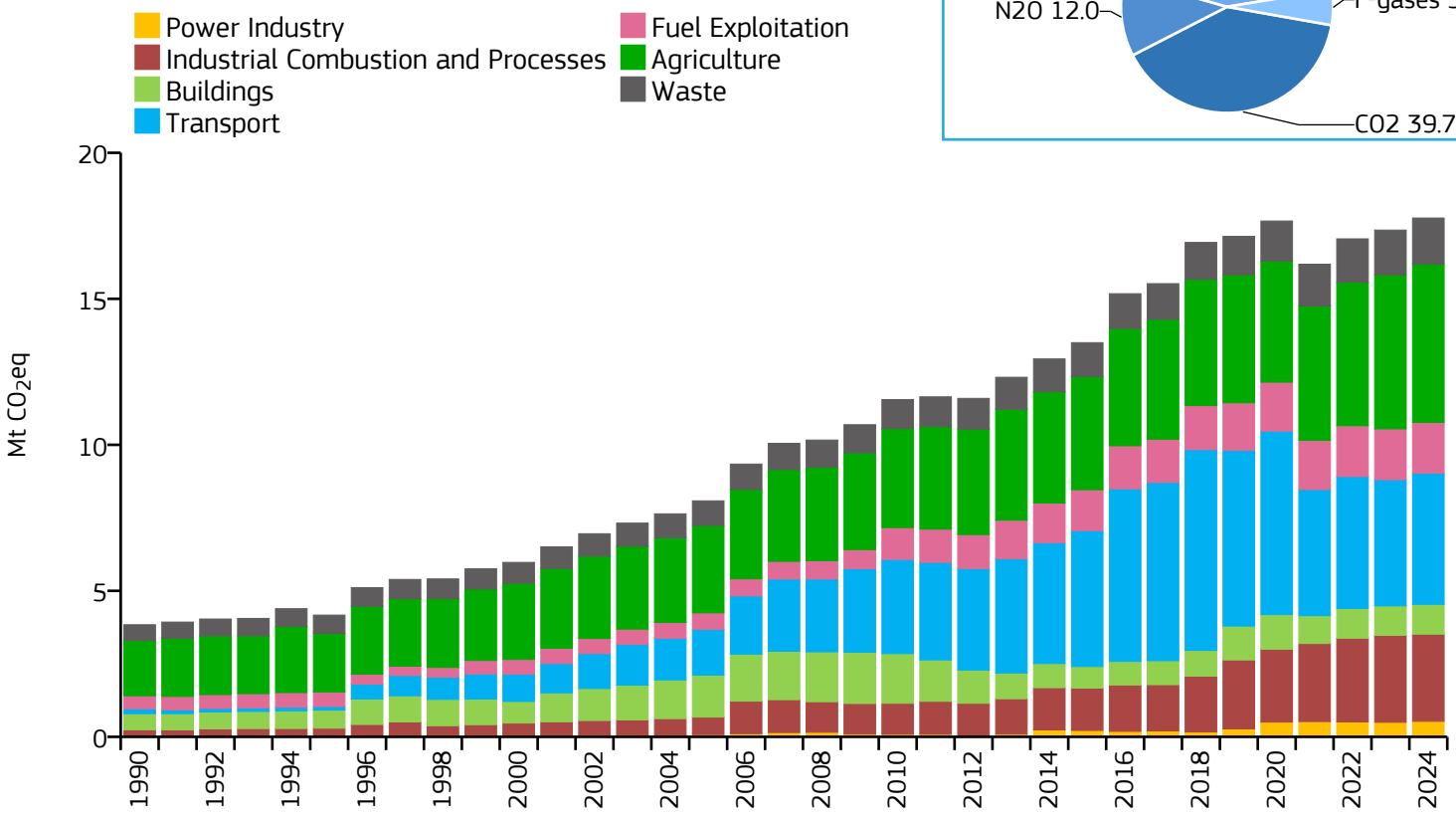
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.035	2.412	0.187	429.000k
2015	0.790	2.200	0.180	359.288k
2005	0.538	1.898	0.151	283.277k
1990	0.437	2.332	0.290	187.552k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+186%	+134%	+4%
Industrial Combustion and Processes	+135%	+162%	+3%
Buildings	+46%	+95%	+3%
Transport	+242%	+156%	+3%
Fuel Exploitation	> +300%	+277%	+2%
Agriculture	+88%	+76%	+5%
Waste	+151%	+63%	+2%
All sectors	+137%	+92%	+3%

Benin



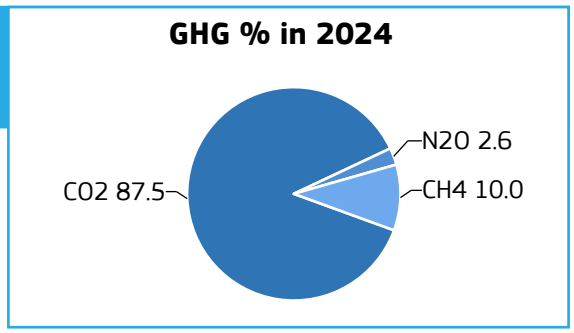
GHG emissions by sector



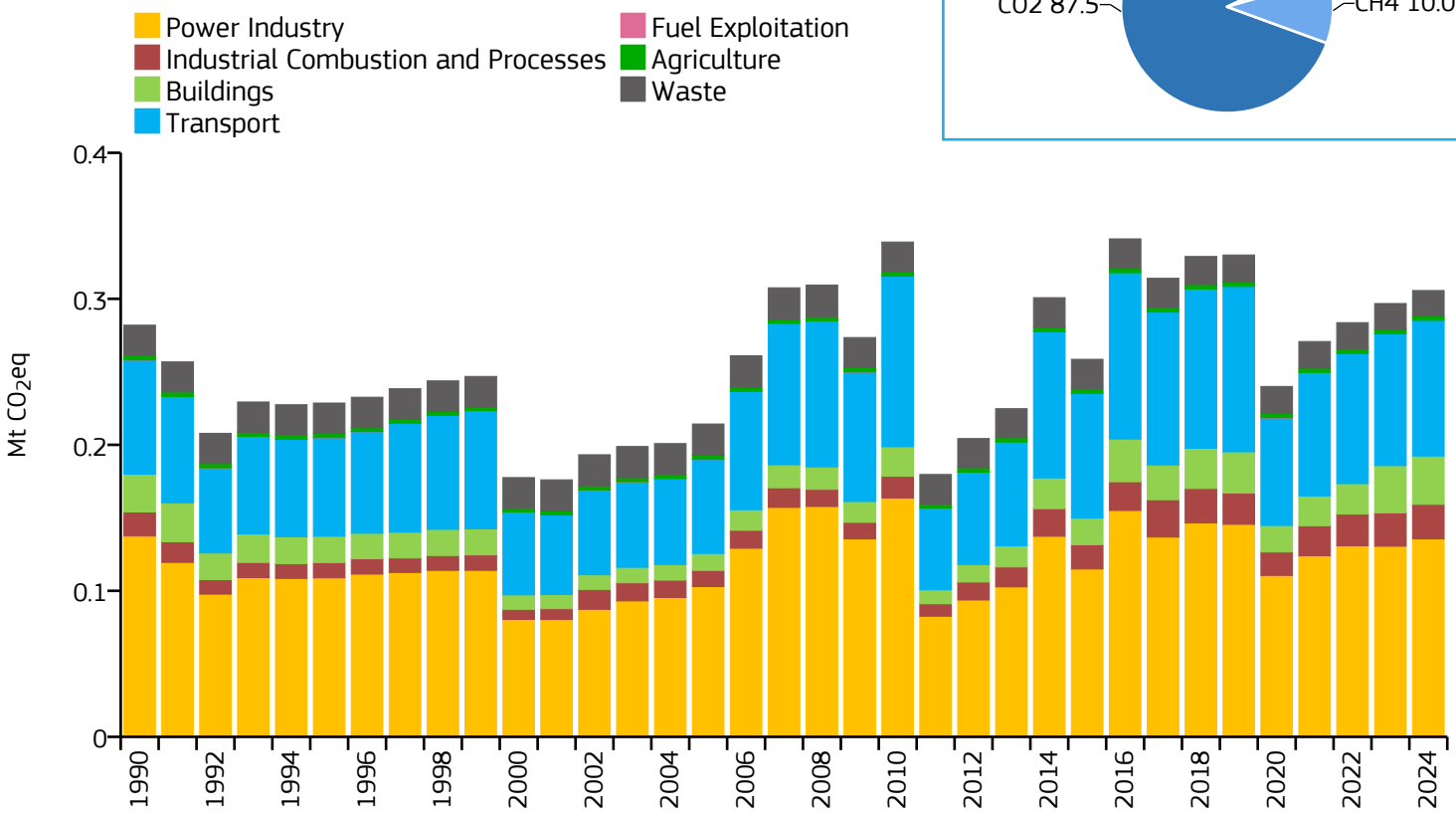
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	17.767	1.320	0.318	13.462M
2015	13.500	1.276	0.403	10.576M
2005	8.082	1.013	0.364	7.982M
1990	3.839	0.771	0.329	4.979M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	↗ +7%
Industrial Combustion and Processes	↗ > +300%	↗ > +300%	→ 0%
Buildings	↗ +85%	↘ -29%	→ +1%
Transport	↗ > +300%	↗ +186%	→ +4%
Fuel Exploitation	↗ +291%	↗ +210%	→ 0%
Agriculture	↗ +187%	↗ +81%	→ +3%
Waste	↗ +192%	↗ +86%	→ +3%
All sectors	↗ > +300%	↗ +120%	→ +2%

Bermuda



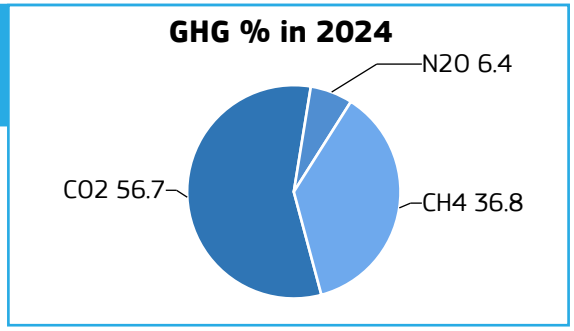
GHG emissions by sector



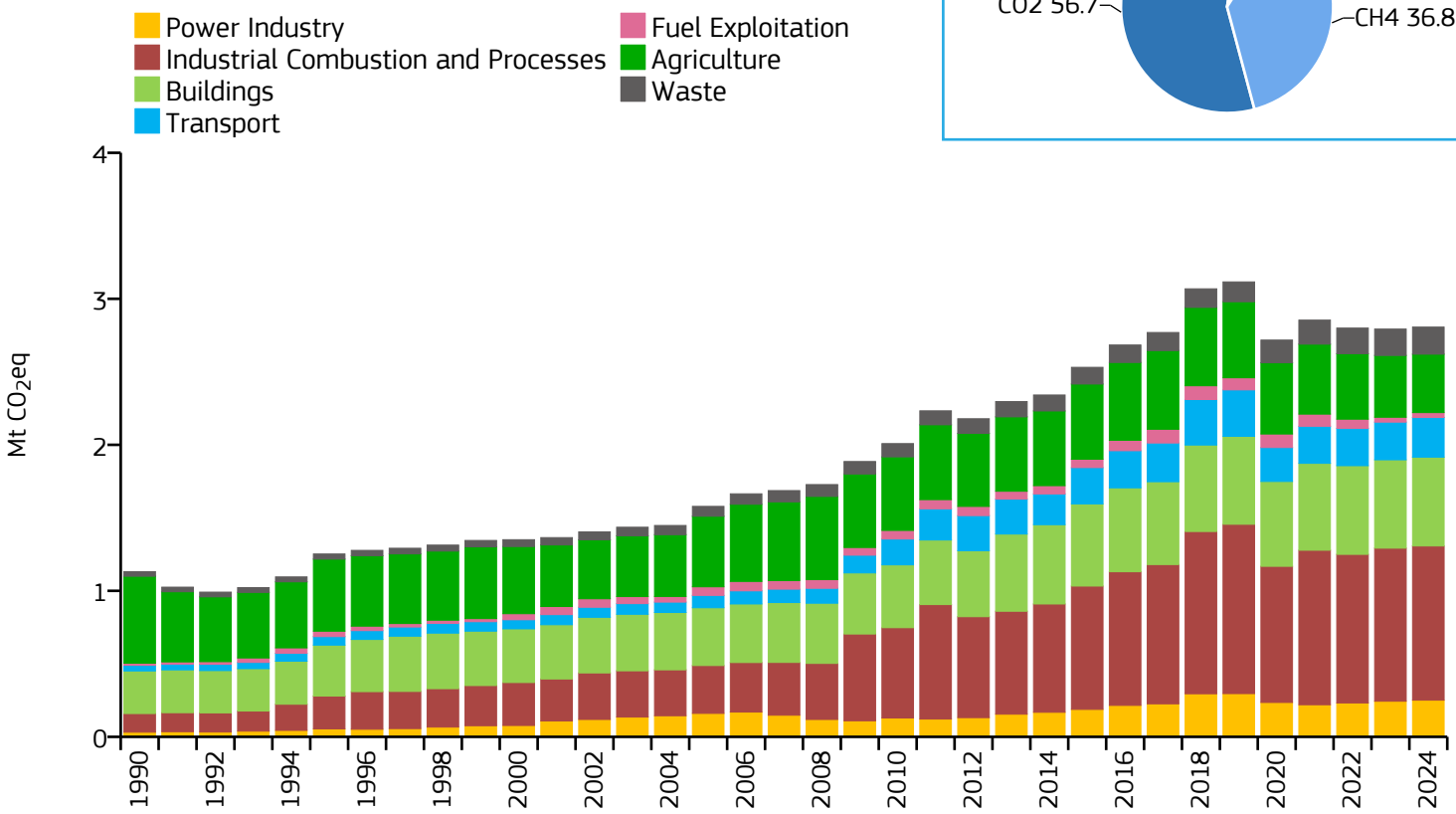
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.306	5.095	0.046	60.000k
2015	0.259	4.170	0.043	62.003k
2005	0.214	3.290	0.031	65.130k
1990	0.282	4.627	0.061	60.930k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-1%	+32%	+4%
Industrial Combustion and Processes	+44%	+112%	+3%
Buildings	+28%	+187%	+2%
Transport	+19%	+44%	+3%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	-7%	+8%	0%
Waste	-15%	-19%	-2%
All sectors	+8%	+43%	+3%

Bhutan



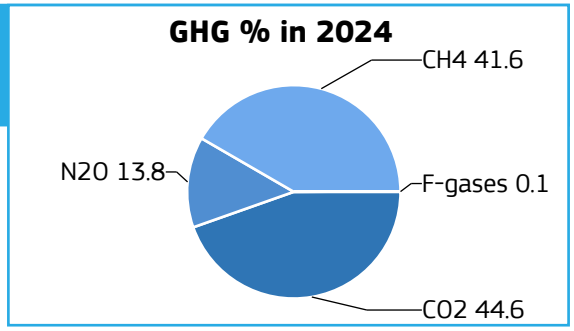
GHG emissions by sector



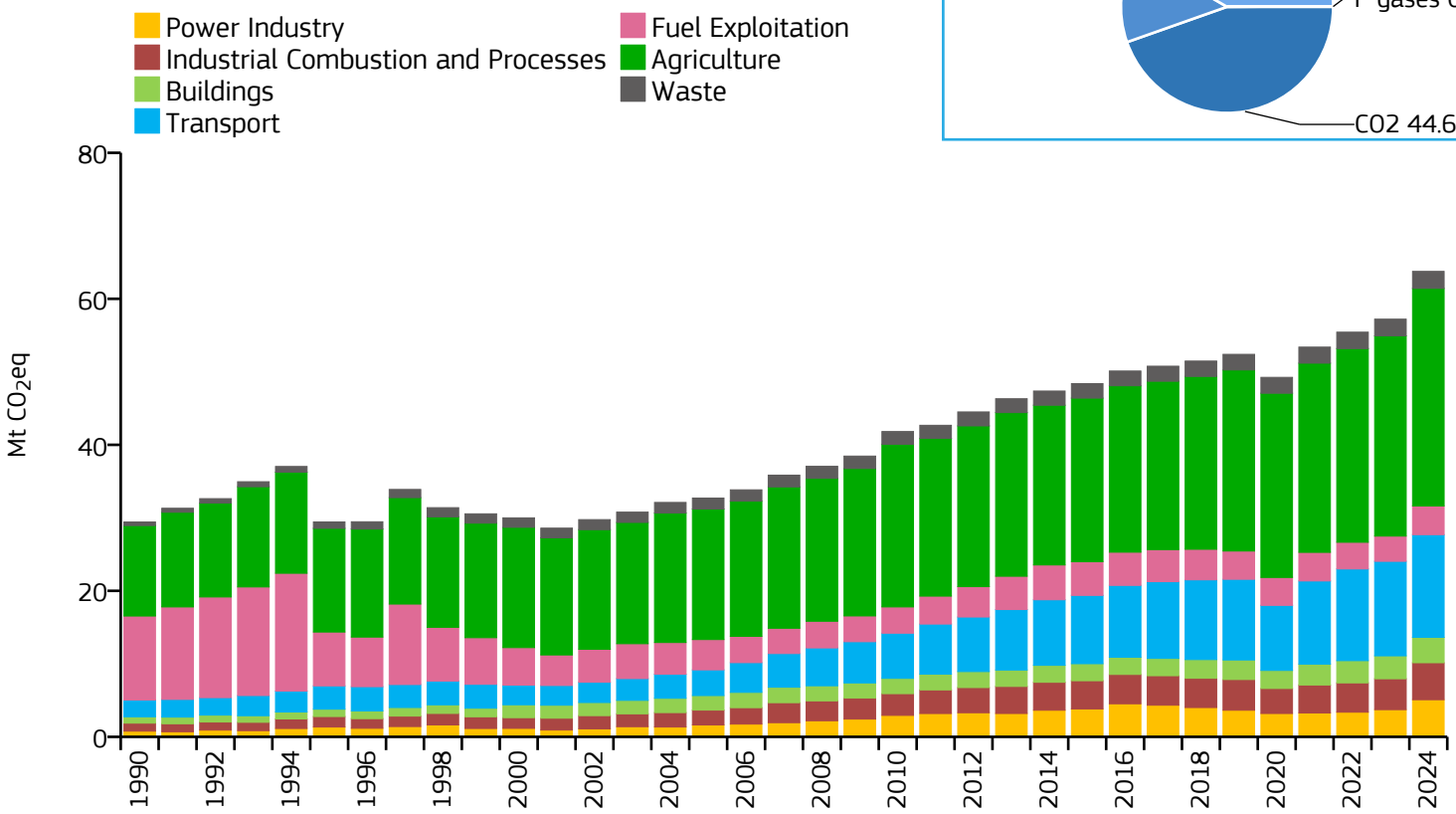
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.806	3.229	0.234	869.000k
2015	2.531	3.214	0.276	787.386k
2005	1.578	2.404	0.348	656.639k
1990	1.131	2.105	0.563	537.280k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +56%	→ +3%
Industrial Combustion and Processes	↗ > +300%	↗ +222%	→ +1%
Buildings	↗ +108%	↗ +54%	→ +1%
Transport	↗ > +300%	↗ +222%	→ +5%
Fuel Exploitation	↗ +124%	↘ -44%	→ 0%
Agriculture	↘ -33%	↘ -17%	→ -5%
Waste	↗ > +300%	↗ +175%	→ +3%
All sectors	↗ +148%	↗ +78%	→ 0%

Bolivia



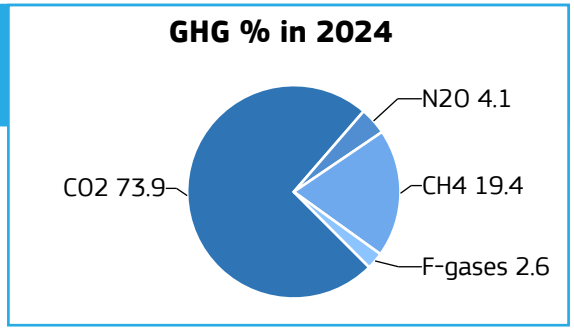
GHG emissions by sector



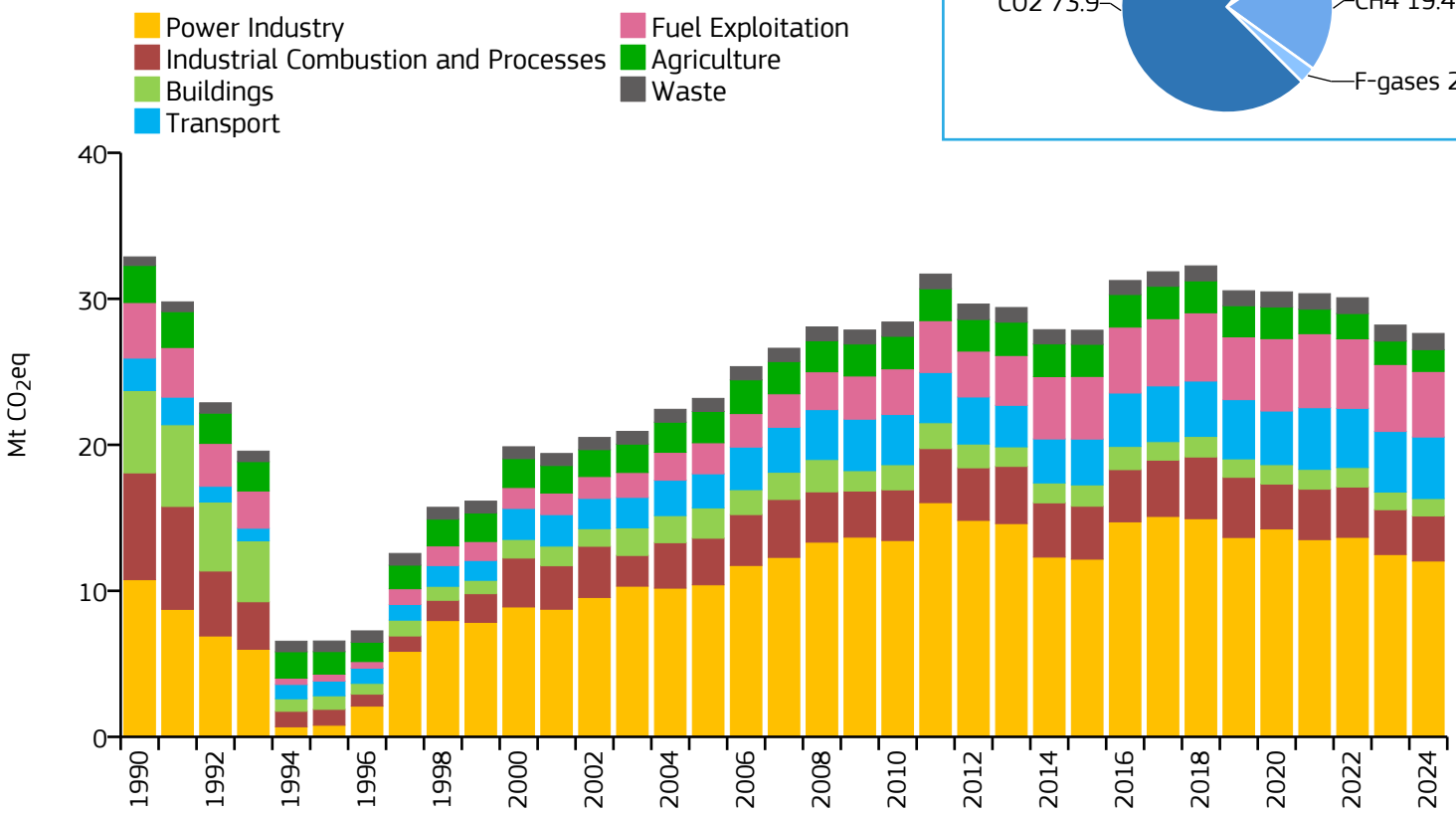
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	63.757	5.227	0.522	12.198M
2015	48.384	4.511	0.480	10.725M
2005	32.705	3.584	0.531	9.125M
1990	29.430	4.292	0.805	6.856M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +213%	↗ +37%
Industrial Combustion and Processes	↗ > +300%	↗ +148%	↗ +20%
Buildings	↗ +299%	↗ +75%	↗ +11%
Transport	↗ > +300%	↗ +299%	↗ +9%
Fuel Exploitation	↘ -66%	→ -5%	↗ +14%
Agriculture	↗ +140%	↗ +67%	↗ +9%
Waste	↗ > +300%	↗ +55%	→ +2%
All sectors	↗ +117%	↗ +95%	↗ +11%

Bosnia and Herzegovina



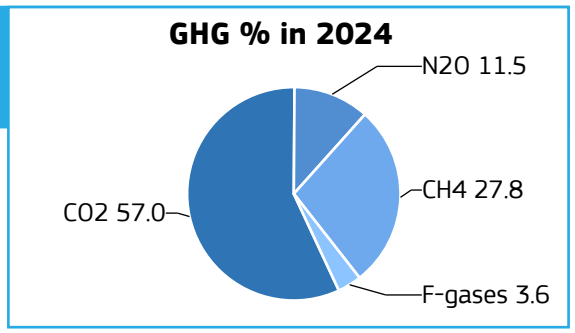
GHG emissions by sector



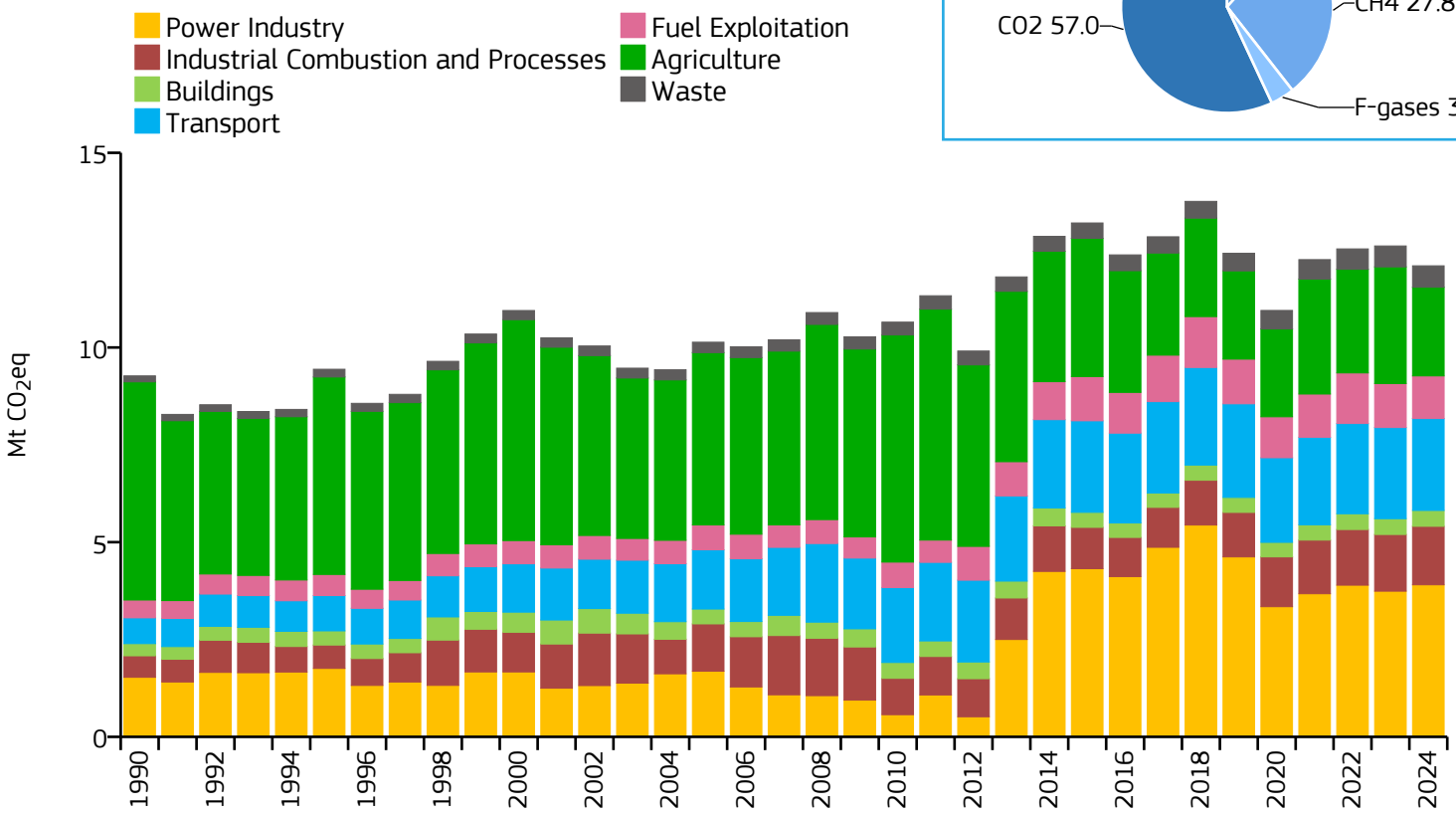
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	27.627	7.973	0.427	3.465M
2015	27.846	7.875	0.557	3.536M
2005	23.181	6.130	0.577	3.782M
1990	32.872	7.365	3.062	4.463M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+12%	+16%	-4%
Industrial Combustion and Processes	-58%	-3%	0%
Buildings	-79%	-43%	-1%
Transport	+90%	+81%	+2%
Fuel Exploitation	+18%	+111%	-2%
Agriculture	-41%	-30%	-7%
Waste	+87%	+23%	+1%
All sectors	-16%	+19%	-2%

Botswana



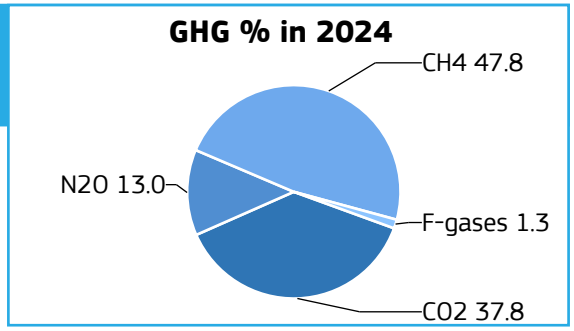
GHG emissions by sector



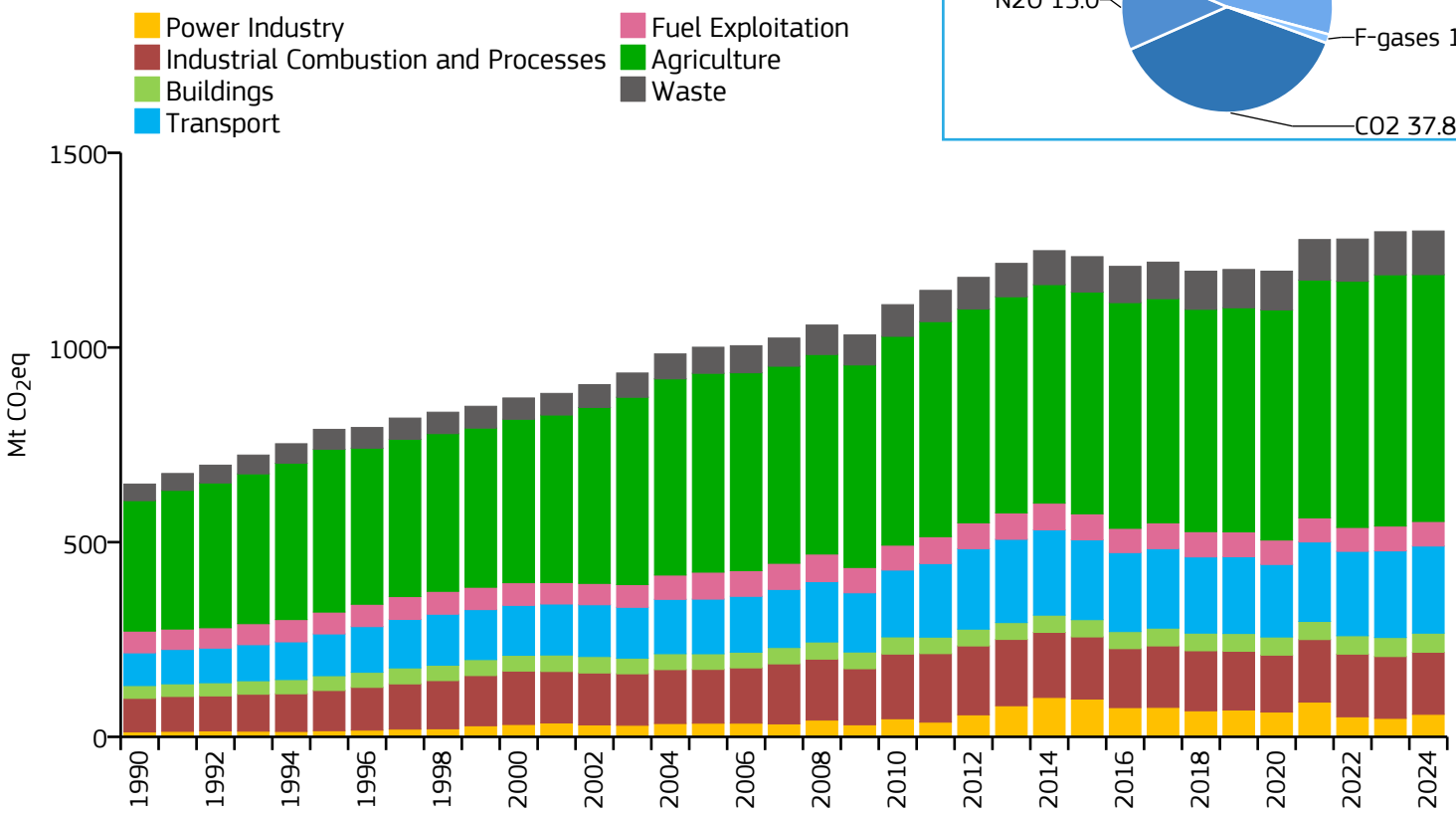
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	12.098	4.696	0.266	2.576M
2015	13.198	5.974	0.375	2.209M
2005	10.136	5.461	0.384	1.856M
1990	9.271	6.728	0.675	1.378M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+155%	+132%	+4%
Industrial Combustion and Processes	+172%	+24%	+3%
Buildings	+30%	+7%	0%
Transport	+257%	+55%	+1%
Fuel Exploitation	+139%	+72%	-3%
Agriculture	-59%	-49%	-24%
Waste	+259%	+106%	+3%
All sectors	+30%	+19%	-4%

Brazil



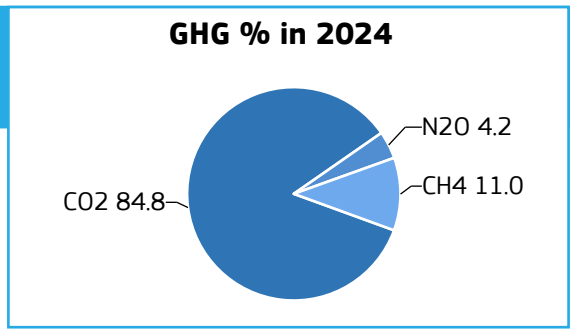
GHG emissions by sector



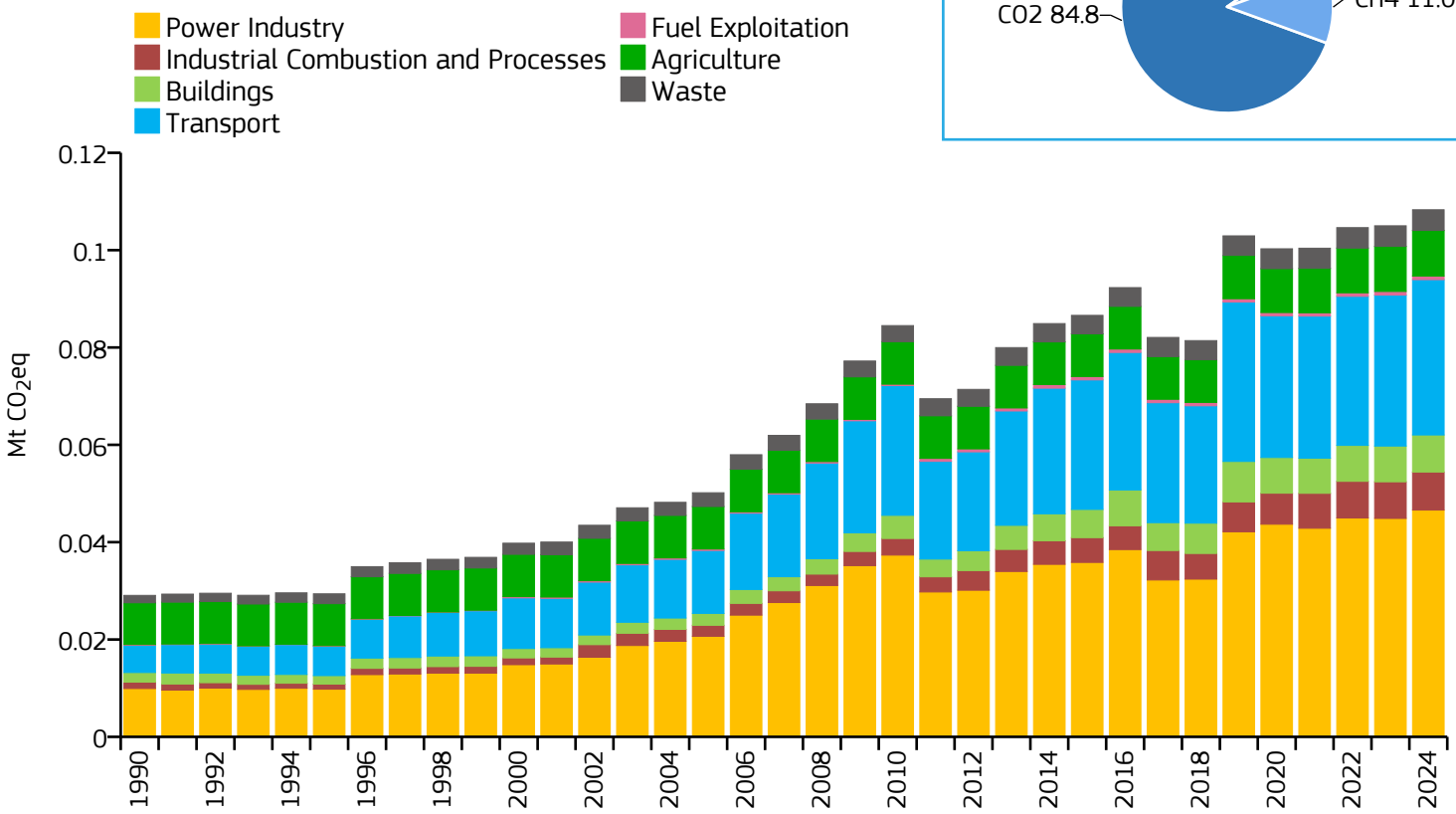
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1299.180	5.927	0.312	219.182M
2015	1233.223	5.988	0.333	205.962M
2005	1000.645	5.353	0.356	186.917M
1990	649.236	4.347	0.345	149.352M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+65%	+22%
Industrial Combustion and Processes	+86%	+15%	0%
Buildings	+49%	+22%	0%
Transport	+166%	+59%	+1%
Fuel Exploitation	+13%	-9%	-1%
Agriculture	+89%	+24%	-2%
Waste	+163%	+67%	+1%
All sectors	+100%	+30%	0%

British Virgin Islands



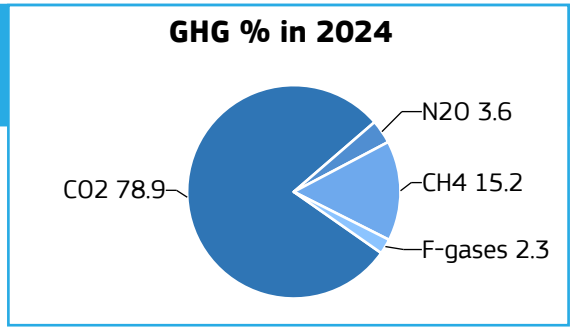
GHG emissions by sector



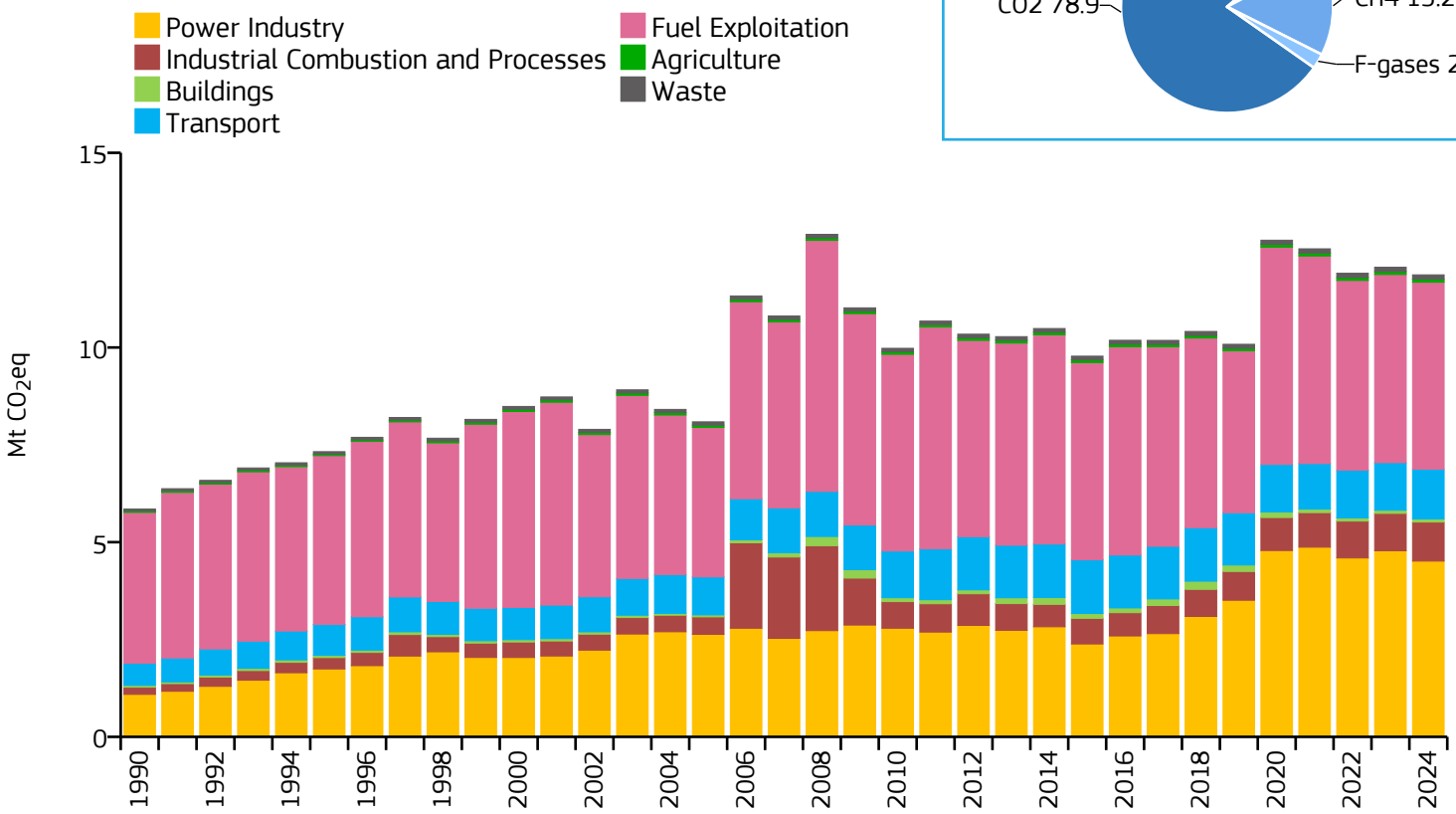
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.108	3.185	0.070	34.000k
2015	0.087	2.876	0.077	30.113k
2005	0.050	2.165	0.044	23.168k
1990	0.029	1.766	0.132	16.461k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+126%	+4%
Industrial Combustion and Processes	> +300%	+246%	+4%
Buildings	+285%	+211%	+4%
Transport	> +300%	+147%	+3%
Fuel Exploitation	> +300%	+154%	0%
Agriculture	+9%	+7%	+1%
Waste	+179%	+50%	0%
All sectors	+273%	+116%	+3%

Brunei



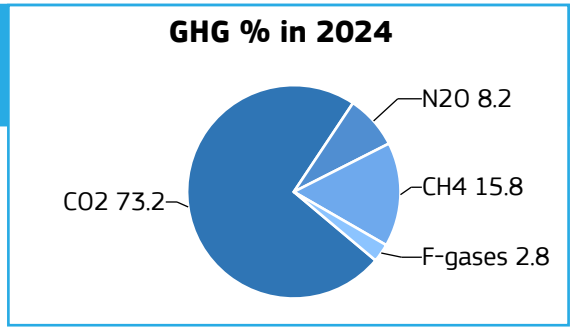
GHG emissions by sector



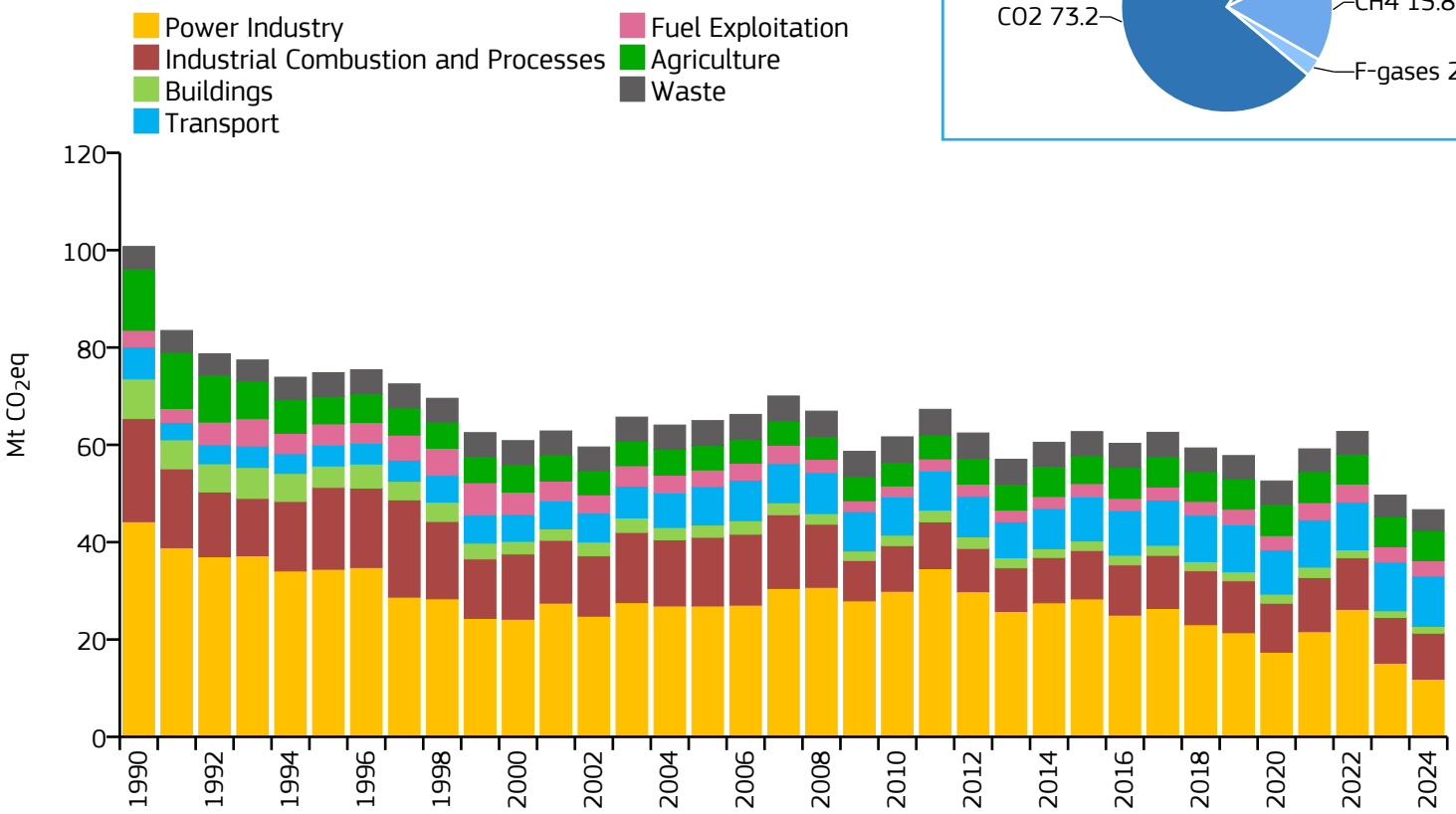
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	11.865	25.572	0.325	464.000k
2015	9.777	23.416	0.283	417.542k
2005	8.091	22.157	0.226	365.158k
1990	5.852	22.612	0.194	258.785k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+71%	-6%
Industrial Combustion and Processes	> +300%	+123%	+4%
Buildings	+71%	+55%	-2%
Transport	+126%	+31%	+5%
Fuel Exploitation	+24%	+25%	-1%
Agriculture	+122%	+30%	+1%
Waste	+116%	+34%	+1%
All sectors	+103%	+47%	-2%

Bulgaria



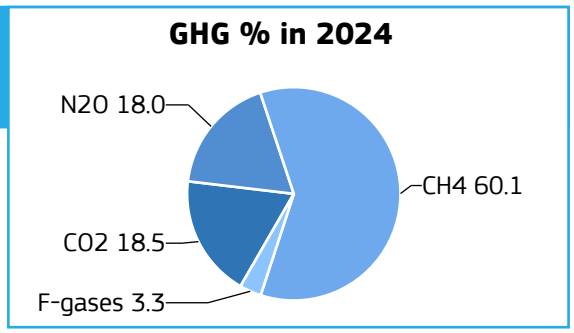
GHG emissions by sector



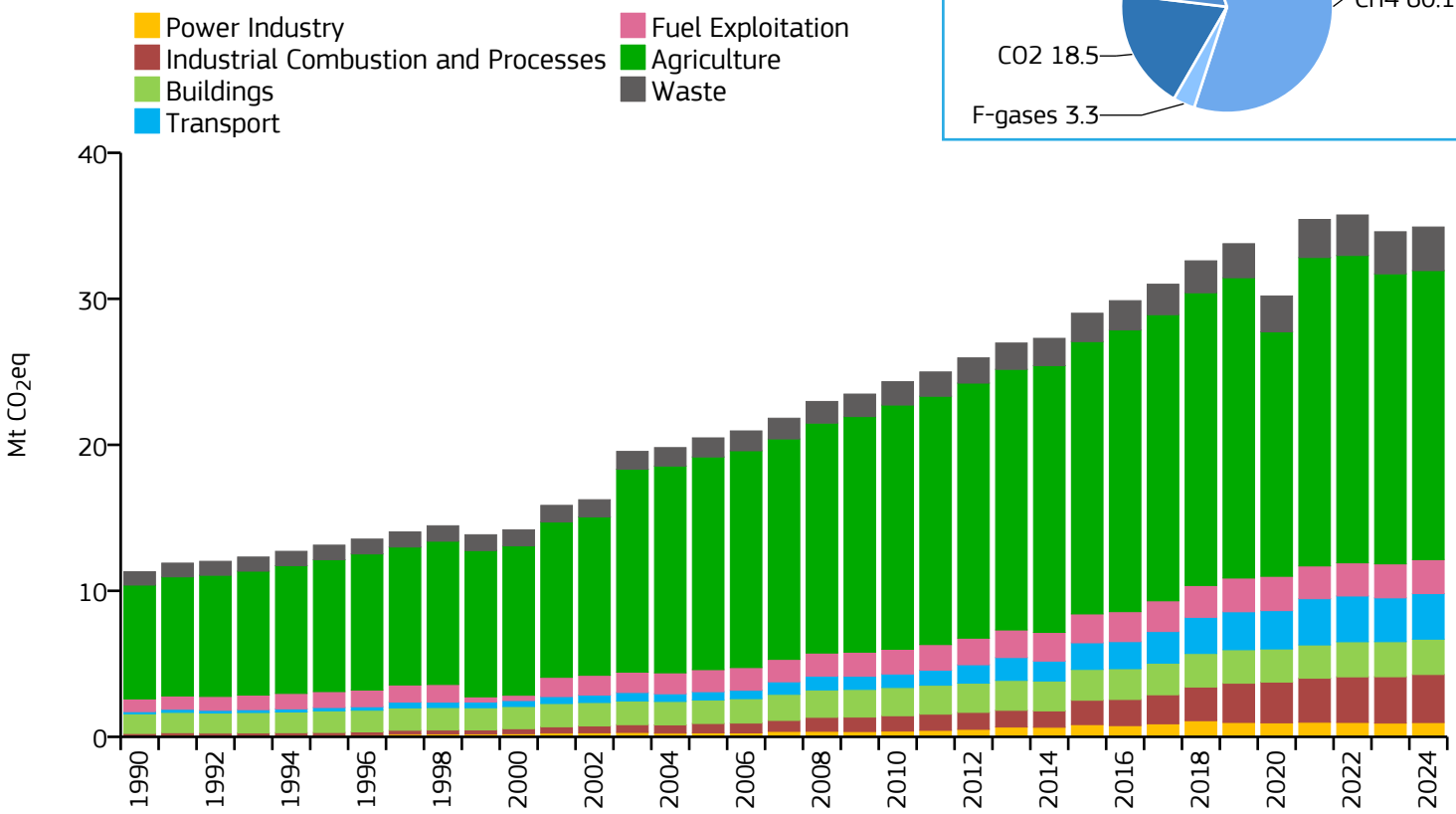
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	46.677	6.920	0.213	6.745M
2015	62.719	8.738	0.366	7.177M
2005	64.977	8.456	0.480	7.684M
1990	100.755	11.396	0.773	8.841M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-73%	-56%	-22%
Industrial Combustion and Processes	-55%	-33%	+1%
Buildings	-83%	-45%	+2%
Transport	+57%	+31%	+3%
Fuel Exploitation	-6%	-7%	0%
Agriculture	-52%	+22%	0%
Waste	-5%	-15%	-2%
All sectors	-54%	-28%	-6%

Burkina Faso



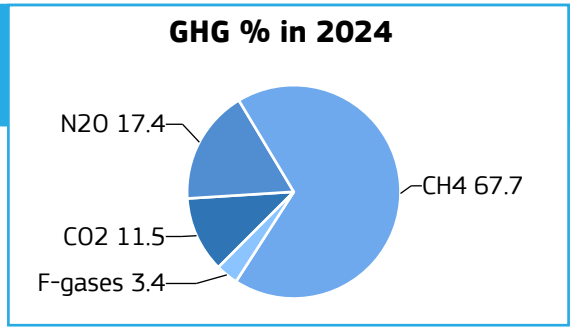
GHG emissions by sector



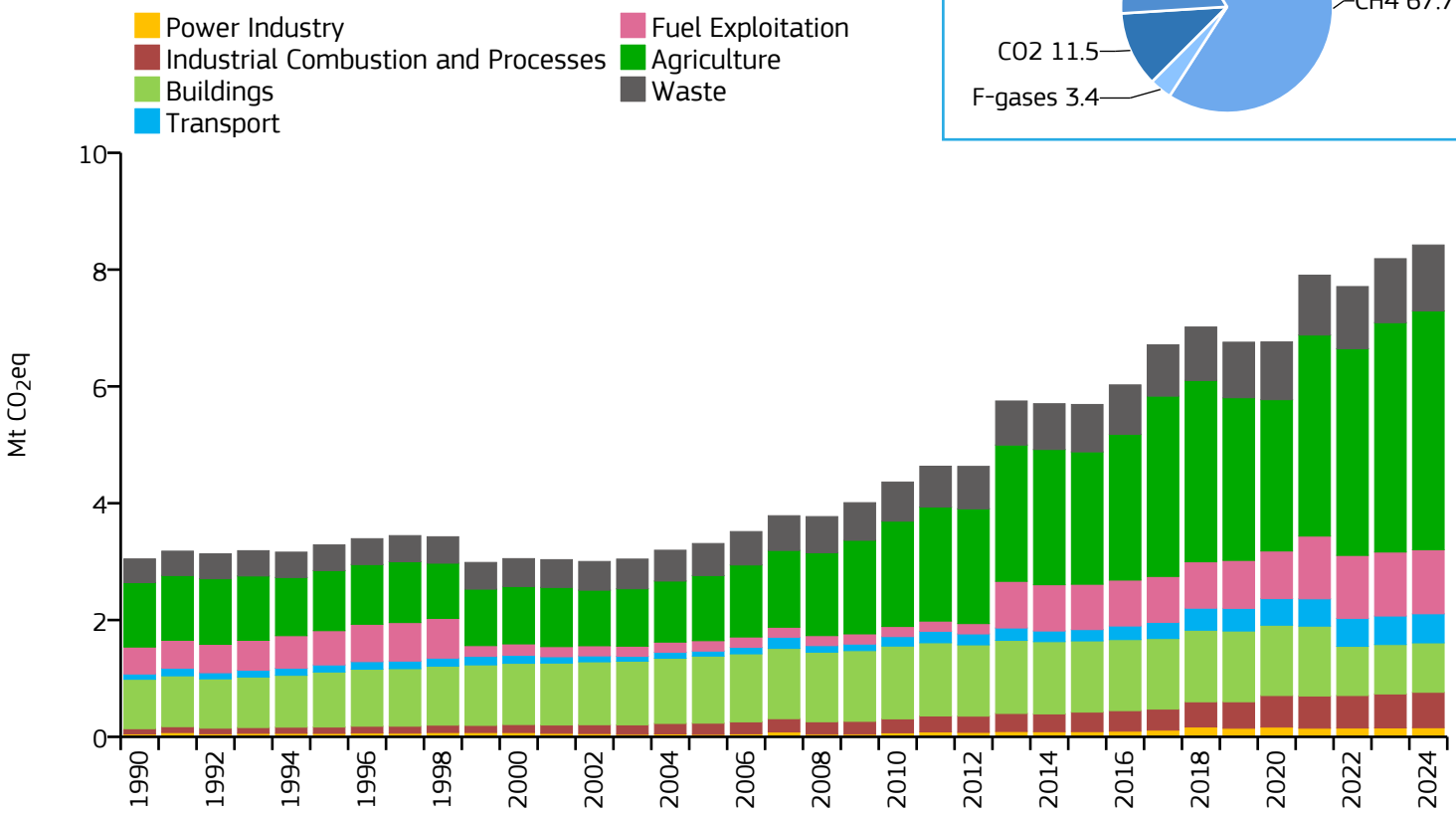
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	34.918	1.495	0.585	23.349M
2015	29.010	1.602	0.735	18.111M
2005	20.477	1.526	0.883	13.422M
1990	11.307	1.283	1.114	8.811M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+256%	+4%
Industrial Combustion and Processes	> +300%	> +300%	+4%
Buildings	+80%	+50%	+1%
Transport	> +300%	> +300%	+4%
Fuel Exploitation	+166%	+54%	0%
Agriculture	+154%	+36%	0%
Waste	+227%	+129%	+4%
All sectors	+209%	+71%	+1%

Burundi



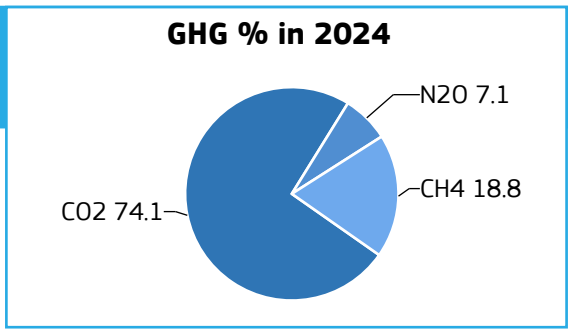
GHG emissions by sector



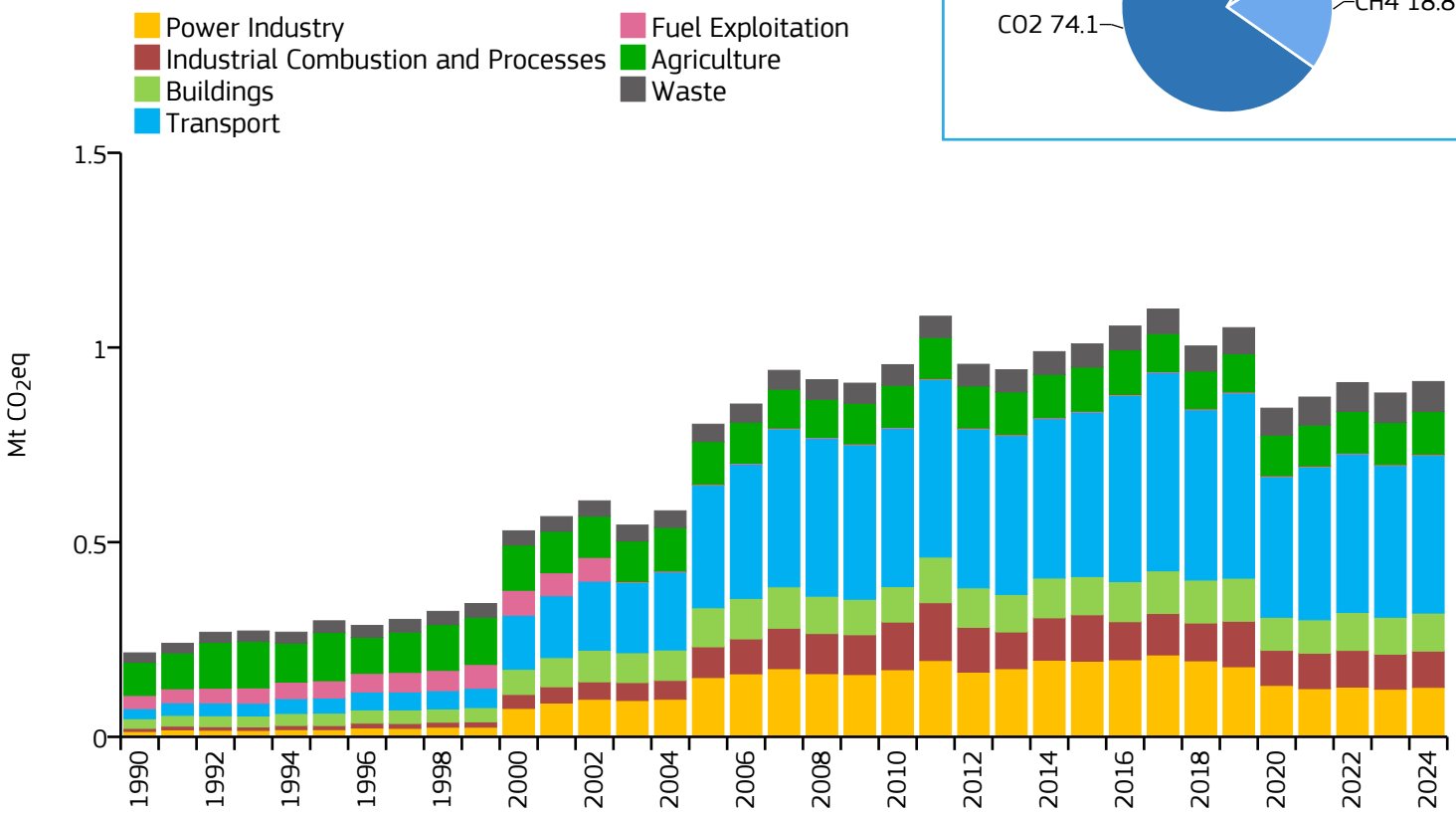
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	8.422	0.627	0.717	13.428M
2015	5.691	0.558	0.561	10.199M
2005	3.310	0.446	0.465	7.423M
1990	3.046	0.563	0.391	5.415M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+217%	+265%	+2%
Industrial Combustion and Processes	> +300%	+217%	+4%
Buildings	0%	-26%	0%
Transport	> +300%	> +300%	+2%
Fuel Exploitation	+138%	> +300%	0%
Agriculture	+271%	+267%	+4%
Waste	+178%	+106%	+3%
All sectors	+176%	+154%	+3%

Cabo Verde



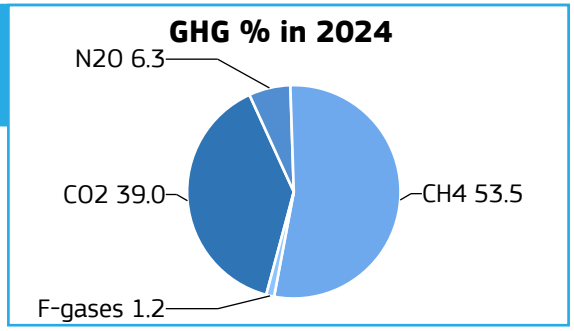
GHG emissions by sector



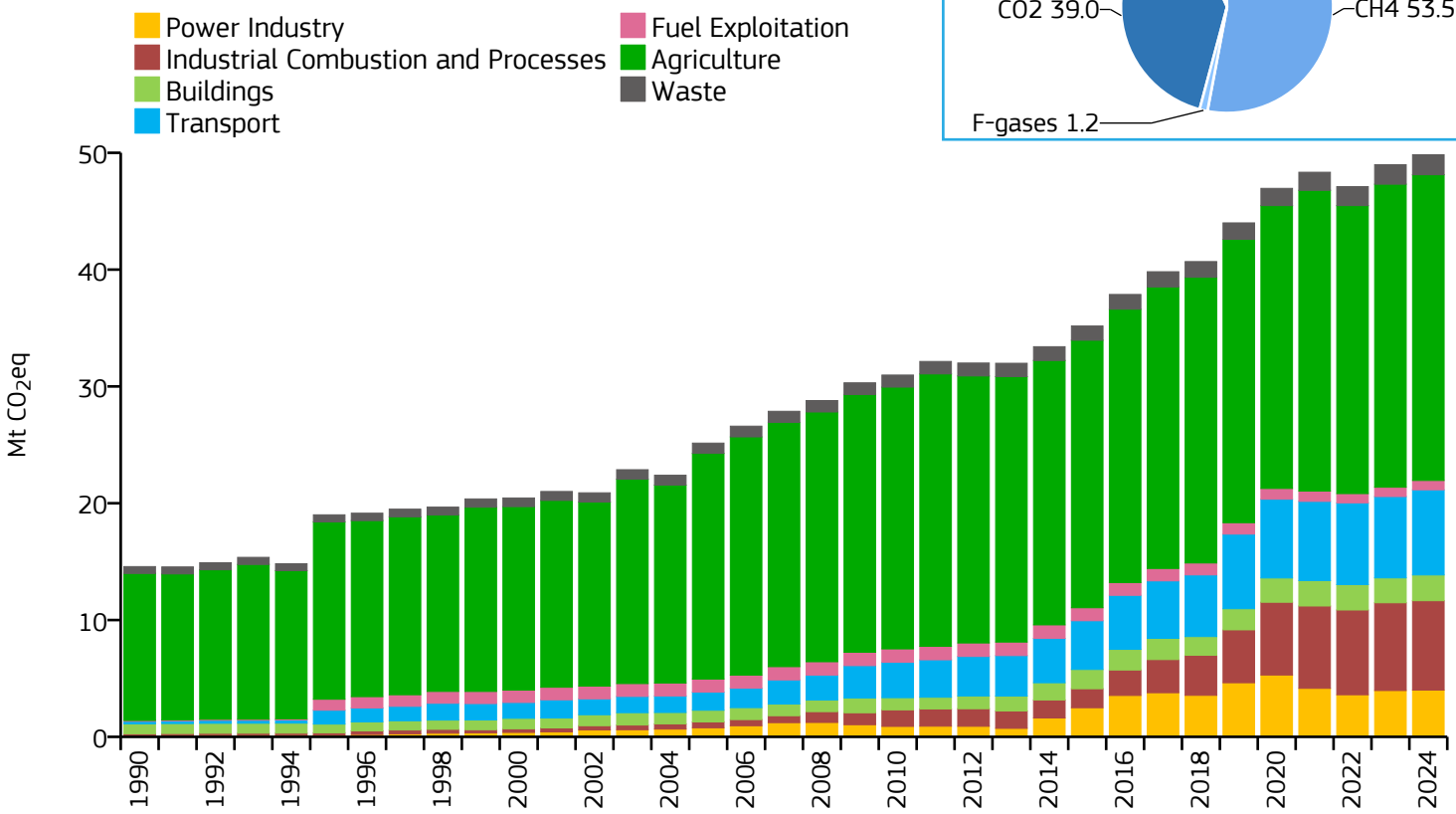
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.913	1.534	0.178	595.000k
2015	1.009	1.894	0.261	532.913k
2005	0.803	1.692	0.297	474.567k
1990	0.216	0.631	0.311	341.883k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	-17%	+4%
Industrial Combustion and Processes	> +300%	+18%	+4%
Buildings	+291%	-3%	+3%
Transport	> +300%	+29%	+4%
Fuel Exploitation	-92%	-4%	0%
Agriculture	+29%	0%	+2%
Waste	+220%	+72%	+2%
All sectors	> +300%	+14%	+3%

Cambodia



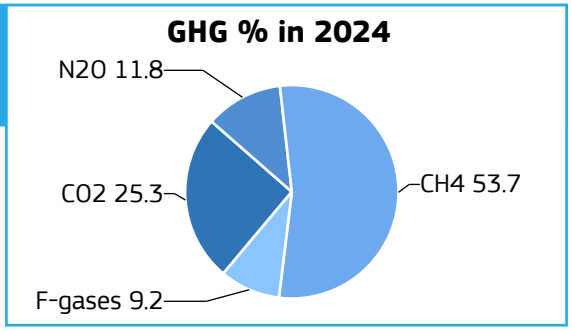
GHG emissions by sector



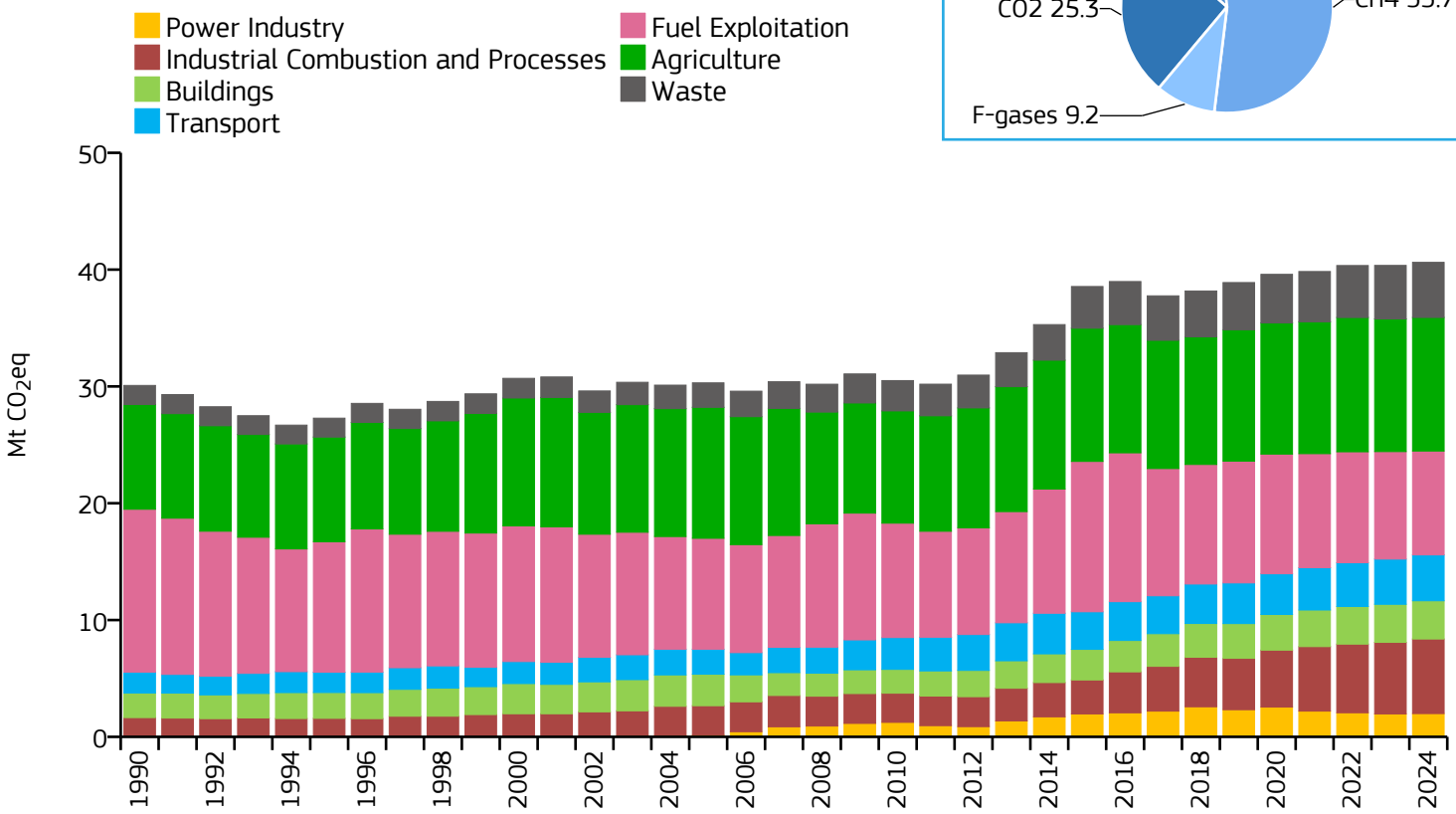
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	49.835	2.832	0.403	17.599M
2015	35.173	2.267	0.453	15.518M
2005	25.149	1.895	0.673	13.270M
1990	14.577	1.624	0.747	8.973M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+1%
Industrial Combustion and Processes	> +300%	> +300%	+2%
Buildings	+158%	+120%	+4%
Transport	> +300%	> +300%	+5%
Fuel Exploitation	> +300%	-29%	0%
Agriculture	+108%	+35%	+1%
Waste	+191%	+94%	+3%
All sectors	+242%	+98%	+2%

Cameroon



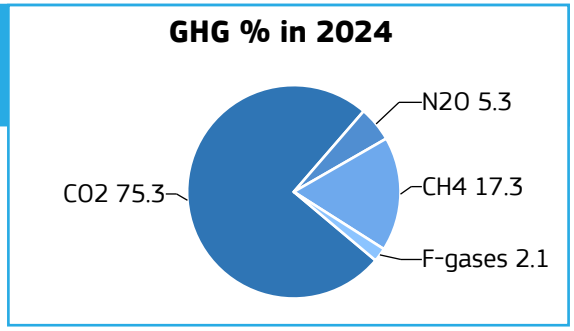
GHG emissions by sector



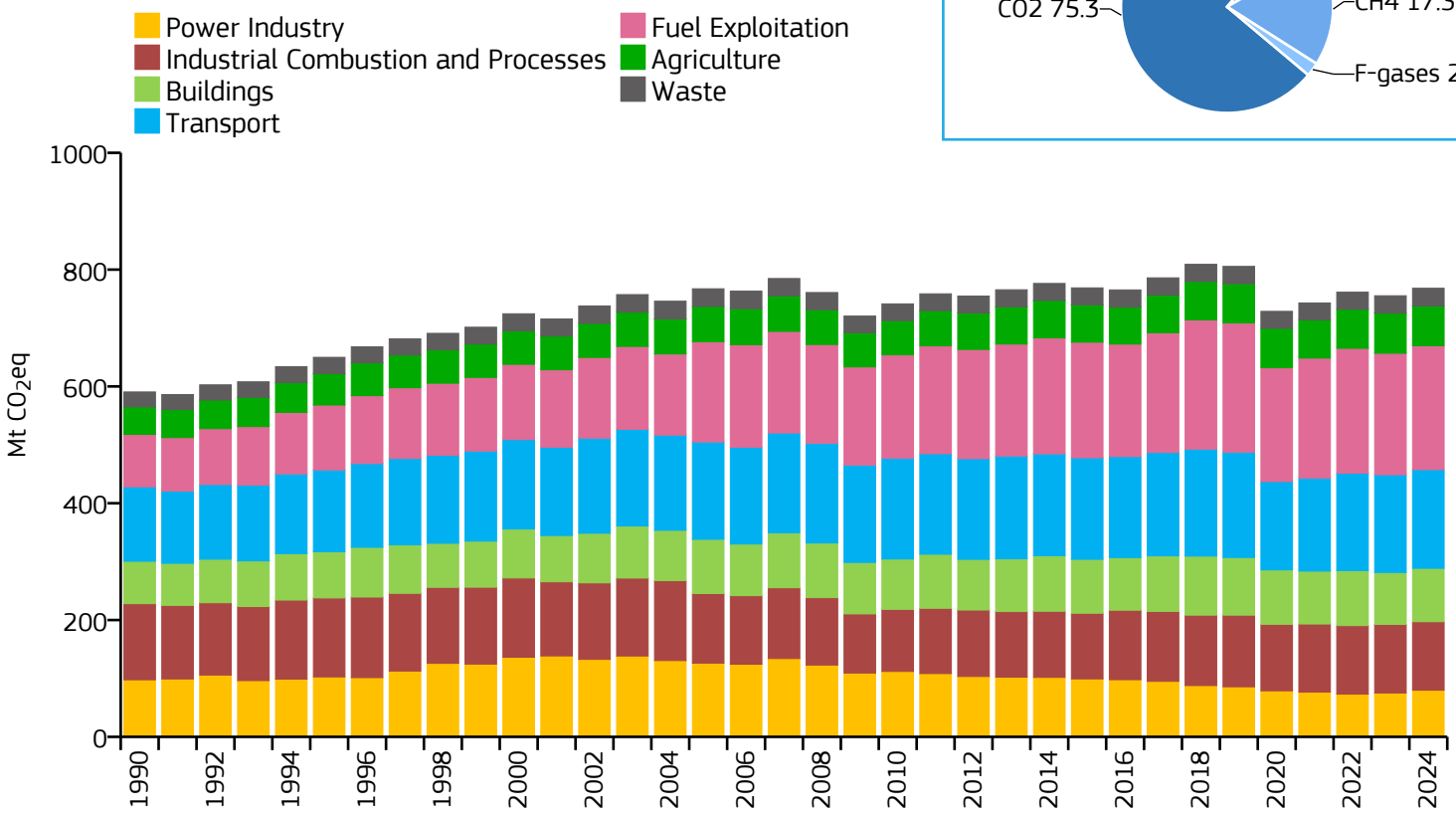
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	40.622	1.418	0.284	28.642M
2015	38.553	1.688	0.360	22.834M
2005	30.305	1.740	0.423	17.421M
1990	30.085	2.568	0.588	11.715M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	→ +1%
Industrial Combustion and Processes	↗ +296%	↗ +155%	→ +4%
Buildings	↗ +55%	↗ +21%	→ 0%
Transport	↗ +120%	↗ +84%	→ +1%
Fuel Exploitation	↘ -36%	↘ -6%	→ -3%
Agriculture	↗ +28%	→ +2%	→ +1%
Waste	↗ +189%	↗ +125%	→ +3%
All sectors	↗ +35%	↗ +34%	→ +1%

Canada



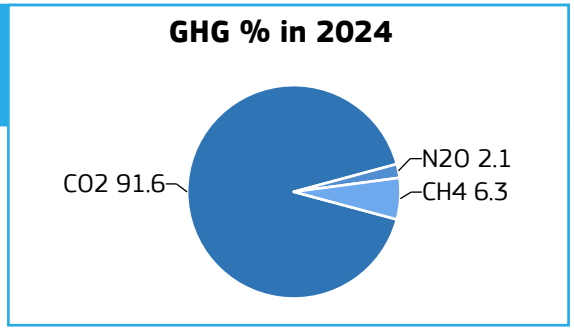
GHG emissions by sector



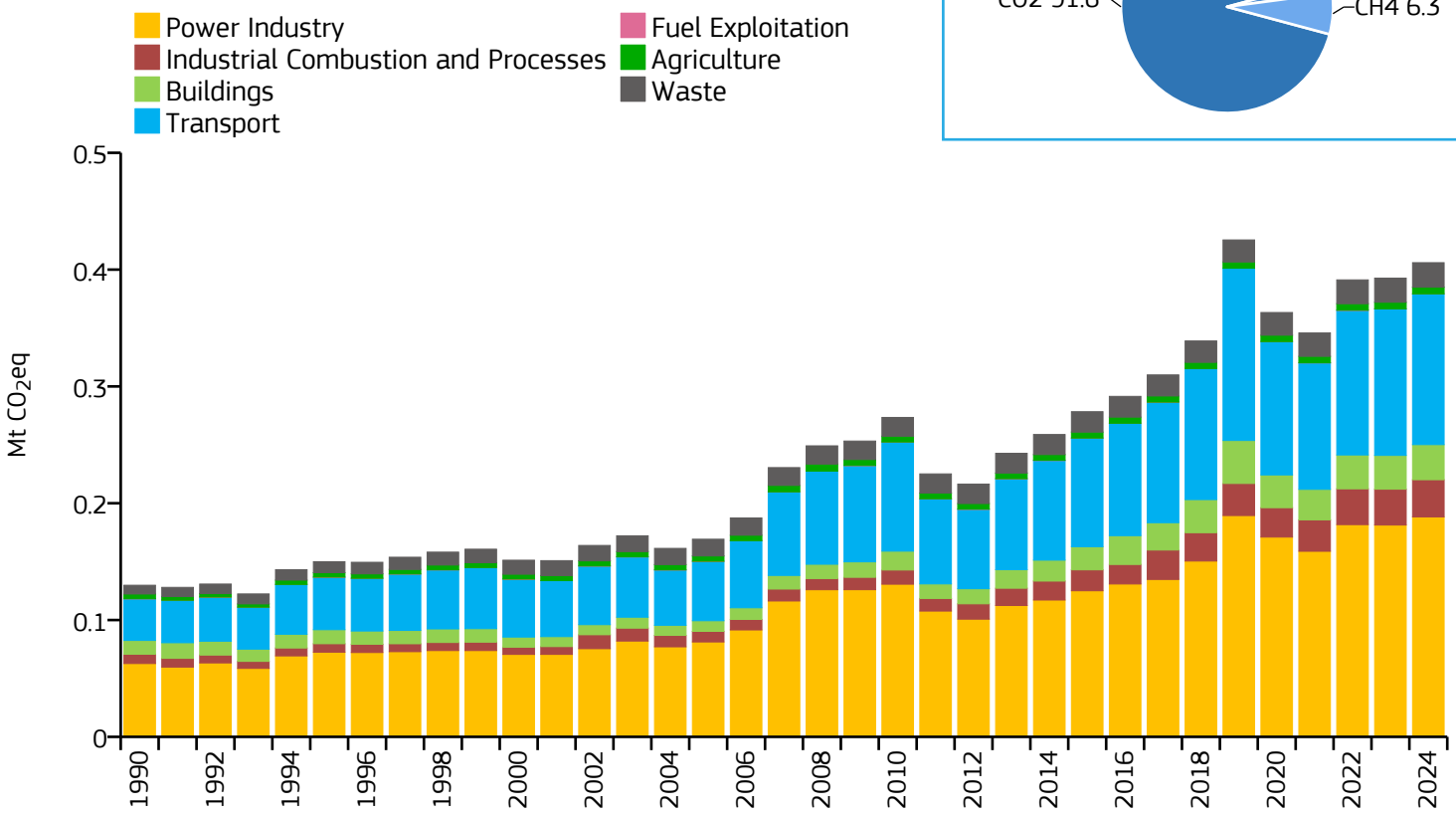
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	768.059	19.761	0.328	38.868M
2015	768.754	21.384	0.387	35.950M
2005	767.173	23.760	0.454	32.288M
1990	590.516	21.324	0.527	27.693M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-18%	-37%	+6%
Industrial Combustion and Processes	-10%	-2%	0%
Buildings	+26%	-2%	+3%
Transport	+33%	+1%	+1%
Fuel Exploitation	+137%	+24%	+2%
Agriculture	+44%	+12%	-1%
Waste	+19%	0%	+2%
All sectors	+30%	0%	+2%

Cayman Islands



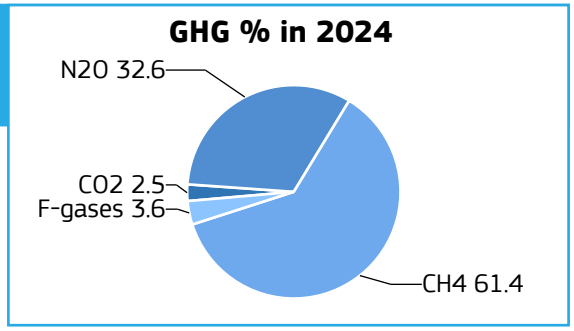
GHG emissions by sector



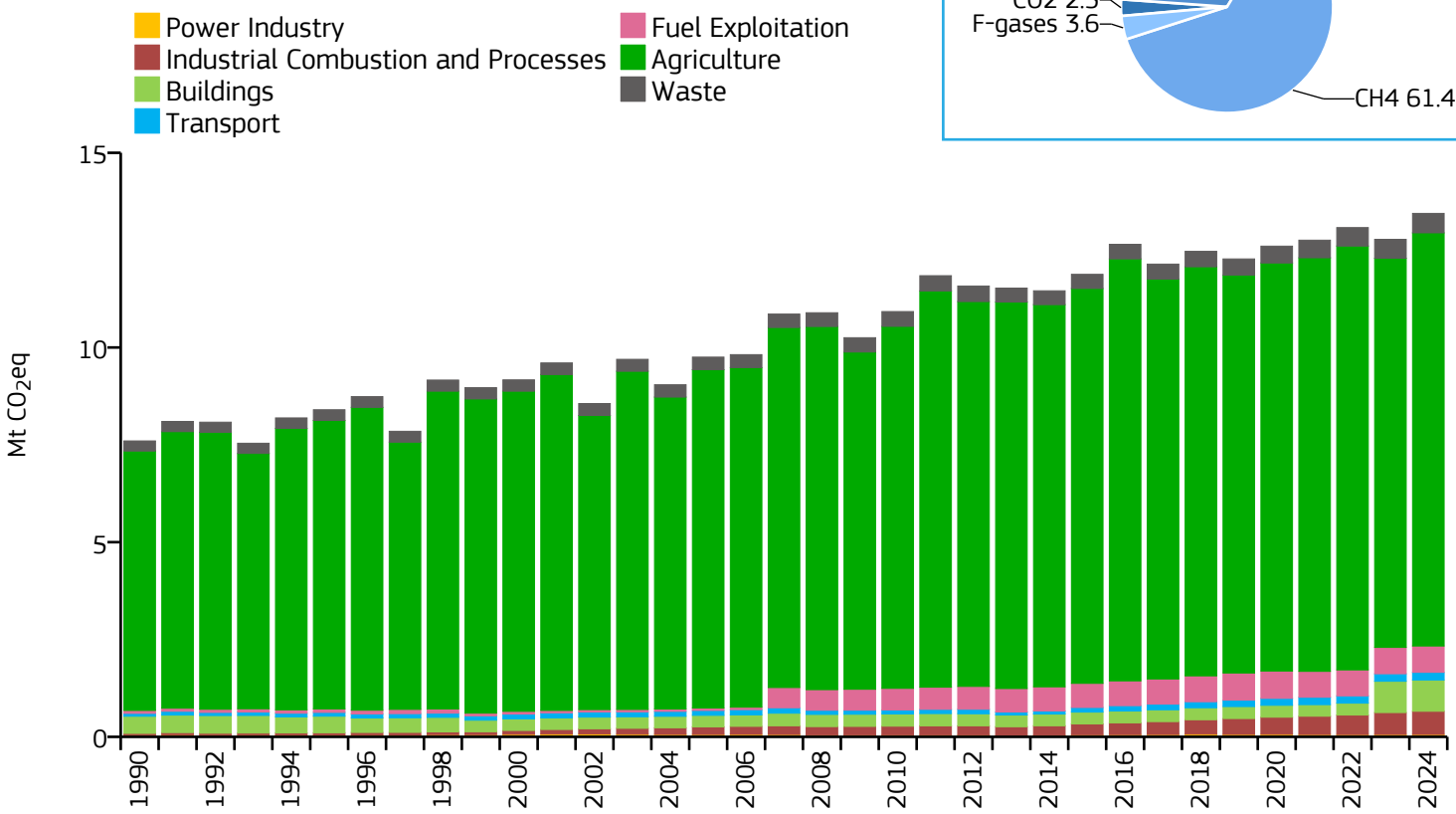
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.406	6.059	0.071	67.000k
2015	0.278	4.642	0.062	59.963k
2005	0.169	3.480	0.042	48.622k
1990	0.130	5.190	0.052	25.010k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +200%	↗ +132%	→ +4%
Industrial Combustion and Processes	↗ +299%	↗ +252%	→ +4%
Buildings	↗ +154%	↗ +230%	→ +4%
Transport	↗ +262%	↗ +154%	→ +3%
Fuel Exploitation	↗ > +300%	↘ -57%	↘ -37%
Agriculture	↗ +40%	↗ +26%	→ +1%
Waste	↗ +180%	↗ +46%	→ +1%
All sectors	↗ +213%	↗ +140%	→ +3%

Central African Republic



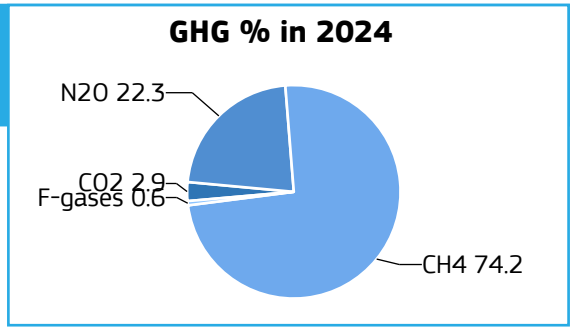
GHG emissions by sector



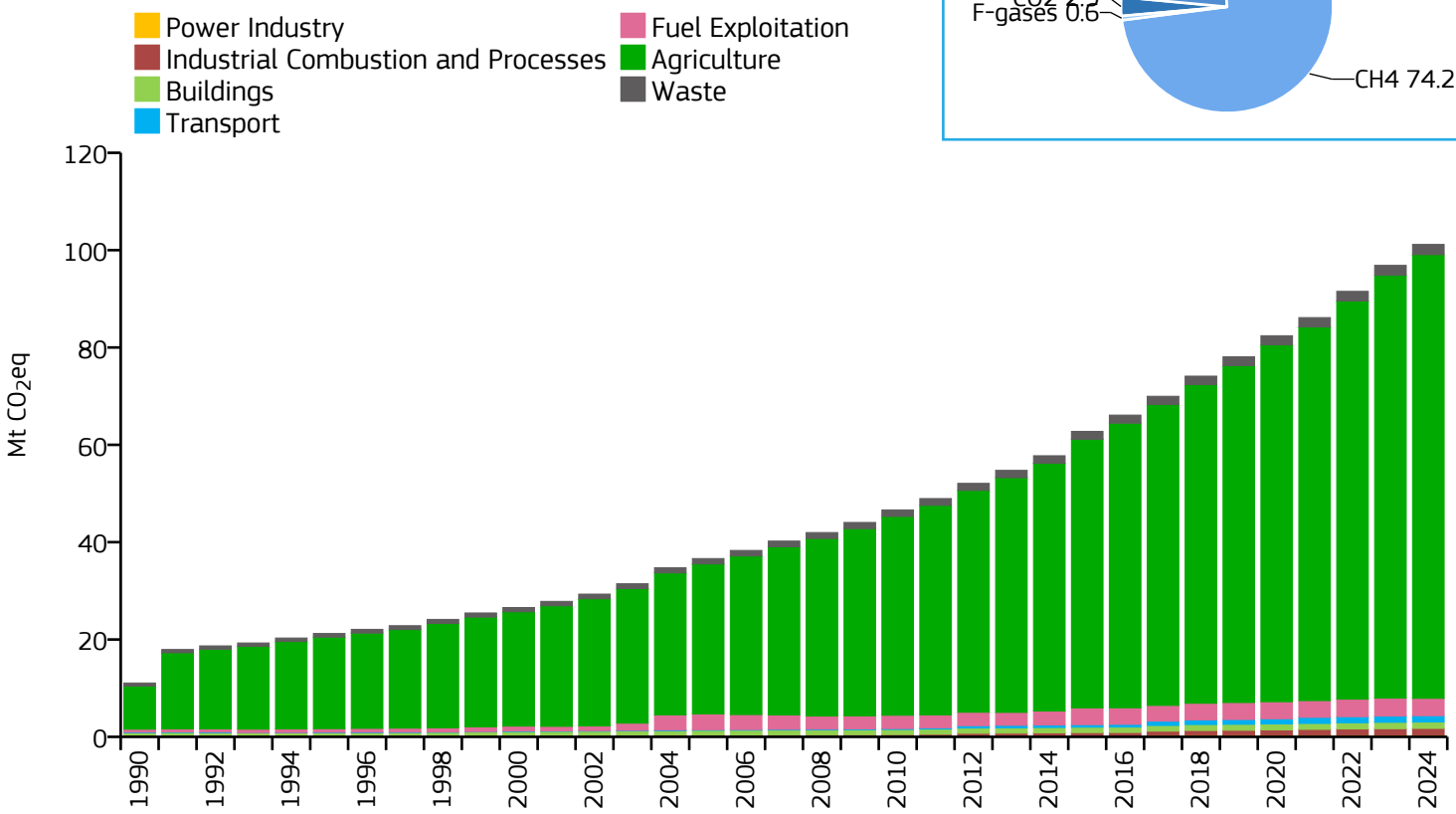
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	13.444	2.505	2.262	5.367M
2015	11.879	2.613	2.458	4.546M
2005	9.753	2.363	1.865	4.128M
1990	7.601	2.585	1.787	2.940M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+55%	+1%	+1%
Industrial Combustion and Processes	> +300%	+205%	+6%
Buildings	+82%	+172%	0%
Transport	+164%	+55%	+1%
Fuel Exploitation	> +300%	> +300%	0%
Agriculture	+59%	+22%	+6%
Waste	+92%	+55%	+3%
All sectors	+77%	+38%	+5%

Chad



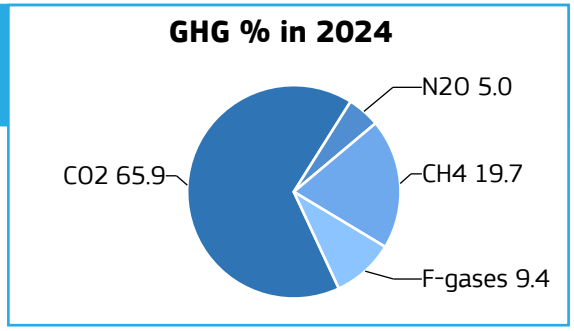
GHG emissions by sector



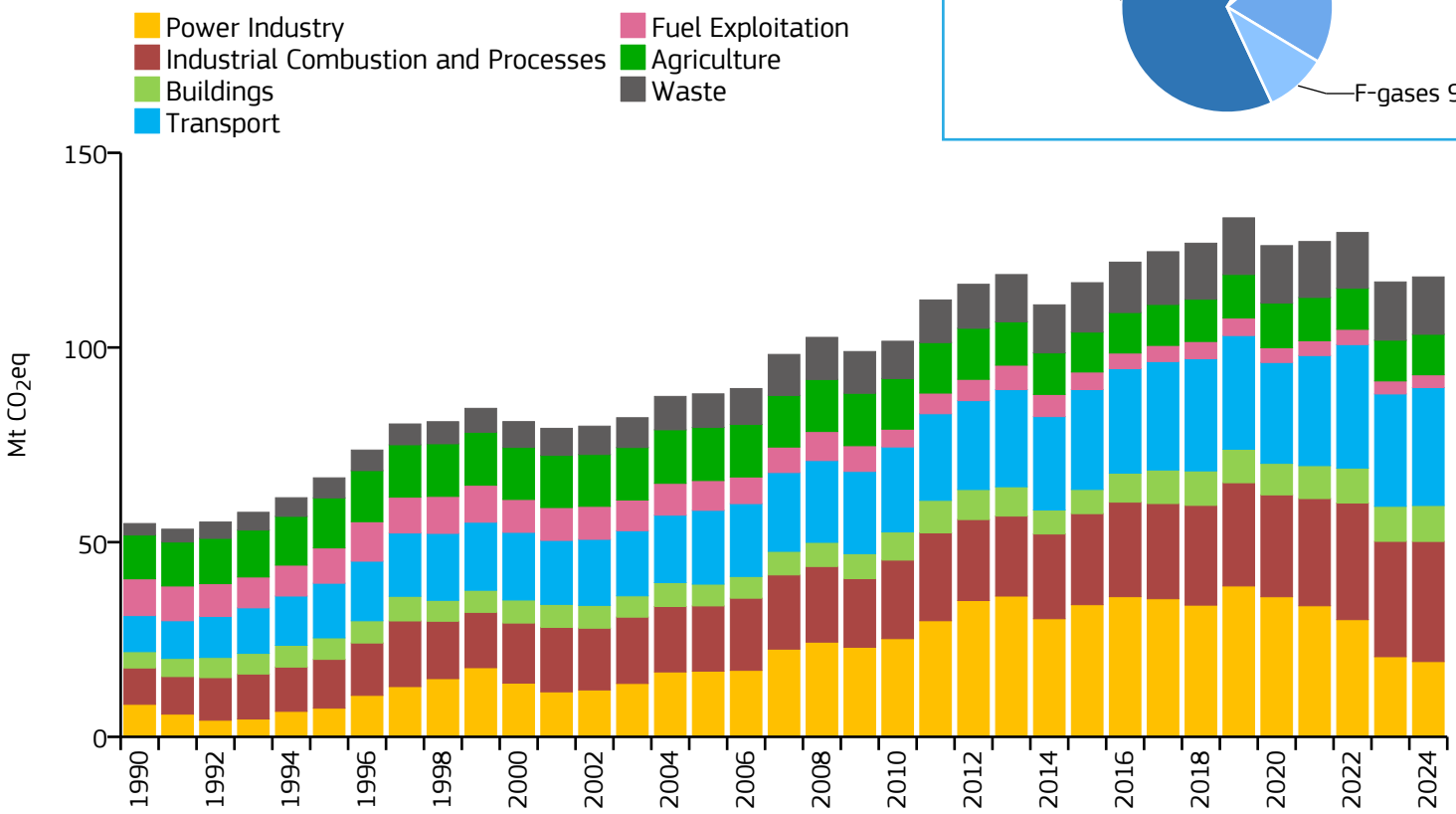
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	101.174	5.540	1.953	18.261M
2015	62.765	4.480	1.518	14.009M
2005	36.635	3.639	1.316	10.067M
1990	11.066	1.858	1.085	5.957M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+1%
Industrial Combustion and Processes	> +300%	> +300%	+4%
Buildings	+89%	+38%	0%
Transport	> +300%	> +300%	+1%
Fuel Exploitation	> +300%	+9%	-3%
Agriculture	> +300%	+196%	+5%
Waste	+224%	+90%	+3%
All sectors	> +300%	+176%	+4%

Chile



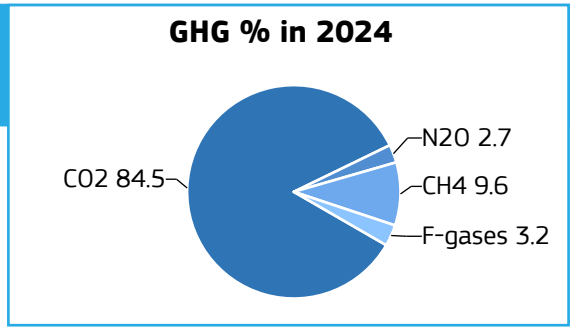
GHG emissions by sector



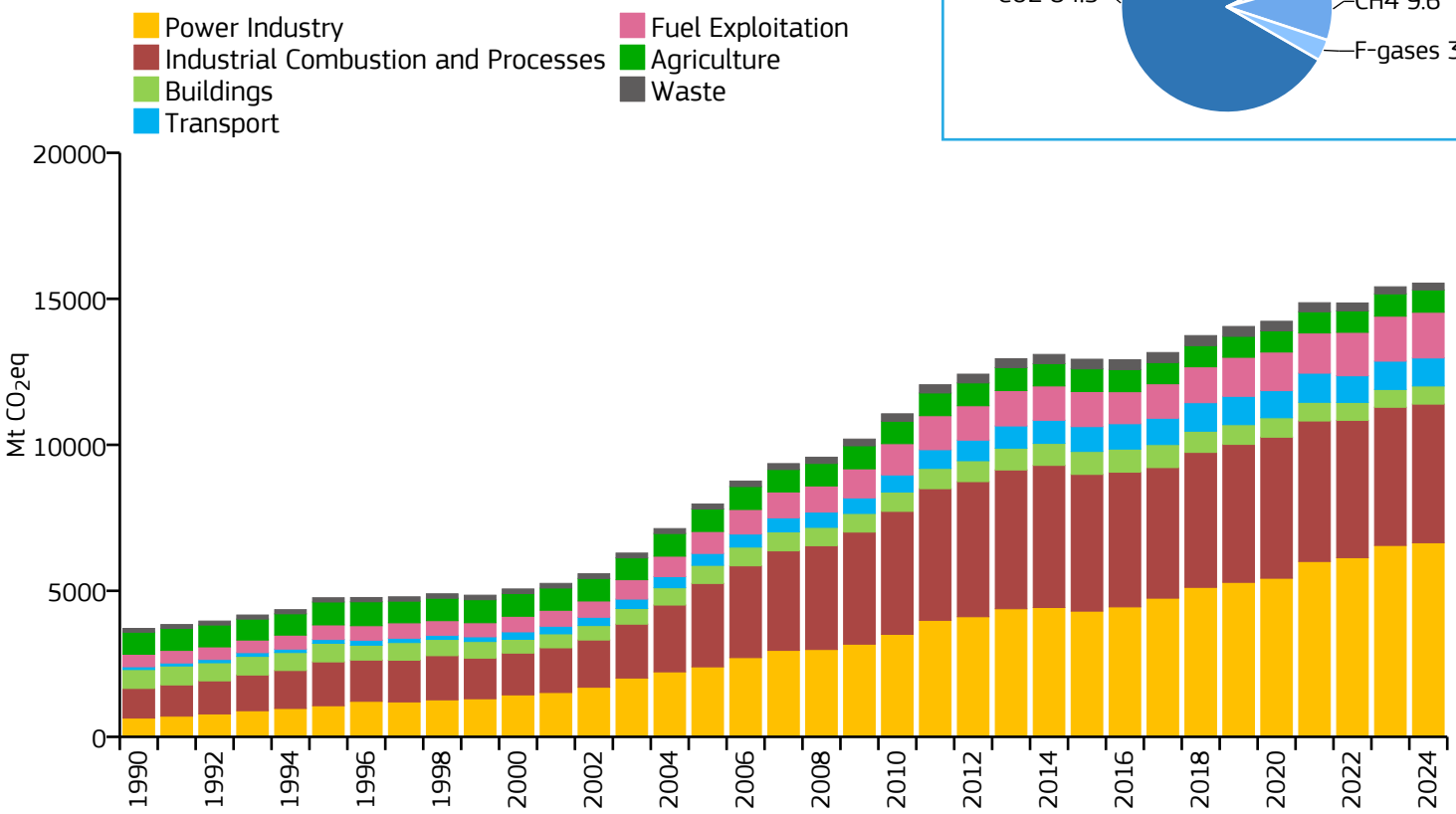
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	118.121	6.223	0.198	18.981M
2015	116.642	6.567	0.232	17.763M
2005	88.087	5.455	0.258	16.147M
1990	54.782	4.137	0.372	13.242M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +132%	↗ +15%	↘ -6%
Industrial Combustion and Processes	↗ +230%	↗ +84%	→ +4%
Buildings	↗ +121%	↗ +65%	→ +3%
Transport	↗ +227%	↗ +60%	→ +5%
Fuel Exploitation	↘ -65%	↘ -57%	→ -2%
Agriculture	↘ -8%	↘ -24%	→ -1%
Waste	↗ > +300%	↗ +71%	→ -2%
All sectors	↗ +116%	↗ +34%	→ +1%

China



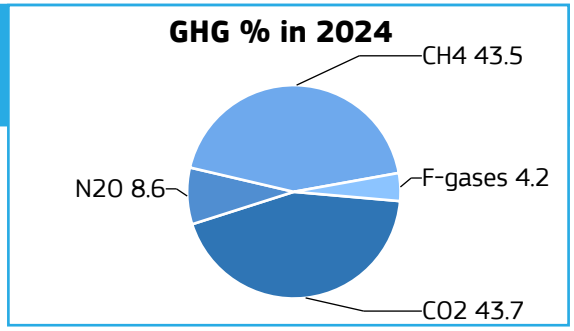
GHG emissions by sector



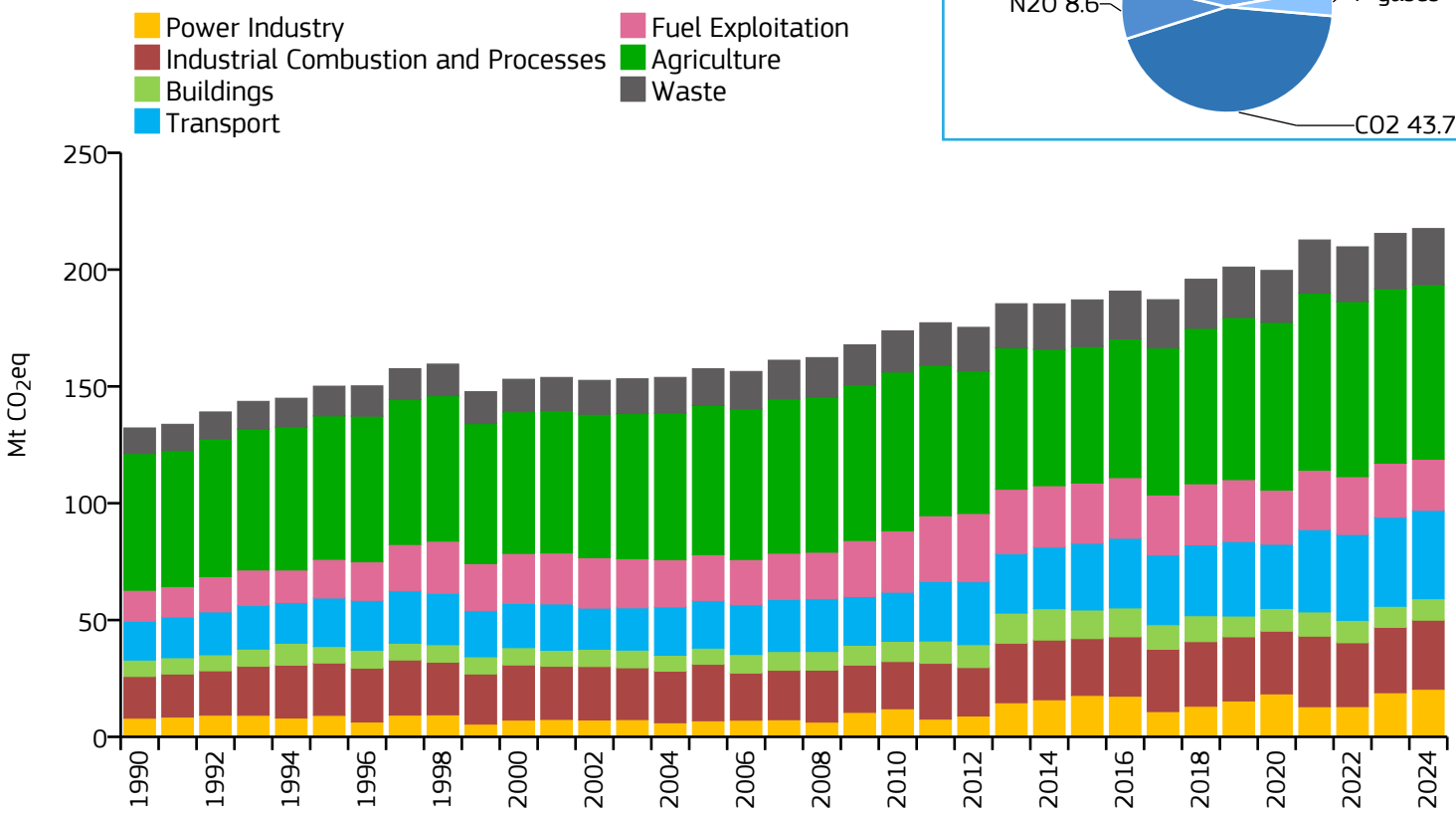
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	15536.122	10.812	0.462	1.437G
2015	12931.042	9.256	0.631	1.397G
2005	7974.396	6.034	0.971	1.322G
1990	3712.744	3.167	1.962	1.172G

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +177%	→ +1%
Industrial Combustion and Processes	↗ > +300%	↗ +66%	→ 0%
Buildings	→ -4%	→ 0%	→ +2%
Transport	↗ > +300%	↗ +135%	→ -1%
Fuel Exploitation	↗ +265%	↗ +108%	→ +2%
Agriculture	→ +1%	→ 0%	→ 0%
Waste	↗ +79%	↗ +34%	→ -5%
All sectors	↗ > +300%	↗ +95%	→ +1%

Colombia



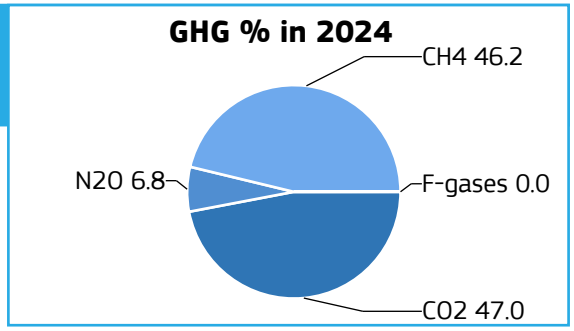
GHG emissions by sector



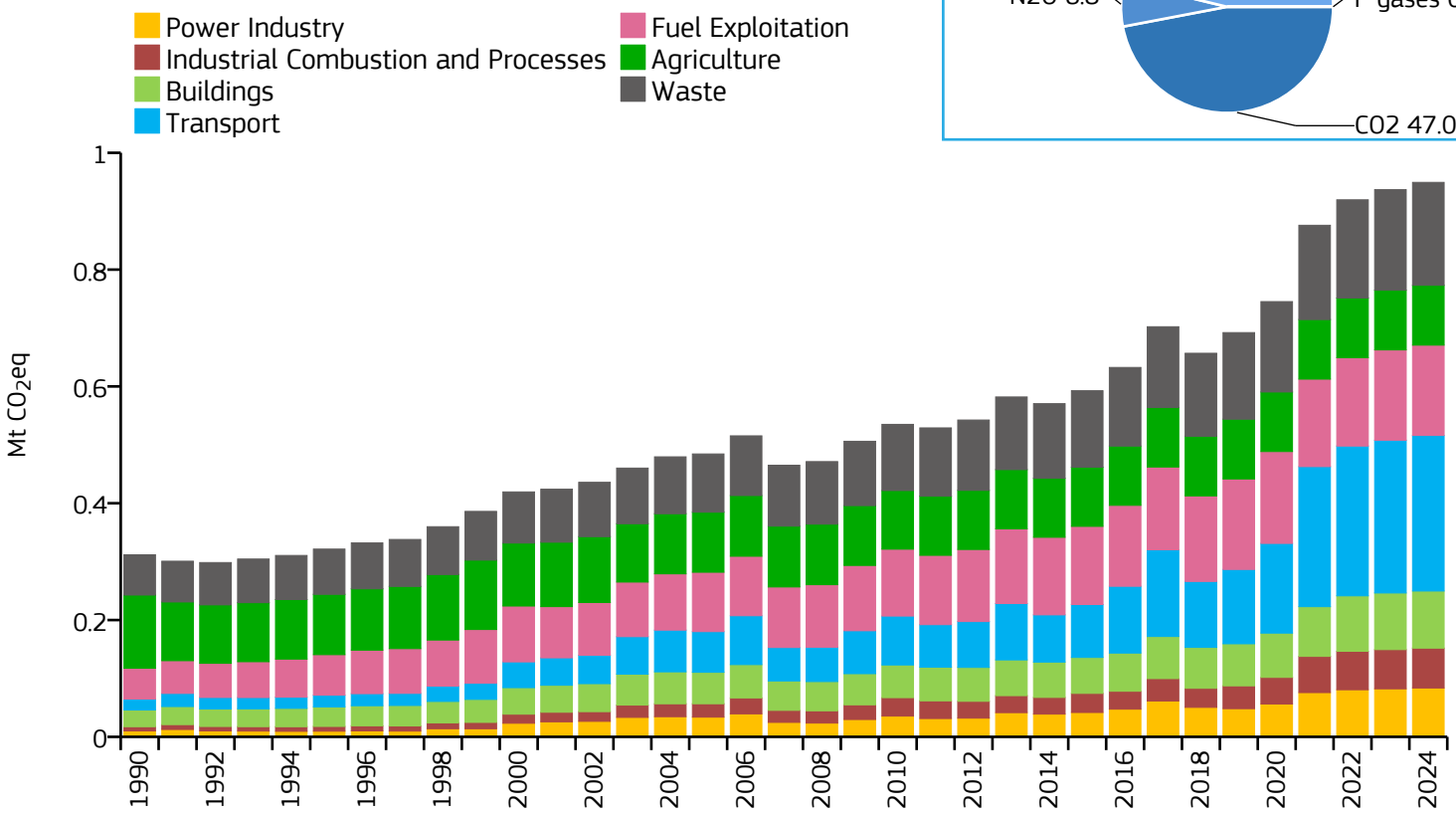
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	217.586	4.220	0.222	51.556M
2015	187.044	3.878	0.237	48.229M
2005	157.566	3.640	0.312	43.286M
1990	132.235	3.858	0.408	34.272M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +155%	↗ +195%	↗ +8%
Industrial Combustion and Processes	↗ +66%	↗ +23%	↗ +6%
Buildings	↗ +30%	↗ +32%	→ +2%
Transport	↗ +127%	↗ +87%	→ -1%
Fuel Exploitation	↗ +66%	↗ +11%	→ -5%
Agriculture	↗ +28%	↗ +17%	→ 0%
Waste	↗ +119%	↗ +53%	→ +2%
All sectors	↗ +65%	↗ +38%	→ +1%

Comoros



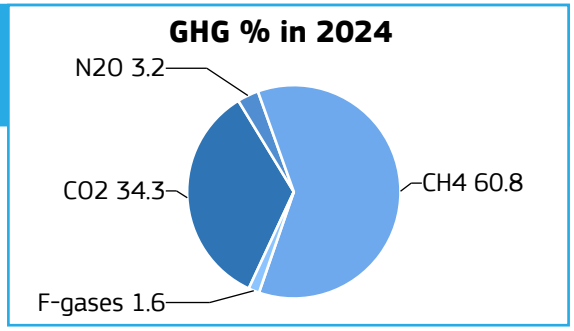
GHG emissions by sector



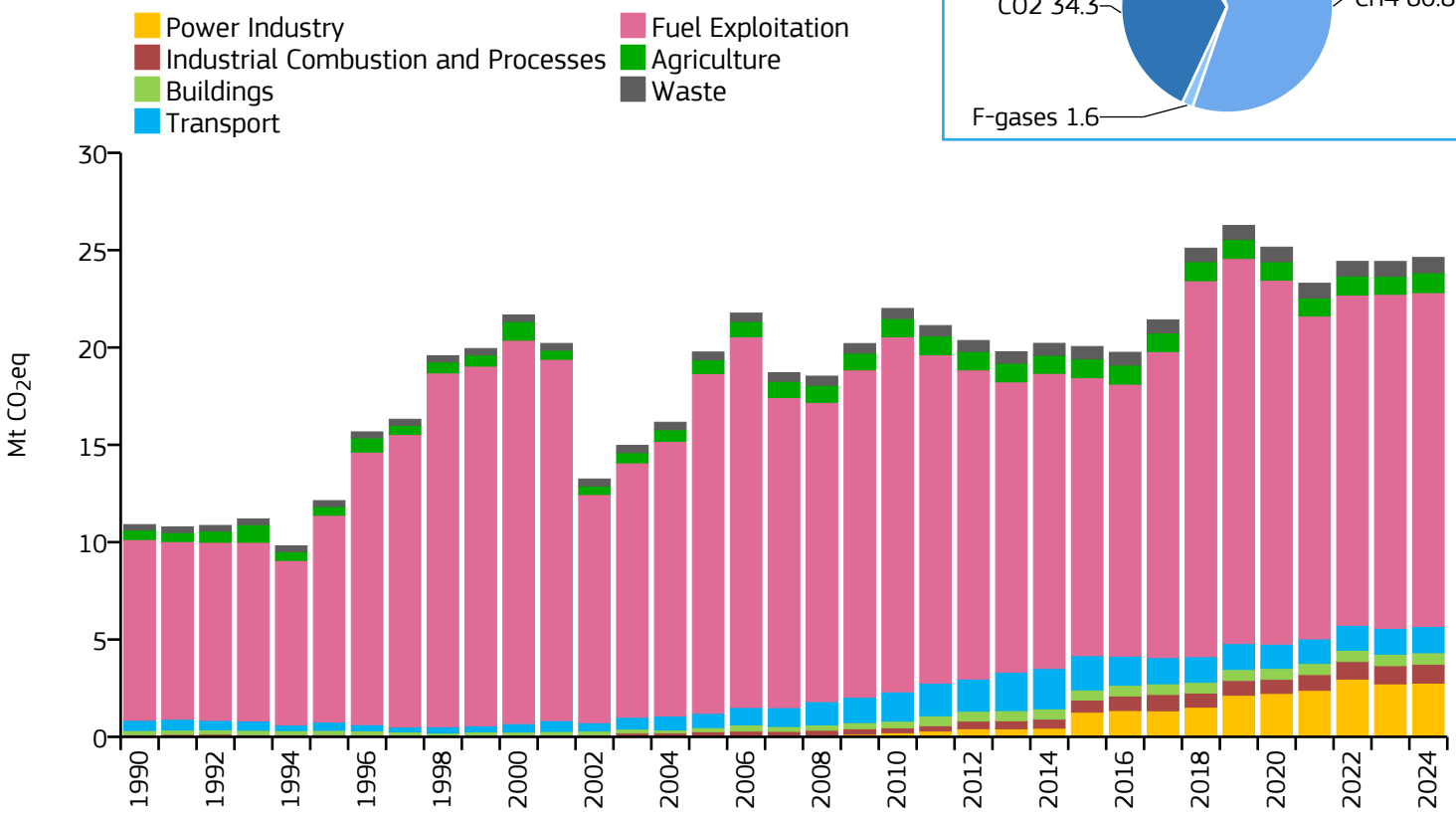
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.949	1.004	0.307	946.000k
2015	0.593	0.762	0.263	777.424k
2005	0.484	0.792	0.335	611.627k
1990	0.312	0.757	0.294	411.594k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +148%	→ +2%
Industrial Combustion and Processes	↗ > +300%	↗ +197%	→ +2%
Buildings	↗ +241%	↗ +82%	→ +1%
Transport	↗ > +300%	↗ +283%	→ +2%
Fuel Exploitation	↗ +193%	↗ +52%	→ 0%
Agriculture	↘ -18%	→ 0%	→ 0%
Waste	↗ +156%	↗ +77%	→ +2%
All sectors	↗ +205%	↗ +96%	→ +1%

Congo



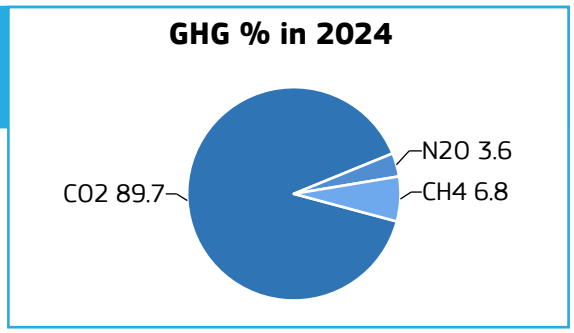
GHG emissions by sector



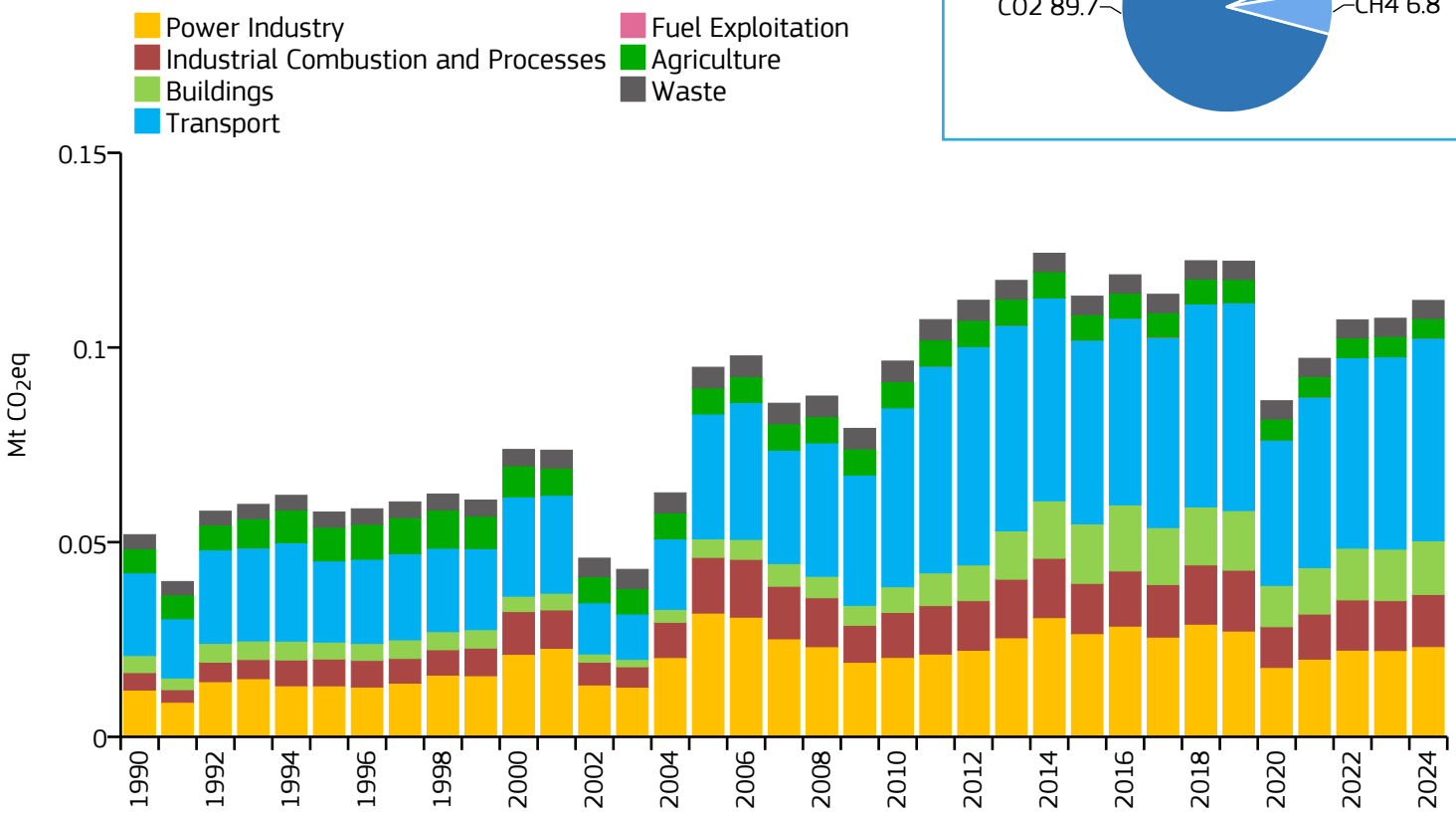
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	24.623	3.912	0.629	6.294M
2015	20.050	4.014	0.438	4.996M
2005	19.768	5.316	0.679	3.718M
1990	10.903	4.468	0.526	2.440M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+1%
Industrial Combustion and Processes	> +300%	> +300%	+4%
Buildings	+181%	+183%	0%
Transport	+158%	+84%	+2%
Fuel Exploitation	+85%	-2%	0%
Agriculture	+110%	+47%	+11%
Waste	+179%	+93%	+2%
All sectors	+126%	+25%	+1%

Cook Islands



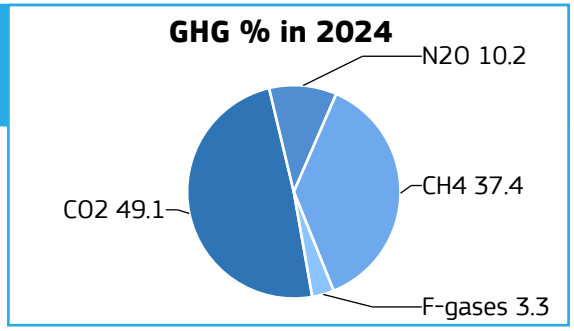
GHG emissions by sector



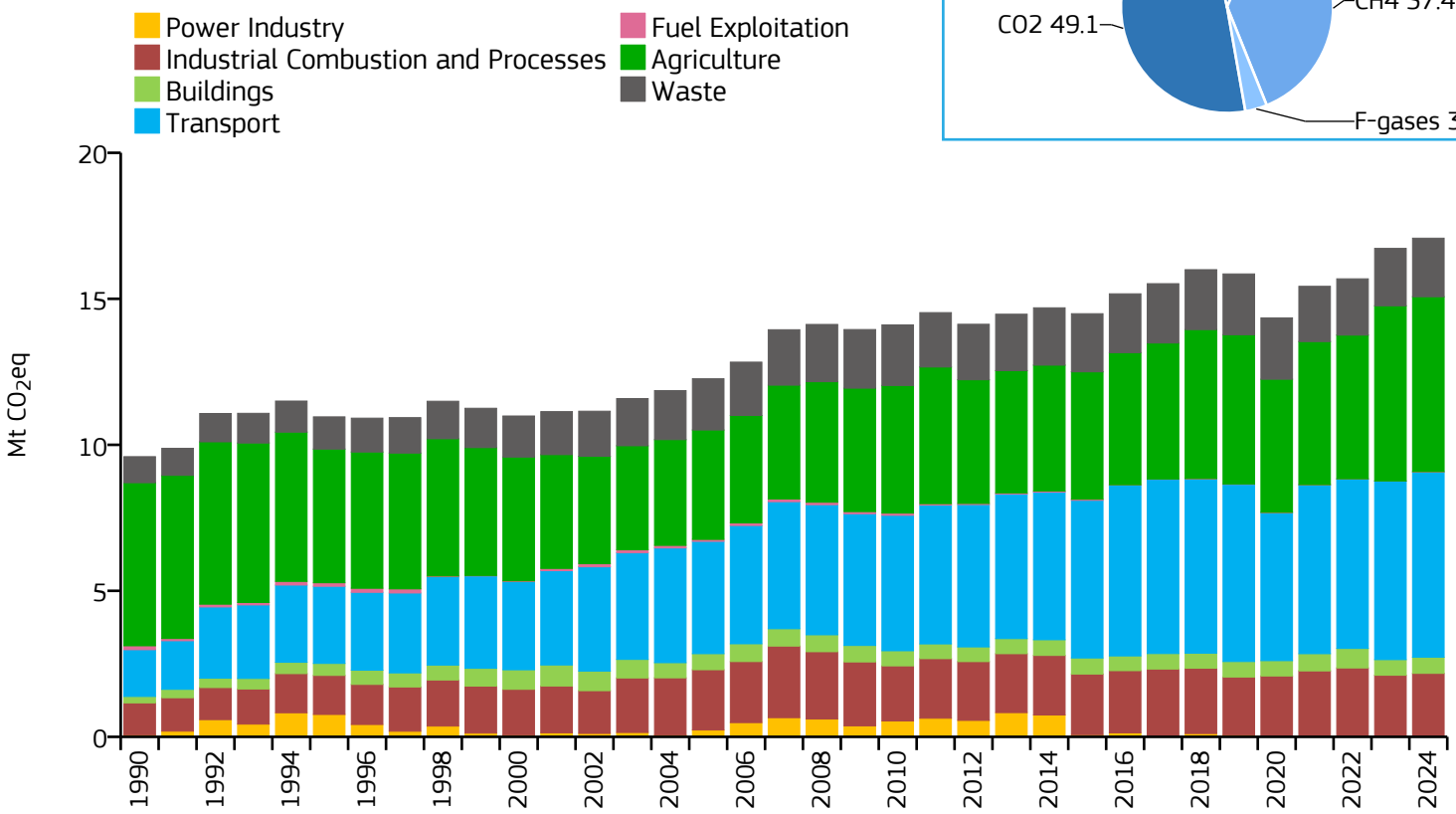
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.112	6.593	n/a	17.000k
2015	0.113	6.486	n/a	17.449k
2005	0.095	4.816	n/a	19.710k
1990	0.052	2.829	n/a	18.356k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+93%	-27%	+5%
Industrial Combustion and Processes	+199%	-7%	+4%
Buildings	+214%	+191%	+5%
Transport	+145%	+62%	+5%
Fuel Exploitation	n/a	n/a	-84%
Agriculture	-19%	-25%	-4%
Waste	+29%	-12%	0%
All sectors	+116%	+18%	+4%

Costa Rica



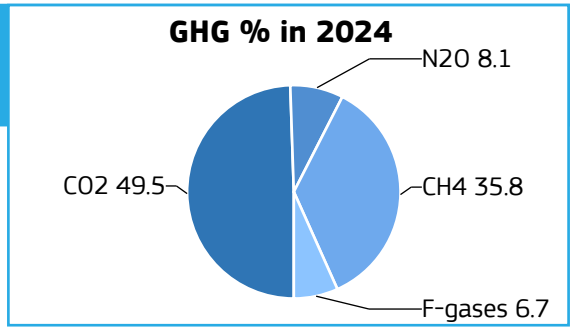
GHG emissions by sector



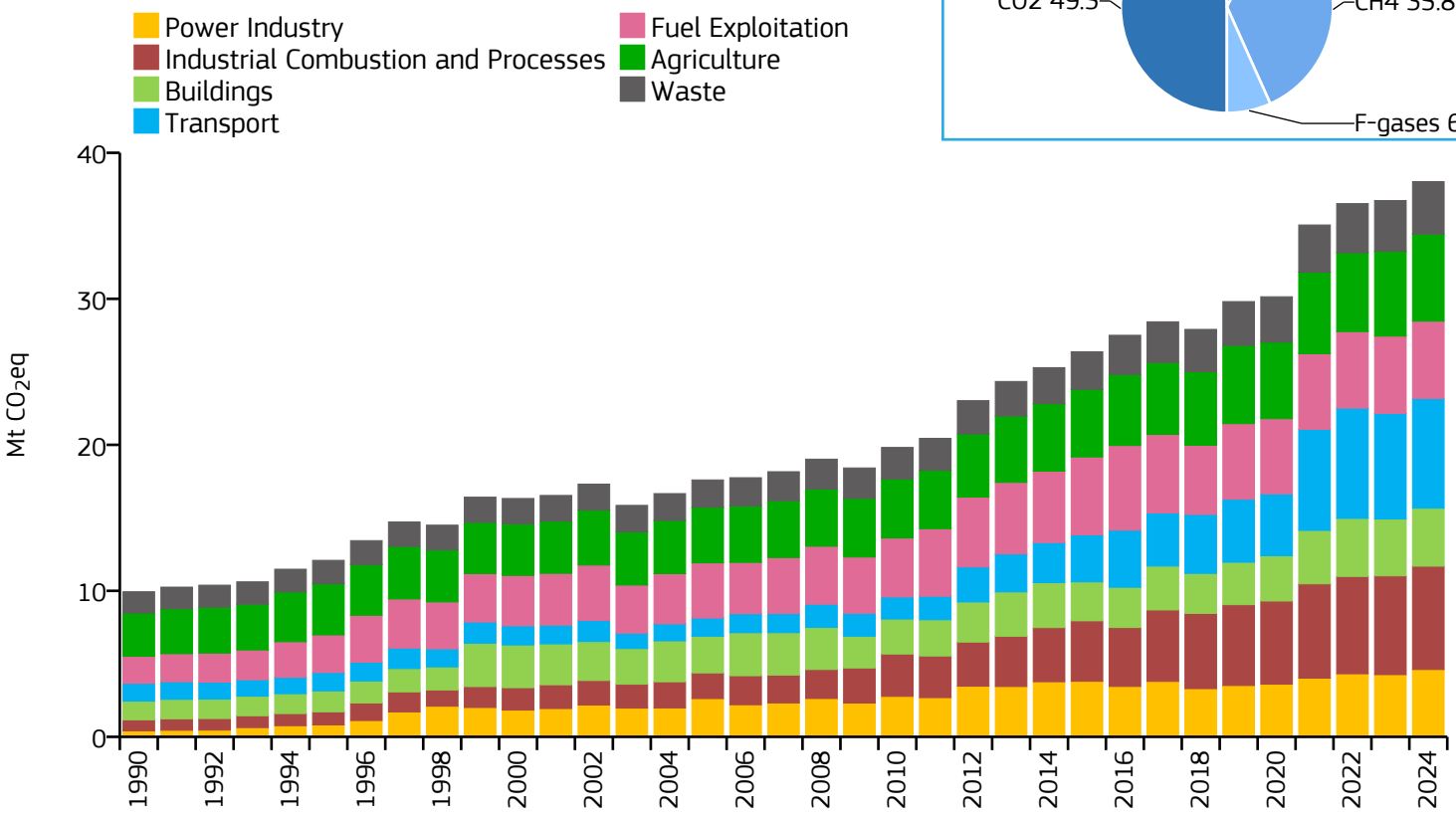
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	17.077	3.278	0.123	5.209M
2015	14.491	3.014	0.142	4.808M
2005	12.262	2.887	0.183	4.248M
1990	9.595	3.099	0.281	3.096M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-92%	-98%	+3%
Industrial Combustion and Processes	+98%	+5%	+3%
Buildings	+153%	+1%	+4%
Transport	+296%	+65%	+4%
Fuel Exploitation	-94%	-89%	0%
Agriculture	+7%	+60%	0%
Waste	+125%	+14%	+2%
All sectors	+78%	+39%	+2%

Côte d'Ivoire



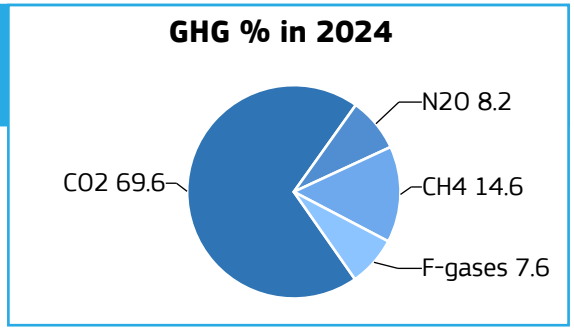
GHG emissions by sector



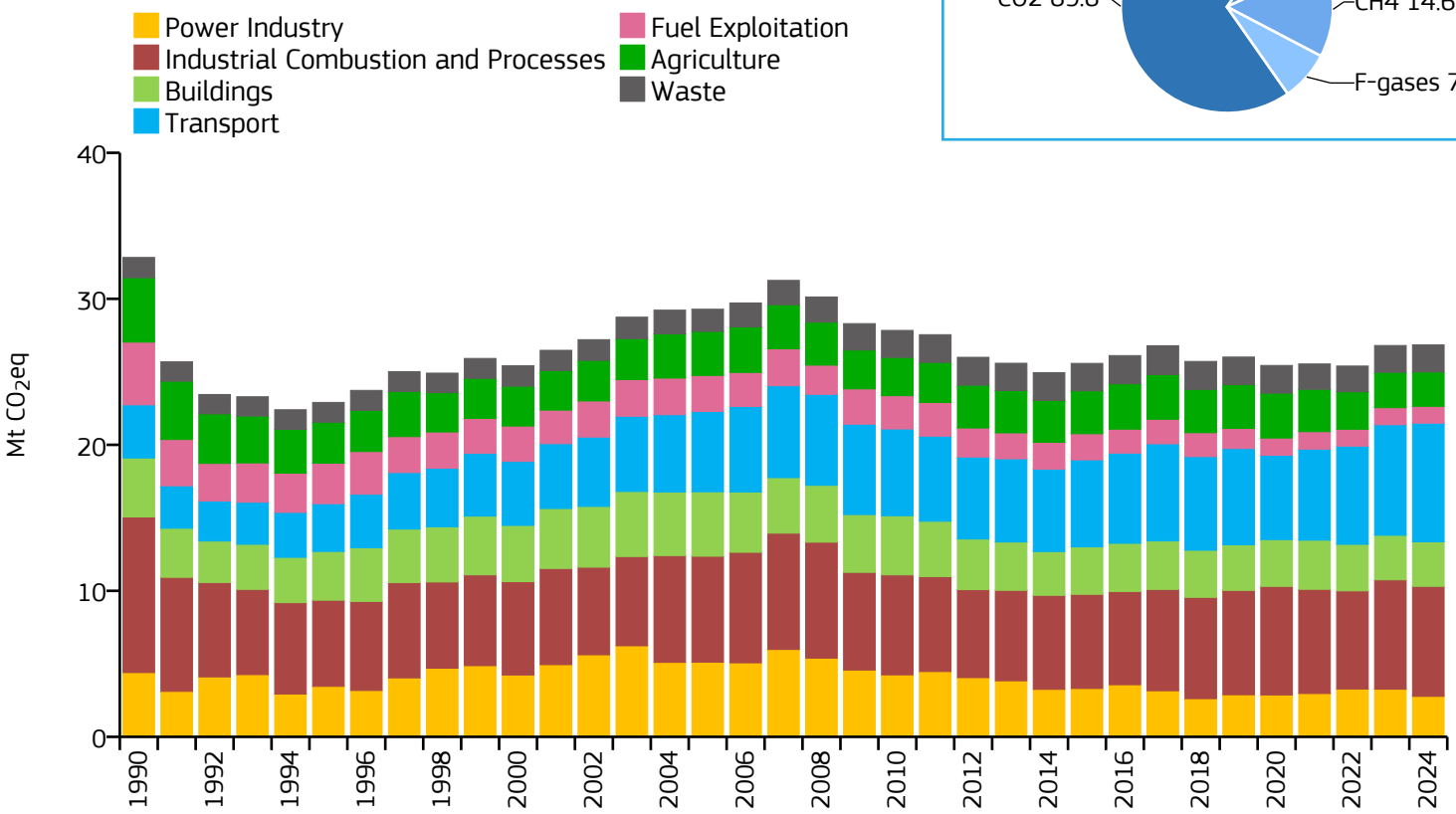
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	38.027	1.317	0.177	28.880M
2015	26.375	1.141	0.204	23.108M
2005	17.596	0.960	0.217	18.336M
1990	9.938	0.810	0.155	12.268M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +76%	↗ +8%
Industrial Combustion and Processes	↗ > +300%	↗ > +300%	→ +5%
Buildings	↗ +211%	↗ +58%	→ +2%
Transport	↗ > +300%	↗ > +300%	→ +4%
Fuel Exploitation	↗ +186%	↗ +40%	→ 0%
Agriculture	↗ +101%	↗ +57%	→ +3%
Waste	↗ +147%	↗ +92%	→ +3%
All sectors	↗ +283%	↗ +116%	→ +4%

Croatia



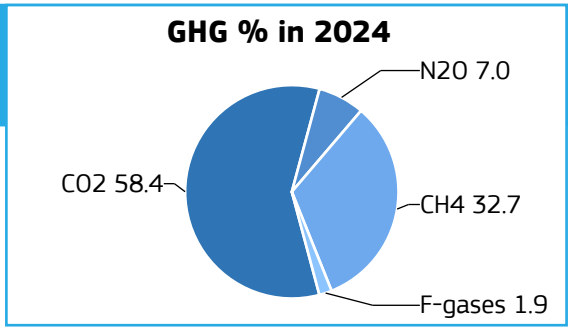
GHG emissions by sector



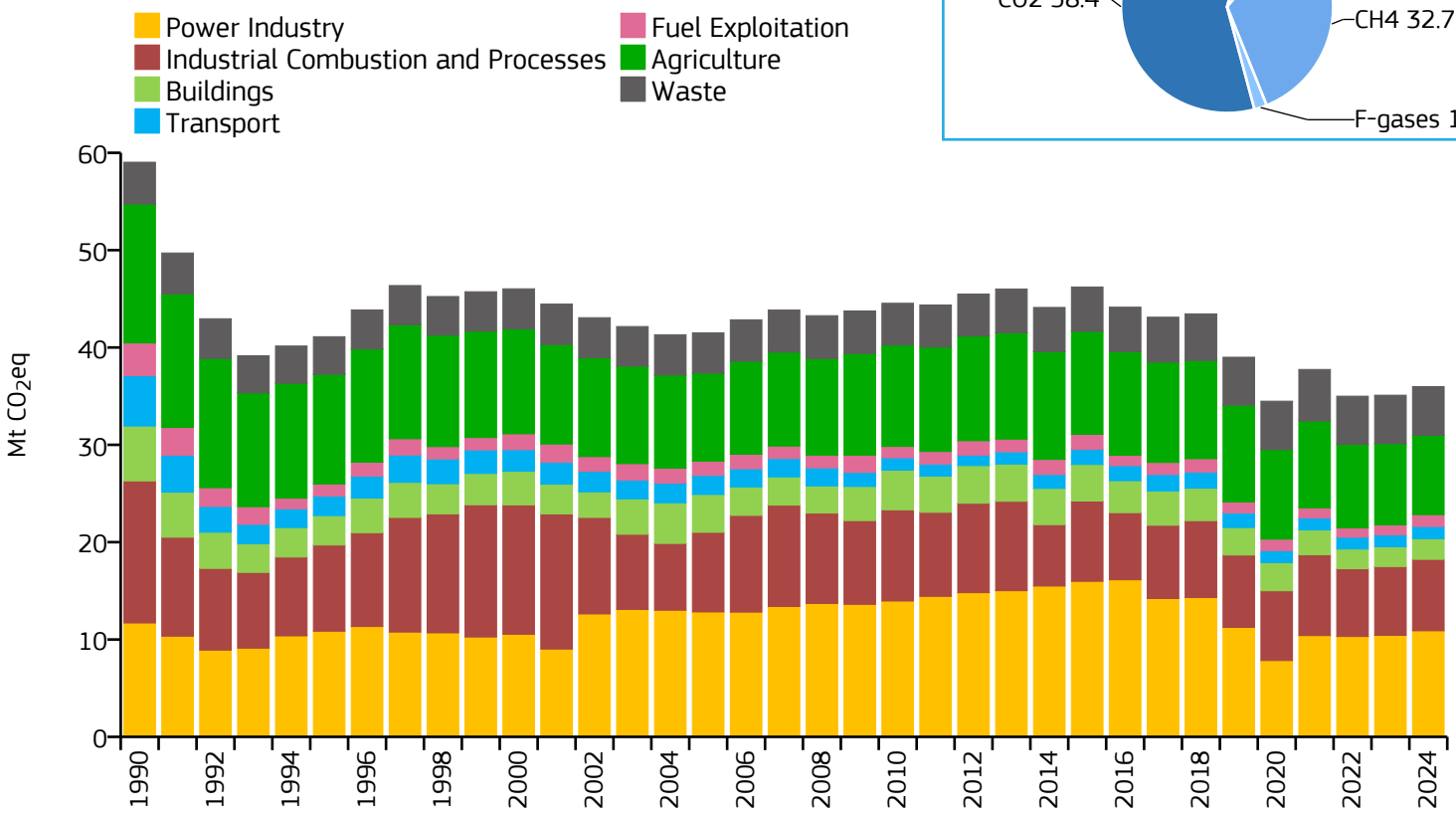
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	26.842	6.670	0.163	4.024M
2015	25.578	6.038	0.209	4.236M
2005	29.285	6.689	0.246	4.378M
1990	32.830	6.874	0.294	4.776M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-37%	-46%	-15%
Industrial Combustion and Processes	-29%	+4%	+1%
Buildings	-25%	-31%	0%
Transport	+123%	+48%	+7%
Fuel Exploitation	-73%	-53%	-1%
Agriculture	-47%	-22%	-3%
Waste	+34%	+22%	+1%
All sectors	-18%	-8%	0%

Cuba



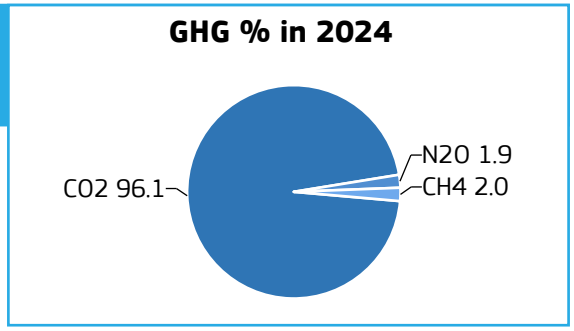
GHG emissions by sector



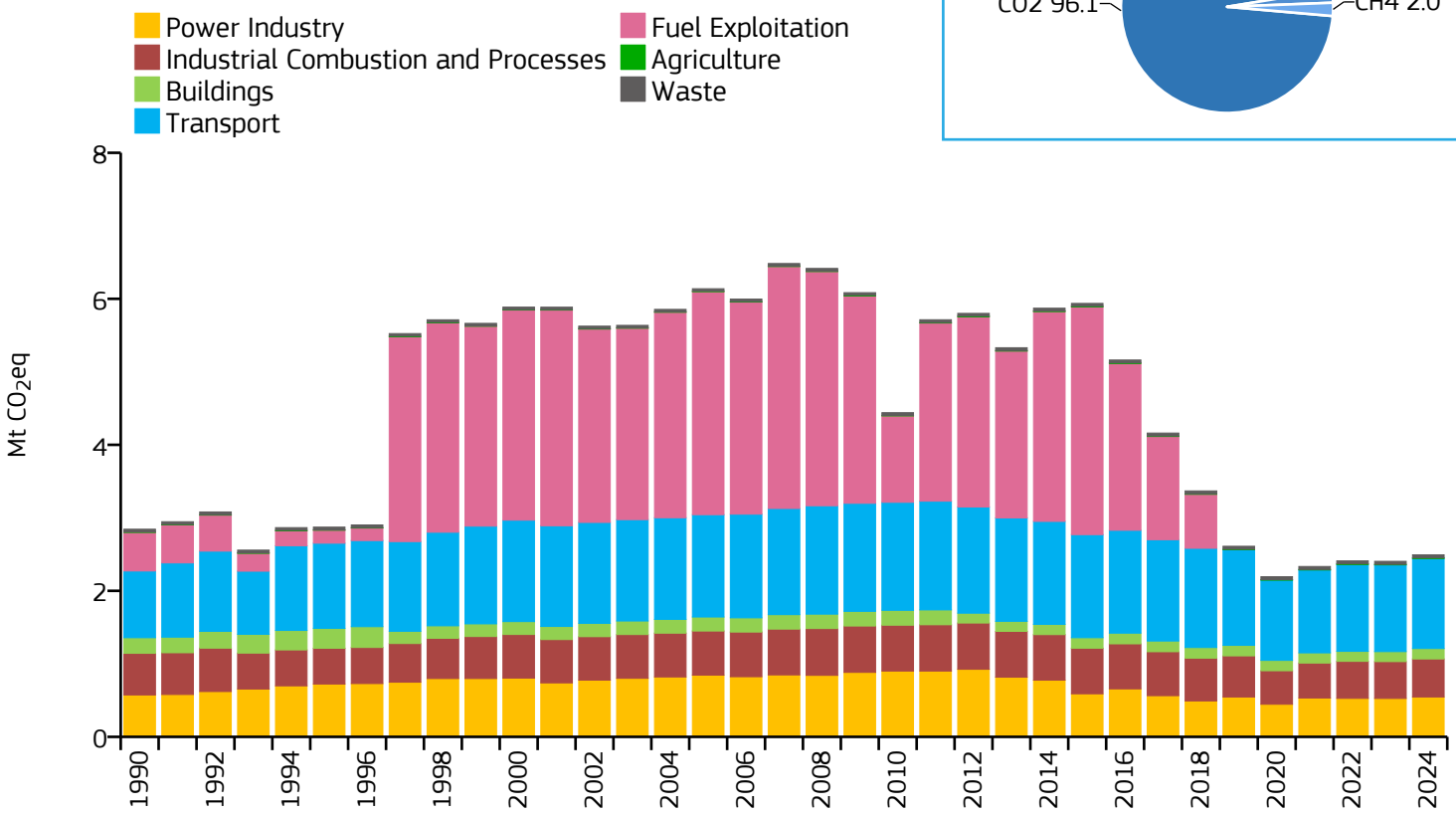
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	35.986	3.126	0.119	11.511M
2015	46.214	4.032	0.151	11.461M
2005	41.512	3.679	0.202	11.284M
1990	59.032	5.578	0.318	10.582M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-7%	-15%	+4%
Industrial Combustion and Processes	-50%	-10%	+4%
Buildings	-62%	-45%	+4%
Transport	-76%	-36%	+4%
Fuel Exploitation	-64%	-18%	+16%
Agriculture	-43%	-10%	-2%
Waste	+17%	+21%	+1%
All sectors	-39%	-13%	+3%

Curaçao



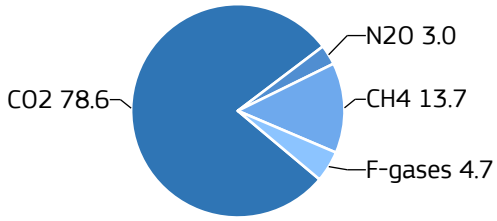
GHG emissions by sector



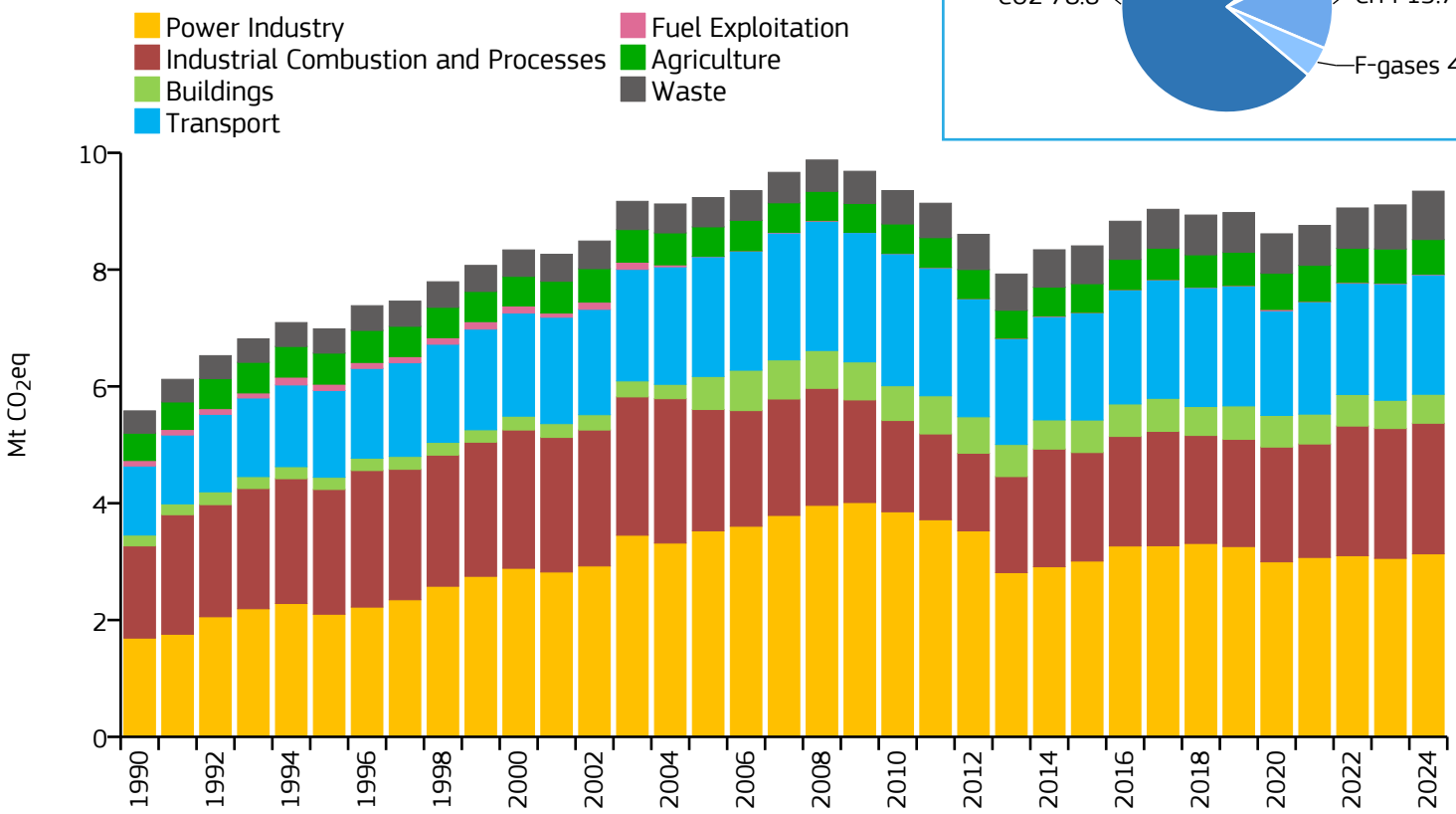
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.493	14.926	0.578	167.000k
2015	5.937	37.573	1.218	158.010k
2005	6.138	47.437	1.325	129.394k
1990	2.844	19.391	0.836	146.671k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-5%	-35%	+4%
Industrial Combustion and Processes	-9%	-14%	+3%
Buildings	-33%	-26%	+4%
Transport	+35%	-12%	+4%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	+11%	+8%	0%
Waste	+12%	+27%	+1%
All sectors	-12%	-59%	+4%

Cyprus



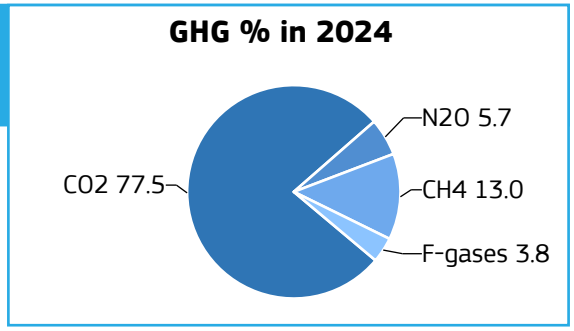
GHG emissions by sector



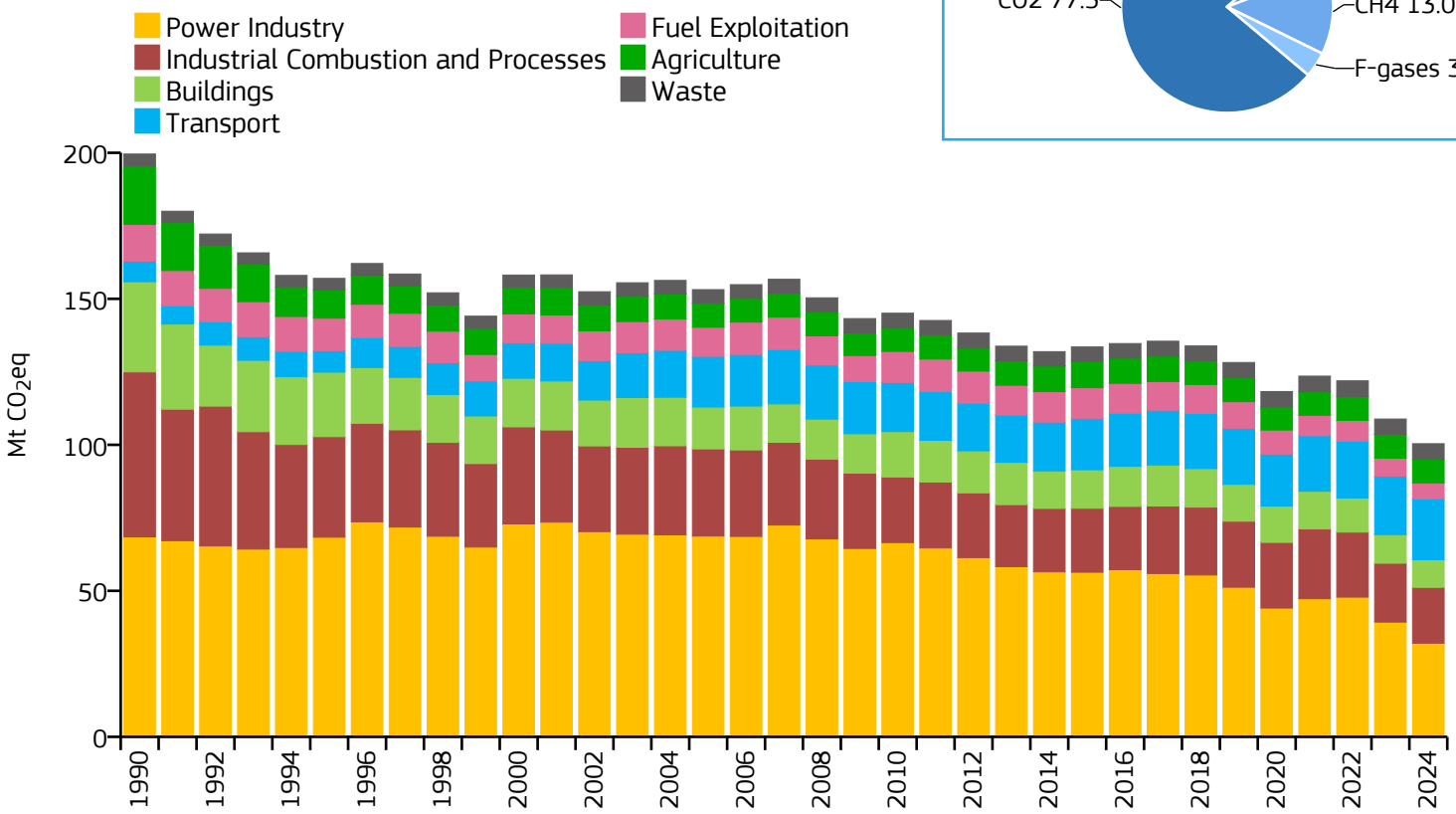
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	9.343	7.535	0.187	1.240M
2015	8.406	7.241	0.262	1.161M
2005	9.234	8.985	0.302	1.028M
1990	5.581	7.281	0.348	766.614k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+85%	-11%	+3%
Industrial Combustion and Processes	+42%	+8%	+1%
Buildings	+166%	-12%	+2%
Transport	+73%	0%	+3%
Fuel Exploitation	-91%	+52%	0%
Agriculture	+27%	+18%	+1%
Waste	+117%	+65%	+10%
All sectors	+67%	+1%	+3%

Czechia



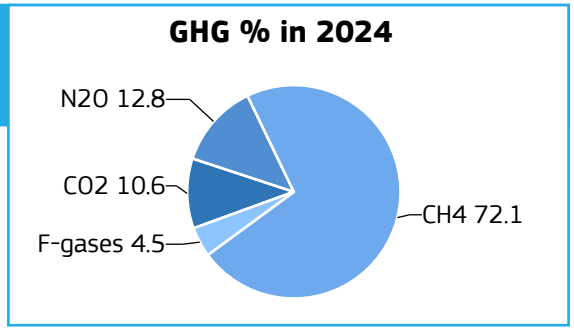
GHG emissions by sector



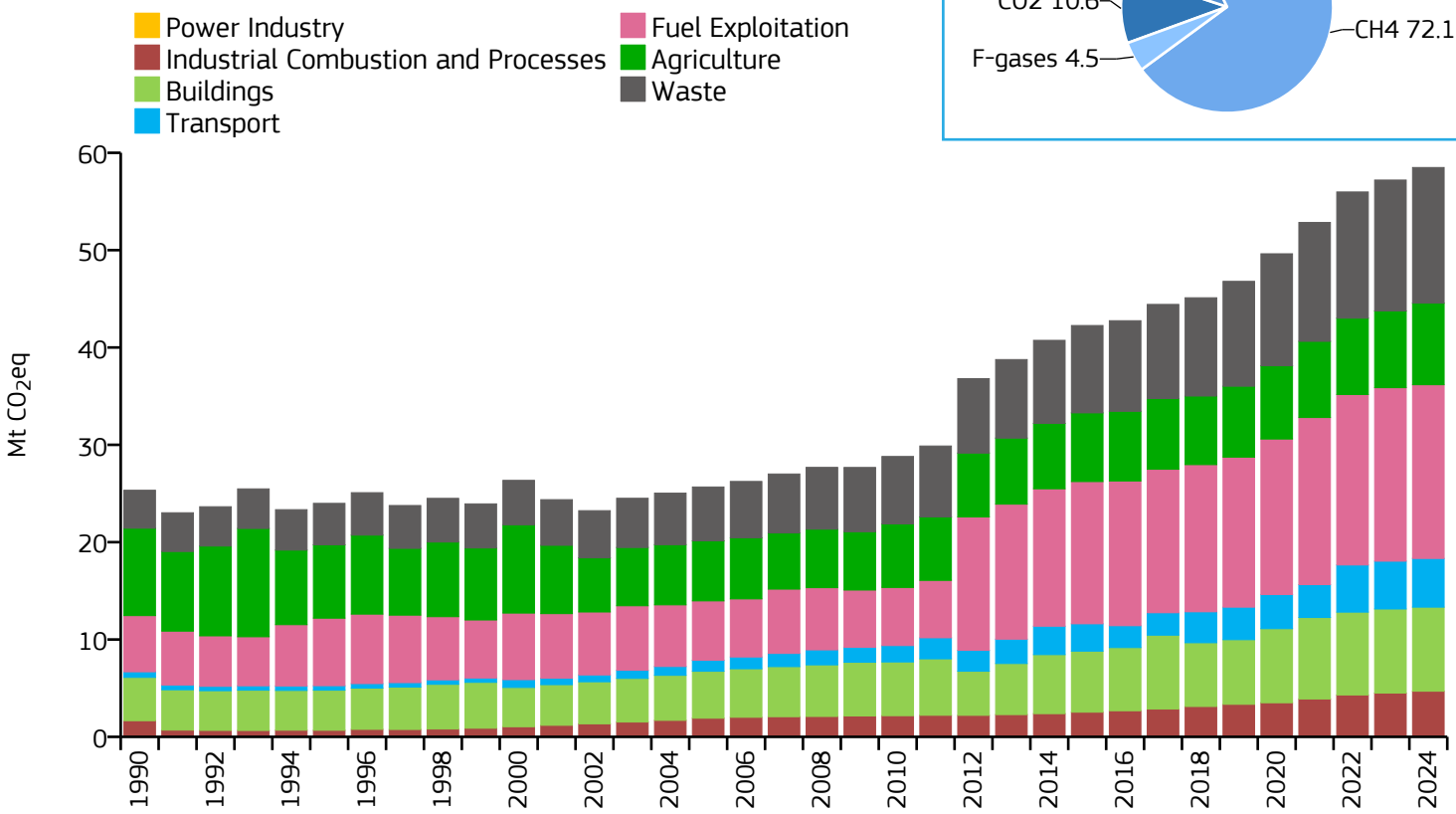
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	100.379	9.450	0.192	10.622M
2015	133.526	12.592	0.301	10.604M
2005	153.146	14.929	0.422	10.258M
1990	199.582	19.300	0.692	10.341M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-53%	-53%	-18%
Industrial Combustion and Processes	-66%	-36%	-5%
Buildings	-69%	-34%	-4%
Transport	+196%	+20%	+5%
Fuel Exploitation	-57%	-46%	-13%
Agriculture	-60%	-2%	0%
Waste	+31%	+14%	+1%
All sectors	-50%	-34%	-8%

Democratic Republic of the Congo



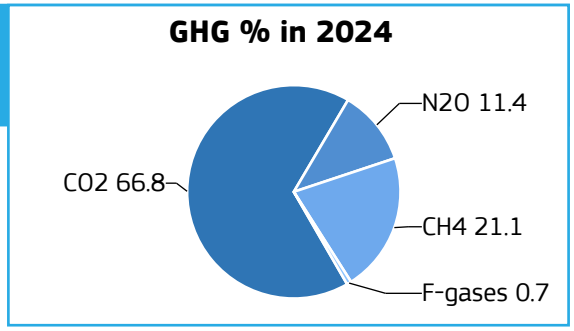
GHG emissions by sector



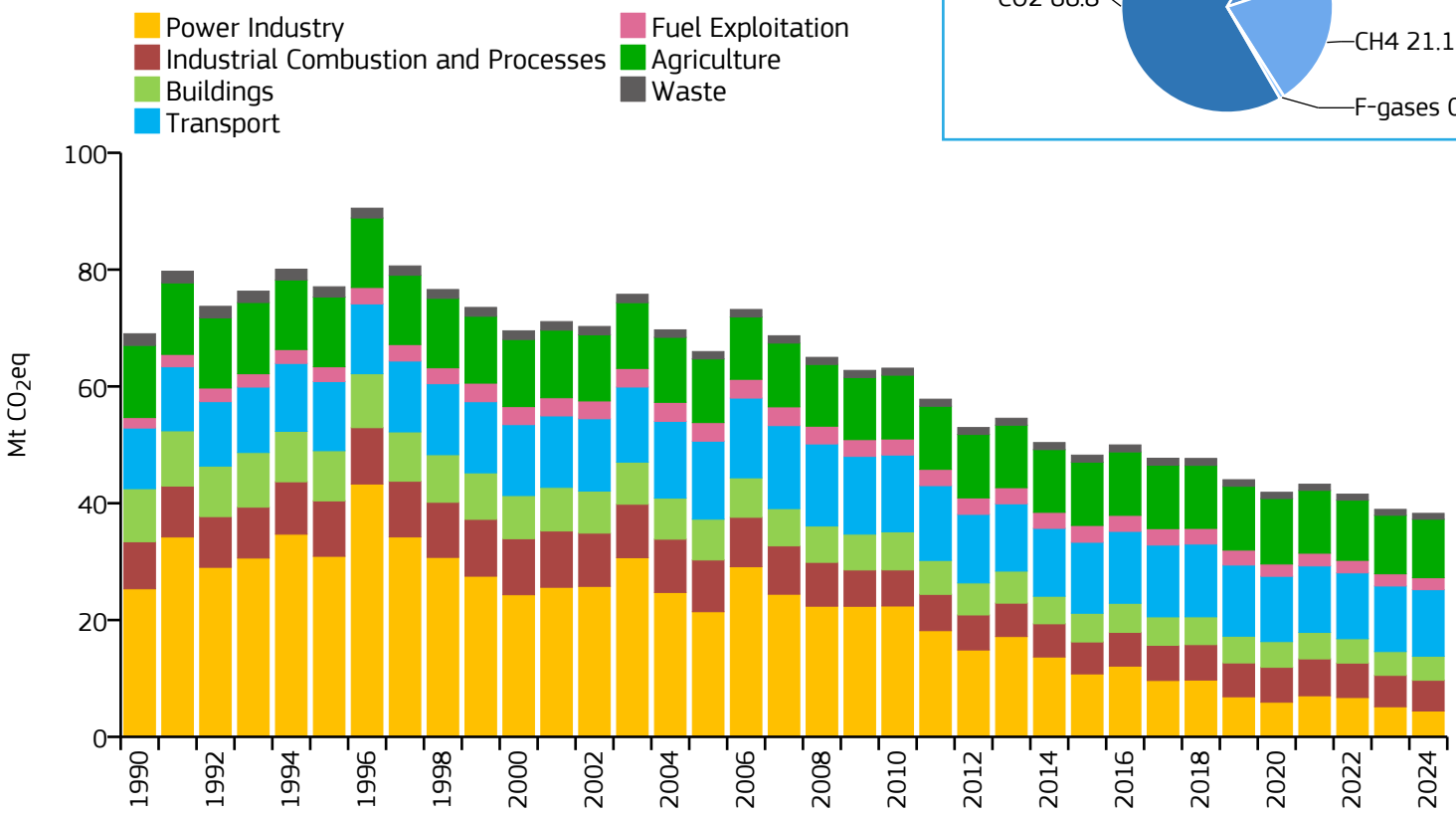
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	58.492	0.578	0.357	101.160M
2015	42.257	0.555	0.411	76.197M
2005	25.670	0.469	0.475	54.752M
1990	25.332	0.732	0.318	34.615M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-54%	+84%	0%
Industrial Combustion and Processes	+186%	+145%	+4%
Buildings	+94%	+79%	0%
Transport	> +300%	> +300%	+2%
Fuel Exploitation	+209%	+192%	0%
Agriculture	-7%	+36%	+6%
Waste	+257%	+152%	+4%
All sectors	+131%	+128%	+2%

Denmark



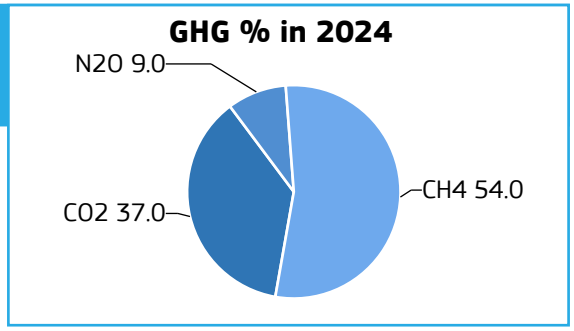
GHG emissions by sector



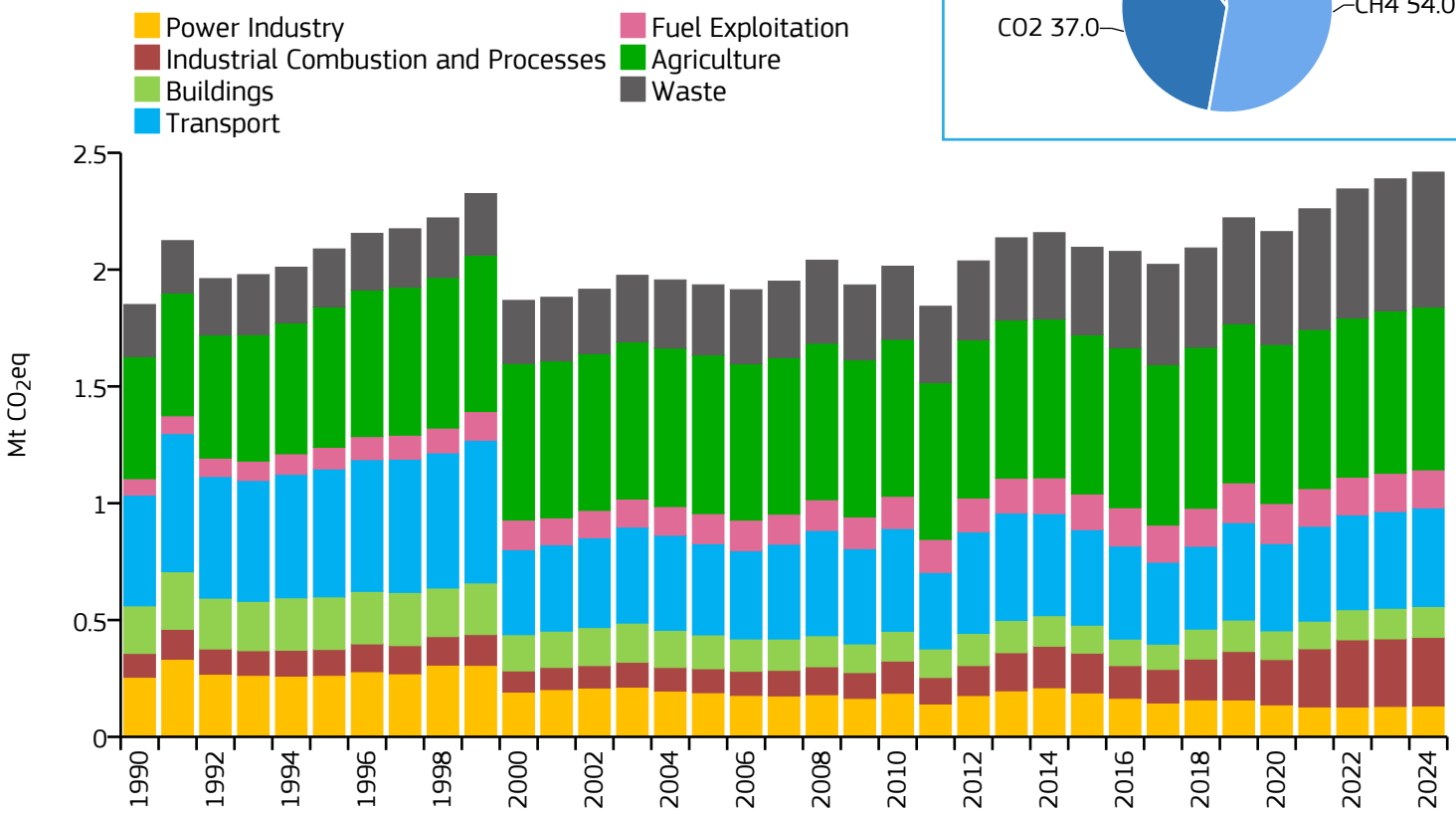
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	38.265	6.497	0.087	5.890M
2015	48.239	8.480	0.137	5.689M
2005	65.971	12.168	0.201	5.422M
1990	69.021	13.425	0.293	5.141M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-83%	-79%	-14%
Industrial Combustion and Processes	-35%	-41%	-2%
Buildings	-55%	-41%	+1%
Transport	+10%	-15%	+1%
Fuel Exploitation	+15%	-35%	-2%
Agriculture	-19%	-8%	0%
Waste	-50%	-21%	-1%
All sectors	-45%	-42%	-2%

Djibouti



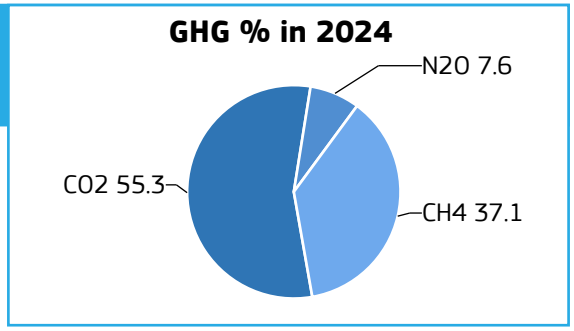
GHG emissions by sector



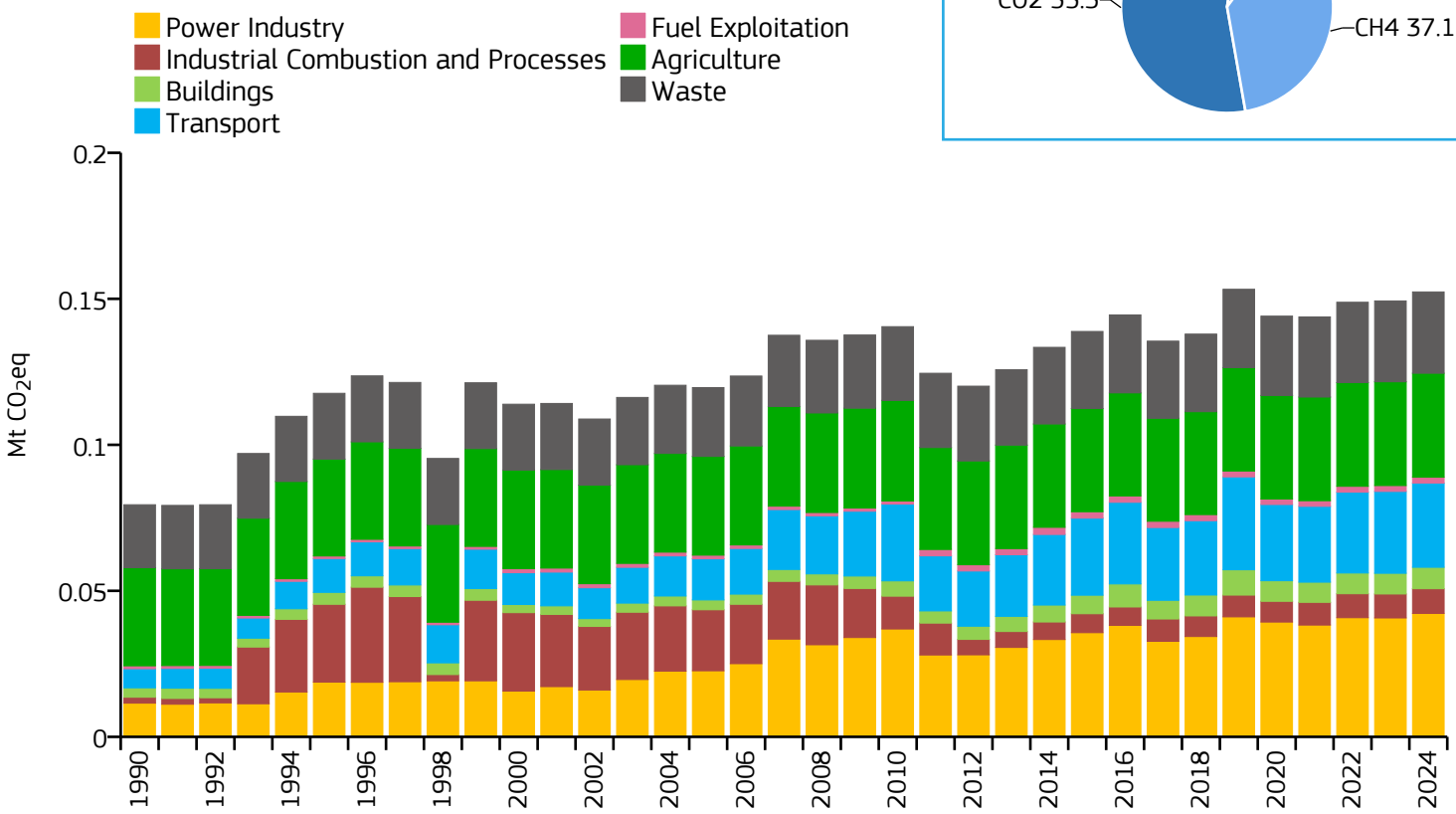
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.417	2.291	0.301	1.055M
2015	2.096	2.260	0.414	927.414k
2005	1.935	2.470	0.519	783.254k
1990	1.851	3.135	0.740	590.398k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-48%	-30%	+2%
Industrial Combustion and Processes	+188%	+186%	+1%
Buildings	-35%	-9%	+1%
Transport	-11%	+8%	+2%
Fuel Exploitation	+131%	+27%	0%
Agriculture	+33%	+3%	0%
Waste	+158%	+92%	+2%
All sectors	+31%	+25%	+1%

Dominica



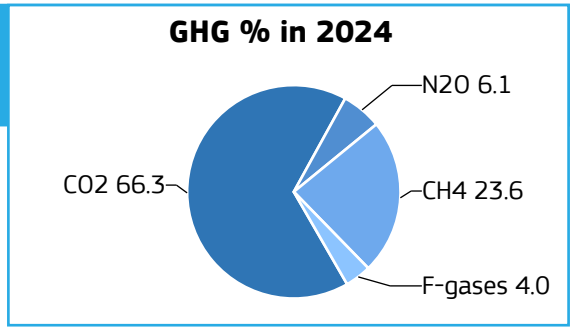
GHG emissions by sector



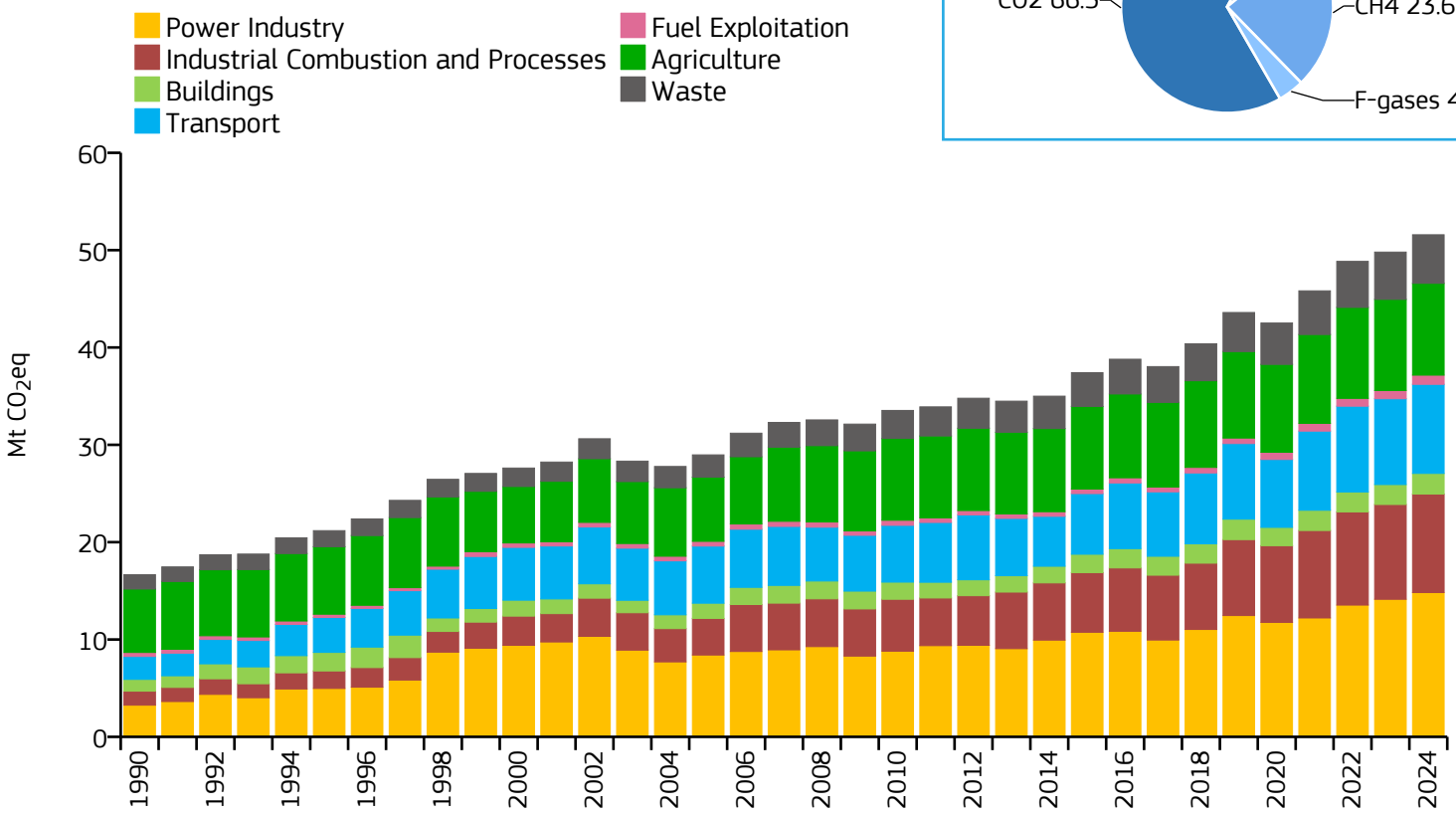
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.152	2.005	0.120	76.000k
2015	0.139	1.898	0.117	73.162k
2005	0.120	1.693	0.115	70.627k
1990	0.079	1.121	0.101	70.926k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+266%	+87%	+4%
Industrial Combustion and Processes	> +300%	-60%	+3%
Buildings	+127%	+117%	+3%
Transport	> +300%	+105%	+3%
Fuel Exploitation	+99%	+62%	0%
Agriculture	+6%	+5%	0%
Waste	+29%	+18%	+1%
All sectors	+92%	+27%	+2%

Dominican Republic



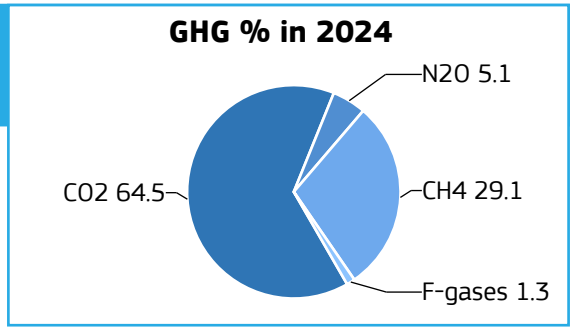
GHG emissions by sector



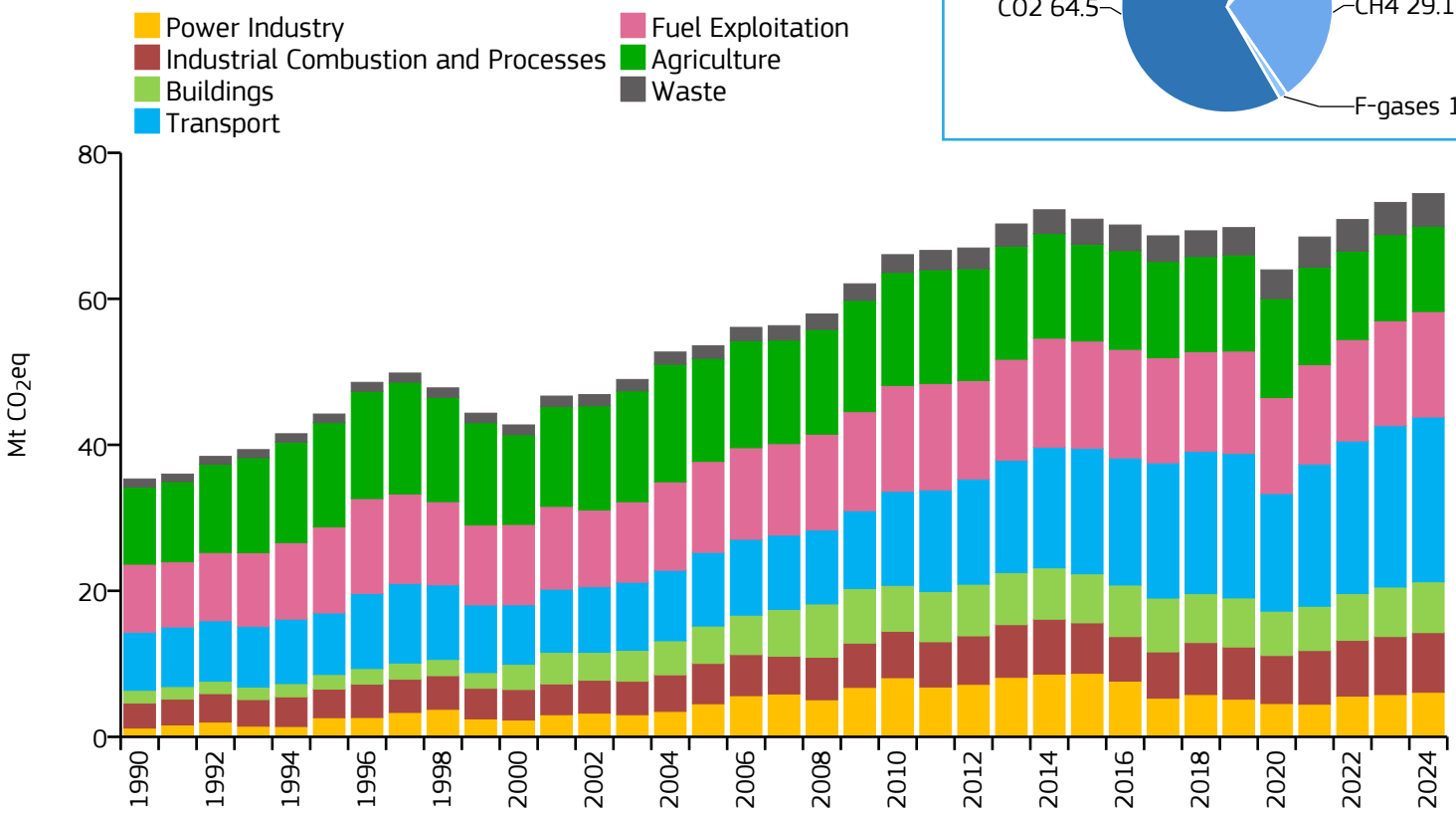
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	51.581	4.473	0.186	11.532M
2015	37.411	3.553	0.199	10.528M
2005	28.968	3.136	0.261	9.238M
1990	16.655	2.318	0.318	7.184M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+76%	+5%
Industrial Combustion and Processes	> +300%	+169%	+4%
Buildings	+75%	+36%	+3%
Transport	+289%	+56%	+4%
Fuel Exploitation	+128%	+93%	+11%
Agriculture	+45%	+43%	+1%
Waste	+240%	+118%	+3%
All sectors	+210%	+78%	+4%

Ecuador



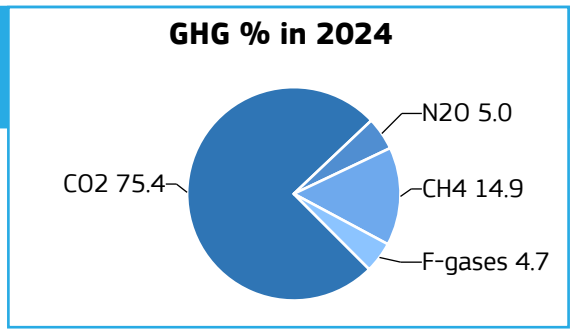
GHG emissions by sector



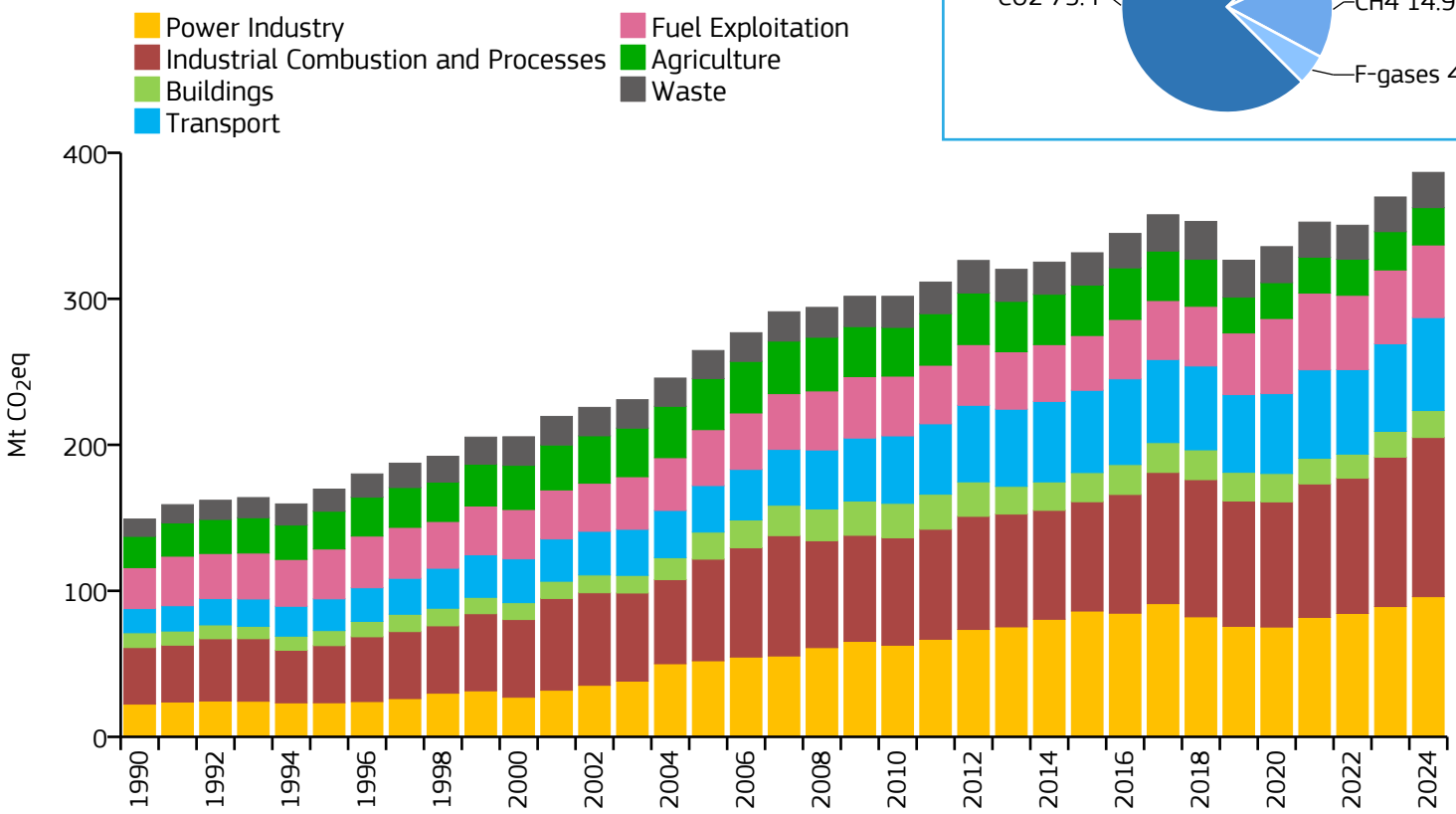
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	74.409	4.076	0.294	18.255M
2015	70.911	4.392	0.314	16.144M
2005	53.568	3.900	0.363	13.735M
1990	35.326	3.457	0.370	10.218M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+34%	+5%
Industrial Combustion and Processes	+139%	+48%	+3%
Buildings	+298%	+36%	+3%
Transport	+184%	+124%	+2%
Fuel Exploitation	+55%	+16%	+1%
Agriculture	+10%	-17%	-1%
Waste	> +300%	+160%	+2%
All sectors	+111%	+39%	+2%

Egypt



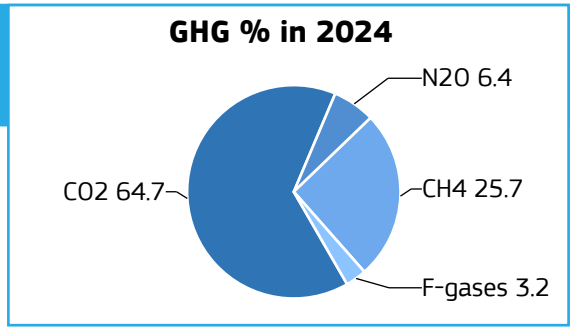
GHG emissions by sector



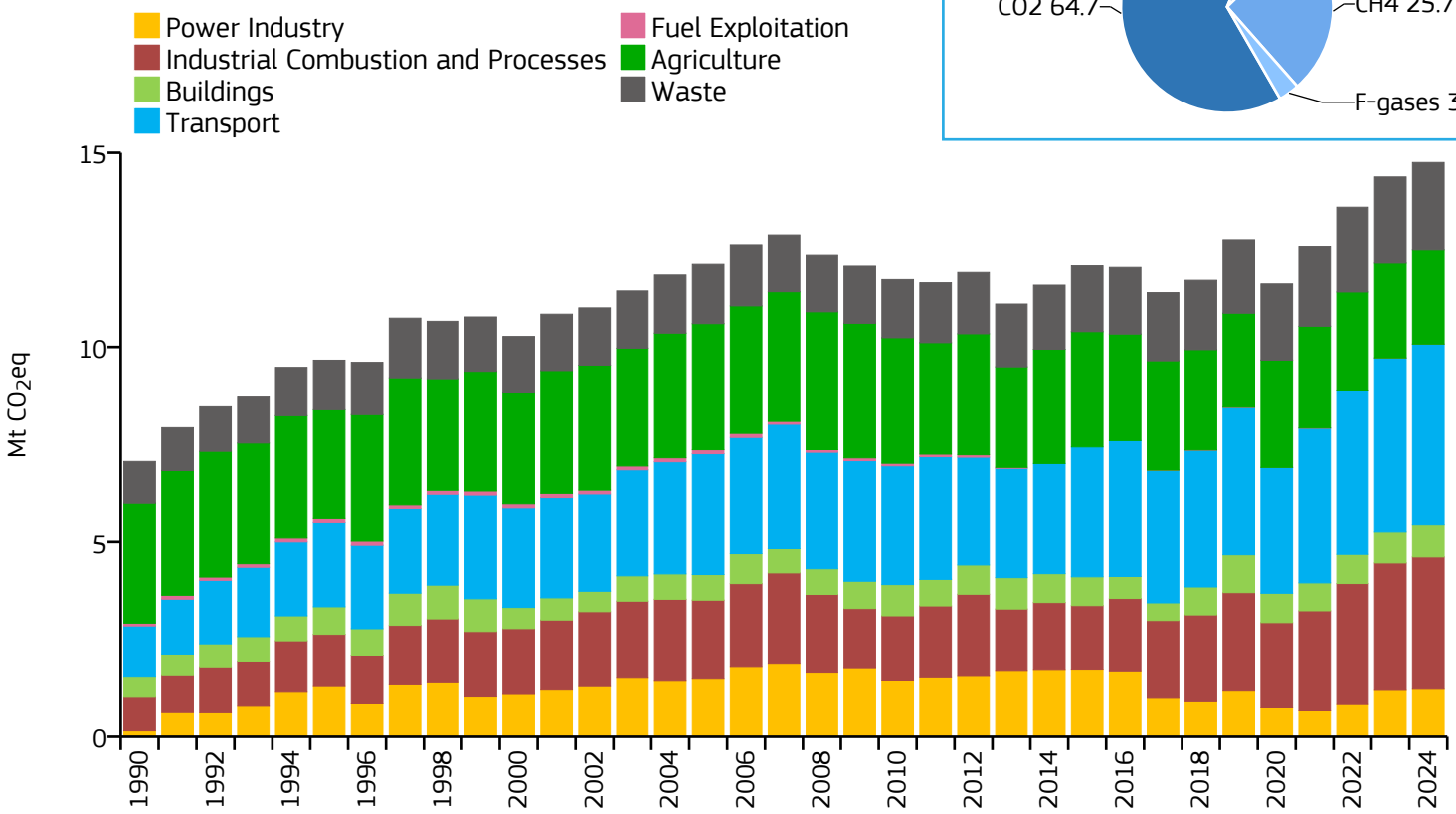
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	386.598	3.521	0.197	109.800M
2015	331.543	3.535	0.248	93.778M
2005	264.589	3.446	0.305	76.778M
1990	149.184	2.598	0.319	57.412M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+84%	+8%
Industrial Combustion and Processes	+182%	+57%	+7%
Buildings	+82%	0%	+4%
Transport	+285%	+100%	+6%
Fuel Exploitation	+77%	+30%	-2%
Agriculture	+19%	-27%	-3%
Waste	+103%	+26%	+2%
All sectors	+159%	+46%	+5%

El Salvador



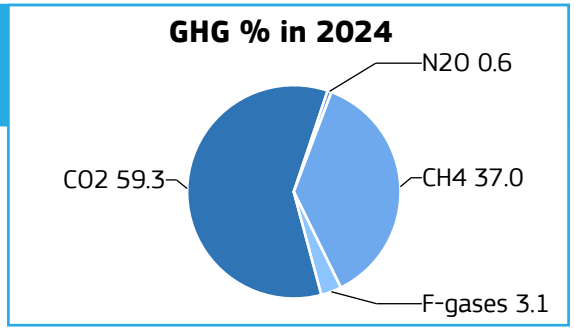
GHG emissions by sector



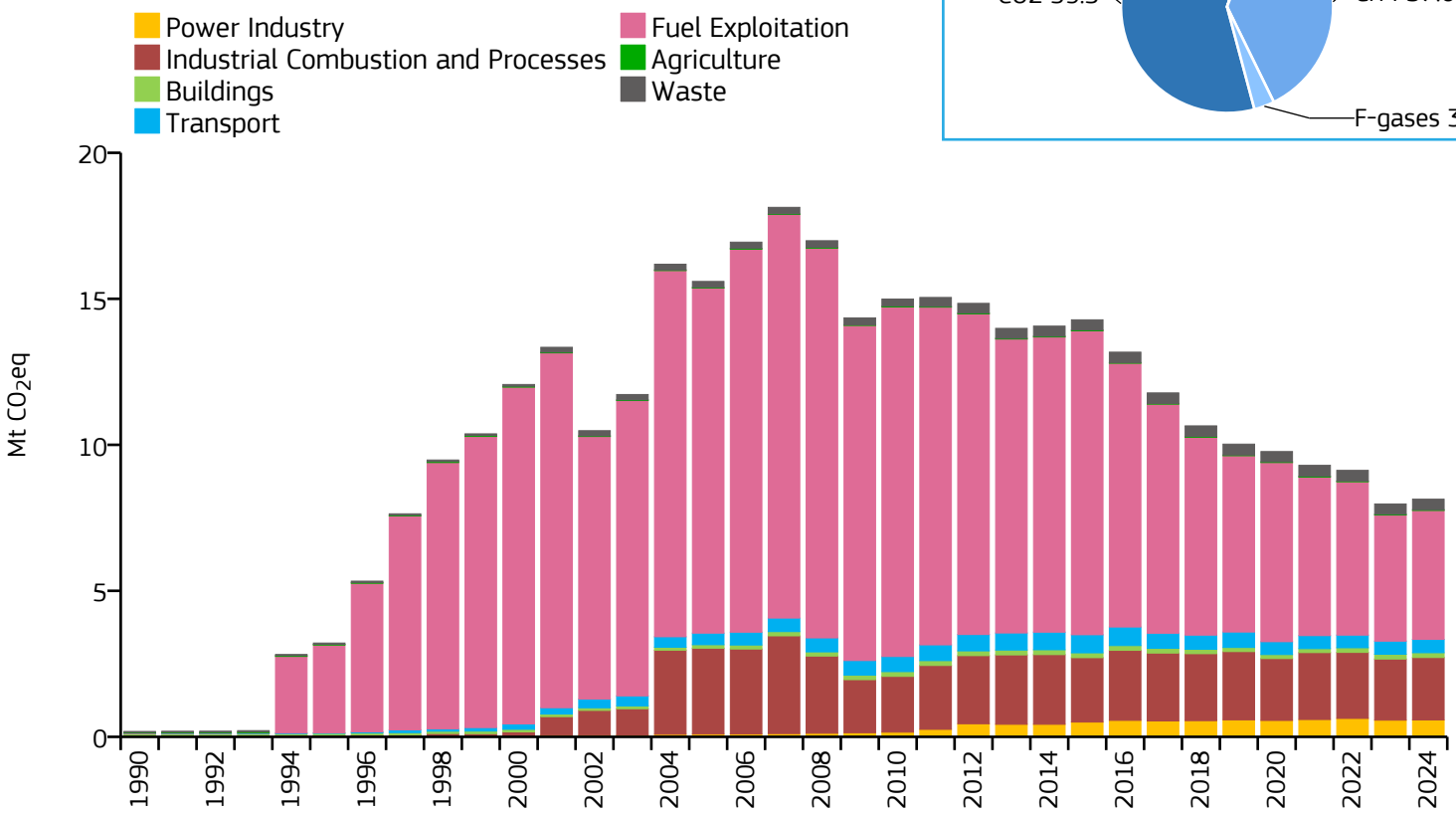
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	14.752	2.232	0.199	6.610M
2015	12.111	1.919	0.203	6.312M
2005	12.148	2.015	0.251	6.029M
1990	7.083	1.348	0.220	5.255M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	-17%	+2%
Industrial Combustion and Processes	+281%	+68%	+4%
Buildings	+59%	+25%	+4%
Transport	+259%	+49%	+4%
Fuel Exploitation	-99%	-99%	0%
Agriculture	-21%	-24%	-1%
Waste	+109%	+44%	+2%
All sectors	+108%	+21%	+3%

Equatorial Guinea



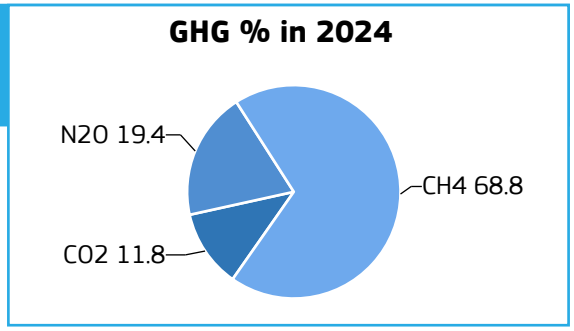
GHG emissions by sector



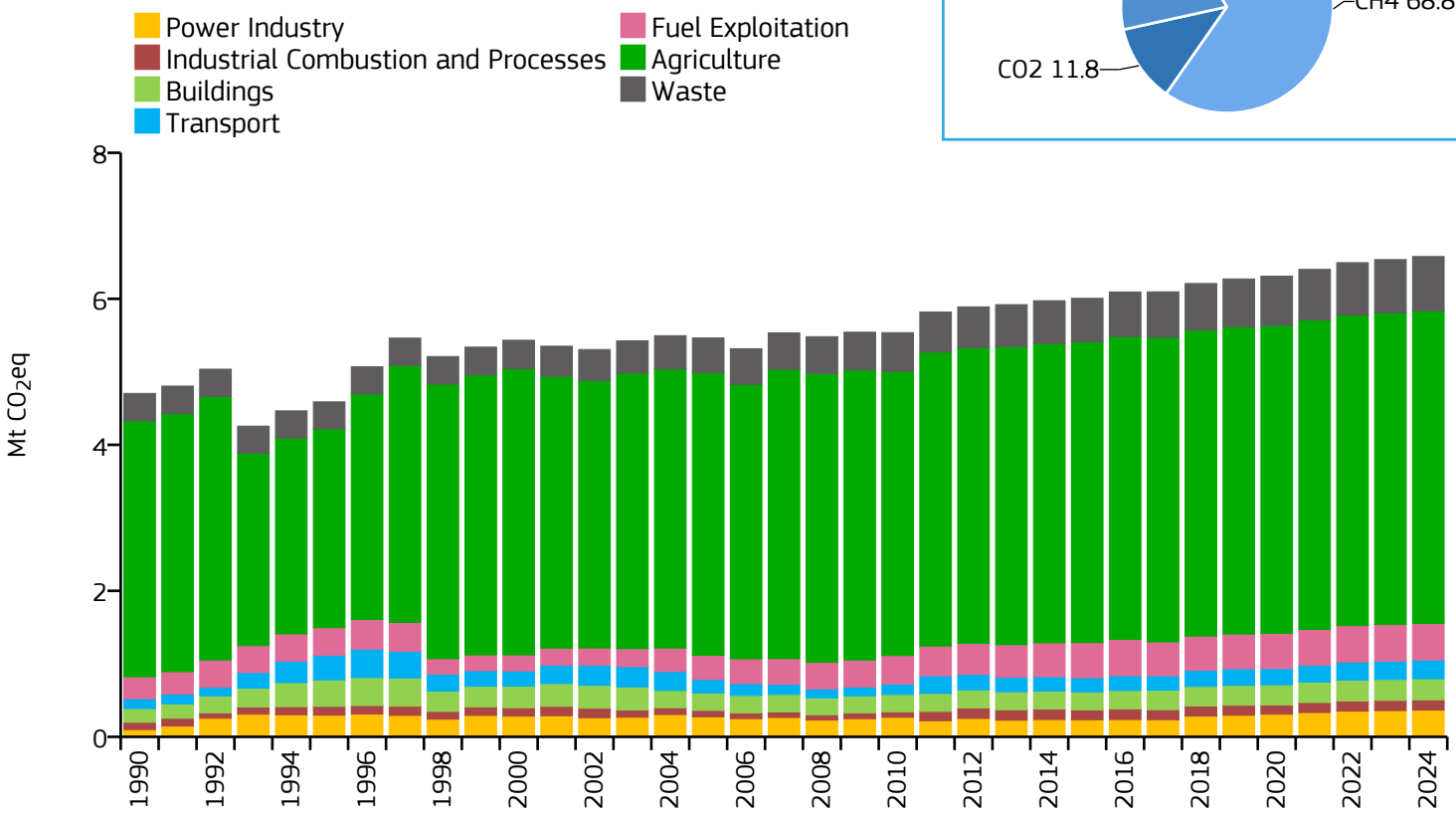
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	8.139	5.115	0.276	1.591M
2015	14.281	12.150	0.353	1.175M
2005	15.595	20.592	0.526	757.317k
1990	0.185	0.434	0.348	426.846k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	→ +1%
Industrial Combustion and Processes	↗ > +300%	↘ -27%	→ +2%
Buildings	↗ +158%	↗ +40%	→ +1%
Transport	↗ > +300%	↗ +15%	→ +2%
Fuel Exploitation	↗ > +300%	↘ -63%	→ +2%
Agriculture	↗ +22%	↗ +20%	→ +2%
Waste	↗ > +300%	↗ +75%	→ +2%
All sectors	↗ > +300%	↘ -48%	→ +2%

Eritrea



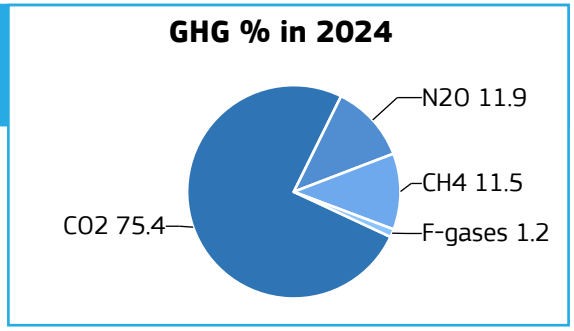
GHG emissions by sector



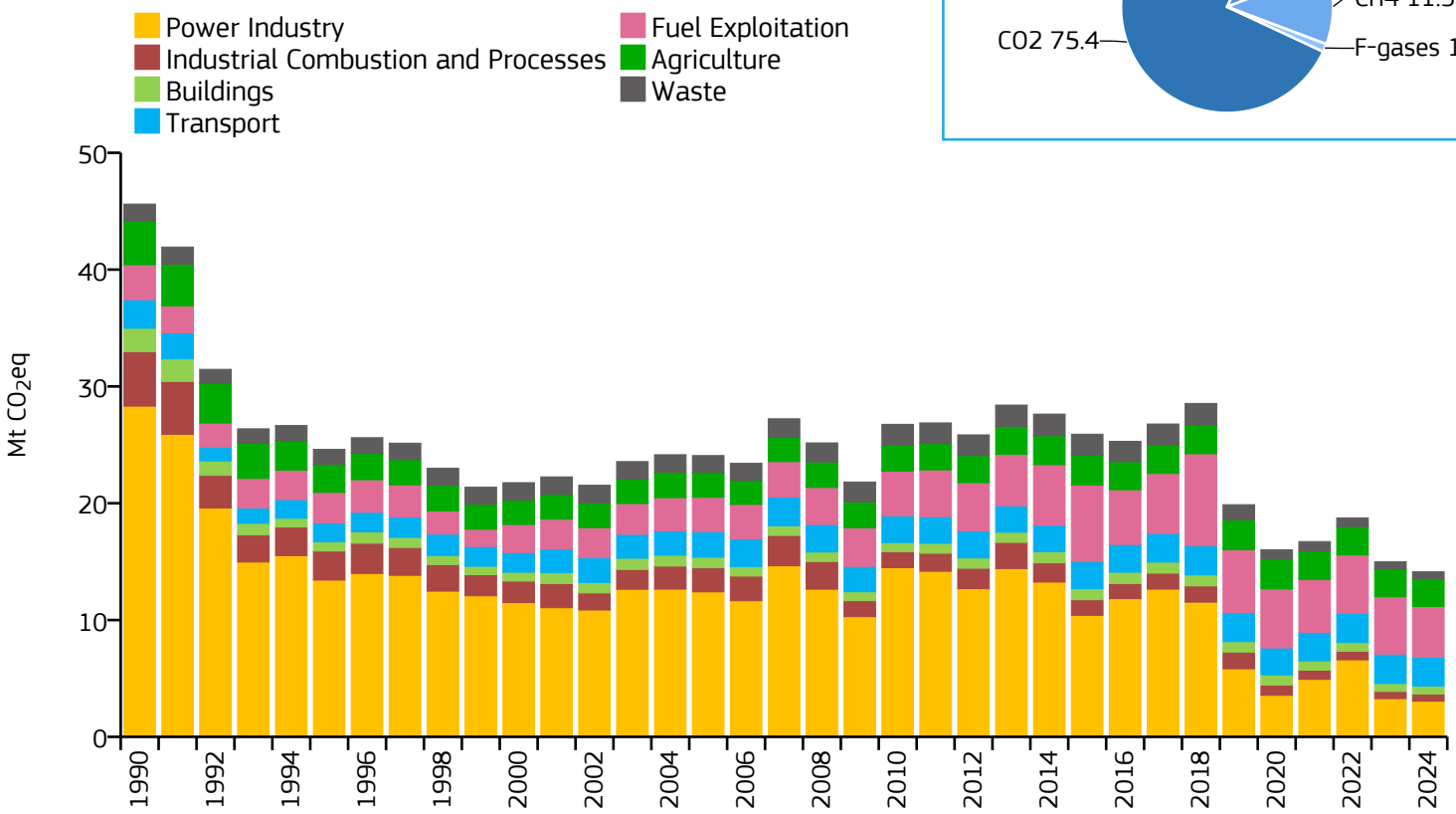
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	6.579	1.109	0.870	5.930M
2015	6.007	1.239	0.999	4.847M
2005	5.464	1.377	1.090	3.969M
1990	4.704	1.511	1.325	3.113M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+267%	+33%	+2%
Industrial Combustion and Processes	+41%	+64%	+1%
Buildings	+54%	+20%	+1%
Transport	+90%	+39%	+2%
Fuel Exploitation	+67%	+52%	0%
Agriculture	+22%	+11%	0%
Waste	+97%	+57%	+2%
All sectors	+40%	+20%	+1%

Estonia



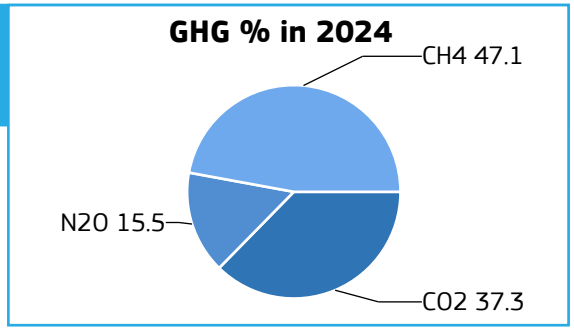
GHG emissions by sector



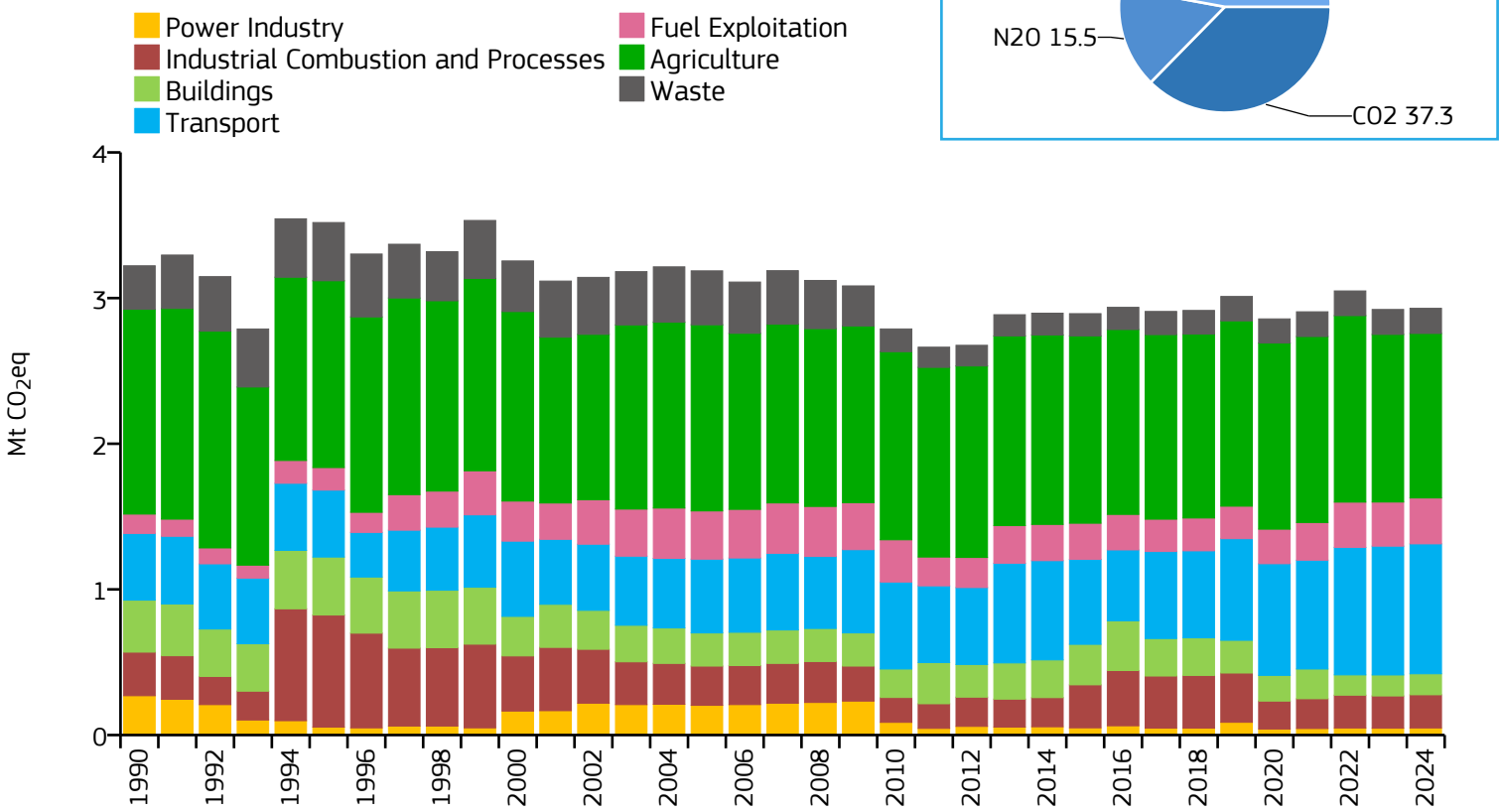
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	14.129	10.995	0.248	1.285M
2015	25.911	19.699	0.536	1.315M
2005	24.083	17.765	0.583	1.356M
1990	45.609	29.139	1.501	1.565M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-89%	-75%	-7%
Industrial Combustion and Processes	-87%	-71%	-1%
Buildings	-65%	-23%	+2%
Transport	0%	+13%	-2%
Fuel Exploitation	+45%	+48%	-12%
Agriculture	-36%	+12%	0%
Waste	-61%	-60%	-5%
All sectors	-69%	-41%	-6%

Eswatini



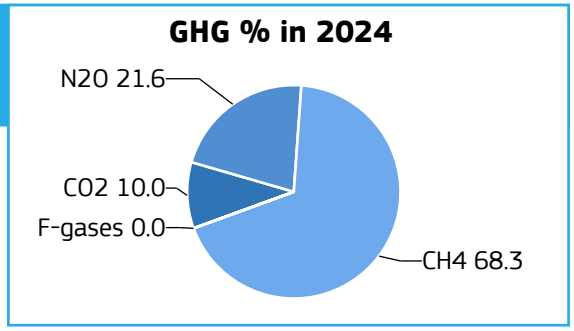
GHG emissions by sector



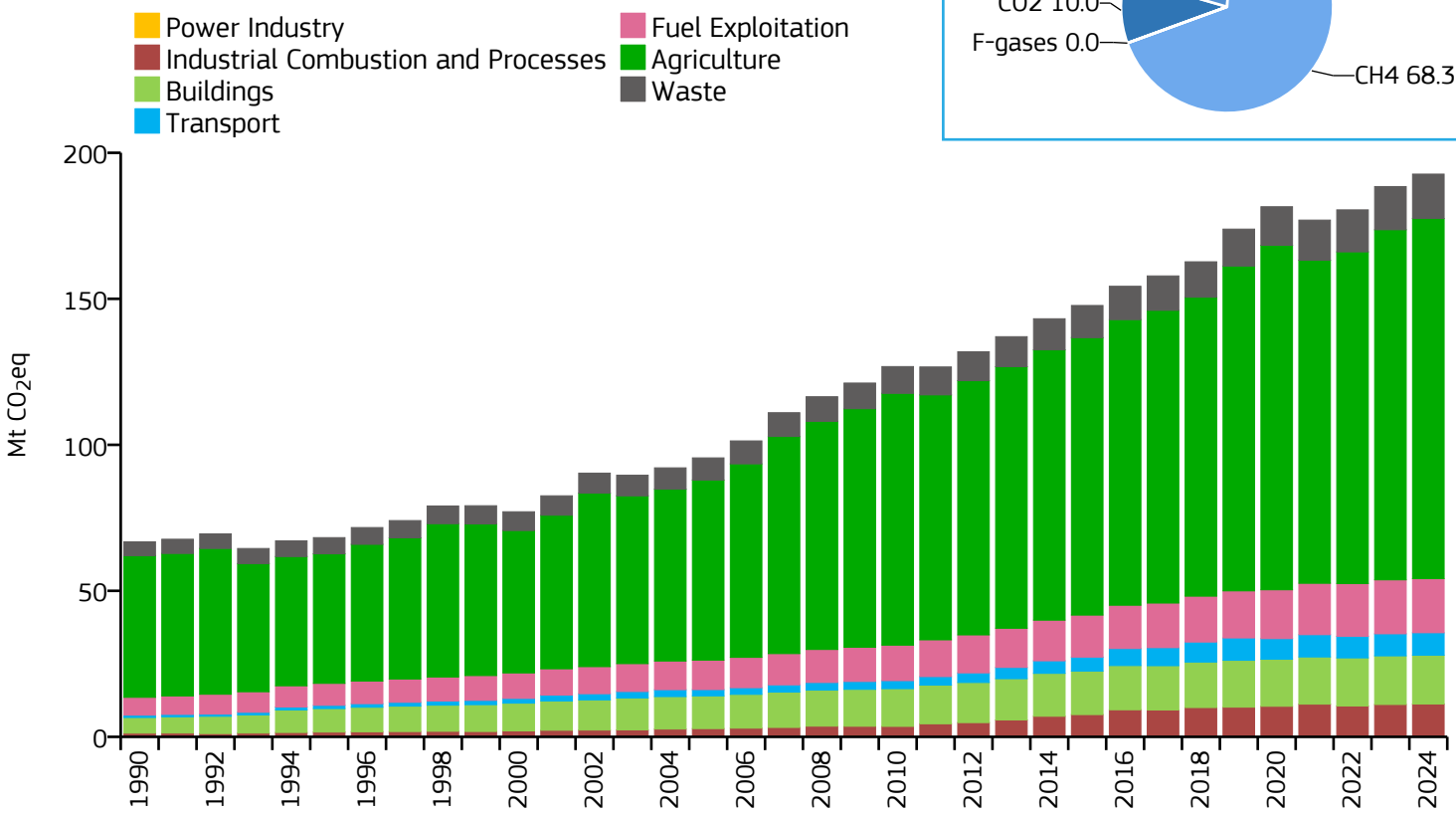
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.930	1.912	0.225	1.532M
2015	2.893	2.193	0.274	1.319M
2005	3.187	2.882	0.411	1.106M
1990	3.222	3.740	0.669	861.373k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-82%	-76%	+4%
Industrial Combustion and Processes	-24%	-16%	+3%
Buildings	-60%	-37%	0%
Transport	+95%	+76%	+1%
Fuel Exploitation	+137%	-5%	+4%
Agriculture	-20%	-12%	-2%
Waste	-42%	-53%	+1%
All sectors	-9%	-8%	0%

Ethiopia



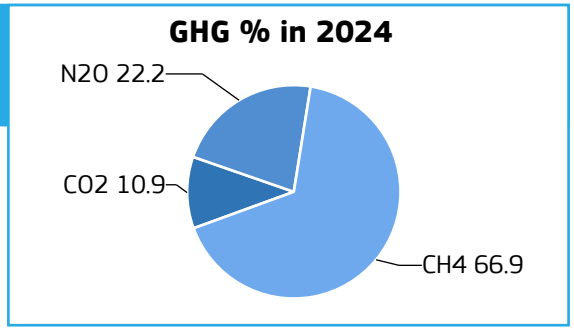
GHG emissions by sector



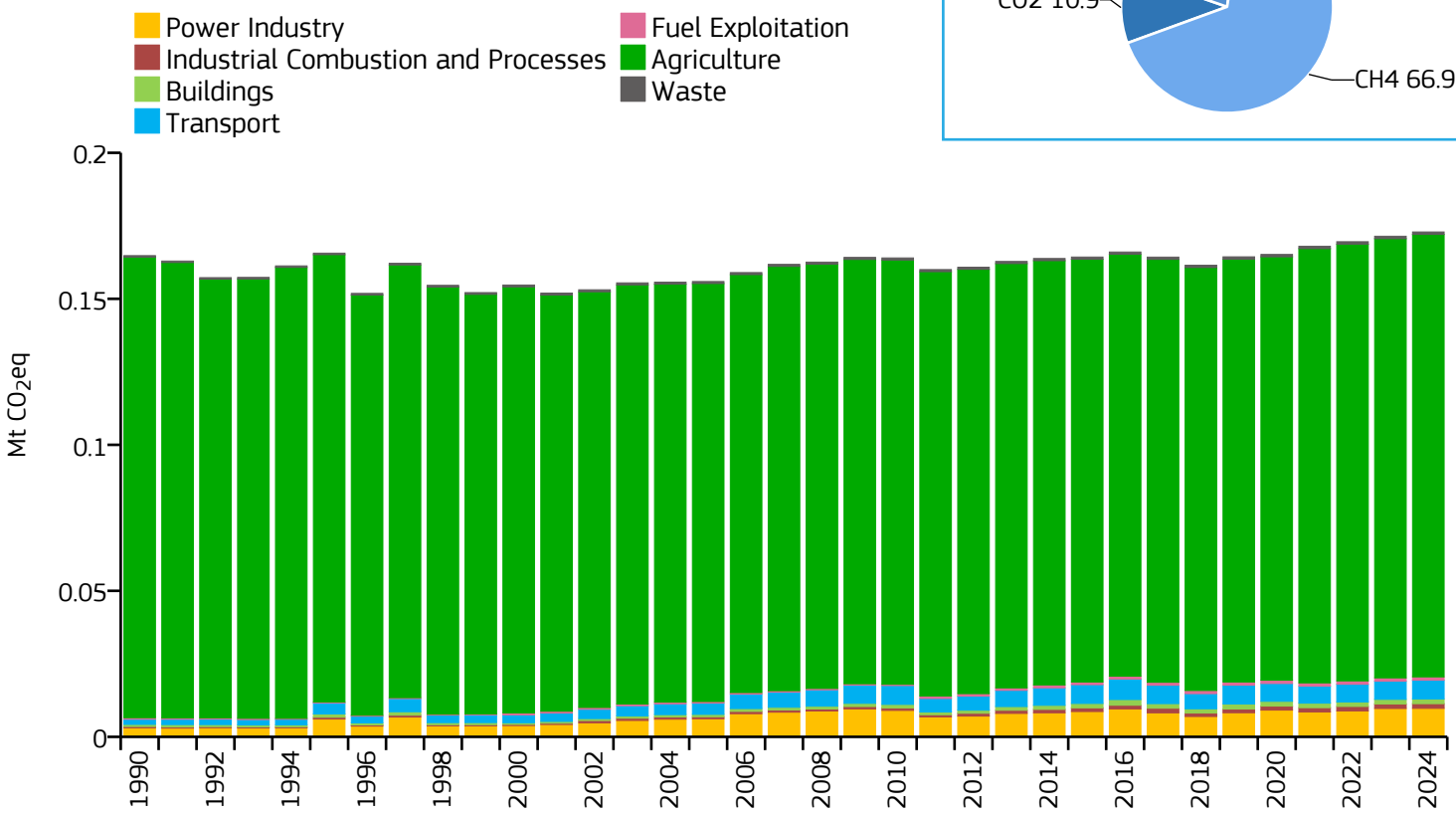
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	192.704	1.561	0.502	123.428M
2015	147.718	1.479	0.727	99.873M
2005	95.532	1.245	1.280	76.727M
1990	66.776	1.389	1.604	48.087M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-97%	-77%	+2%
Industrial Combustion and Processes	> +300%	+299%	+2%
Buildings	+212%	+49%	0%
Transport	> +300%	+258%	+2%
Fuel Exploitation	+204%	+83%	0%
Agriculture	+154%	+100%	+3%
Waste	+221%	+100%	+3%
All sectors	+189%	+102%	+2%

Falkland Islands



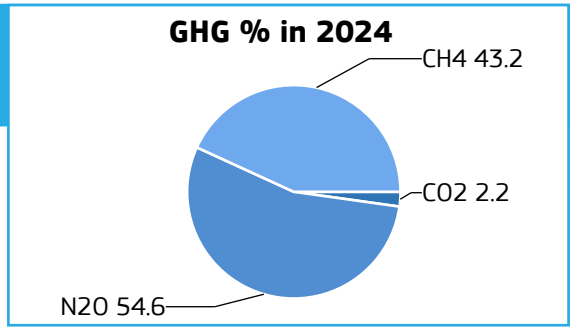
GHG emissions by sector



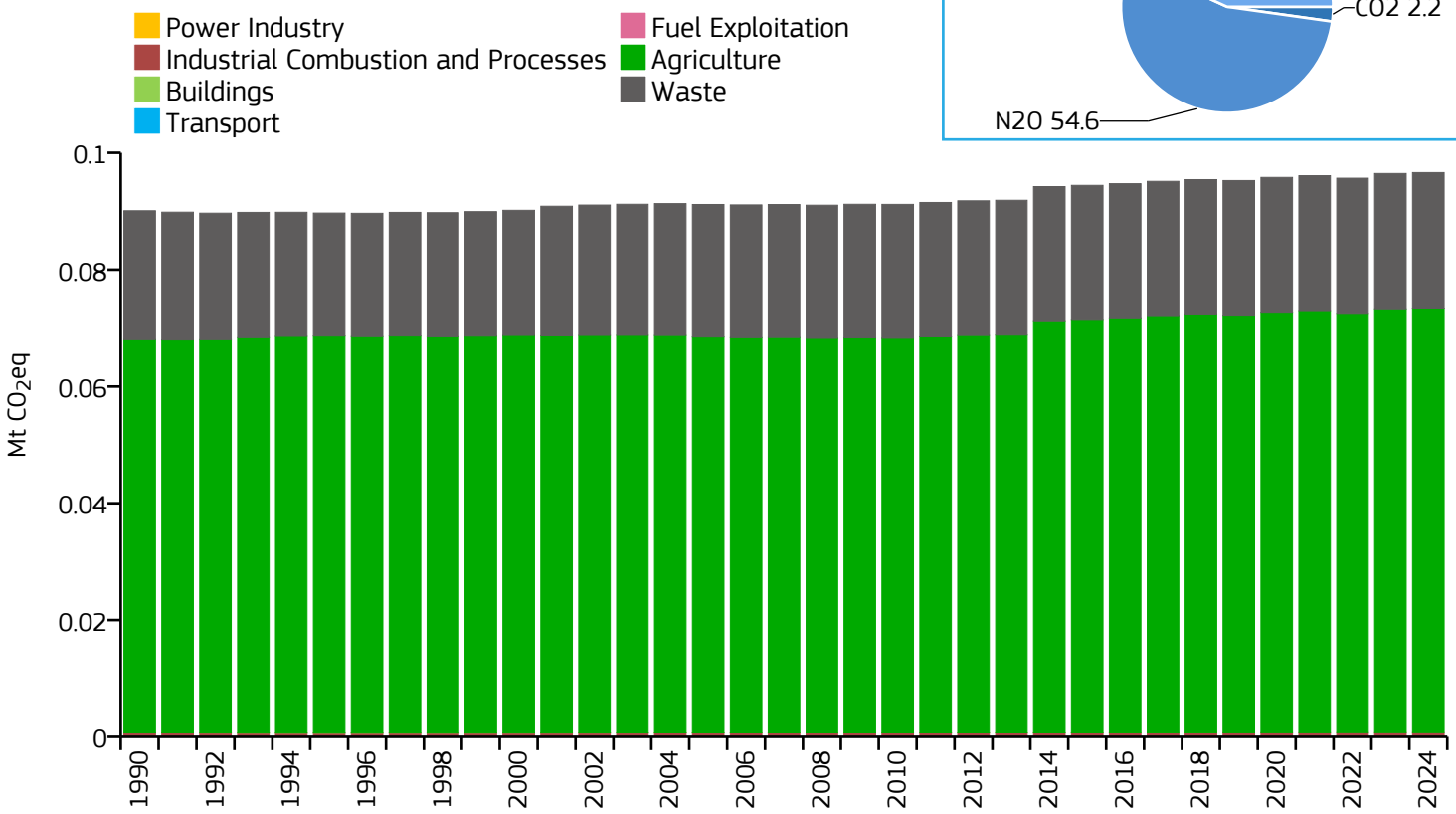
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.173	57.632	n/a	3.000k
2015	0.164	56.698	n/a	2.898k
2005	0.156	53.053	n/a	2.939k
1990	0.165	82.850	n/a	1.989k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+215%	+58%	0%
Industrial Combustion and Processes	+264%	+132%	+3%
Buildings	+124%	+103%	+4%
Transport	+264%	+65%	+3%
Fuel Exploitation	+116%	+116%	0%
Agriculture	-4%	+6%	+1%
Waste	+67%	+22%	+1%
All sectors	+5%	+11%	+1%

Faroes



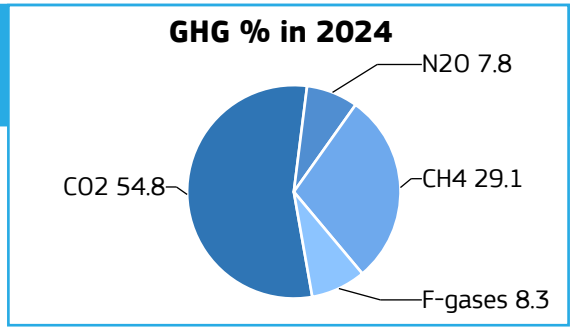
GHG emissions by sector



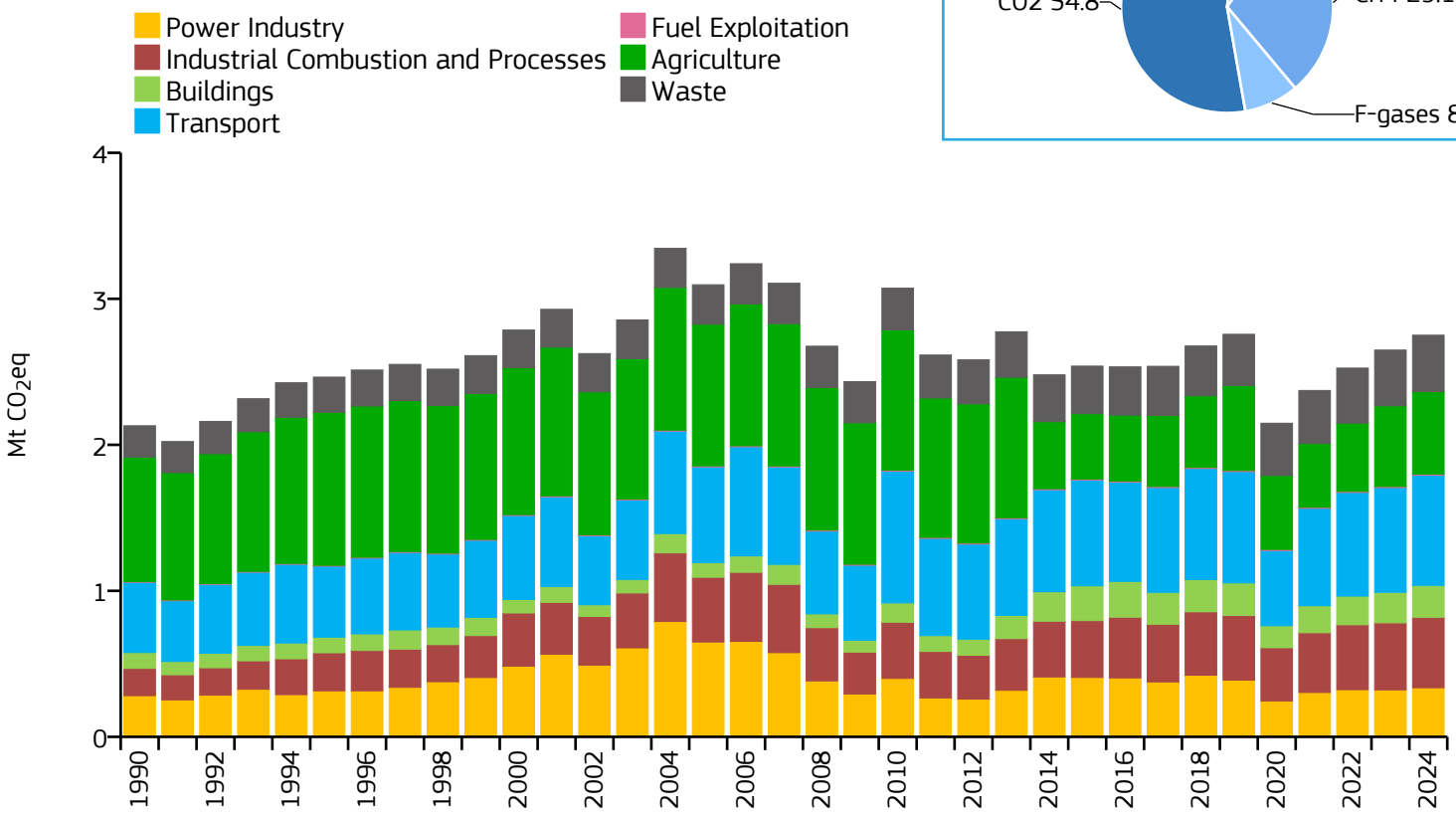
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.097	1.894	n/a	51.000k
2015	0.094	1.928	n/a	48.965k
2005	0.091	1.888	n/a	48.285k
1990	0.090	1.893	n/a	47.594k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	n/a	n/a
Industrial Combustion and Processes	+6%	+6%	0%
Buildings	n/a	n/a	n/a
Transport	n/a	n/a	n/a
Fuel Exploitation	n/a	n/a	n/a
Agriculture	+8%	+7%	0%
Waste	+6%	+3%	0%
All sectors	+7%	+6%	0%

Fiji



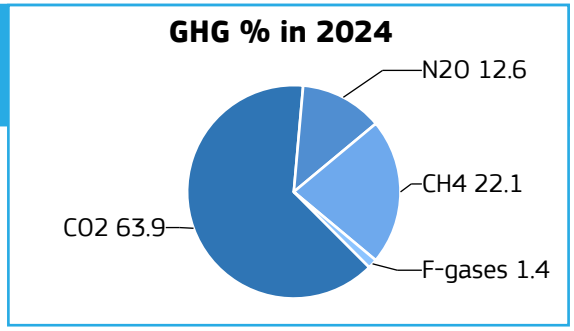
GHG emissions by sector



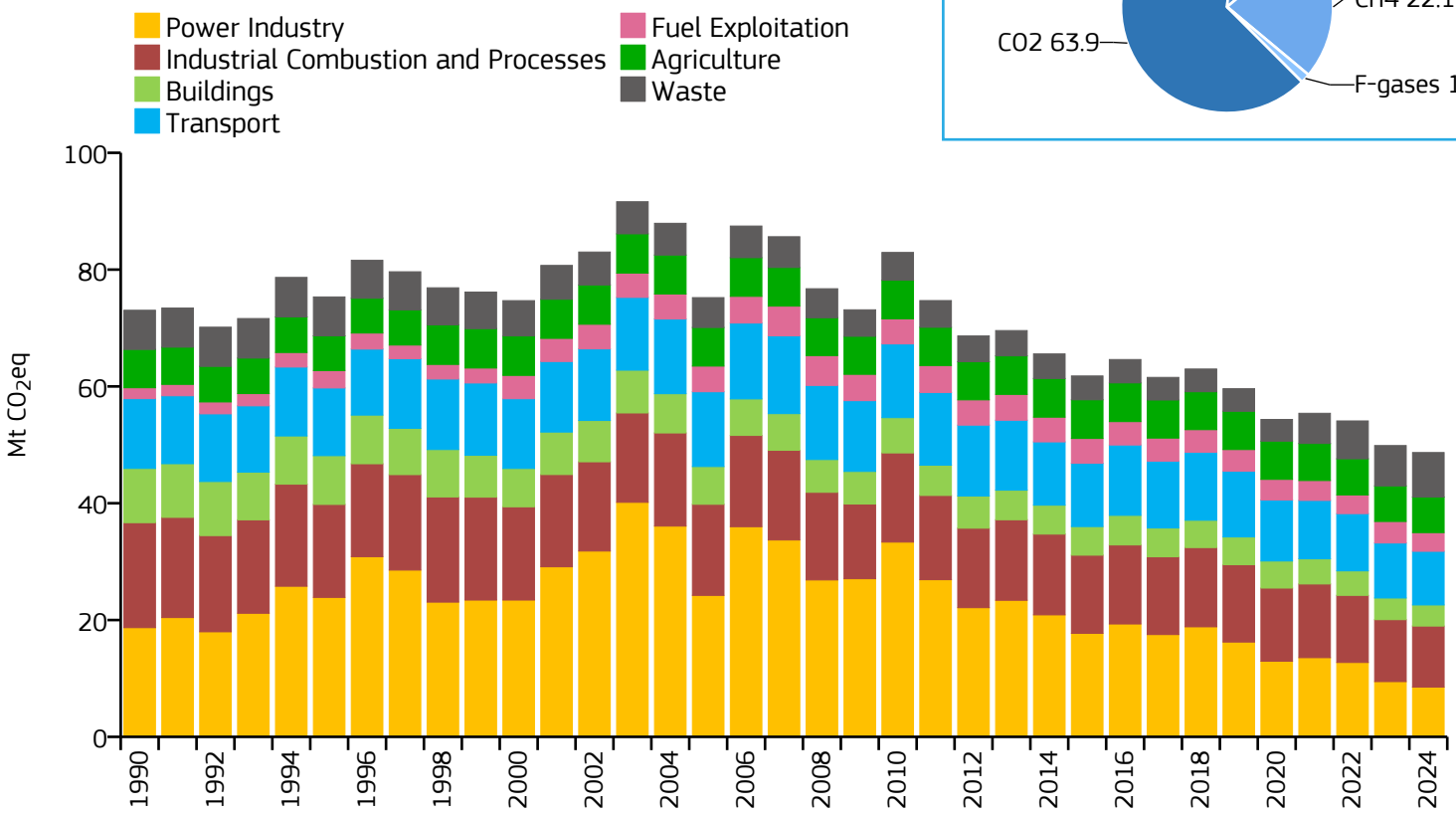
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.751	2.908	0.210	946.000k
2015	2.539	2.846	0.228	892.149k
2005	3.096	3.768	0.346	821.817k
1990	2.130	2.924	0.339	728.628k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+19%	-48%	+5%
Industrial Combustion and Processes	+158%	+9%	+5%
Buildings	+102%	+117%	+4%
Transport	+57%	+15%	+5%
Fuel Exploitation	+44%	+12%	0%
Agriculture	-34%	-42%	+2%
Waste	+80%	+43%	+1%
All sectors	+29%	-11%	+4%

Finland



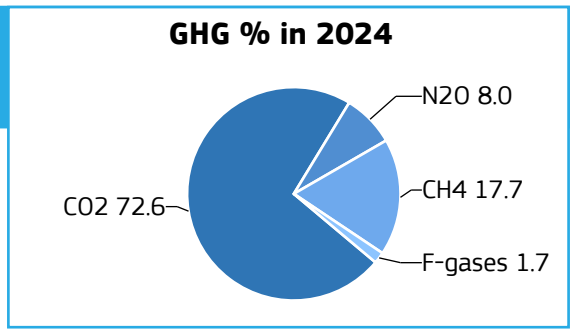
GHG emissions by sector



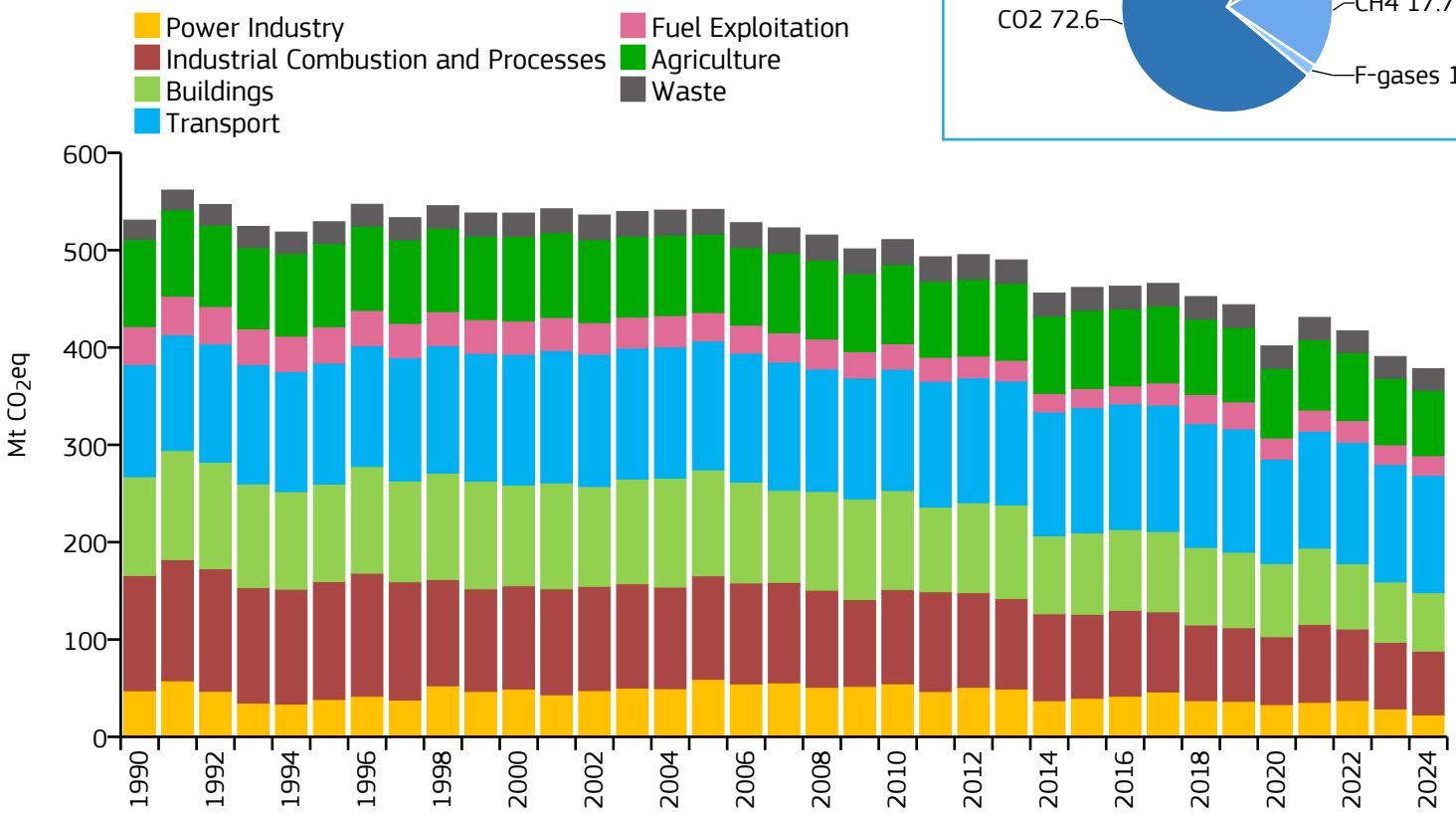
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	48.679	8.611	0.155	5.653M
2015	61.791	11.272	0.214	5.482M
2005	75.206	14.301	0.272	5.259M
1990	73.041	14.619	0.377	4.996M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-54%	-65%	-10%
Industrial Combustion and Processes	-42%	-33%	-1%
Buildings	-61%	-44%	-3%
Transport	-23%	-28%	-2%
Fuel Exploitation	+72%	-27%	-13%
Agriculture	-7%	-8%	0%
Waste	+13%	+49%	+10%
All sectors	-33%	-35%	-2%

France and Monaco



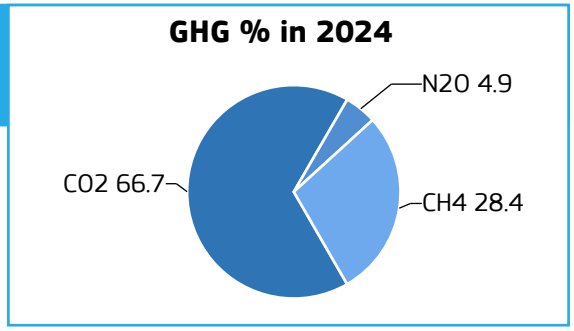
GHG emissions by sector



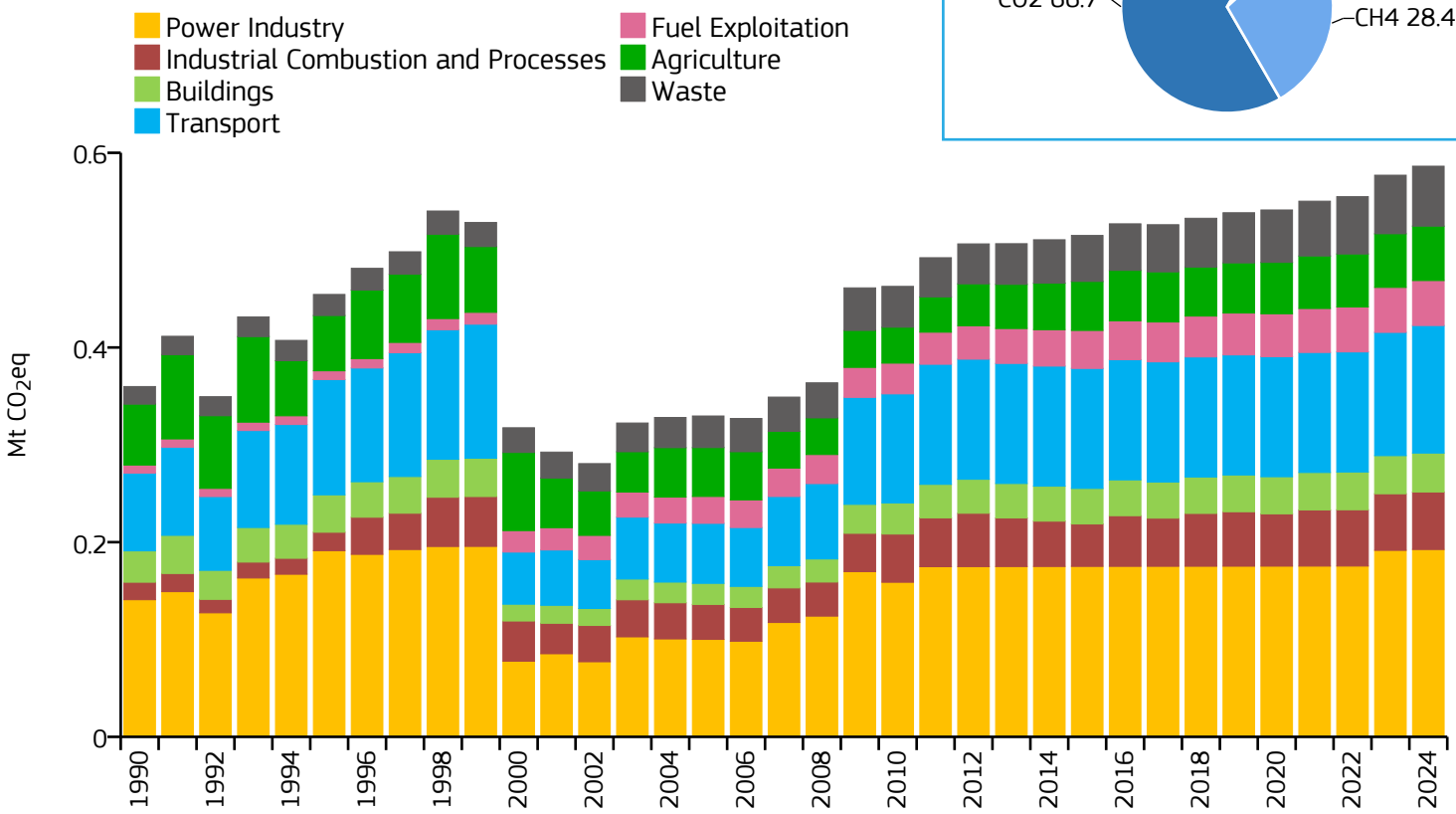
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	378.120	5.675	0.101	66.625M
2015	461.671	7.162	0.137	64.457M
2005	541.879	8.849	0.178	61.234M
1990	530.900	9.320	0.236	56.961M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↘ -52%	↘ -62%	↘ -21%
Industrial Combustion and Processes	↘ -45%	↘ -38%	→ -4%
Buildings	↘ -41%	↘ -45%	→ -3%
Transport	→ +5%	↘ -9%	→ 0%
Fuel Exploitation	↘ -48%	↘ -31%	→ 0%
Agriculture	↘ -25%	↘ -16%	→ -1%
Waste	↗ +12%	↘ -14%	→ -2%
All sectors	↘ -29%	↘ -30%	→ -3%

French Guiana



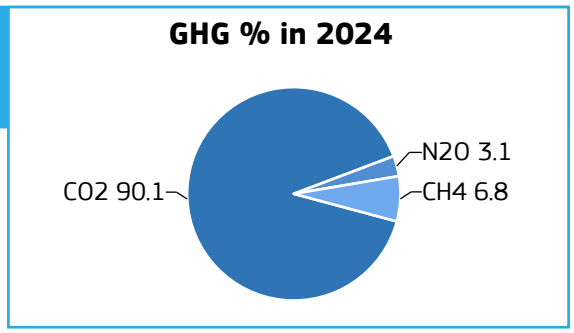
GHG emissions by sector



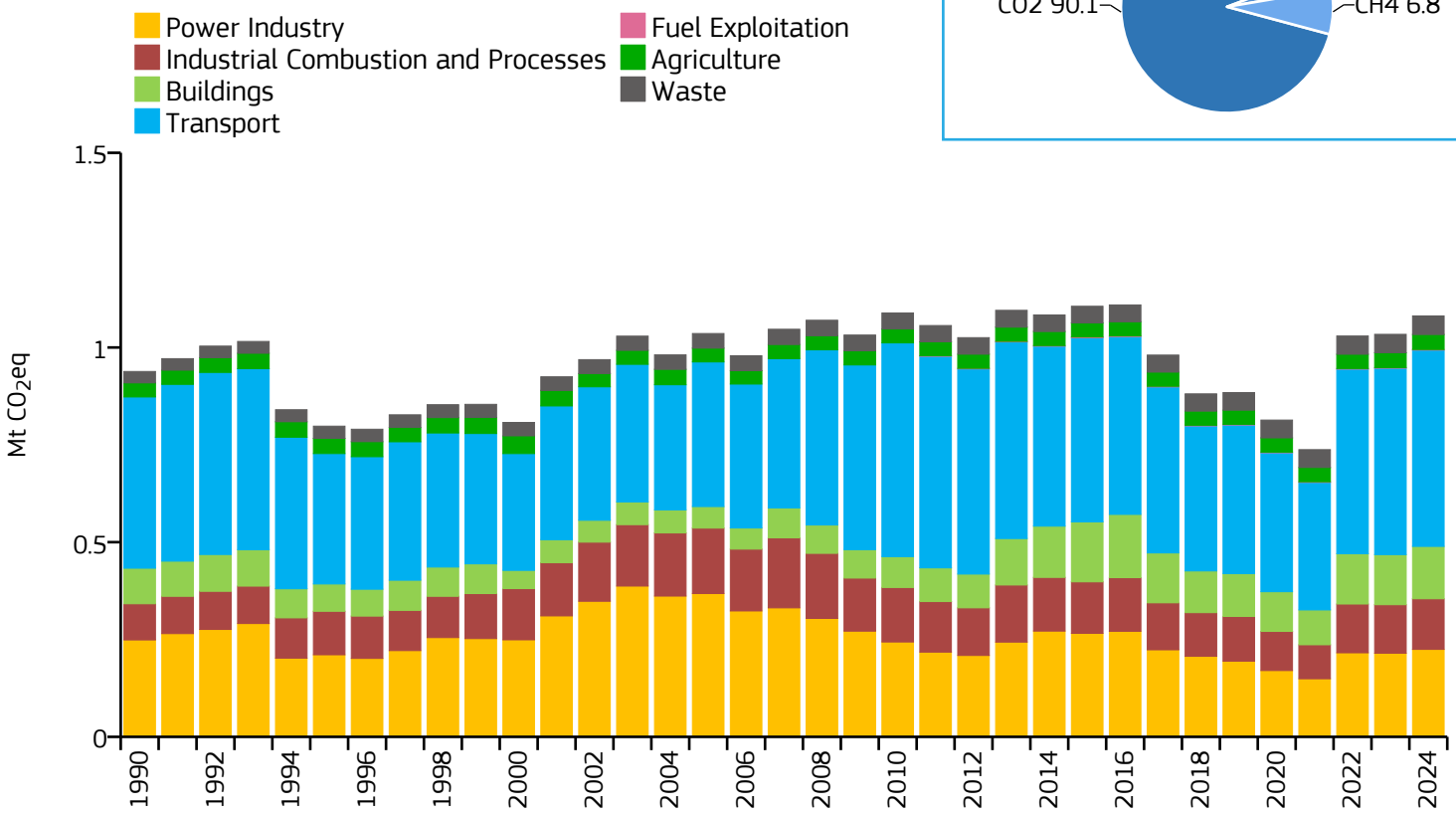
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.586	1.761	n/a	333.000k
2015	0.515	1.917	n/a	268.691k
2005	0.330	1.617	n/a	203.826k
1990	0.360	3.108	n/a	115.784k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+37%	+92%	0%
Industrial Combustion and Processes	+228%	+65%	+2%
Buildings	+24%	+85%	+2%
Transport	+64%	+113%	+3%
Fuel Exploitation	> +300%	+67%	0%
Agriculture	-11%	+11%	+1%
Waste	+240%	+90%	+2%
All sectors	+63%	+78%	+2%

French Polynesia



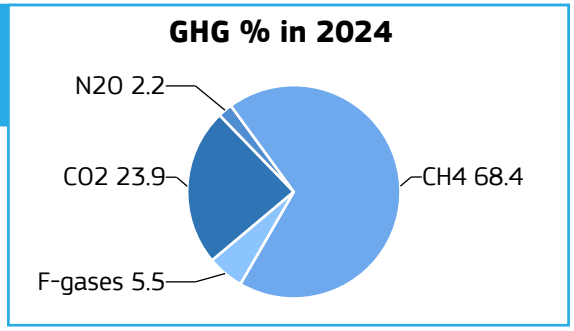
GHG emissions by sector



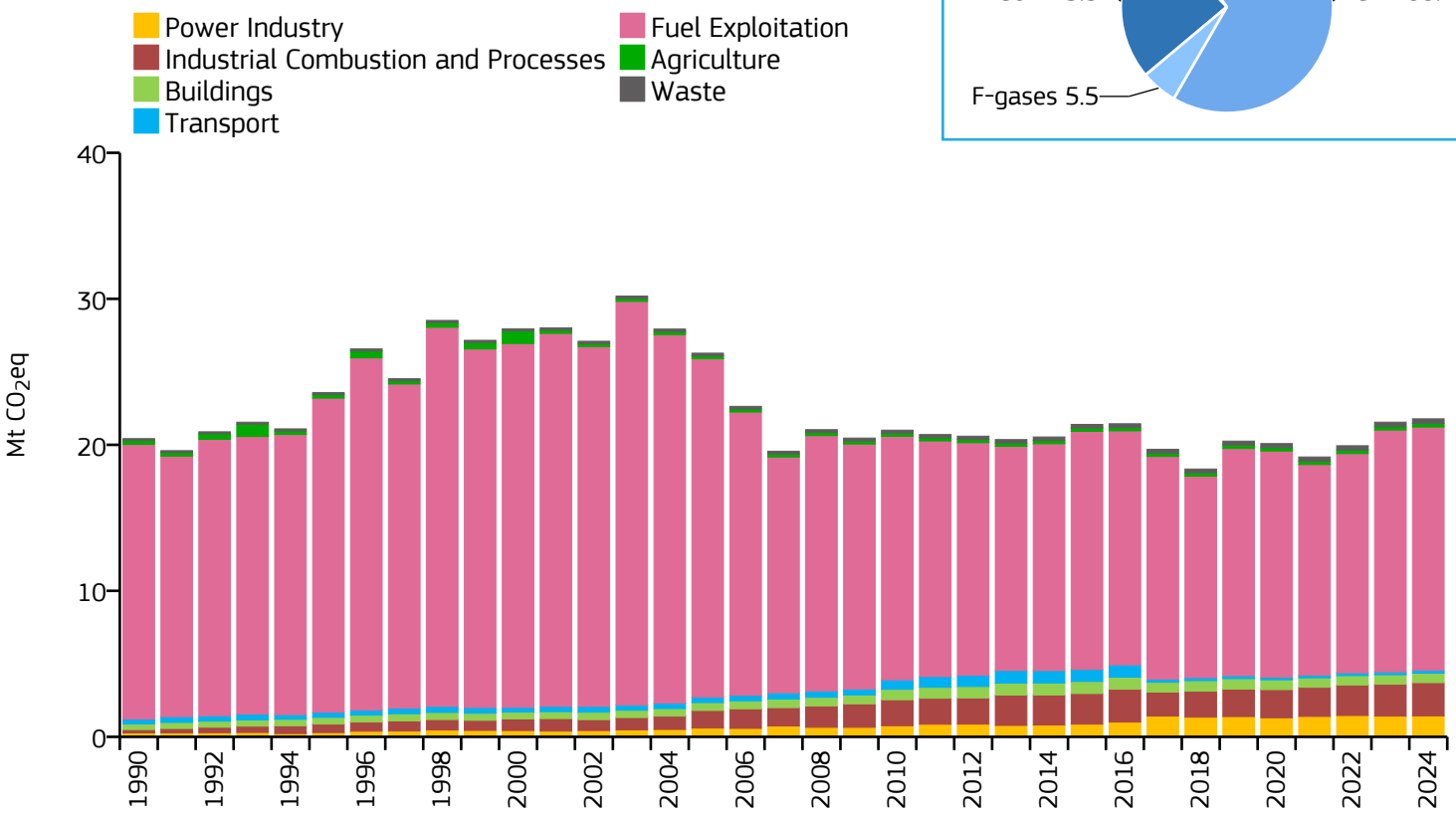
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.081	3.652	0.164	296.000k
2015	1.106	3.982	0.183	277.690k
2005	1.036	4.064	0.162	254.886k
1990	0.938	4.730	0.203	198.375k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-10%	-39%	+5%
Industrial Combustion and Processes	+40%	-23%	+4%
Buildings	+47%	+143%	+5%
Transport	+15%	+36%	+5%
Fuel Exploitation	n/a	n/a	0%
Agriculture	+7%	+9%	+1%
Waste	+62%	+27%	+1%
All sectors	+15%	+4%	+5%

Gabon



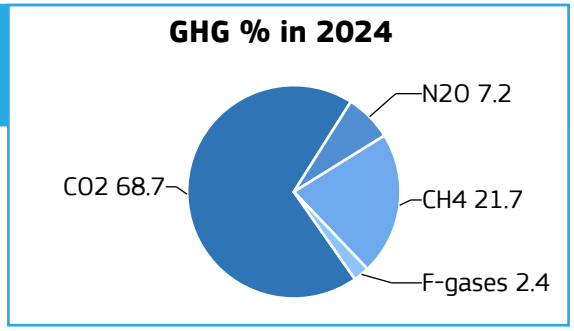
GHG emissions by sector



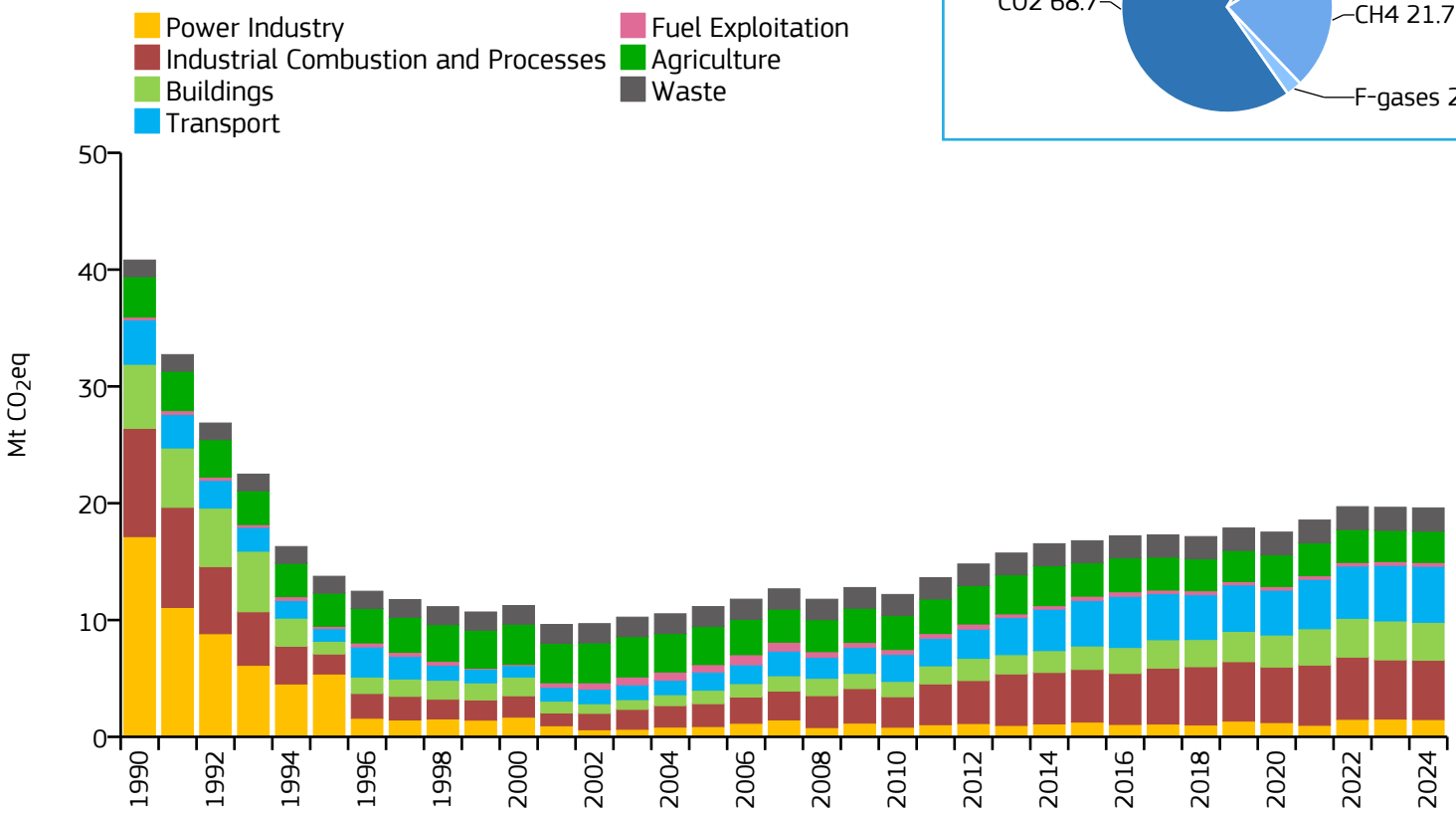
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	21.782	9.361	0.455	2.327M
2015	21.399	11.087	0.520	1.930M
2005	26.278	18.728	0.881	1.403M
1990	20.424	21.449	0.869	952.212k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+139%	+1%
Industrial Combustion and Processes	> +300%	+88%	+4%
Buildings	+71%	+21%	0%
Transport	-39%	-46%	+2%
Fuel Exploitation	-11%	-28%	+1%
Agriculture	-5%	+23%	+7%
Waste	+140%	+77%	+2%
All sectors	+7%	-17%	+1%

Georgia



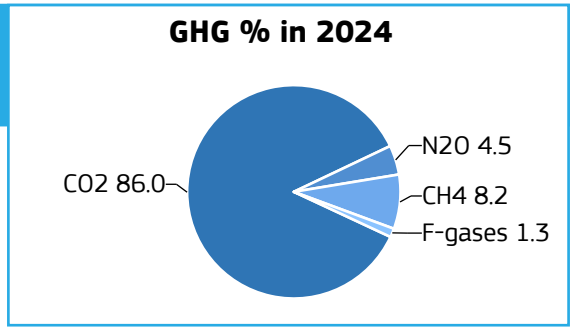
GHG emissions by sector



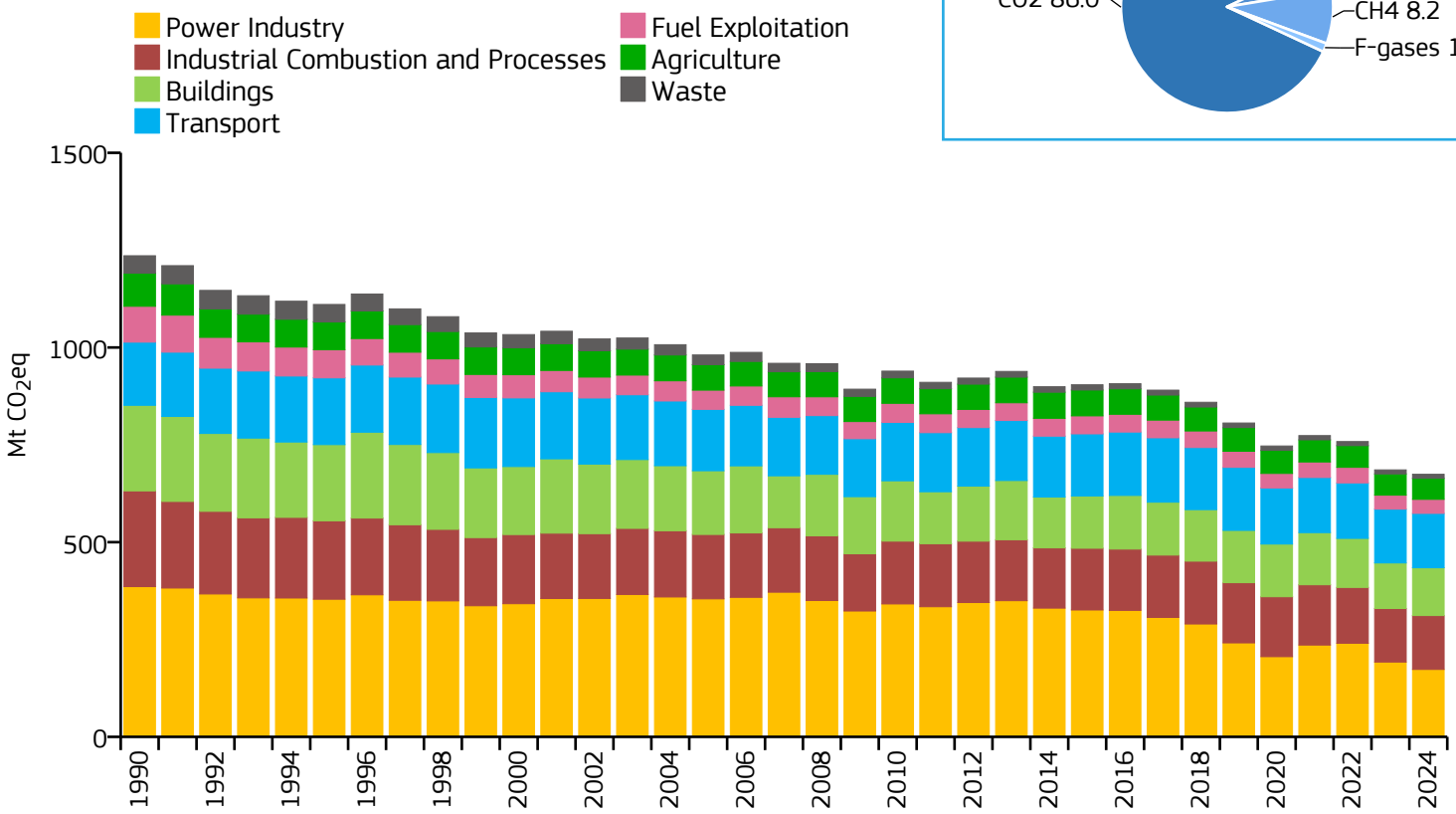
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	19.603	5.098	0.213	3.845M
2015	16.790	4.249	0.302	3.952M
2005	11.152	2.486	0.337	4.487M
1990	40.820	7.545	0.658	5.410M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-91%	+67%	-3%
Industrial Combustion and Processes	-45%	+159%	0%
Buildings	-41%	+182%	-2%
Transport	+26%	+209%	+1%
Fuel Exploitation	+38%	-49%	-1%
Agriculture	-23%	-18%	+1%
Waste	+41%	+18%	+1%
All sectors	-52%	+76%	0%

Germany



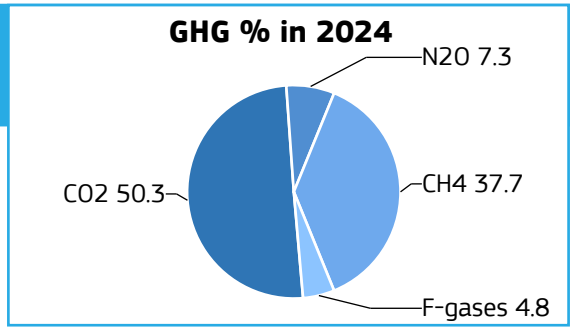
GHG emissions by sector



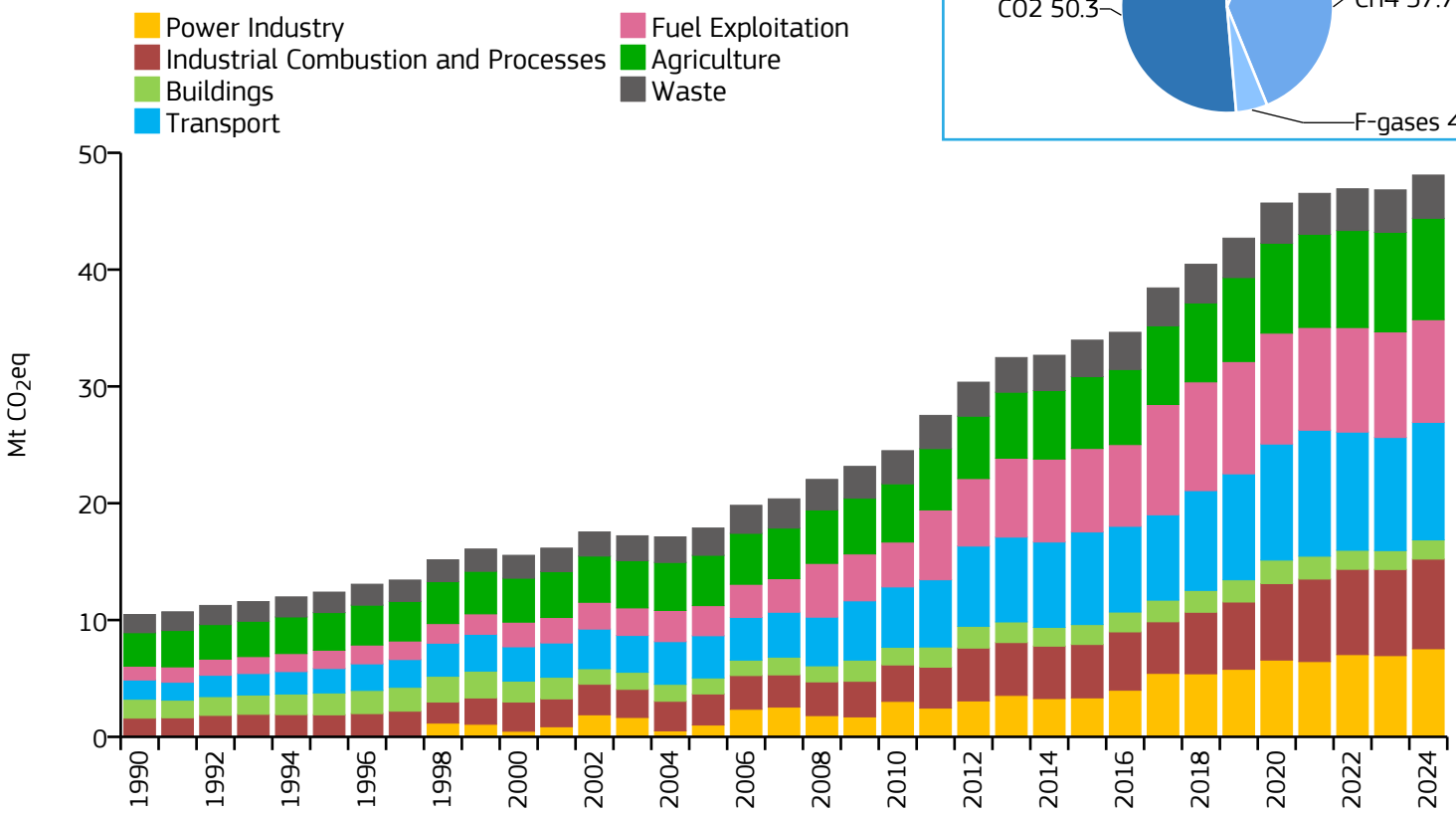
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	674.358	8.173	0.129	82.506M
2015	904.244	11.067	0.185	81.708M
2005	980.817	12.009	0.232	81.671M
1990	1235.633	15.618	0.367	79.118M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↘ -55%	↘ -51%	↘ -10%
Industrial Combustion and Processes	↘ -44%	↘ -16%	→ +1%
Buildings	↘ -44%	↘ -25%	→ +5%
Transport	↘ -14%	↘ -12%	→ +1%
Fuel Exploitation	↘ -61%	↘ -27%	→ 0%
Agriculture	↘ -36%	↘ -17%	→ -1%
Waste	↘ -77%	↘ -58%	→ 0%
All sectors	↘ -45%	↘ -31%	→ -2%

Ghana



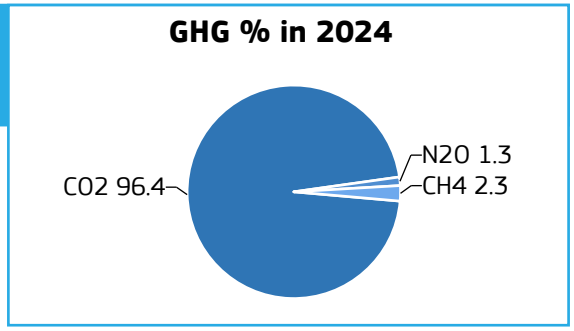
GHG emissions by sector



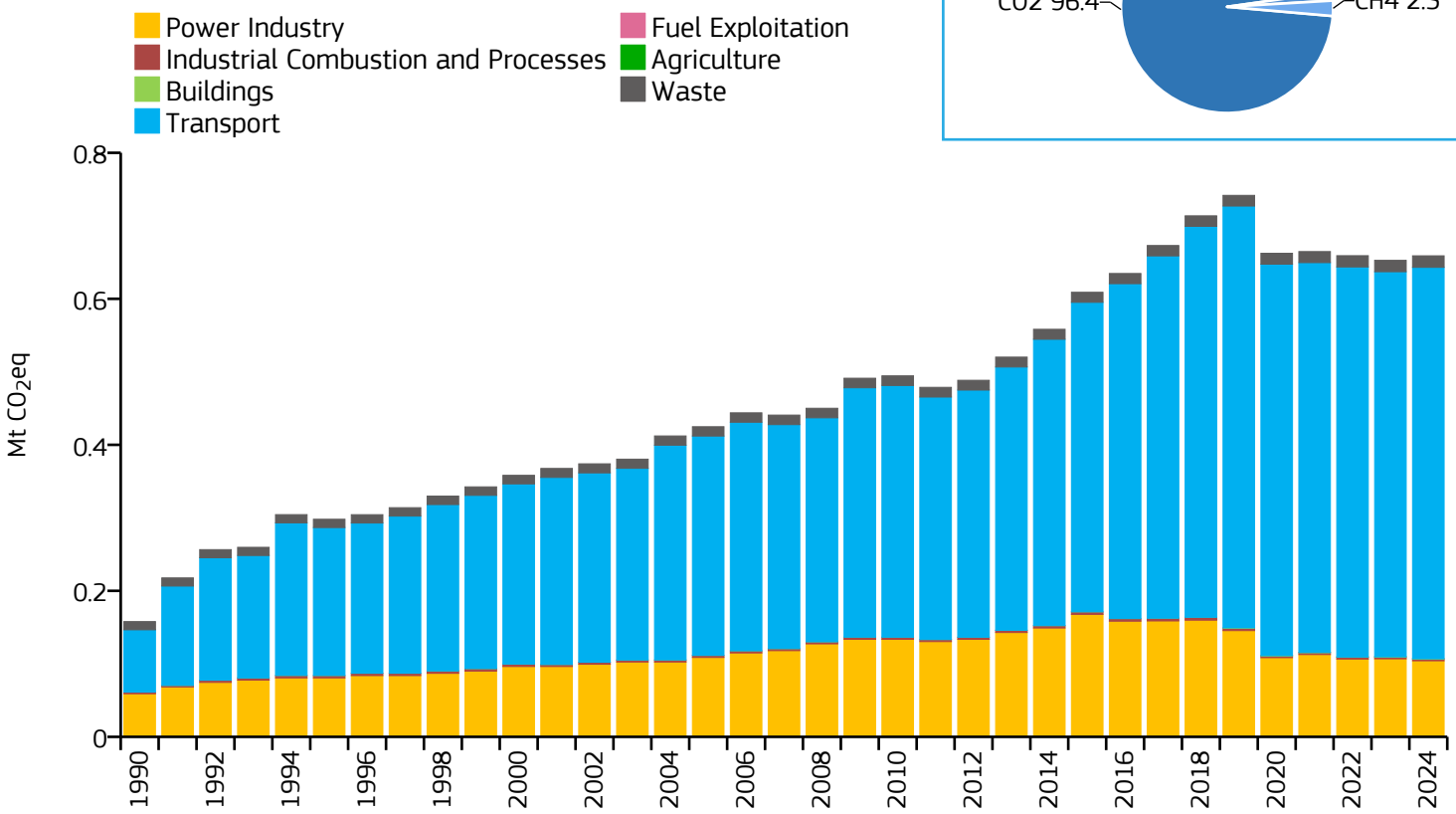
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	48.094	1.444	0.198	33.316M
2015	33.960	1.231	0.211	27.583M
2005	17.877	0.830	0.214	21.542M
1990	10.473	0.716	0.244	14.628M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	↗ > +300%	↗ +8%
Industrial Combustion and Processes	↗ > +300%	↗ +188%	→ +4%
Buildings	→ +2%	↗ +20%	→ +2%
Transport	↗ > +300%	↗ +179%	→ +4%
Fuel Exploitation	↗ > +300%	↗ +241%	→ -3%
Agriculture	↗ +203%	↗ +101%	→ +2%
Waste	↗ +137%	↗ +58%	→ +2%
All sectors	↗ > +300%	↗ +169%	→ +3%

Gibraltar



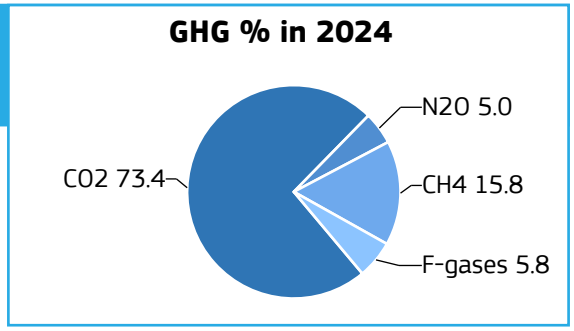
GHG emissions by sector



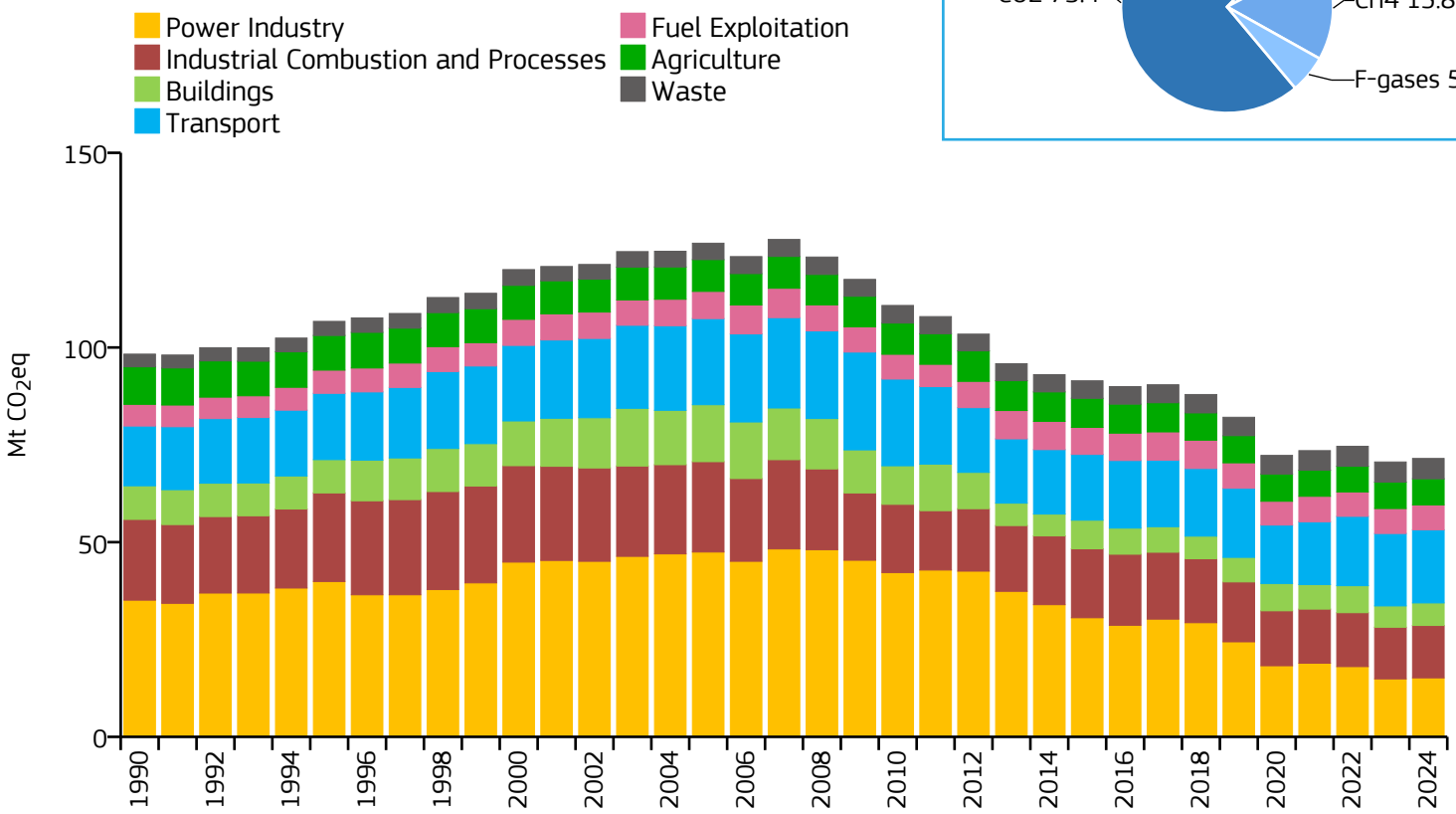
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.659	18.826	0.476	35.000k
2015	0.609	17.791	0.538	34.228k
2005	0.425	13.240	0.421	32.085k
1990	0.158	5.413	0.240	29.164k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +76%	→ -4%	→ -3%
Industrial Combustion and Processes	↗ +19%	→ -3%	→ +1%
Buildings	↗ > +300%	↗ > +300%	→ 0%
Transport	↗ > +300%	↗ +78%	→ +2%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	n/a	n/a	n/a
Waste	↗ +40%	↗ +24%	→ +1%
All sectors	↗ > +300%	↗ +55%	→ +1%

Greece



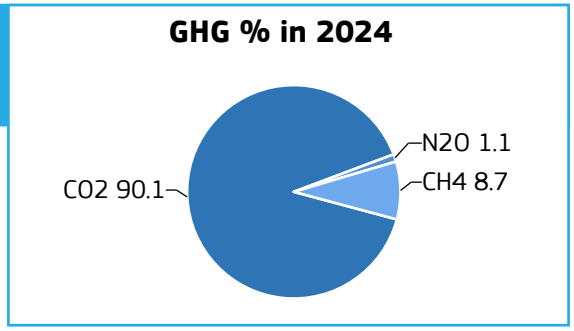
GHG emissions by sector



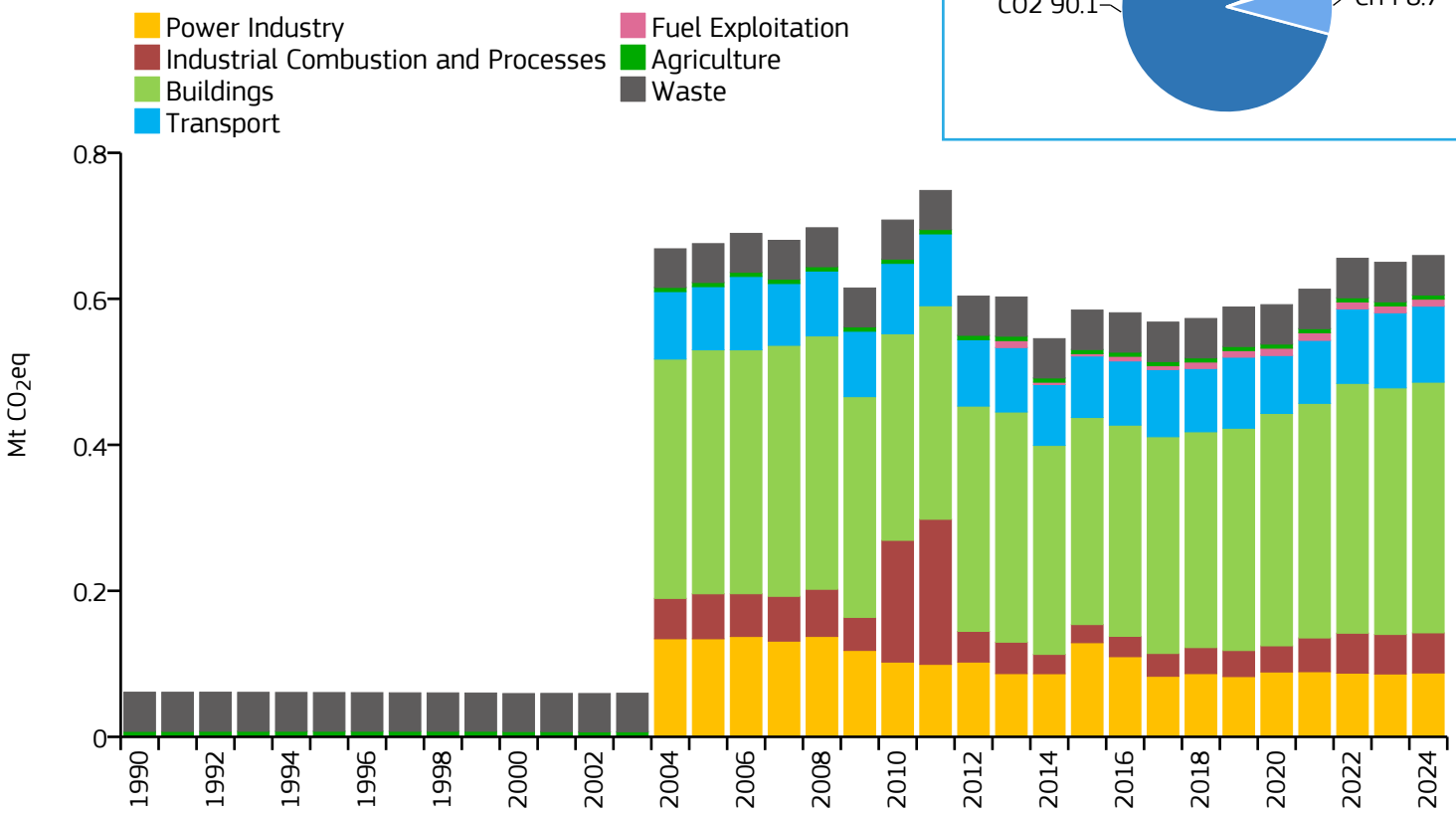
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	71.500	6.514	0.182	10.977M
2015	91.440	8.151	0.270	11.218M
2005	126.783	11.219	0.302	11.301M
1990	98.294	9.591	0.358	10.248M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-57%	-68%	+2%
Industrial Combustion and Processes	-35%	-42%	+1%
Buildings	-33%	-60%	+6%
Transport	+22%	-15%	+1%
Fuel Exploitation	+15%	-8%	0%
Agriculture	-30%	-18%	-1%
Waste	+60%	+24%	+1%
All sectors	-27%	-44%	+1%

Greenland



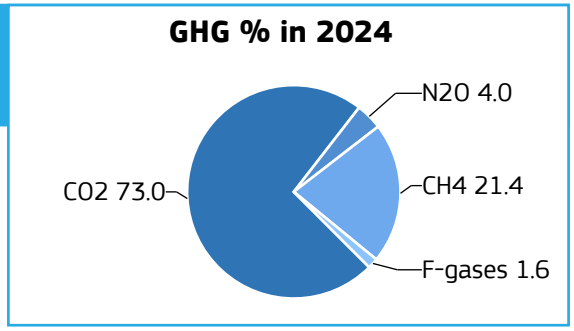
GHG emissions by sector



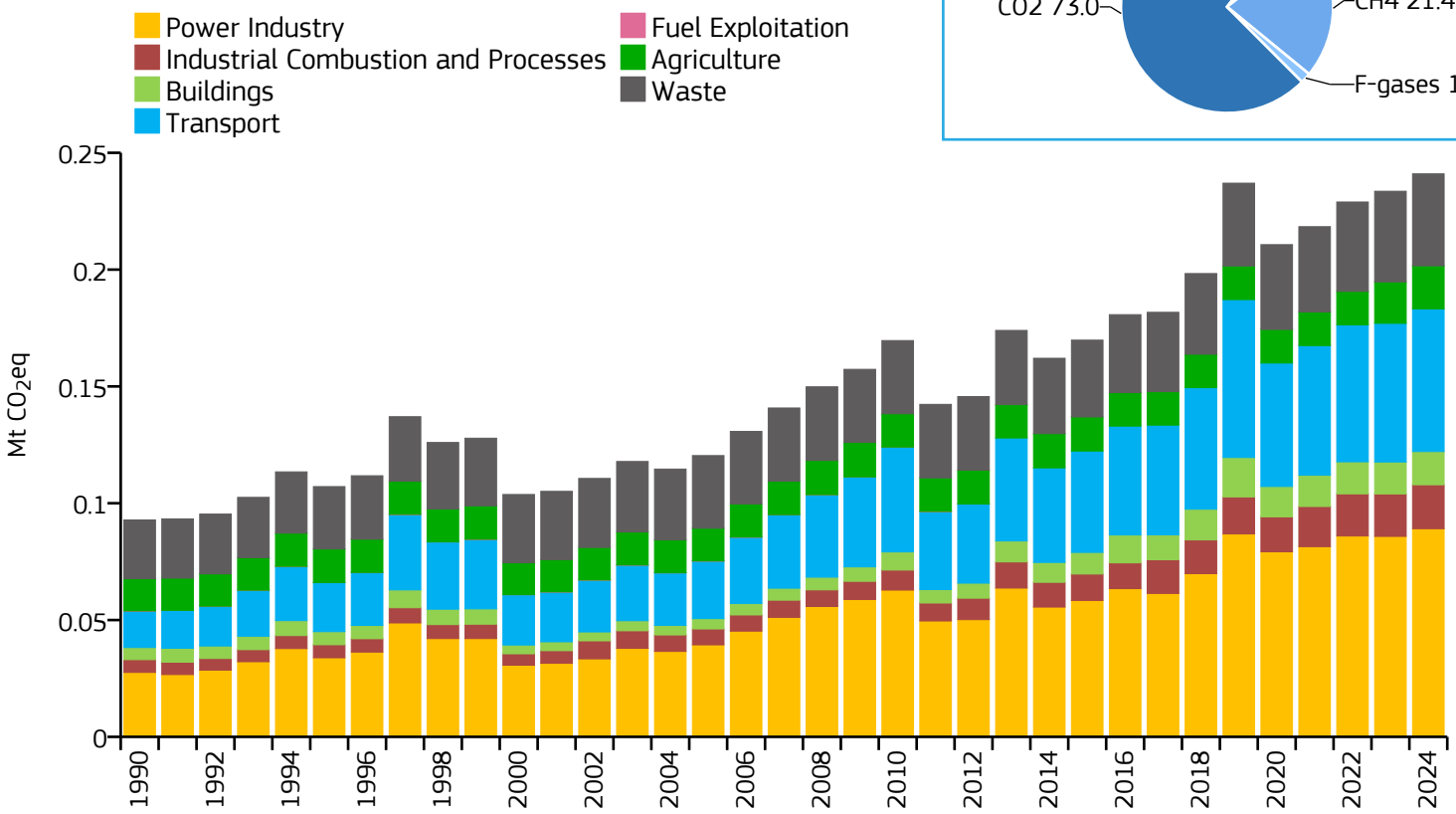
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.659	11.566	0.163	57.000k
2015	0.585	10.368	0.164	56.377k
2005	0.676	11.862	0.227	56.951k
1990	0.061	1.100	0.029	55.604k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	-35%	+2%
Industrial Combustion and Processes	n/a	-11%	+2%
Buildings	n/a	+3%	+2%
Transport	n/a	+20%	+1%
Fuel Exploitation	n/a	n/a	+2%
Agriculture	-9%	0%	0%
Waste	+1%	+2%	0%
All sectors	n/a	-2%	+1%

Grenada



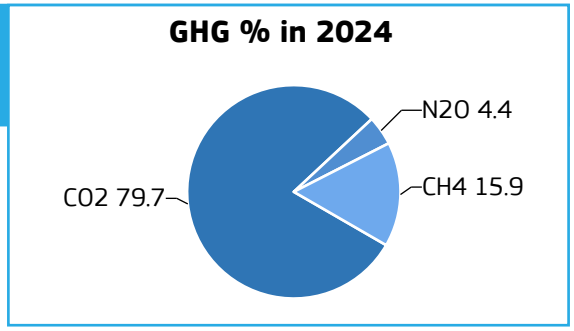
GHG emissions by sector



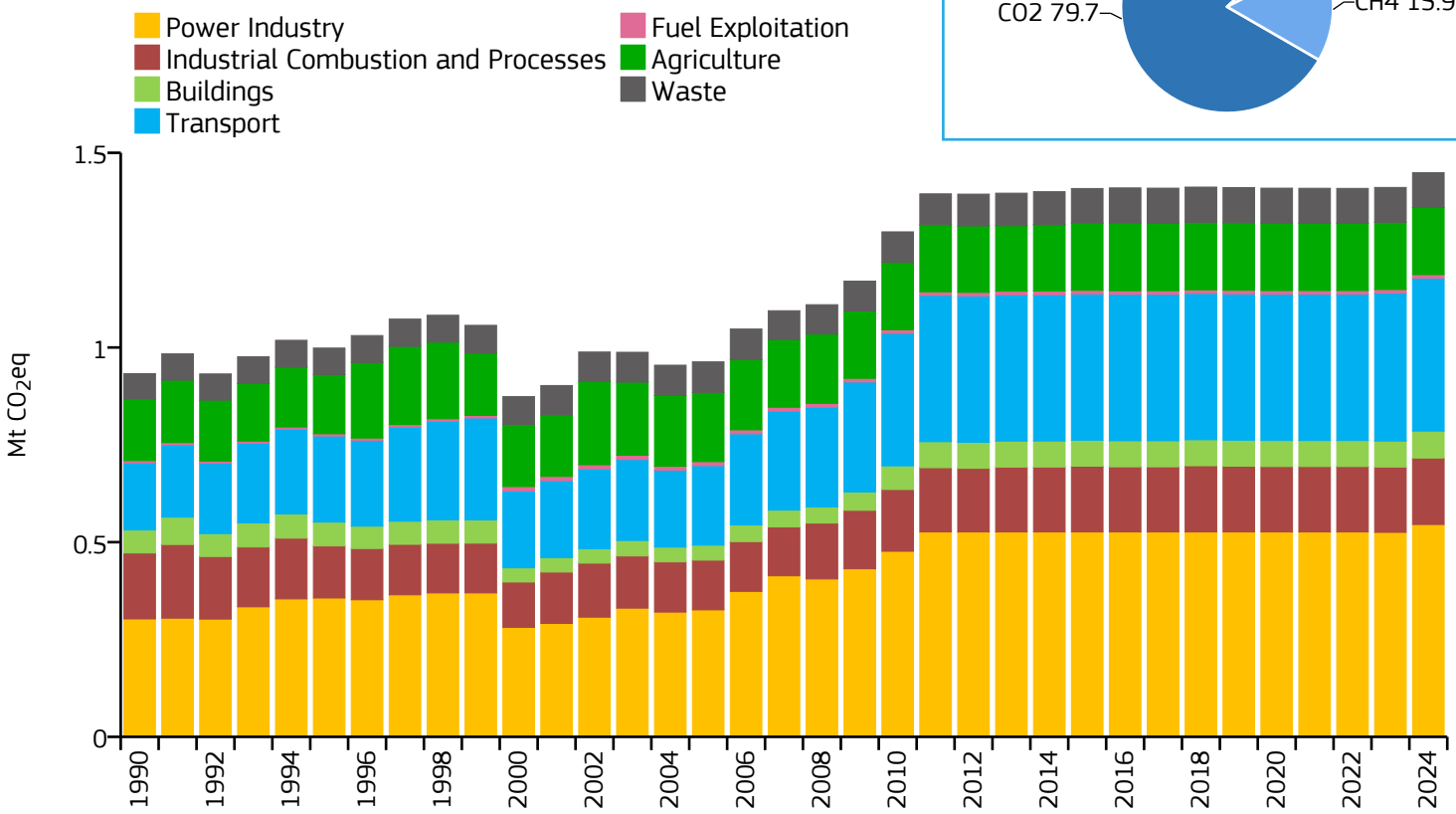
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.241	2.171	0.116	111.000k
2015	0.170	1.590	0.098	106.823k
2005	0.120	1.169	0.077	102.949k
1990	0.093	0.964	0.104	96.283k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+223%	+126%	+4%
Industrial Combustion and Processes	+244%	+176%	+4%
Buildings	+174%	+222%	+4%
Transport	+289%	+148%	+3%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	+34%	+32%	+4%
Waste	+56%	+27%	+1%
All sectors	+160%	+100%	+3%

Guadeloupe



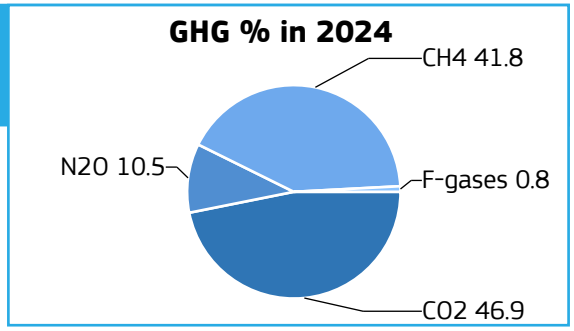
GHG emissions by sector



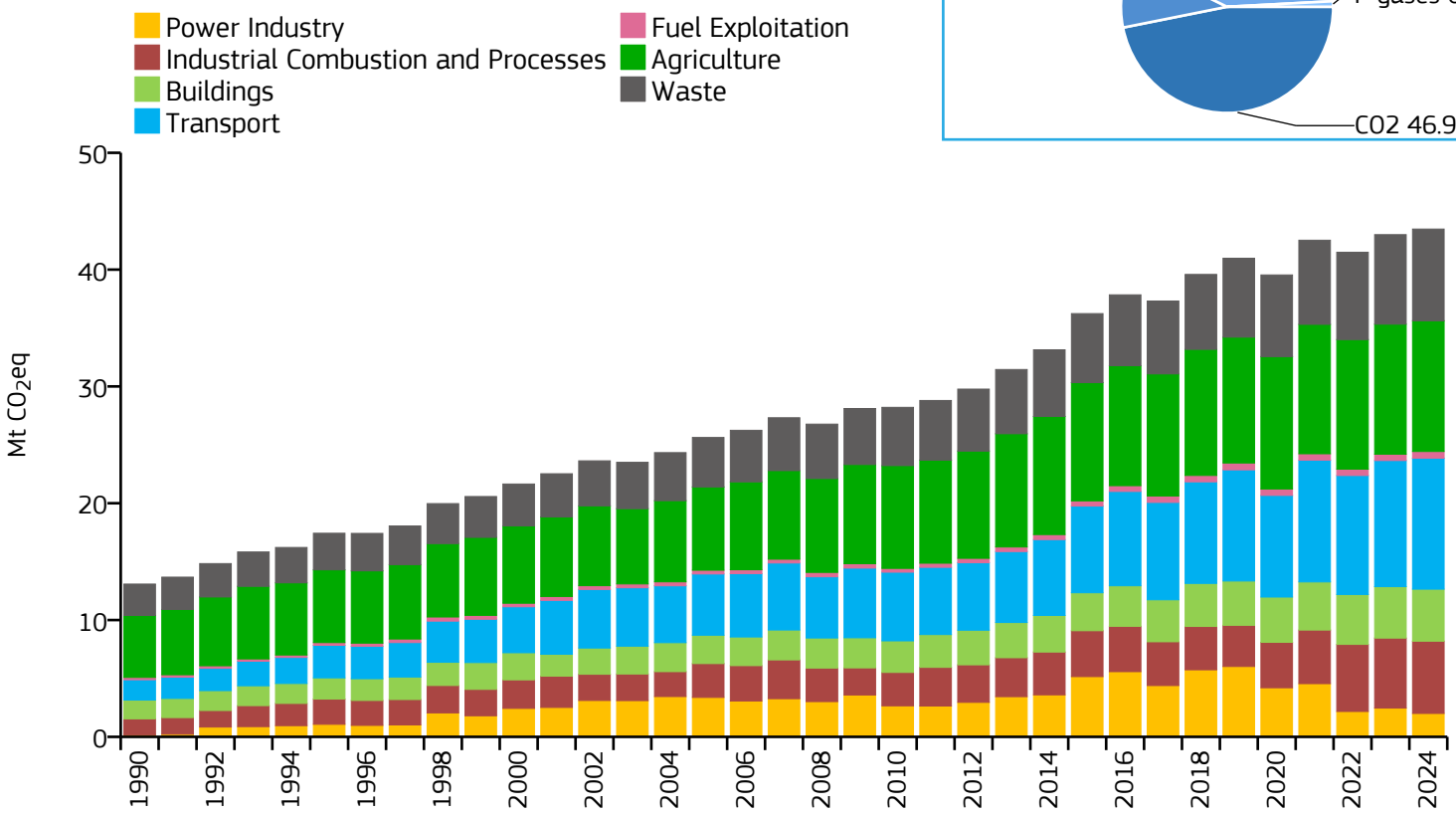
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.449	3.241	n/a	447.000k
2015	1.408	3.127	n/a	450.418k
2005	0.963	2.191	n/a	439.552k
1990	0.933	2.417	n/a	385.878k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+80%	+67%	+4%
Industrial Combustion and Processes	+1%	+34%	+2%
Buildings	+17%	+80%	+4%
Transport	+128%	+92%	+3%
Fuel Exploitation	+59%	-8%	0%
Agriculture	+9%	-3%	0%
Waste	+36%	+14%	0%
All sectors	+55%	+50%	+3%

Guatemala



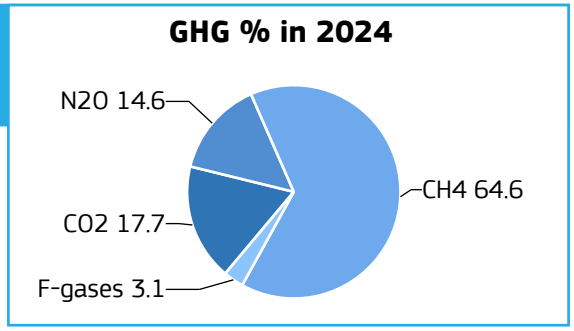
GHG emissions by sector



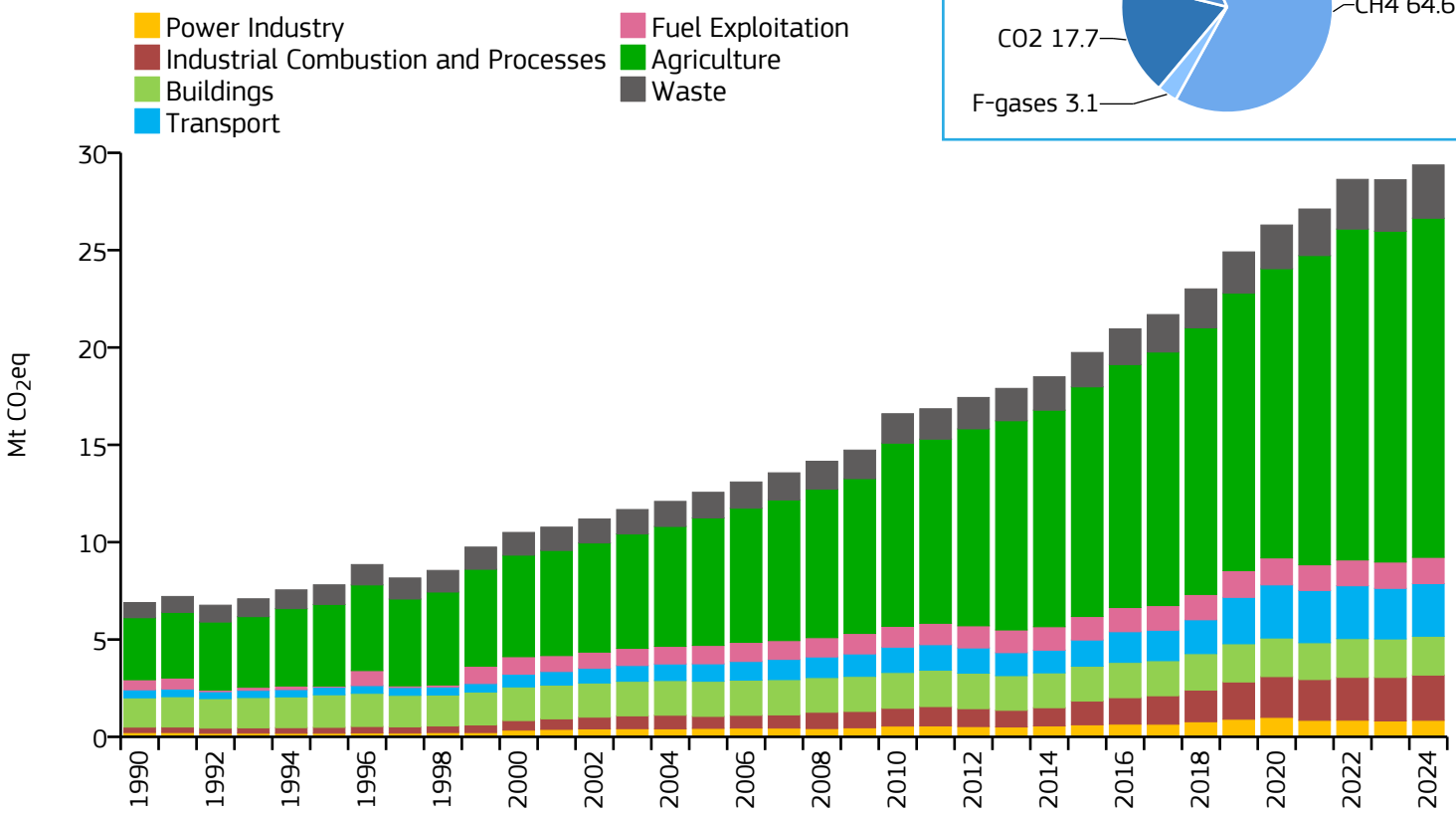
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	43.472	2.259	0.187	19.241M
2015	36.234	2.229	0.210	16.252M
2005	25.629	1.957	0.215	13.096M
1990	13.080	1.412	0.191	9.264M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	-41%	-19%
Industrial Combustion and Processes	> +300%	+114%	+3%
Buildings	+177%	+83%	+1%
Transport	> +300%	+114%	+4%
Fuel Exploitation	+187%	+77%	+5%
Agriculture	+111%	+57%	+1%
Waste	+192%	+85%	+2%
All sectors	+232%	+70%	+1%

Guinea



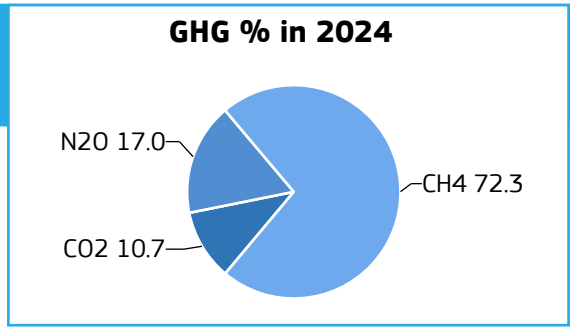
GHG emissions by sector



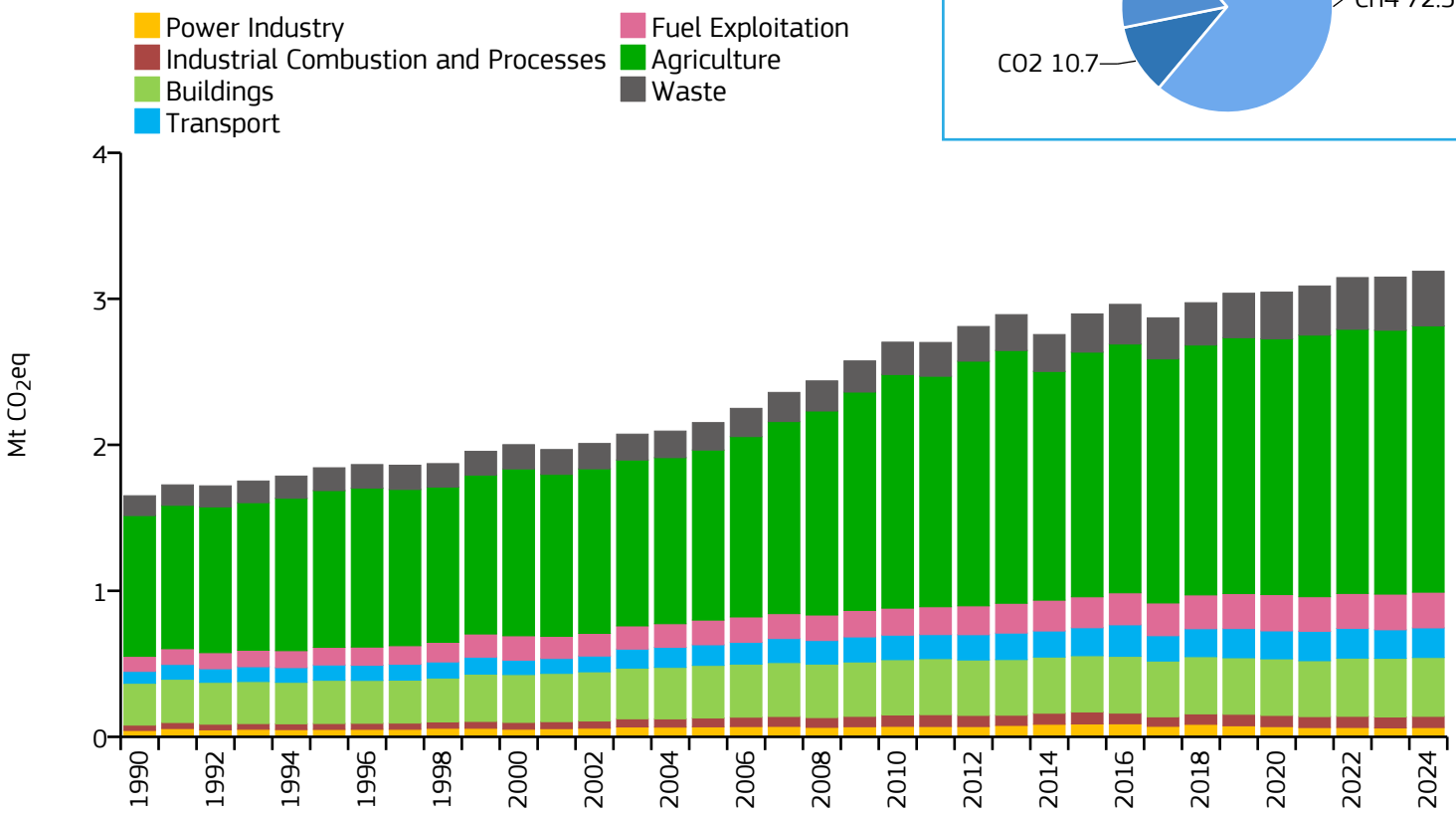
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	29.376	1.929	0.492	15.226M
2015	19.743	1.633	0.585	12.091M
2005	12.561	1.298	0.543	9.680M
1990	6.898	1.142	0.509	6.041M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+282%	+95%	+4%
Industrial Combustion and Processes	> +300%	+278%	+4%
Buildings	+33%	+11%	+1%
Transport	> +300%	+201%	+4%
Fuel Exploitation	+161%	+43%	0%
Agriculture	> +300%	+166%	+3%
Waste	+251%	+107%	+3%
All sectors	> +300%	+134%	+3%

Guinea-Bissau



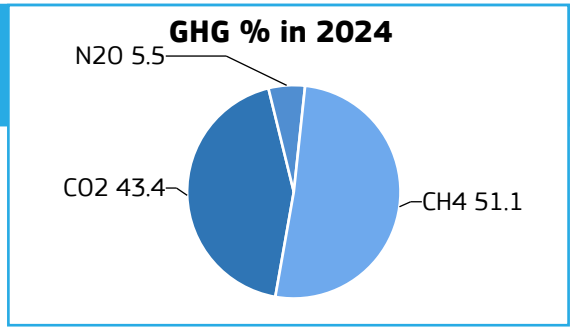
GHG emissions by sector



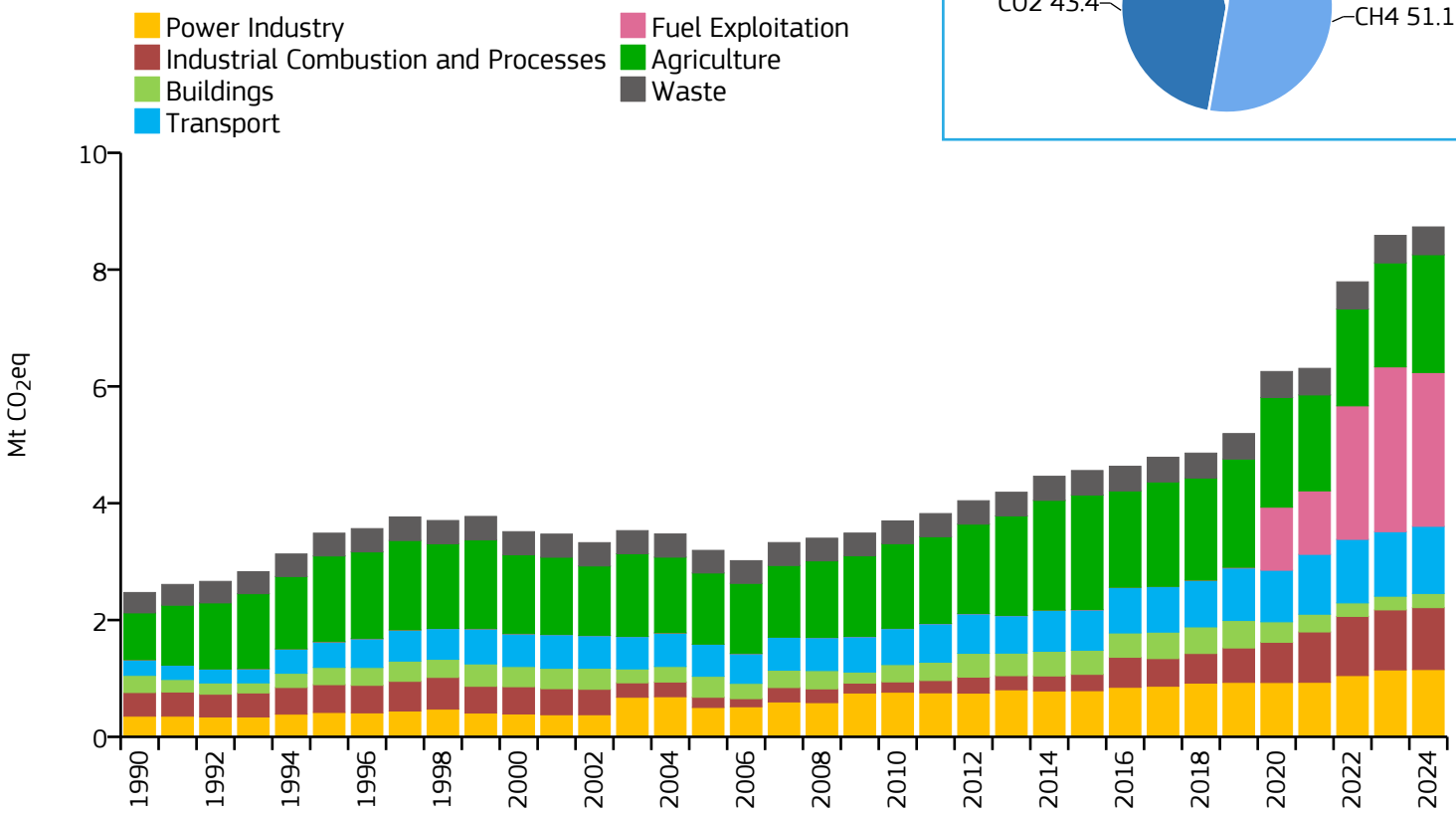
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	3.189	1.454	0.540	2.193M
2015	2.897	1.636	0.736	1.771M
2005	2.152	1.559	0.765	1.381M
1990	1.651	1.631	0.872	1.012M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+46%	-7%	+4%
Industrial Combustion and Processes	+109%	+27%	+2%
Buildings	+41%	+12%	0%
Transport	+150%	+44%	+4%
Fuel Exploitation	+136%	+44%	0%
Agriculture	+89%	+57%	+1%
Waste	+176%	+99%	+3%
All sectors	+93%	+48%	+1%

Guyana



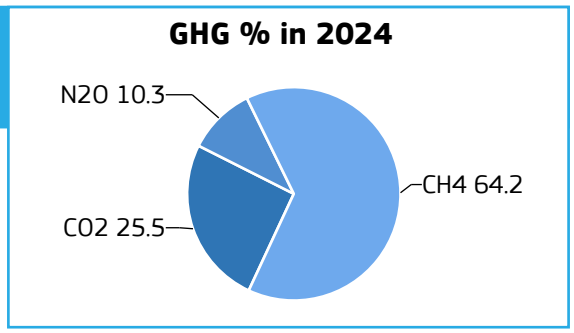
GHG emissions by sector



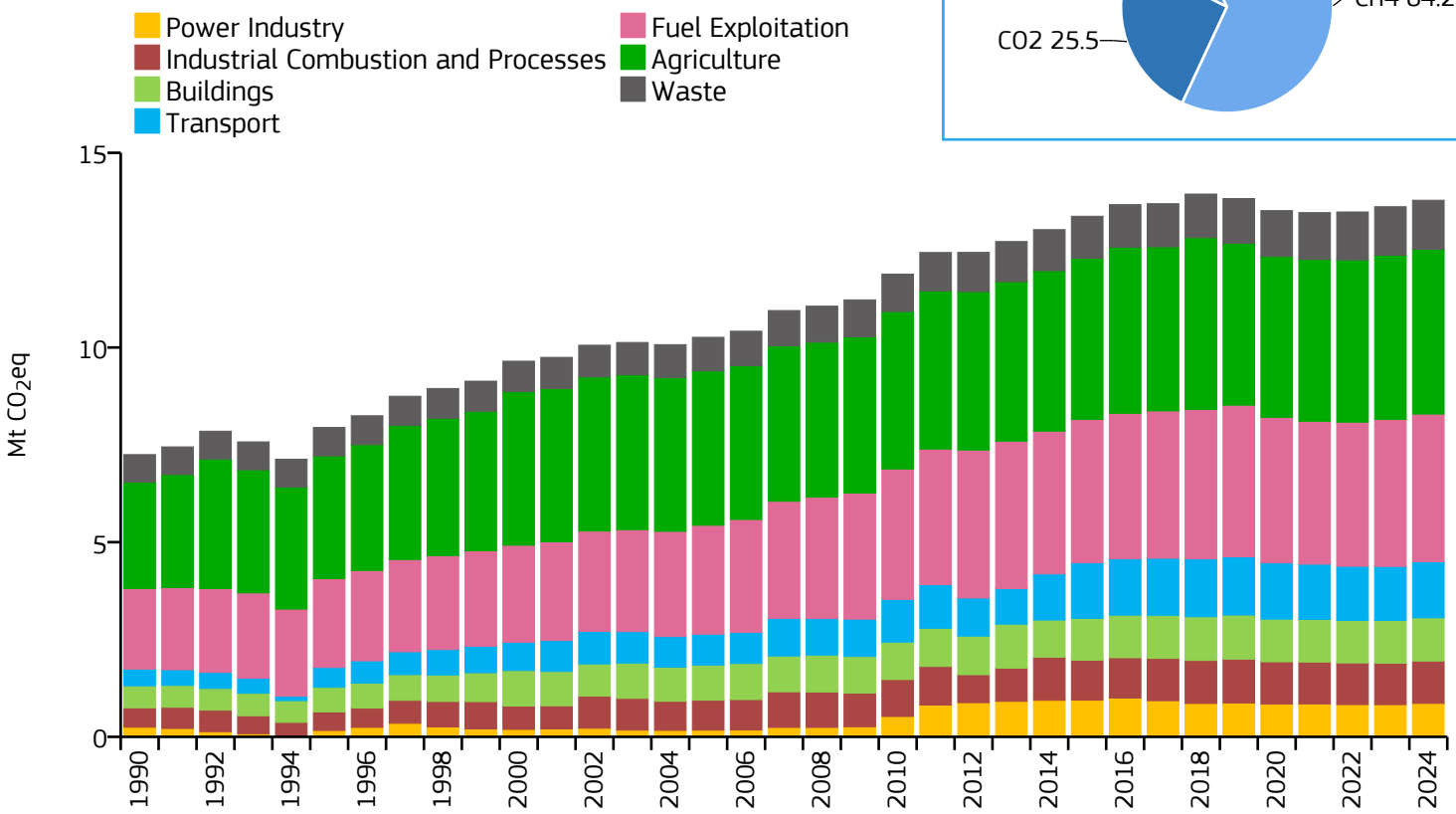
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	8.731	10.832	0.149	806.000k
2015	4.560	5.933	0.499	768.514k
2005	3.193	4.252	0.508	750.946k
1990	2.472	3.325	0.650	743.309k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +226%	↗ +129%	→ 0%
Industrial Combustion and Processes	↗ +162%	↗ > +300%	→ +3%
Buildings	↘ -17%	↘ -32%	→ +4%
Transport	↗ > +300%	↗ +110%	→ +4%
Fuel Exploitation	↗ > +300%	↗ > +300%	↘ -7%
Agriculture	↗ +151%	↗ +66%	↗ +13%
Waste	↗ +36%	↗ +23%	→ +1%
All sectors	↗ +253%	↗ +173%	→ +2%

Haiti



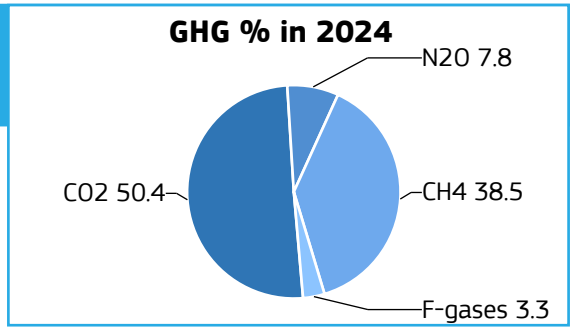
GHG emissions by sector



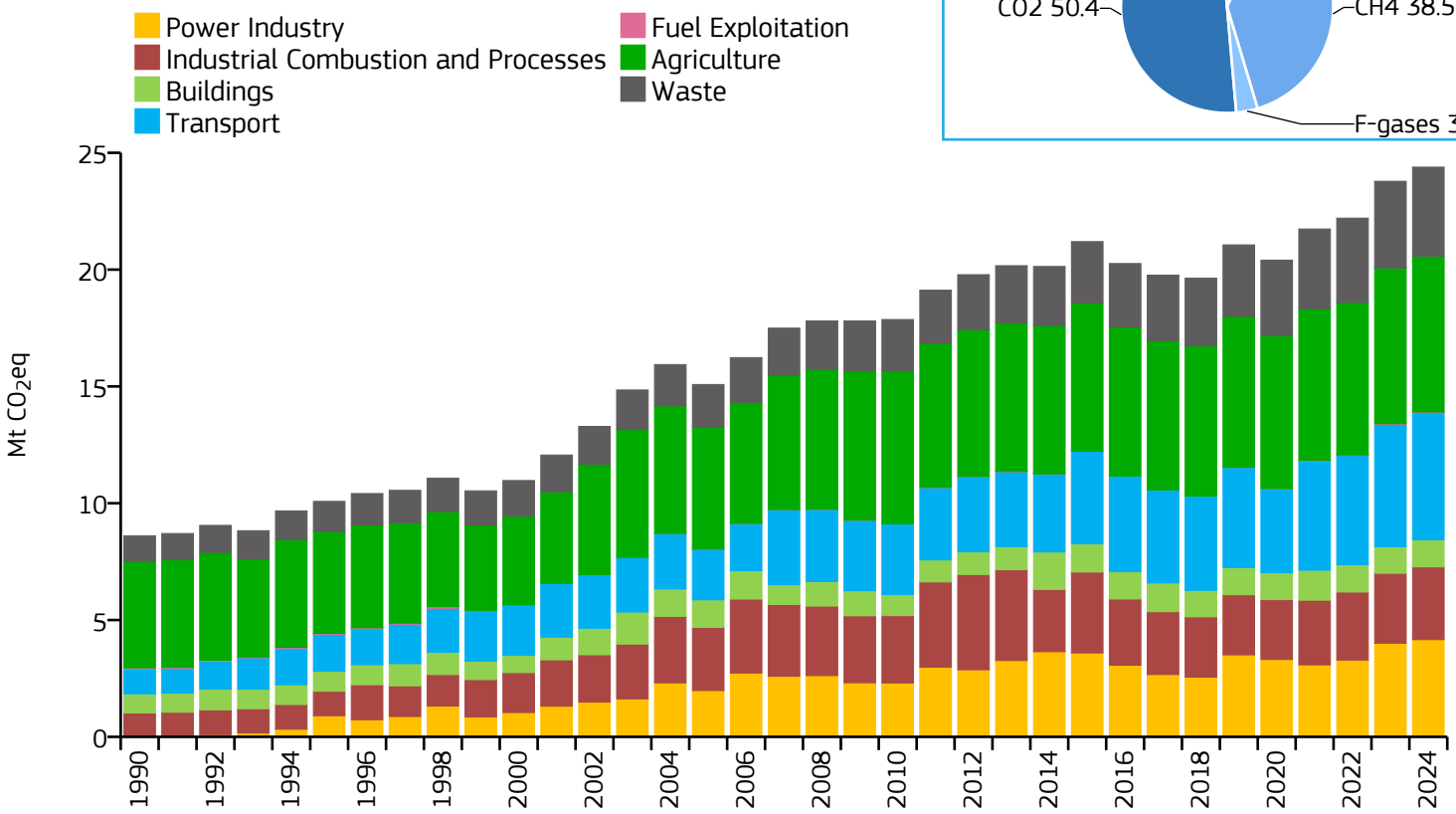
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	13.782	1.161	0.418	11.867M
2015	13.370	1.248	0.371	10.711M
2005	10.261	1.108	0.358	9.263M
1990	7.248	1.021	0.268	7.100M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+247%	> +300%	+4%
Industrial Combustion and Processes	+118%	+42%	+2%
Buildings	+96%	+23%	+1%
Transport	+234%	+81%	+4%
Fuel Exploitation	+83%	+36%	0%
Agriculture	+55%	+7%	0%
Waste	+79%	+46%	+1%
All sectors	+90%	+34%	+1%

Honduras



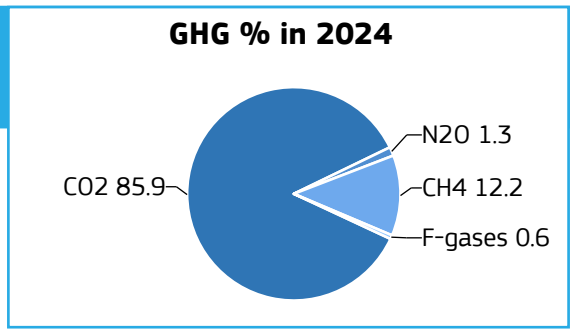
GHG emissions by sector



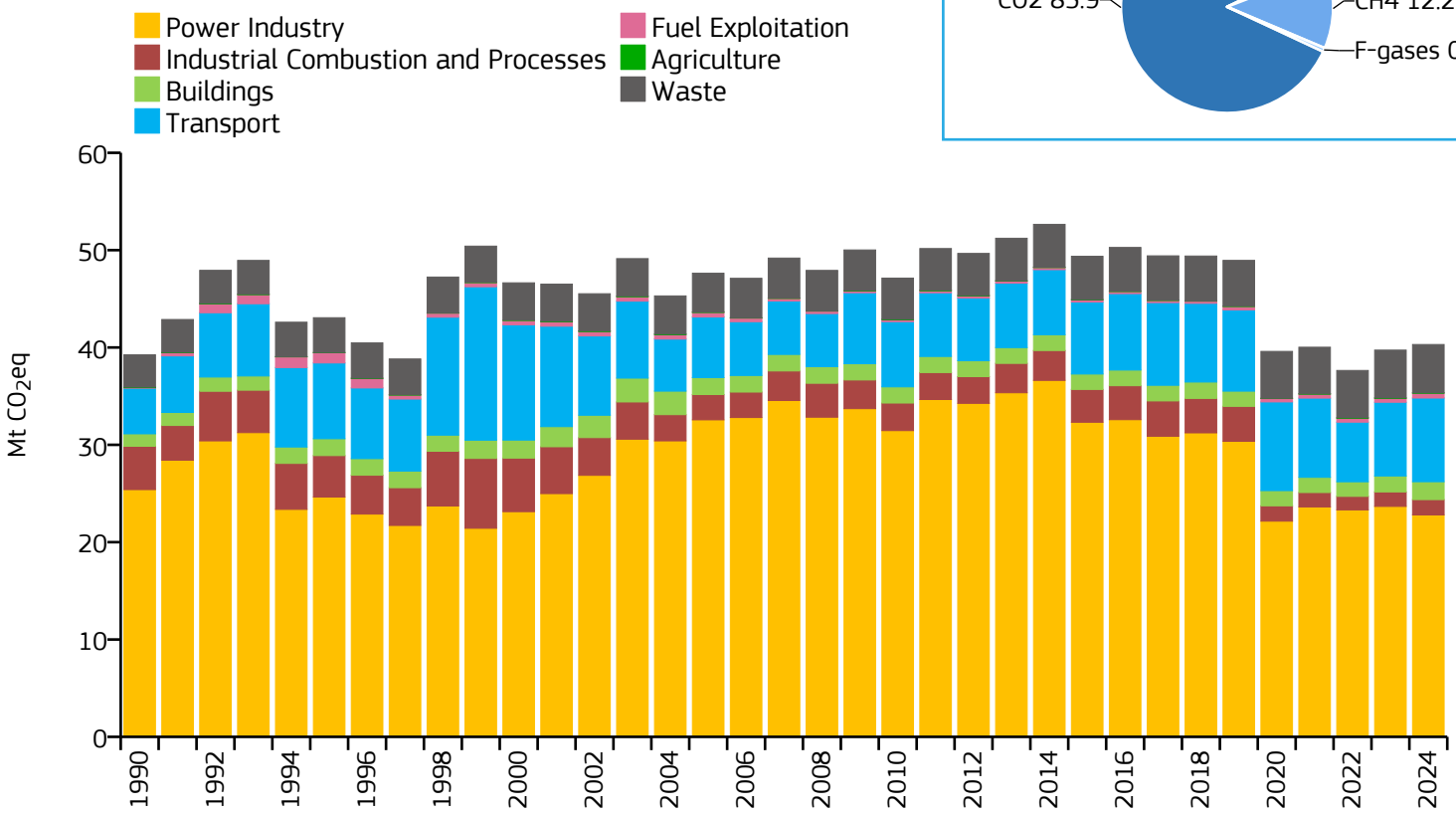
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	24.387	2.365	0.342	10.311M
2015	21.197	2.366	0.395	8.961M
2005	15.083	2.046	0.399	7.373M
1990	8.607	1.737	0.390	4.955M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +110%	→ +4%
Industrial Combustion and Processes	↗ +211%	↗ +15%	→ +4%
Buildings	↗ +43%	→ -1%	→ +2%
Transport	↗ > +300%	↗ +151%	→ +4%
Fuel Exploitation	↘ -24%	↗ > +300%	↗ +30%
Agriculture	↗ +46%	↗ +28%	→ 0%
Waste	↗ +248%	↗ +108%	→ +3%
All sectors	↗ +183%	↗ +62%	→ +3%

Hong Kong



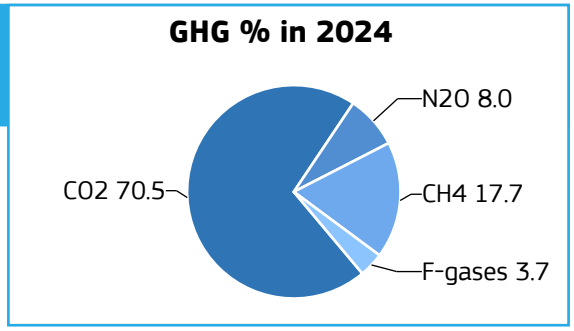
GHG emissions by sector



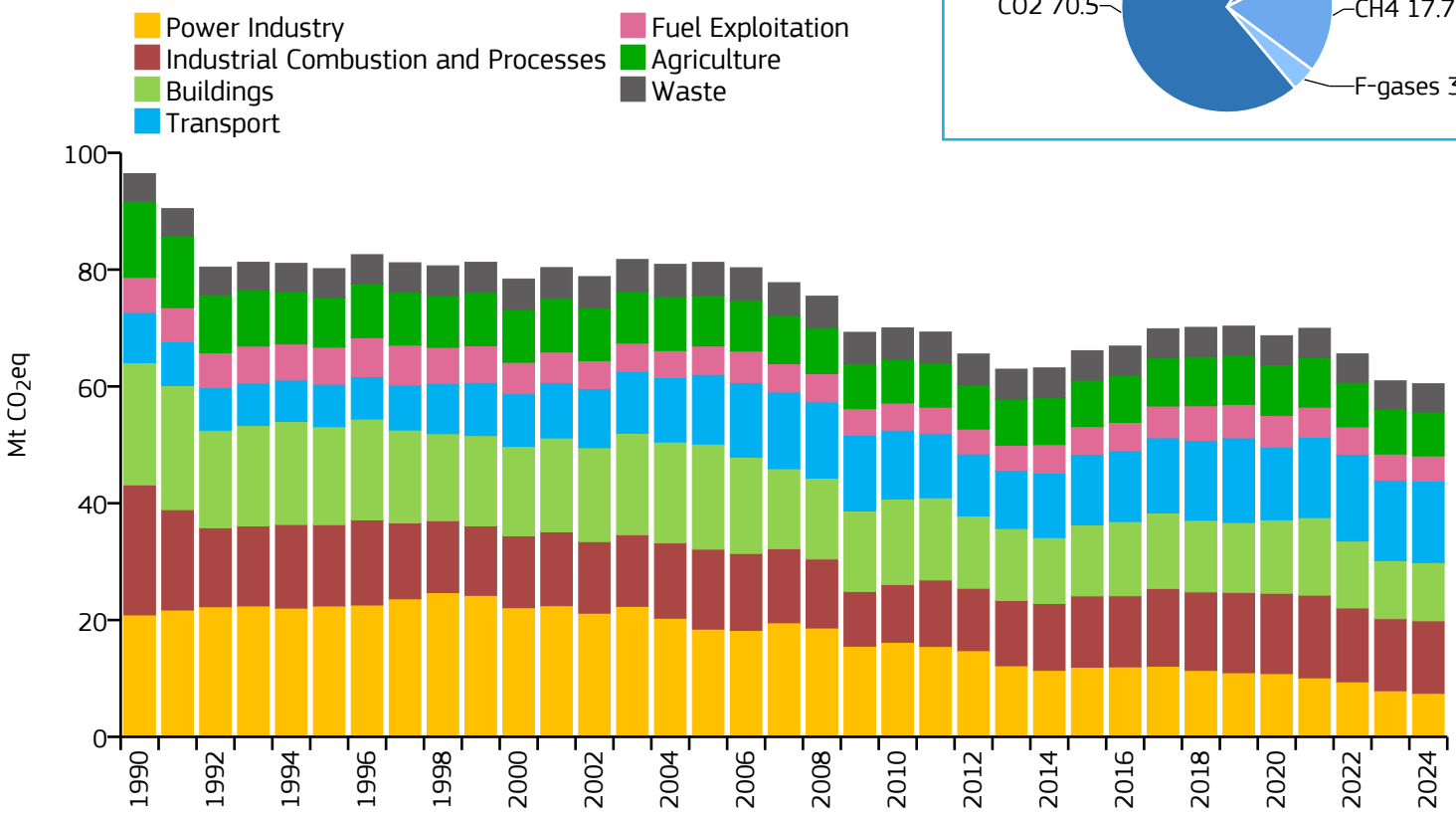
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	40.307	5.217	0.081	7.726M
2015	49.369	6.814	0.108	7.246M
2005	47.627	6.976	0.146	6.828M
1990	39.245	6.788	0.218	5.781M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-10%	-30%	-4%
Industrial Combustion and Processes	-65%	-39%	+6%
Buildings	+44%	+6%	+12%
Transport	+83%	+38%	+13%
Fuel Exploitation	> +300%	+7%	+24%
Agriculture	-47%	-6%	0%
Waste	+50%	+24%	+1%
All sectors	+3%	-15%	+1%

Hungary



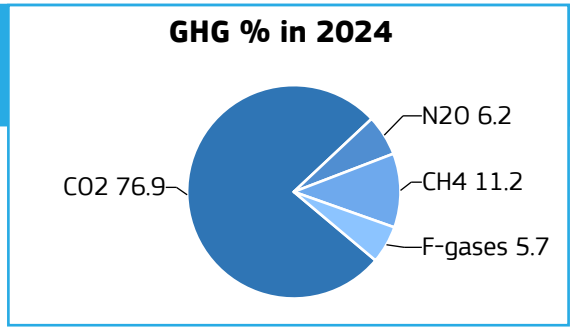
GHG emissions by sector



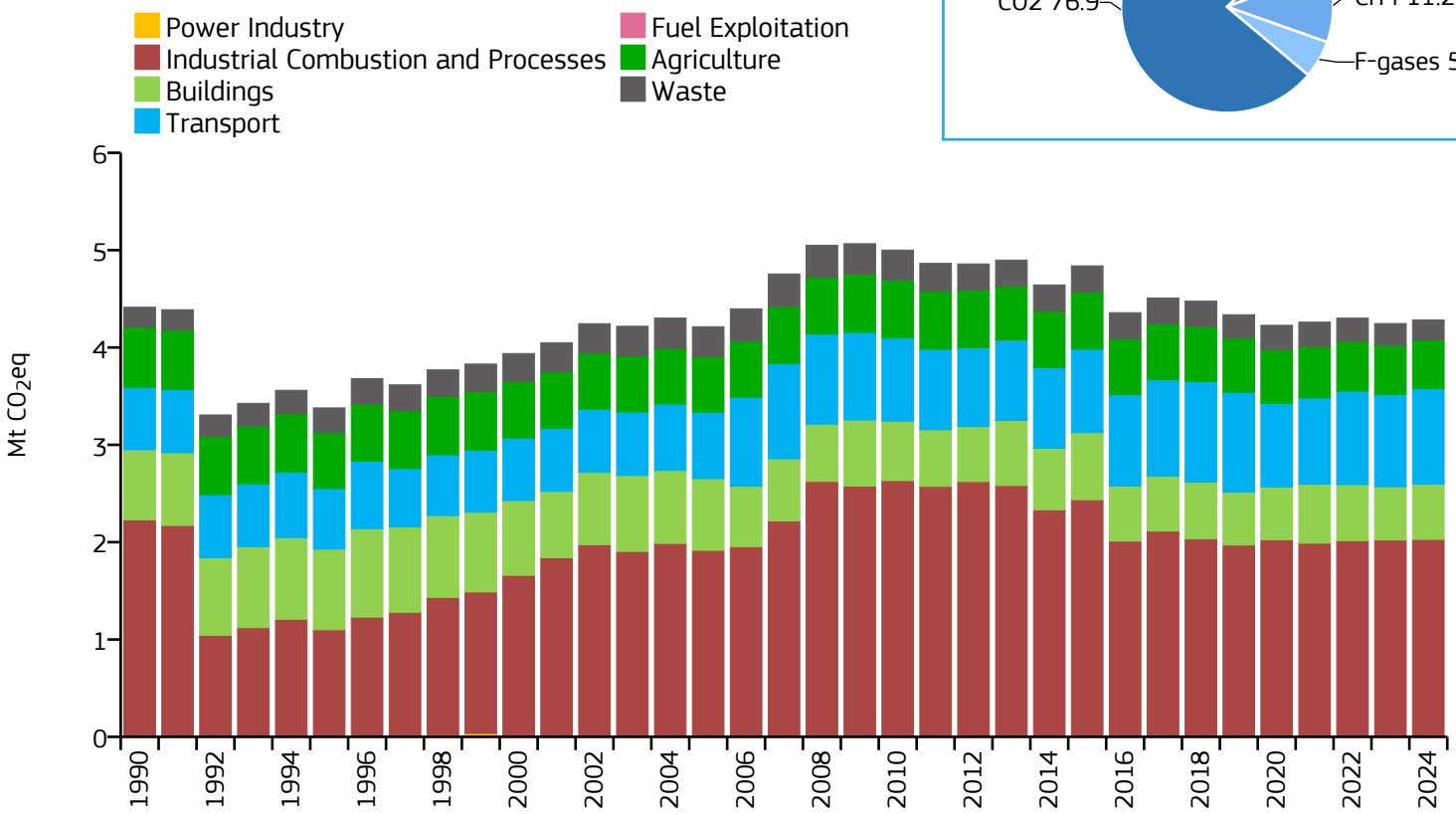
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	60.453	6.378	0.155	9.478M
2015	66.108	6.757	0.214	9.784M
2005	81.241	8.054	0.290	10.086M
1990	96.429	9.292	0.436	10.378M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-64%	-60%	-6%
Industrial Combustion and Processes	-44%	-9%	+1%
Buildings	-52%	-45%	0%
Transport	+62%	+17%	+1%
Fuel Exploitation	-28%	-11%	-4%
Agriculture	-42%	-14%	-2%
Waste	+2%	-14%	-1%
All sectors	-37%	-26%	-1%

Iceland



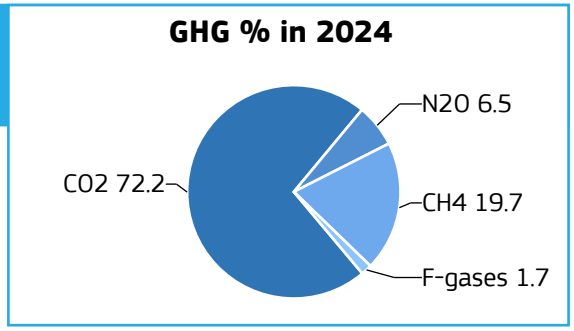
GHG emissions by sector



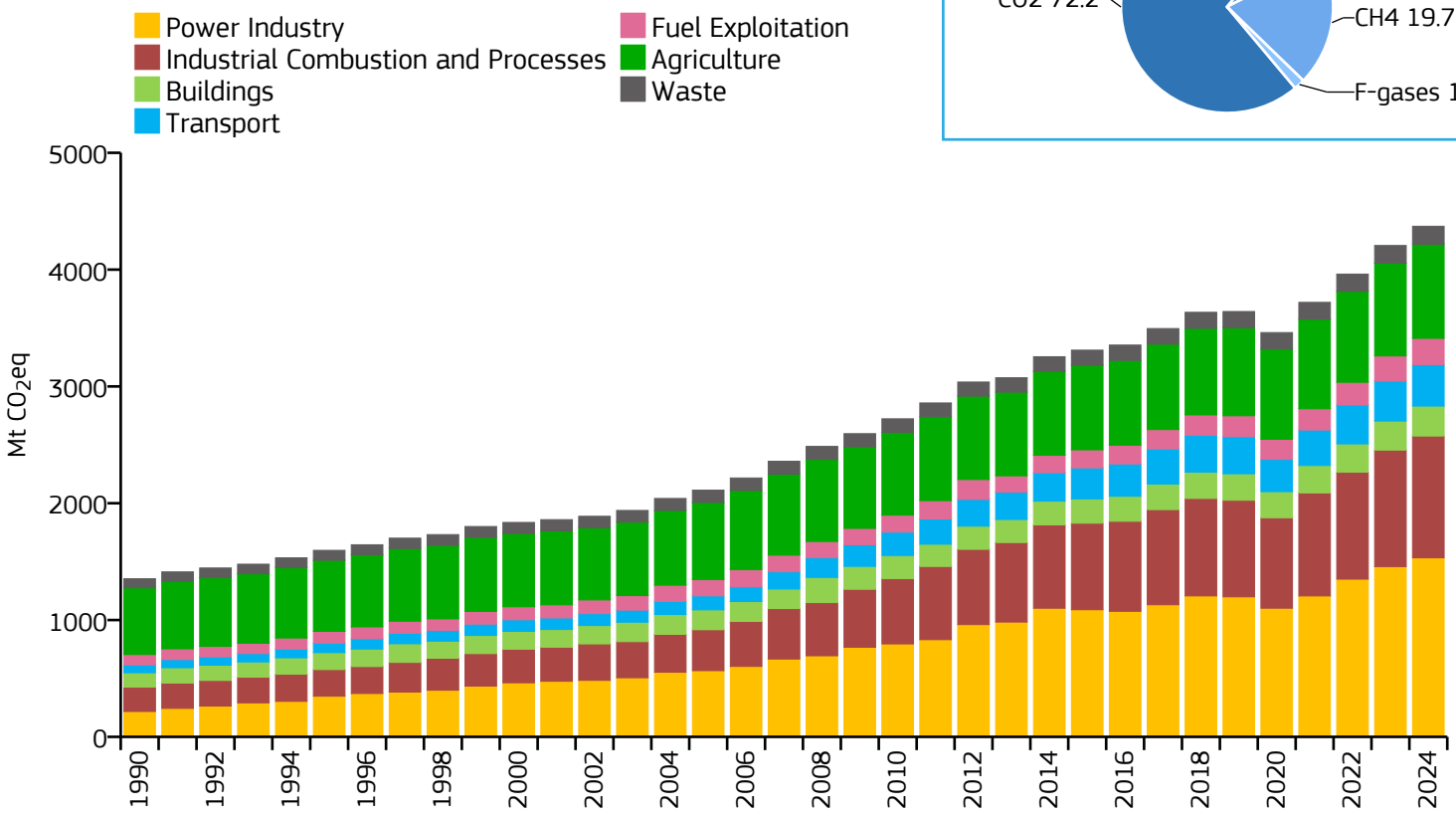
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	4.282	12.131	0.161	353.000k
2015	4.838	14.651	0.244	330.243k
2005	4.213	14.284	0.257	294.979k
1990	4.413	17.305	0.432	255.043k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+112%	+67%	+4%
Industrial Combustion and Processes	-9%	+6%	0%
Buildings	-21%	-23%	+4%
Transport	+53%	+44%	+4%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	-19%	-12%	-2%
Waste	+1%	-33%	-7%
All sectors	-3%	+2%	+1%

India



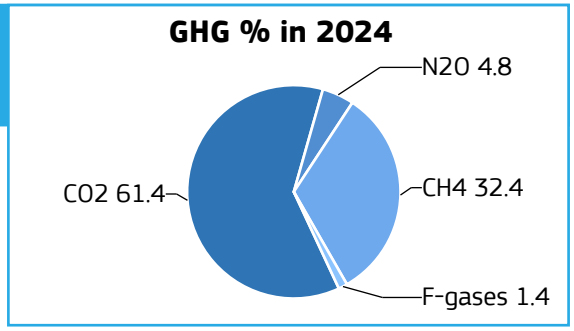
GHG emissions by sector



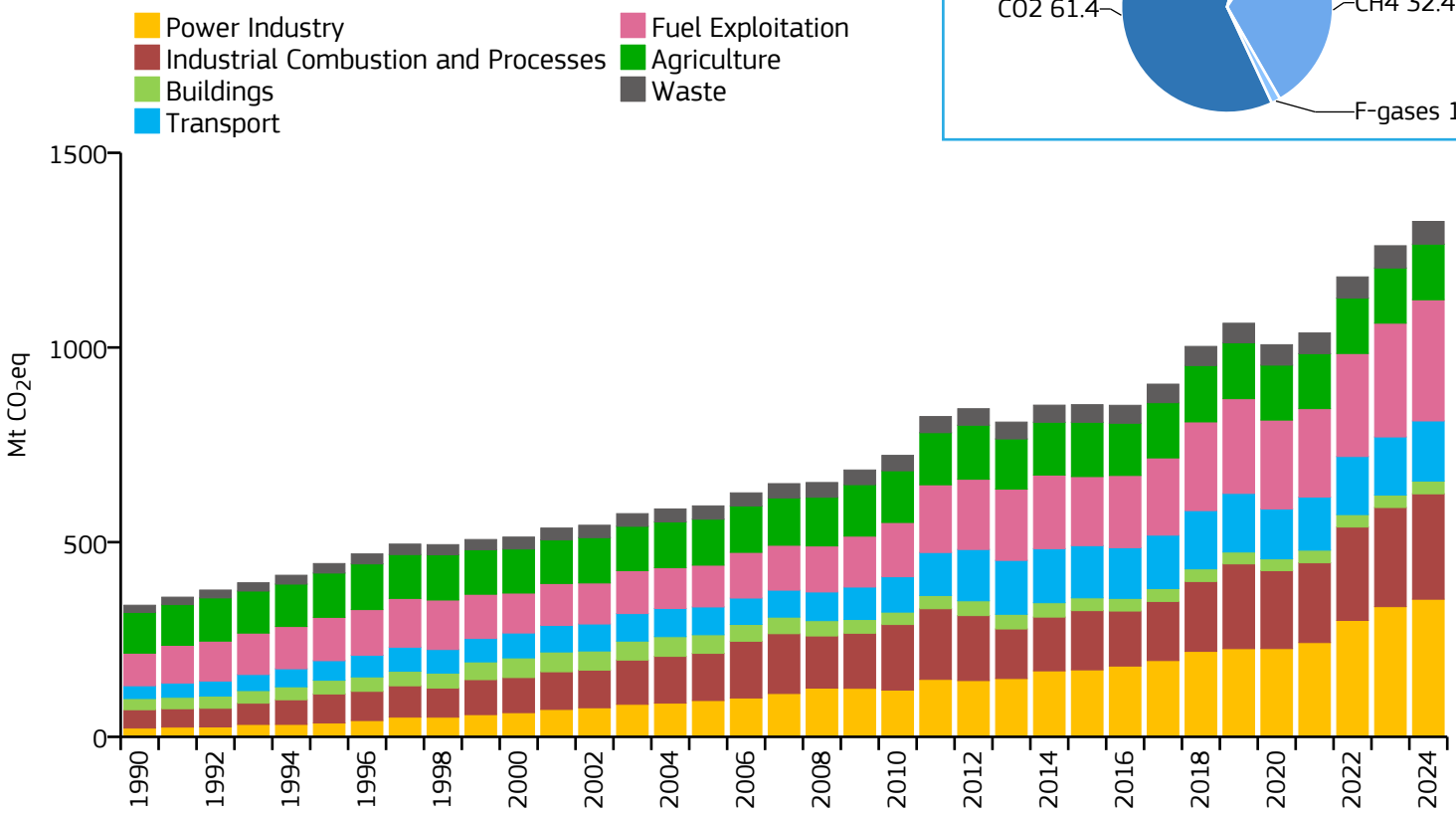
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	4371.169	3.038	0.307	1.439G
2015	3310.459	2.529	0.384	1.309G
2005	2111.743	1.846	0.471	1.144G
1990	1353.653	1.556	0.710	870.133M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+171%	+5%
Industrial Combustion and Processes	> +300%	+198%	+5%
Buildings	+108%	+51%	+3%
Transport	> +300%	+196%	+4%
Fuel Exploitation	+152%	+61%	+5%
Agriculture	+41%	+22%	+1%
Waste	+98%	+47%	+2%
All sectors	+223%	+107%	+4%

Indonesia



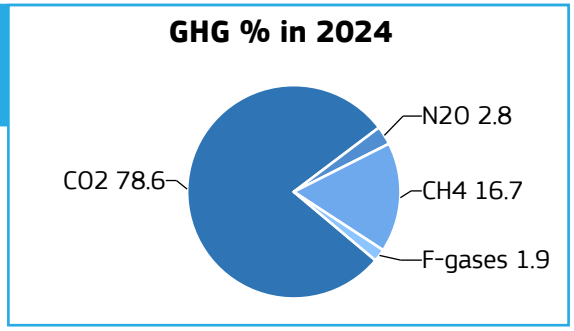
GHG emissions by sector



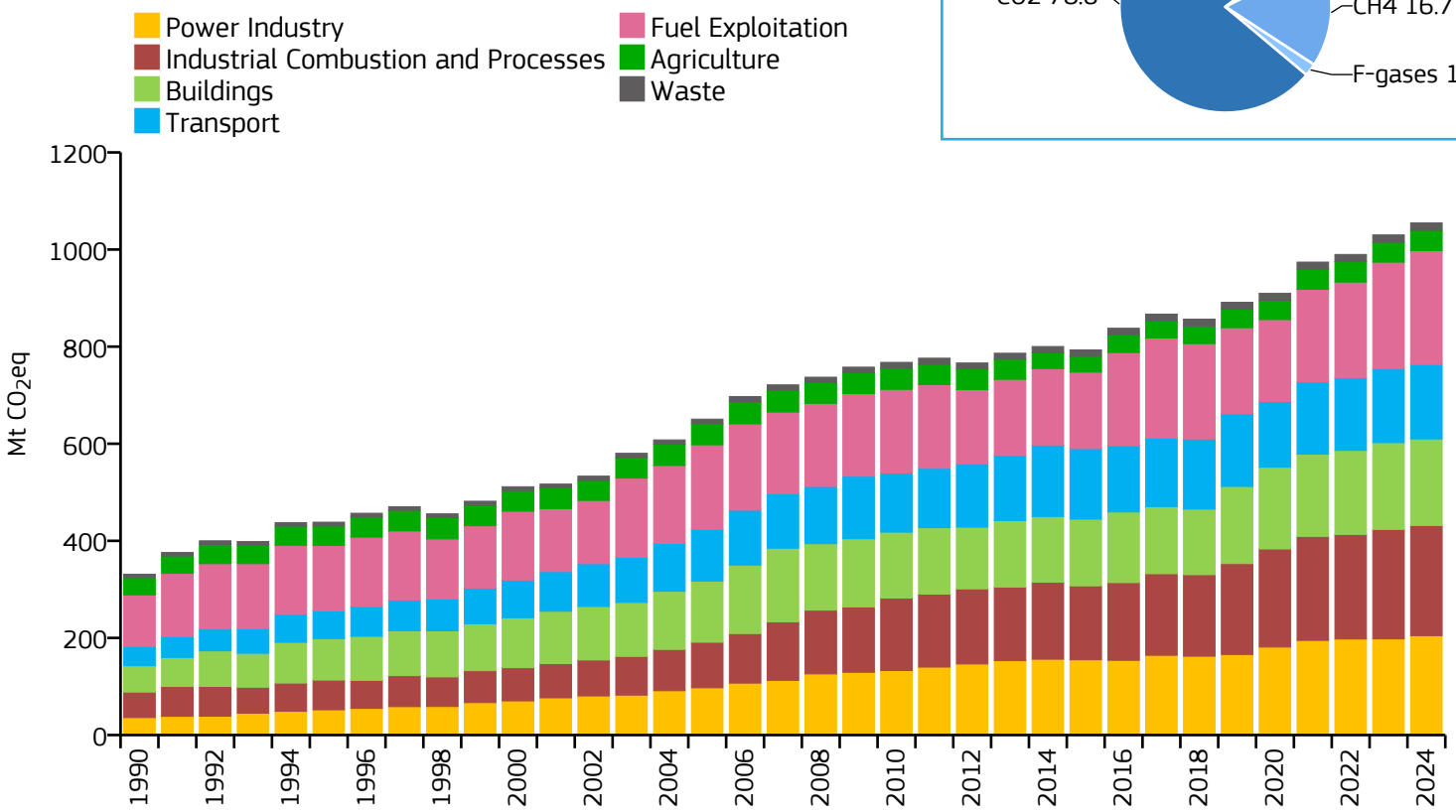
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1323.778	4.688	0.323	282.377M
2015	853.122	3.305	0.299	258.162M
2005	593.162	2.616	0.360	226.713M
1990	338.041	1.863	0.378	181.437M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+279%	+6%
Industrial Combustion and Processes	> +300%	+123%	+6%
Buildings	+14%	-32%	+2%
Transport	> +300%	+116%	+3%
Fuel Exploitation	+272%	+190%	+7%
Agriculture	+37%	+21%	+1%
Waste	+215%	+71%	+2%
All sectors	+292%	+123%	+5%

Iran



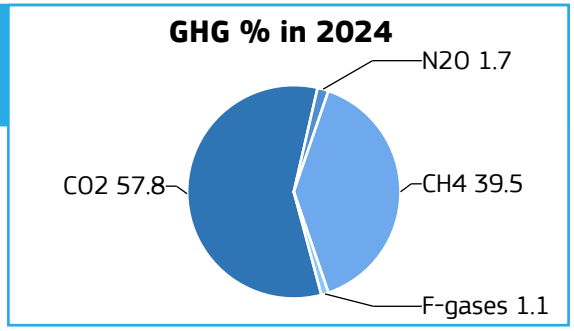
GHG emissions by sector



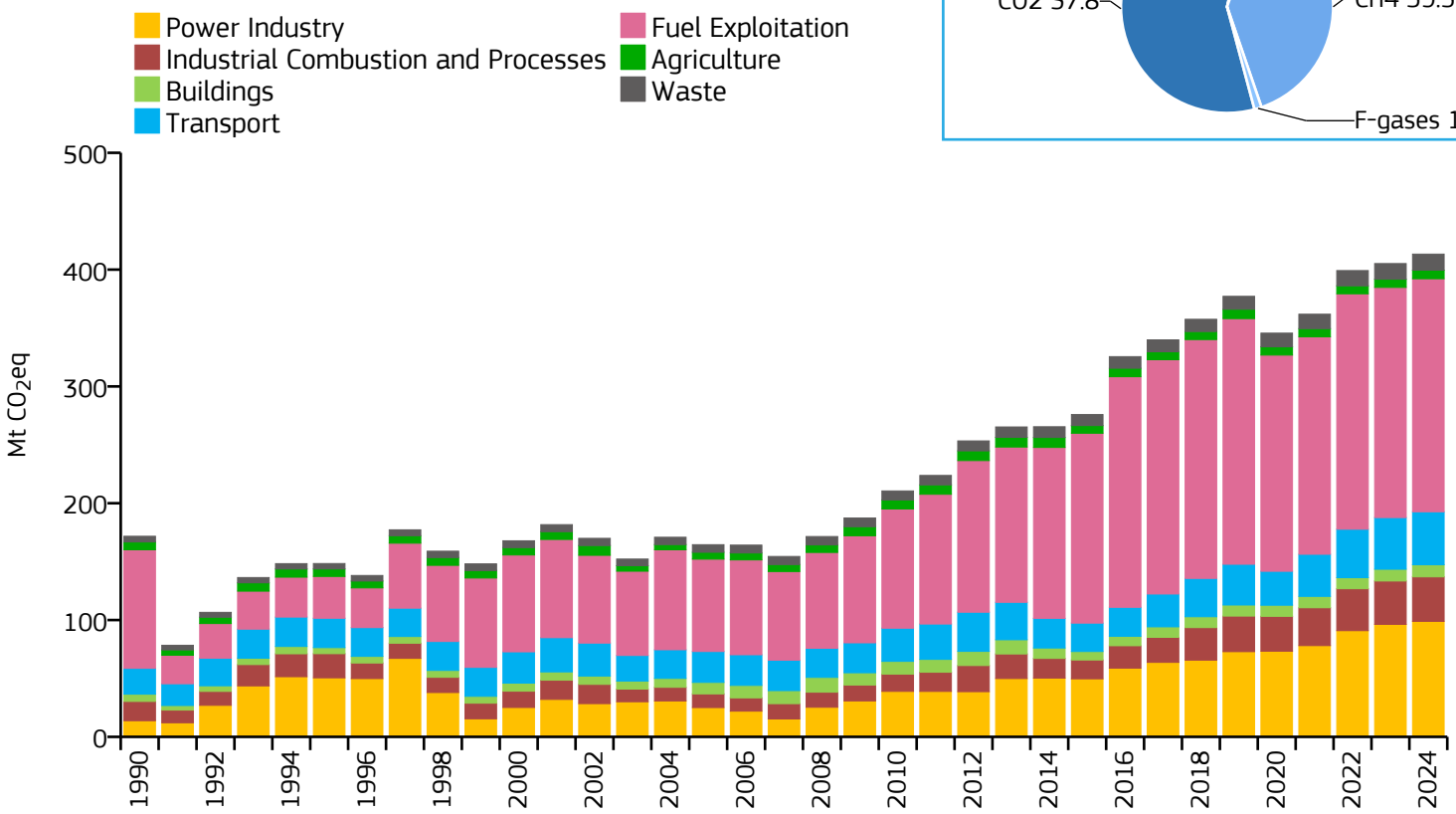
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1054.765	12.238	0.707	86.190M
2015	793.332	9.997	0.691	79.361M
2005	650.680	9.240	0.694	70.422M
1990	331.284	5.892	0.627	56.226M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+110%	+3%
Industrial Combustion and Processes	> +300%	+142%	+1%
Buildings	+228%	+41%	0%
Transport	+285%	+44%	+1%
Fuel Exploitation	+121%	+35%	+7%
Agriculture	+17%	-4%	+2%
Waste	+117%	+63%	0%
All sectors	+218%	+62%	+2%

Iraq



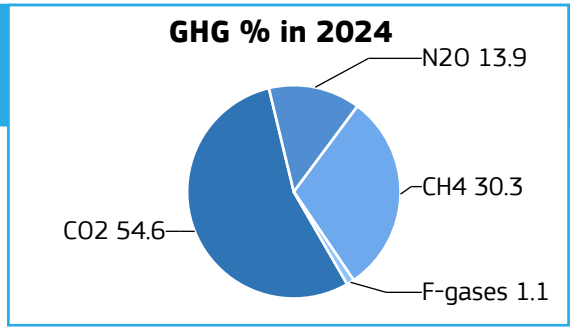
GHG emissions by sector



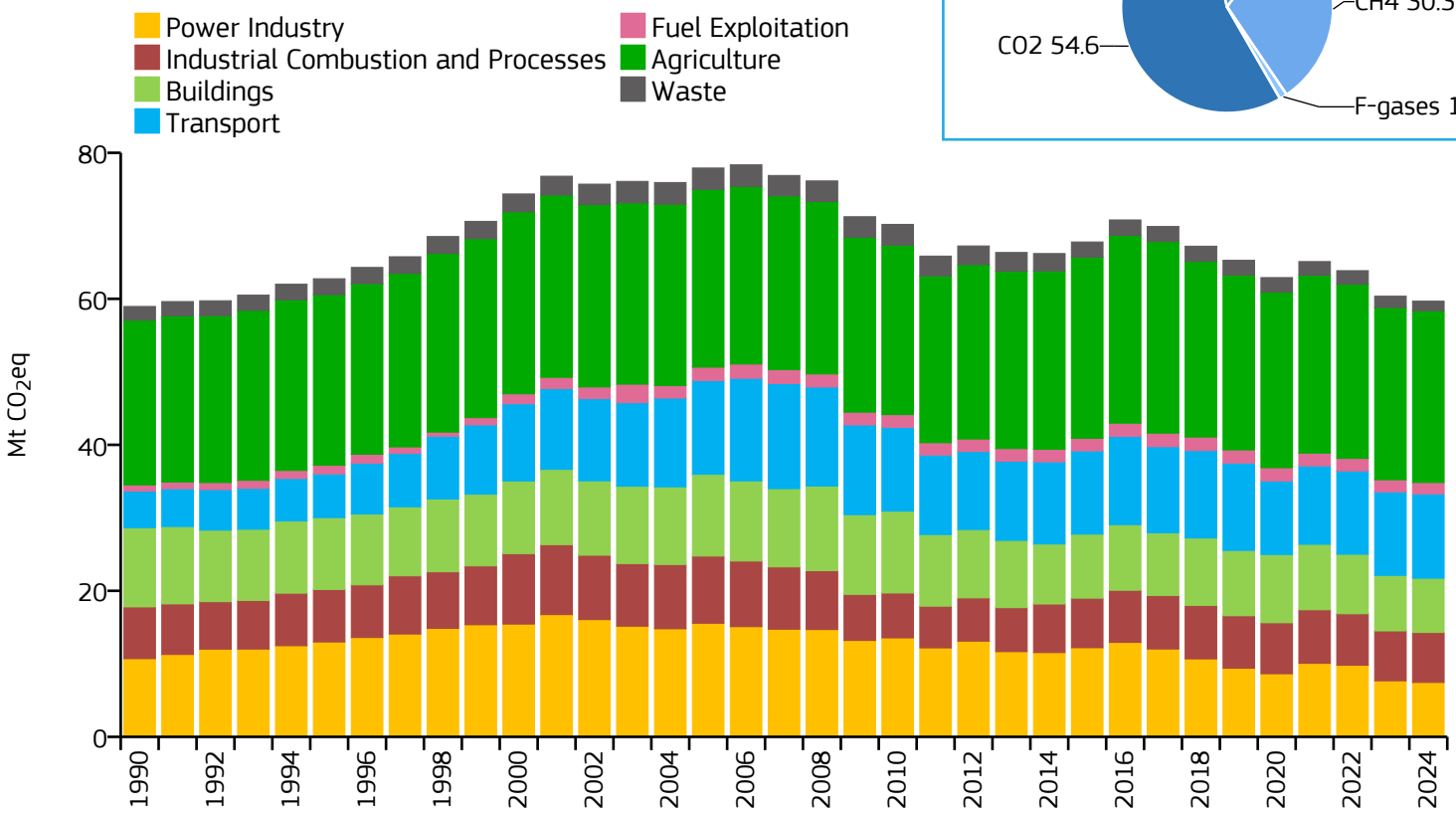
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	413.276	8.978	0.692	46.030M
2015	275.916	7.640	0.543	36.116M
2005	164.521	6.091	0.575	27.008M
1990	171.718	9.830	0.910	17.469M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+294%	+3%
Industrial Combustion and Processes	+131%	+225%	+3%
Buildings	+67%	+5%	+3%
Transport	+105%	+72%	+3%
Fuel Exploitation	+97%	+152%	+1%
Agriculture	+10%	+25%	+5%
Waste	+182%	+111%	+3%
All sectors	+141%	+151%	+2%

Ireland



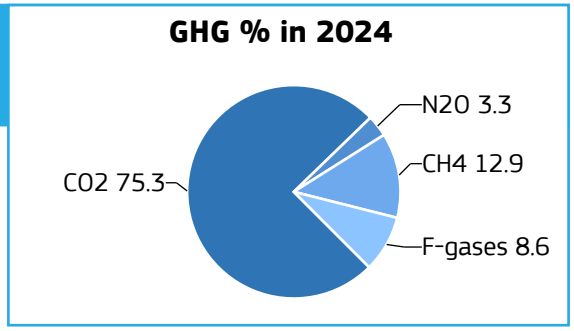
GHG emissions by sector



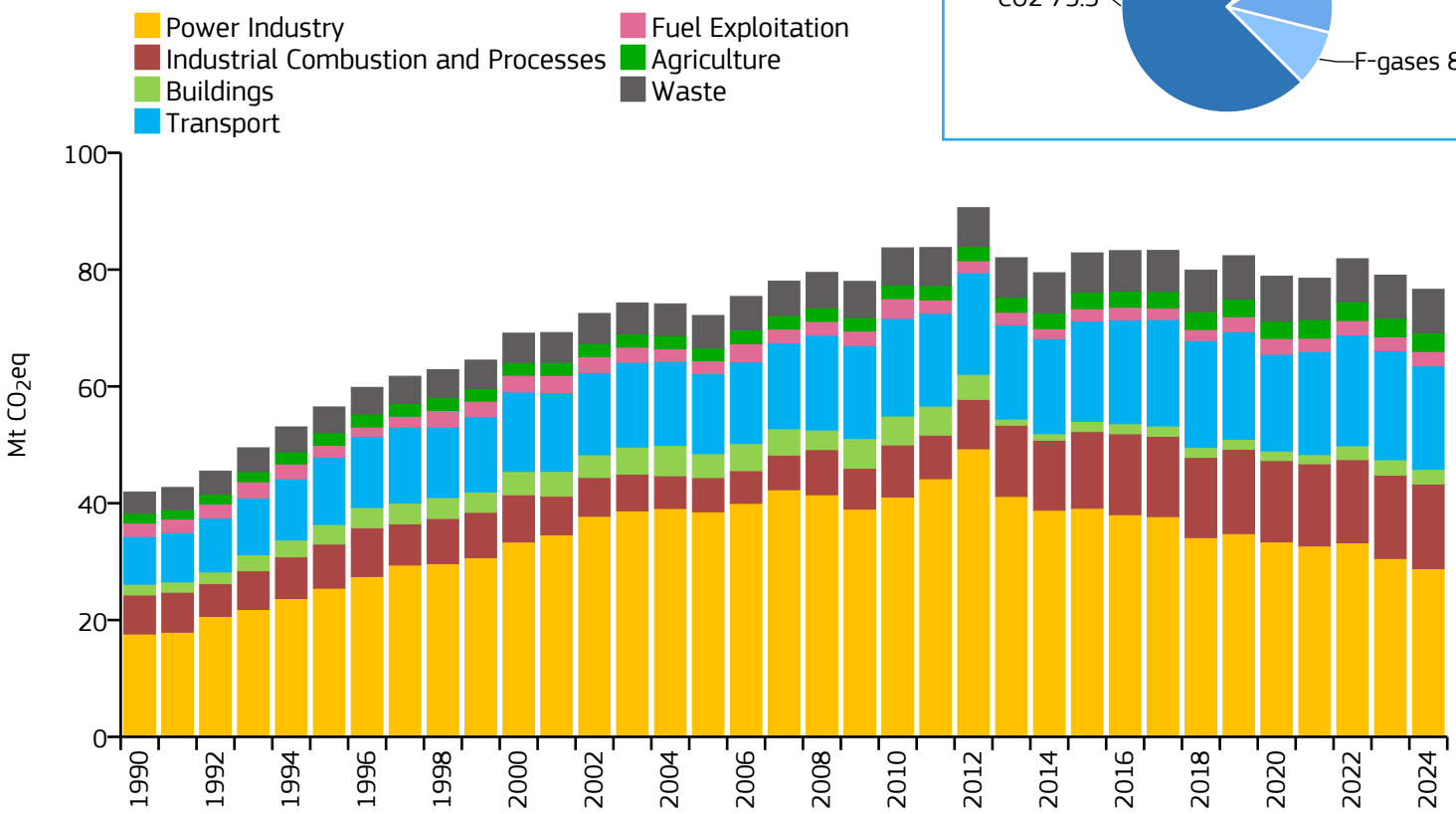
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	59.678	11.862	0.096	5.031M
2015	67.787	14.422	0.178	4.700M
2005	77.915	18.494	0.294	4.213M
1990	58.952	16.517	0.567	3.569M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-30%	-52%	-3%
Industrial Combustion and Processes	-3%	-26%	0%
Buildings	-32%	-34%	-2%
Transport	+131%	-10%	+1%
Fuel Exploitation	+80%	-15%	-6%
Agriculture	+4%	-3%	0%
Waste	-30%	-55%	-15%
All sectors	+1%	-23%	-1%

Israel and Palestine, State of



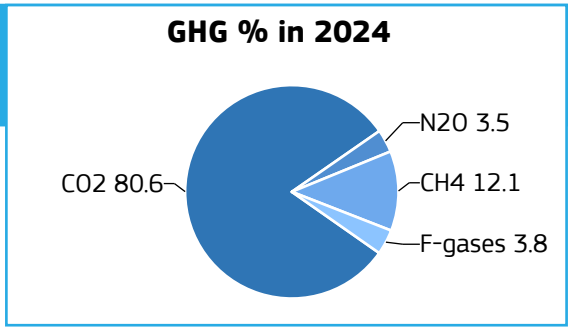
GHG emissions by sector



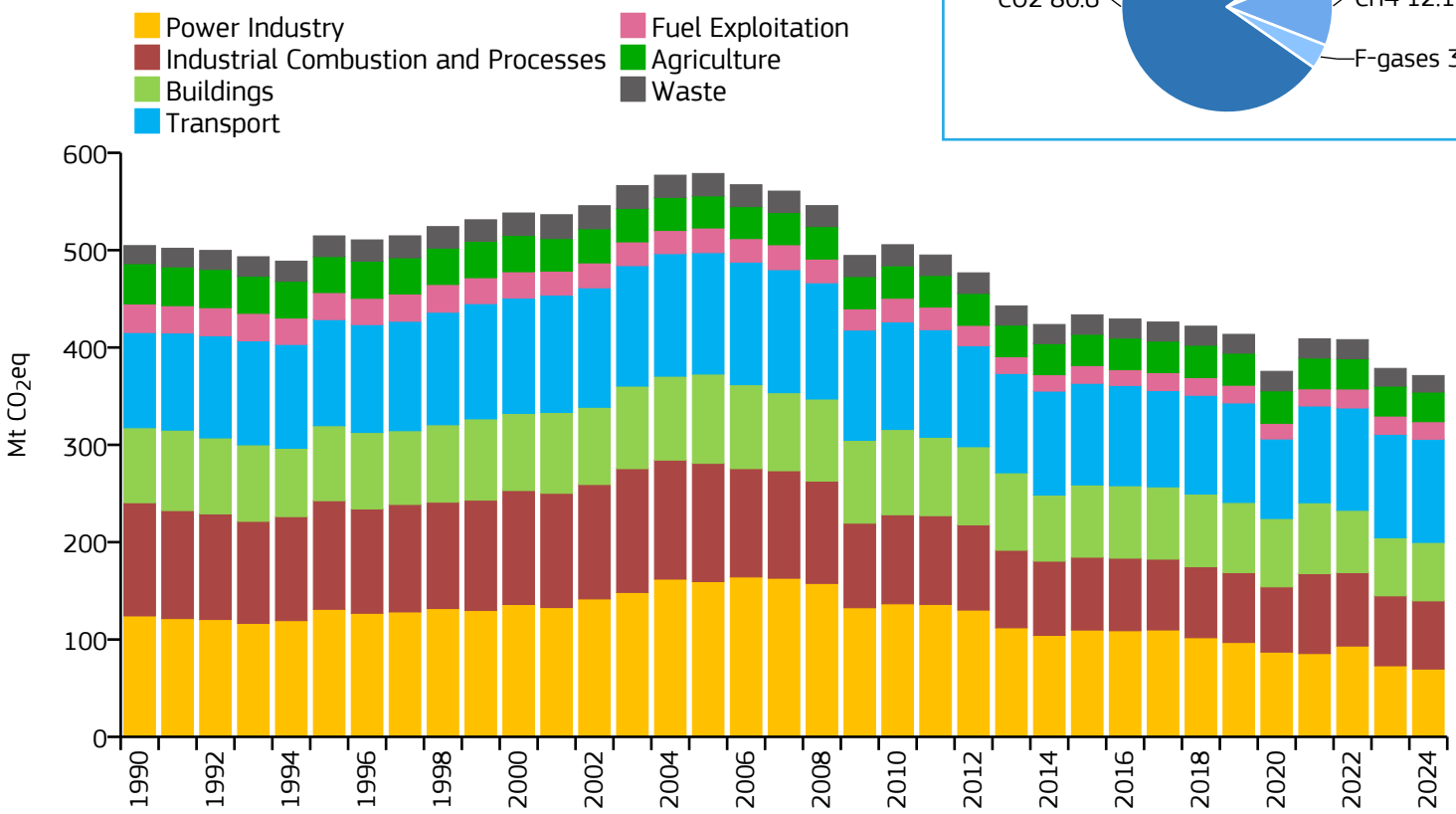
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	76.621	5.073	0.162	15.103M
2015	82.864	6.511	0.224	12.727M
2005	72.147	7.088	0.290	10.179M
1990	41.927	6.351	0.355	6.601M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+64%	-25%	-6%
Industrial Combustion and Processes	+117%	+147%	+2%
Buildings	+36%	-39%	-5%
Transport	+117%	+30%	-5%
Fuel Exploitation	+8%	+11%	+2%
Agriculture	+92%	+45%	+1%
Waste	+103%	+34%	+1%
All sectors	+83%	+6%	-3%

Italy, San Marino and the Holy See



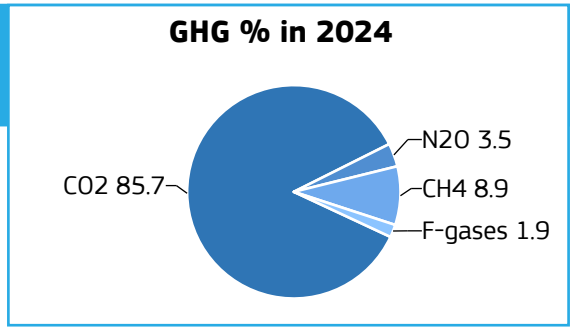
GHG emissions by sector



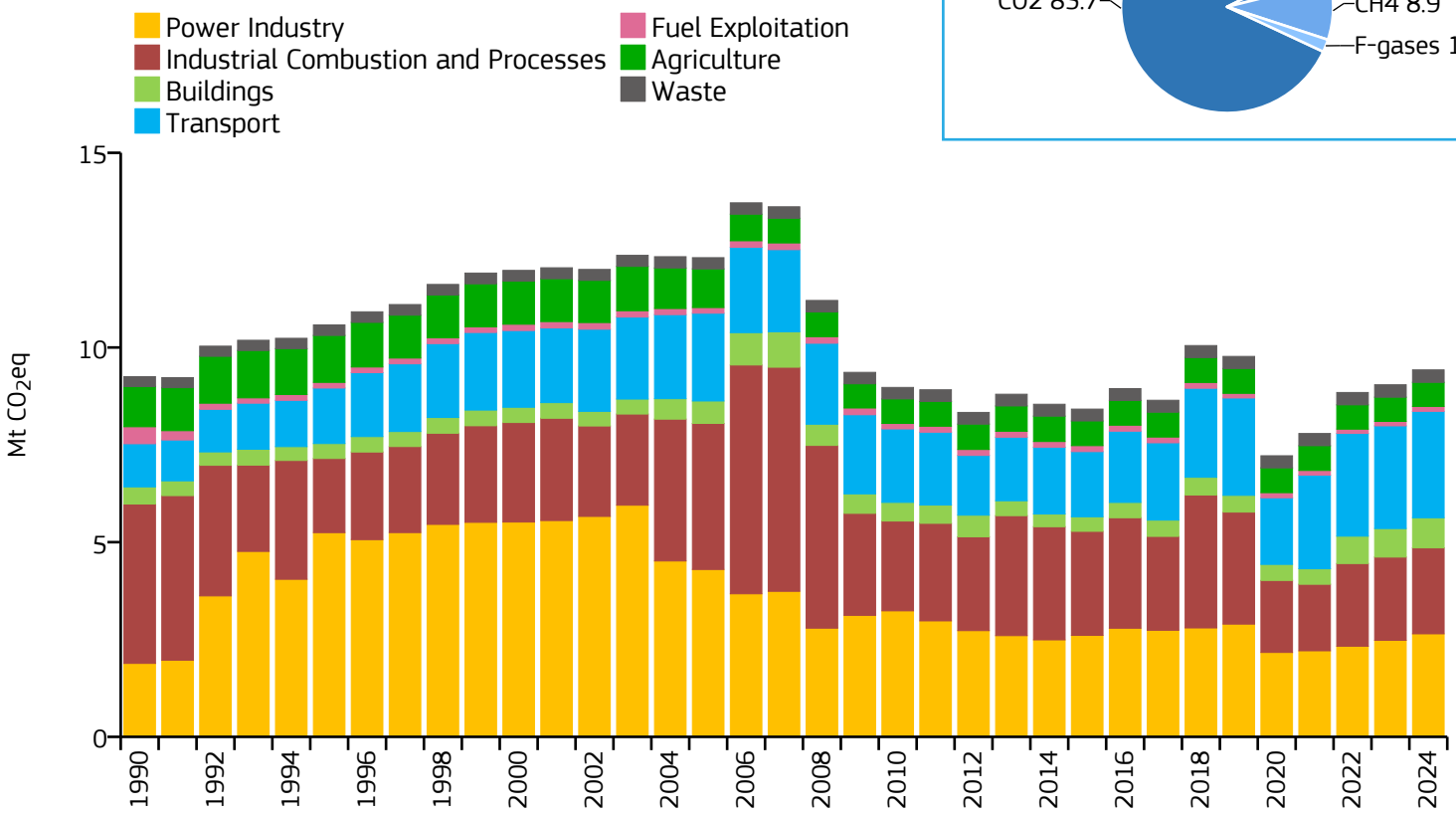
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	371.172	6.320	0.118	58.727M
2015	433.534	7.286	0.152	59.504M
2005	578.736	9.841	0.193	58.809M
1990	504.651	8.834	0.209	57.127M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-44%	-56%	-5%
Industrial Combustion and Processes	-40%	-42%	-2%
Buildings	-22%	-35%	0%
Transport	+8%	-15%	0%
Fuel Exploitation	-38%	-29%	-4%
Agriculture	-26%	-8%	-1%
Waste	-9%	-26%	-7%
All sectors	-26%	-36%	-2%

Jamaica



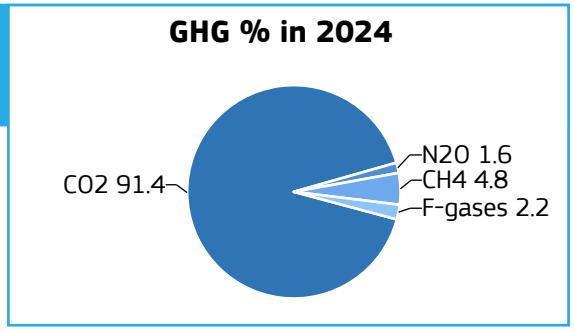
GHG emissions by sector



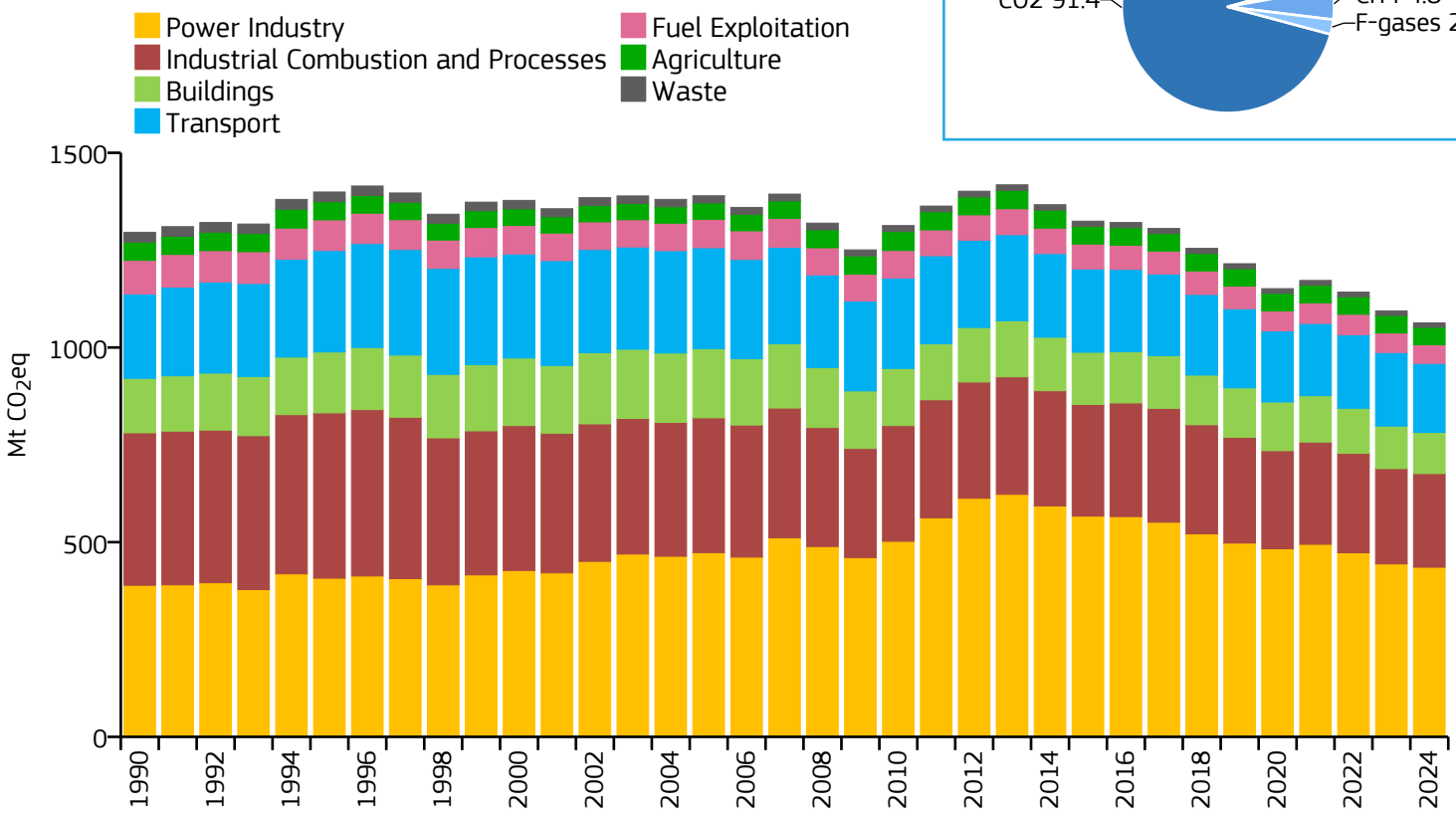
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	9.425	3.216	0.324	2.931M
2015	8.418	2.931	0.307	2.872M
2005	12.307	4.484	0.453	2.745M
1990	9.250	3.816	0.445	2.424M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+40%	-38%	+7%
Industrial Combustion and Processes	-46%	-41%	+3%
Buildings	+76%	+34%	+6%
Transport	+147%	+21%	+4%
Fuel Exploitation	-71%	-13%	+10%
Agriculture	-40%	-38%	-1%
Waste	+26%	+11%	0%
All sectors	+2%	-23%	+4%

Japan



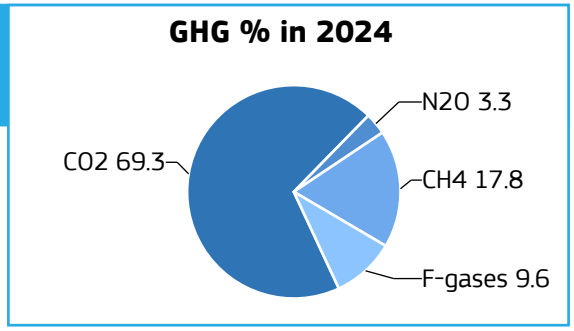
GHG emissions by sector



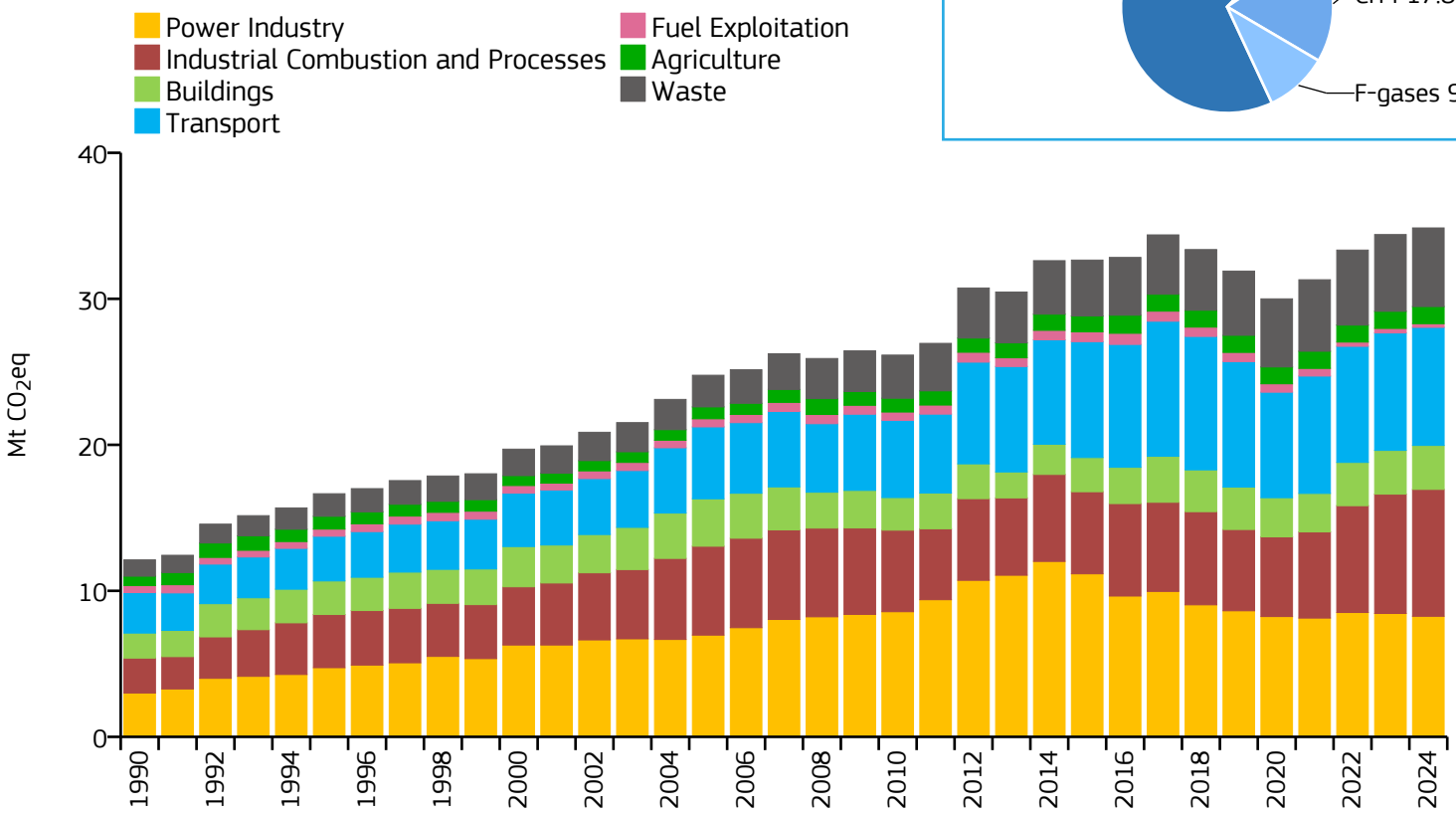
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1063.336	8.521	0.186	124.796M
2015	1324.423	10.349	0.240	127.975M
2005	1389.605	10.828	0.265	128.336M
1990	1295.845	10.407	0.298	124.516M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+12%	-8%	-2%
Industrial Combustion and Processes	-39%	-31%	-2%
Buildings	-24%	-41%	-3%
Transport	-18%	-32%	-6%
Fuel Exploitation	-45%	-34%	-5%
Agriculture	-4%	+7%	-1%
Waste	-54%	-38%	-1%
All sectors	-18%	-23%	-3%

Jordan



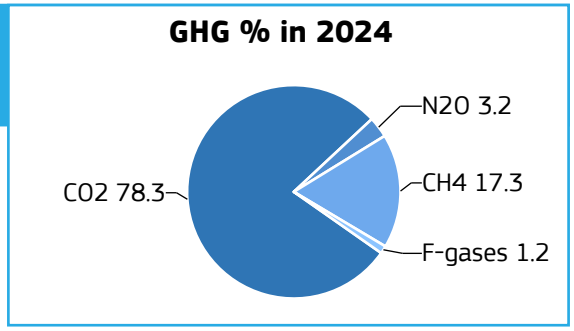
GHG emissions by sector



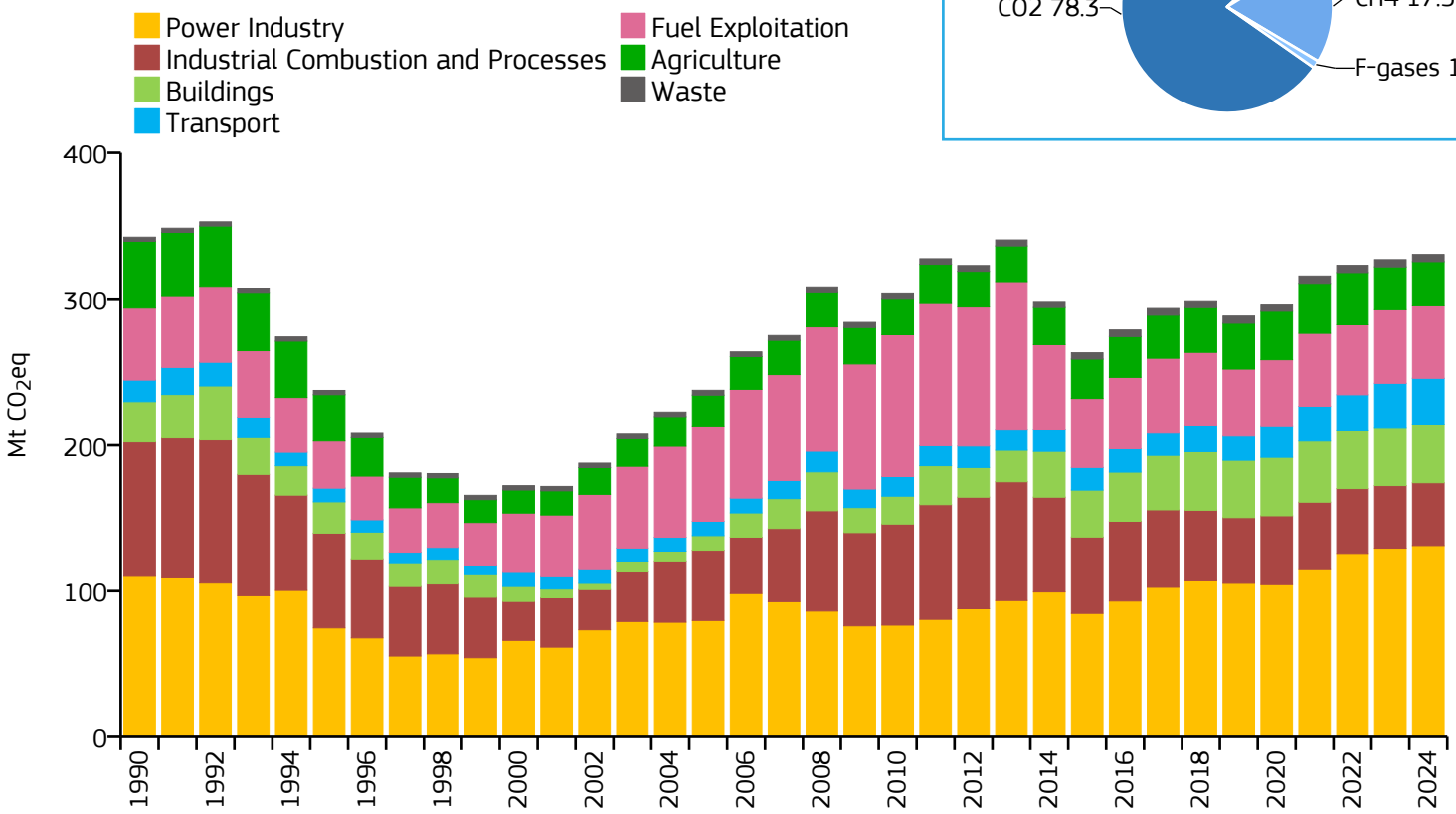
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	34.856	3.308	0.317	10.538M
2015	32.654	3.565	0.357	9.159M
2005	24.765	4.334	0.417	5.714M
1990	12.121	3.404	0.441	3.561M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +175%	↗ +19%	→ -2%
Industrial Combustion and Processes	↗ +263%	↗ +43%	↗ +6%
Buildings	↗ +76%	↘ -7%	→ +1%
Transport	↗ +192%	↗ +64%	→ +1%
Fuel Exploitation	↘ -47%	↘ -54%	↘ -18%
Agriculture	↗ +82%	↗ +44%	→ 0%
Waste	↗ > +300%	↗ +148%	→ +2%
All sectors	↗ +188%	↗ +41%	→ +1%

Kazakhstan



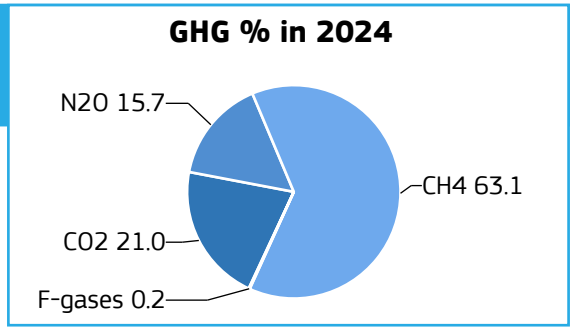
GHG emissions by sector



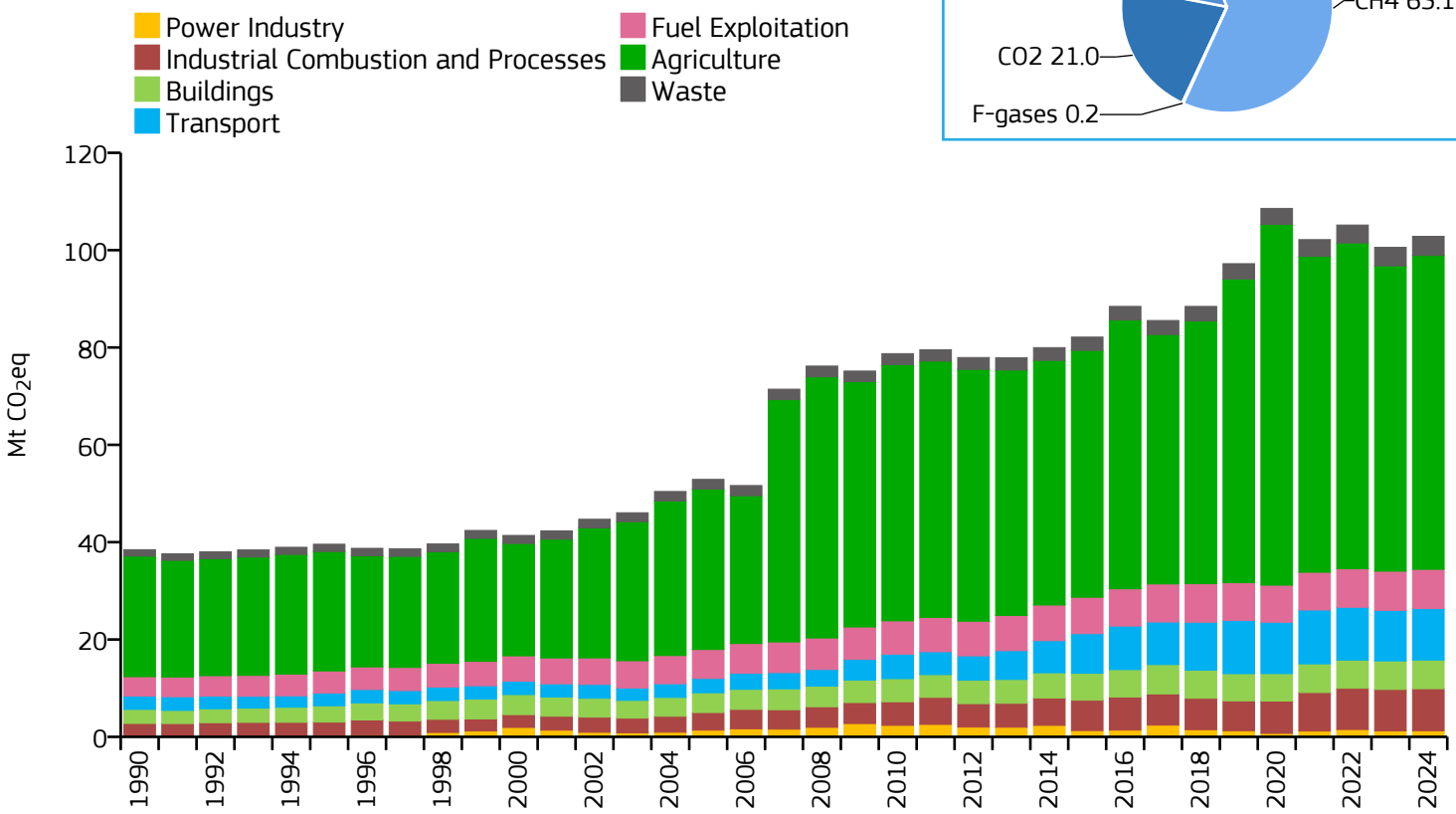
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	330.393	16.981	0.447	19.457M
2015	262.974	14.816	0.471	17.750M
2005	237.256	15.266	0.722	15.541M
1990	342.268	20.693	1.185	16.540M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +19%	↗ +63%	→ +1%
Industrial Combustion and Processes	↘ -53%	↘ -8%	→ 0%
Buildings	↗ +47%	↗ +297%	→ +1%
Transport	↗ +113%	↗ +220%	→ +4%
Fuel Exploitation	→ +1%	↘ -24%	→ -1%
Agriculture	↘ -34%	↗ +43%	→ +3%
Waste	↗ +73%	↗ +49%	→ -1%
All sectors	→ -3%	↗ +39%	→ +1%

Kenya



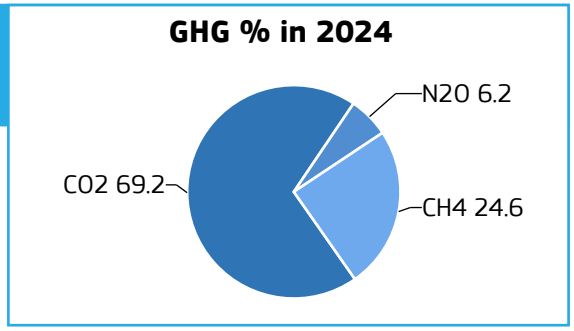
GHG emissions by sector



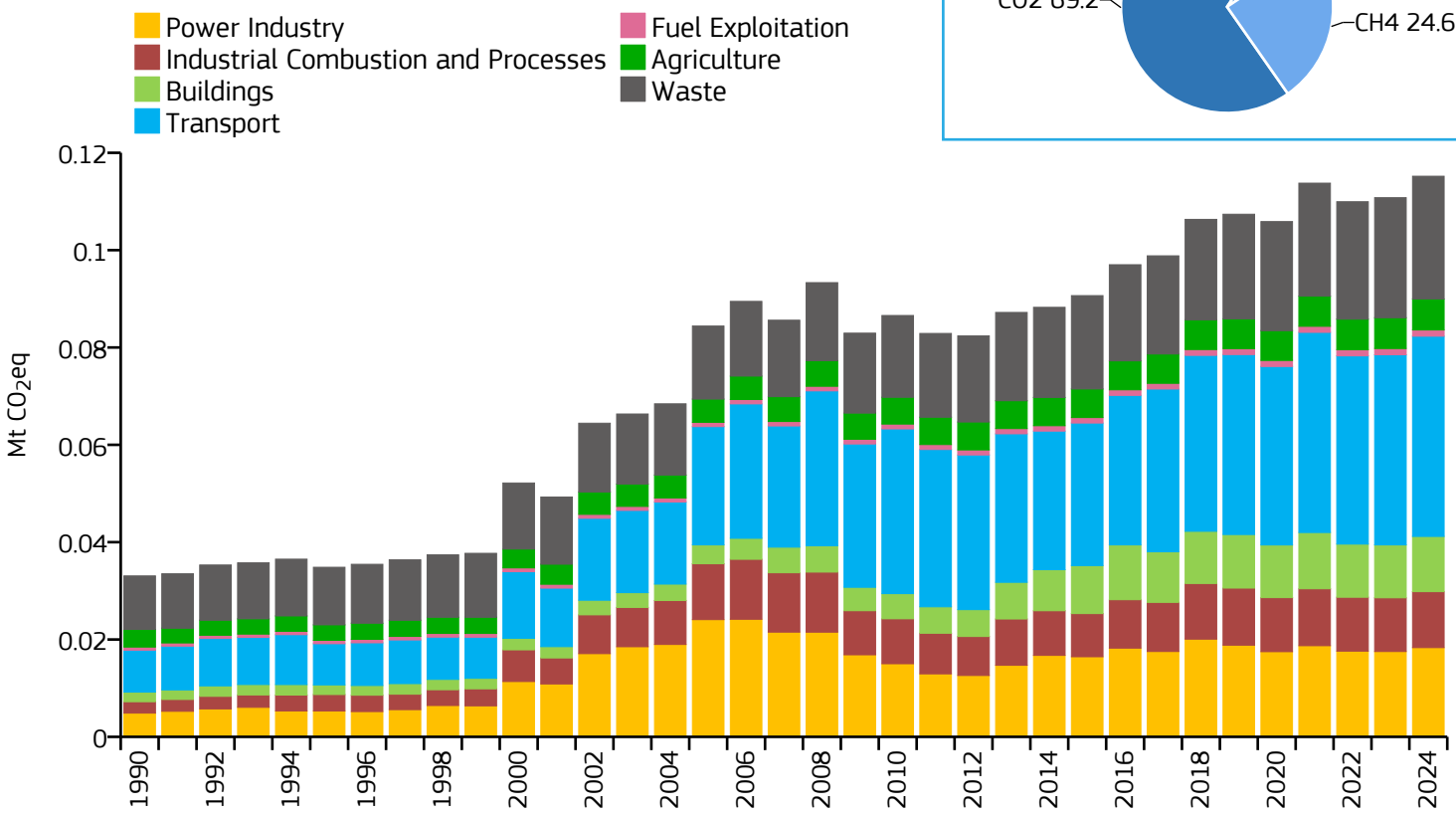
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	102.836	1.751	0.313	58.722M
2015	82.133	1.739	0.373	47.236M
2005	52.898	1.467	0.384	36.048M
1990	38.458	1.643	0.402	23.402M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	-9%	+2%
Industrial Combustion and Processes	+234%	+139%	+2%
Buildings	+104%	+45%	+1%
Transport	+285%	+260%	+2%
Fuel Exploitation	+103%	+36%	0%
Agriculture	+160%	+96%	+3%
Waste	+200%	+95%	+3%
All sectors	+167%	+94%	+2%

Kiribati



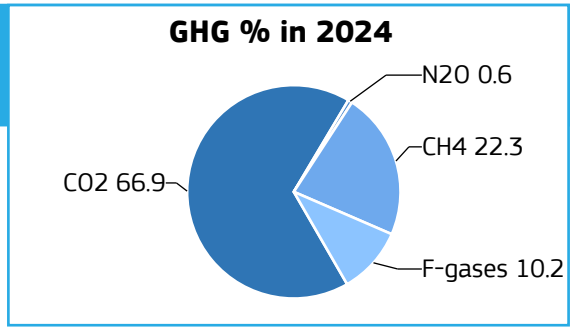
GHG emissions by sector



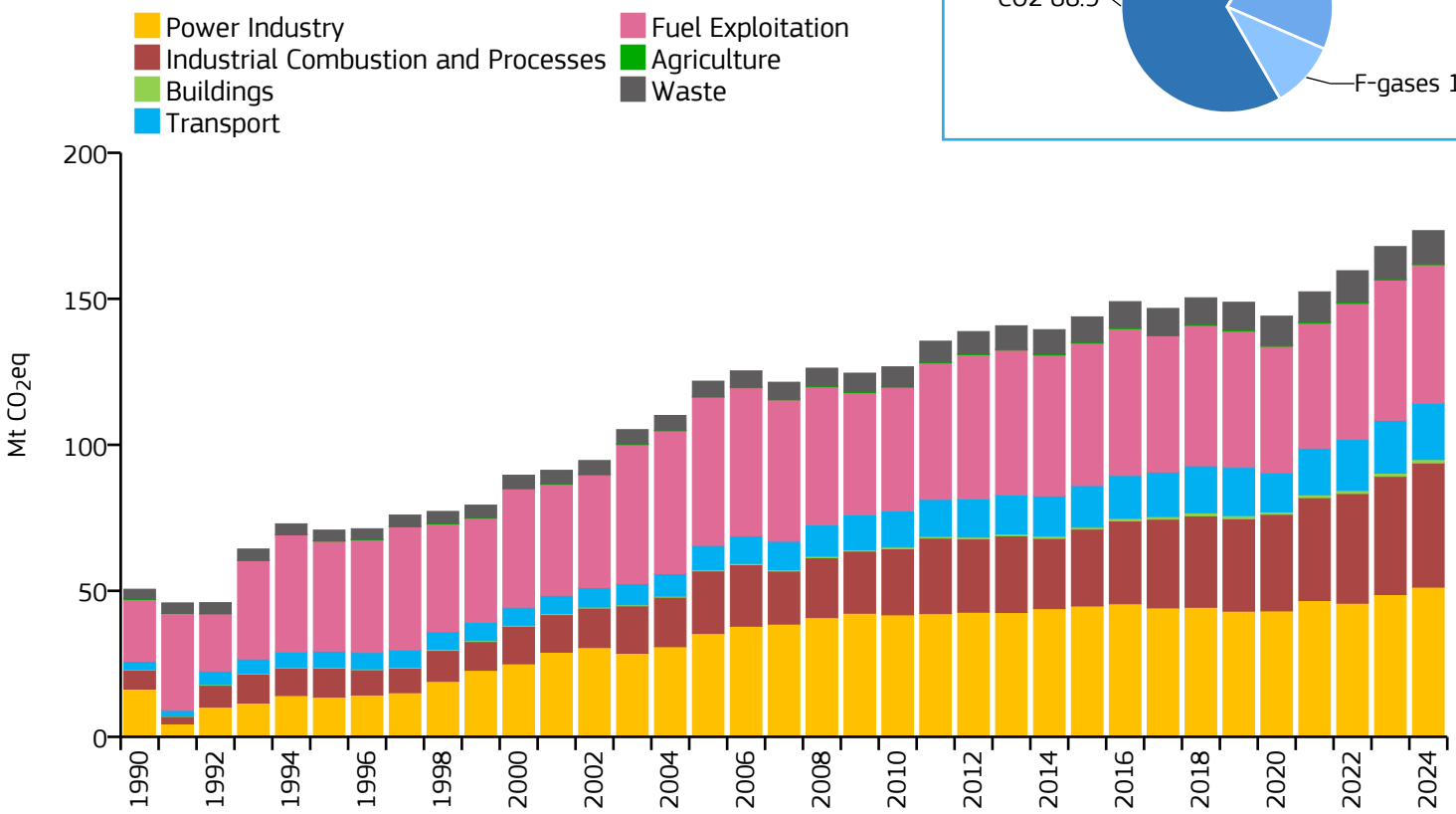
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.115	0.886	0.263	130.000k
2015	0.091	0.807	0.297	112.407k
2005	0.084	0.914	0.394	92.325k
1990	0.033	0.457	0.200	72.412k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+276%	-24%	+5%
Industrial Combustion and Processes	> +300%	0%	+4%
Buildings	> +300%	+193%	+4%
Transport	> +300%	+69%	+5%
Fuel Exploitation	+100%	+46%	0%
Agriculture	+76%	+34%	+1%
Waste	+129%	+68%	+2%
All sectors	+248%	+36%	+4%

Kuwait



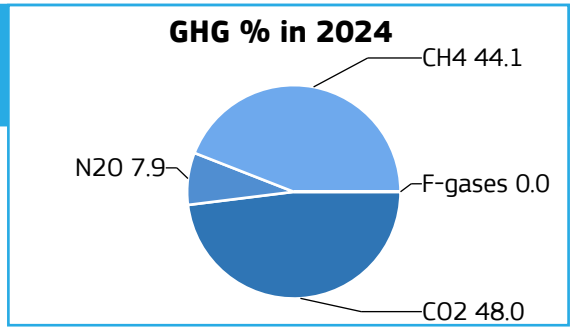
GHG emissions by sector



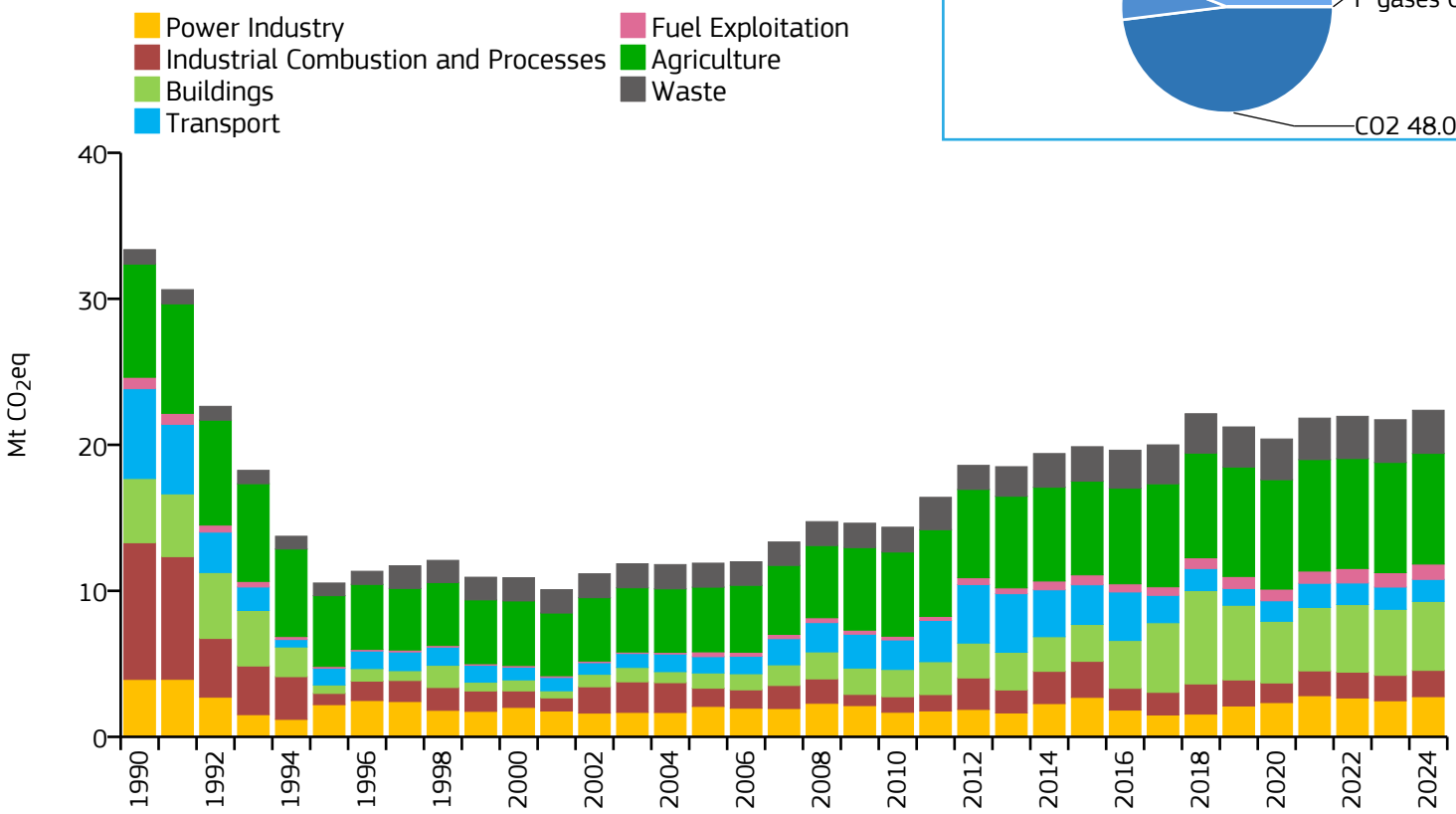
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	173.331	38.137	0.769	4.545M
2015	143.824	36.543	0.649	3.936M
2005	121.801	53.501	0.696	2.277M
1990	50.555	24.078	0.771	2.100M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+214%	+45%	+5%
Industrial Combustion and Processes	> +300%	+98%	+5%
Buildings	> +300%	+172%	+6%
Transport	> +300%	+132%	+6%
Fuel Exploitation	+124%	-7%	-1%
Agriculture	+197%	+80%	+2%
Waste	+240%	+115%	+2%
All sectors	+243%	+42%	+3%

Kyrgyzstan



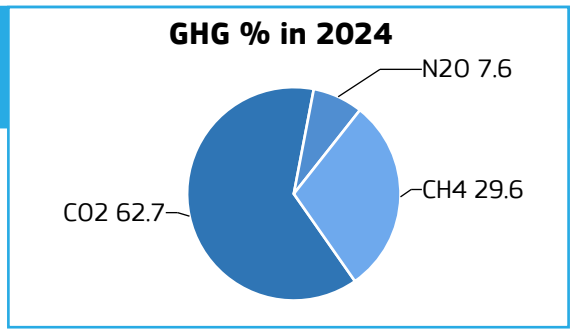
GHG emissions by sector



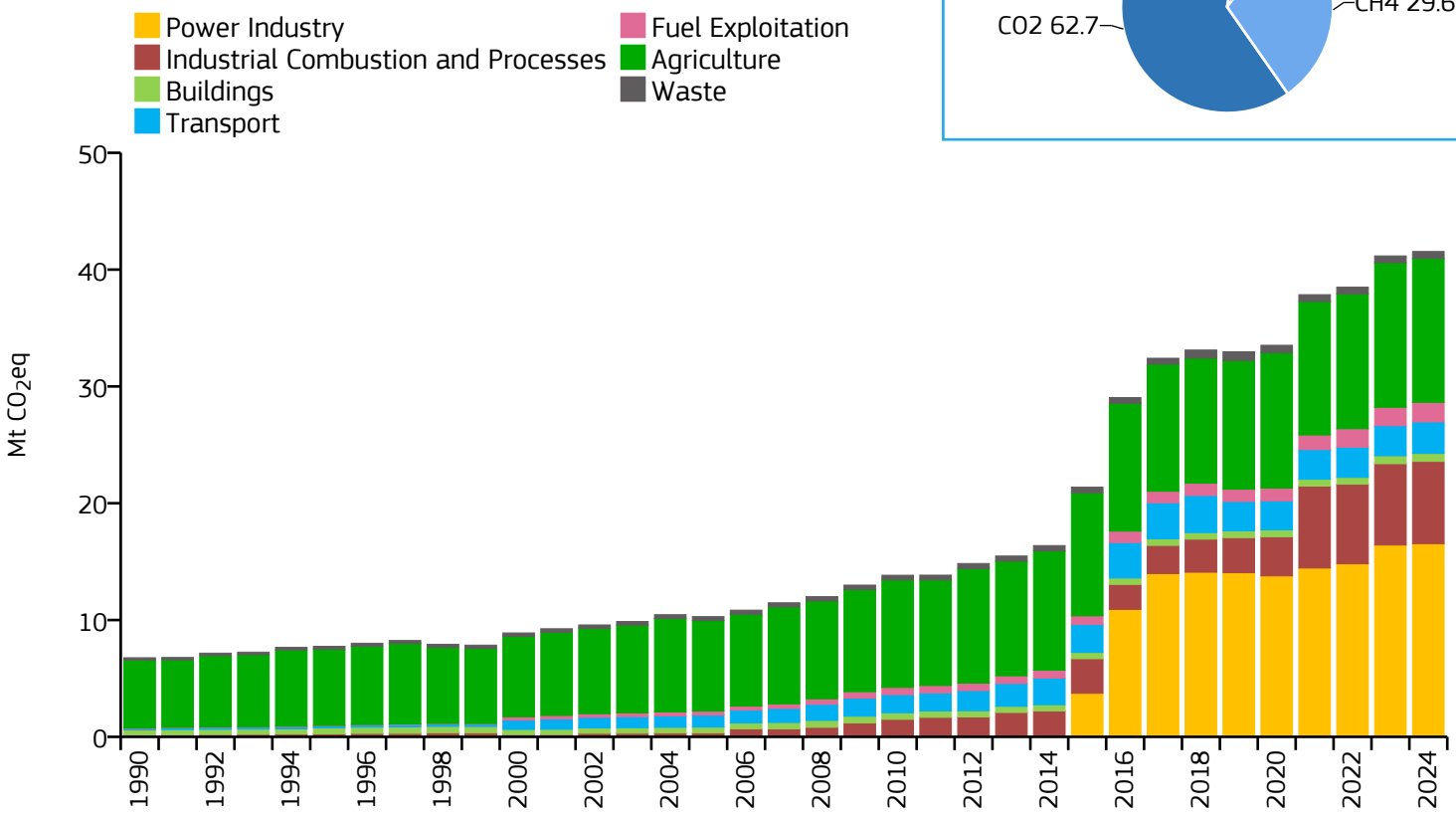
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	22.369	3.387	0.439	6.605M
2015	19.871	3.388	0.587	5.865M
2005	11.895	2.344	0.554	5.075M
1990	33.367	7.631	1.247	4.373M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-30%	+32%	+11%
Industrial Combustion and Processes	-81%	+44%	+3%
Buildings	+7%	> +300%	+4%
Transport	-75%	+36%	-1%
Fuel Exploitation	+34%	+217%	+6%
Agriculture	-2%	+71%	0%
Waste	+199%	+80%	+1%
All sectors	-33%	+88%	+3%

Laos



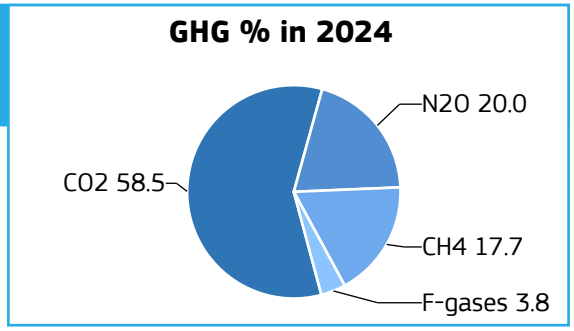
GHG emissions by sector



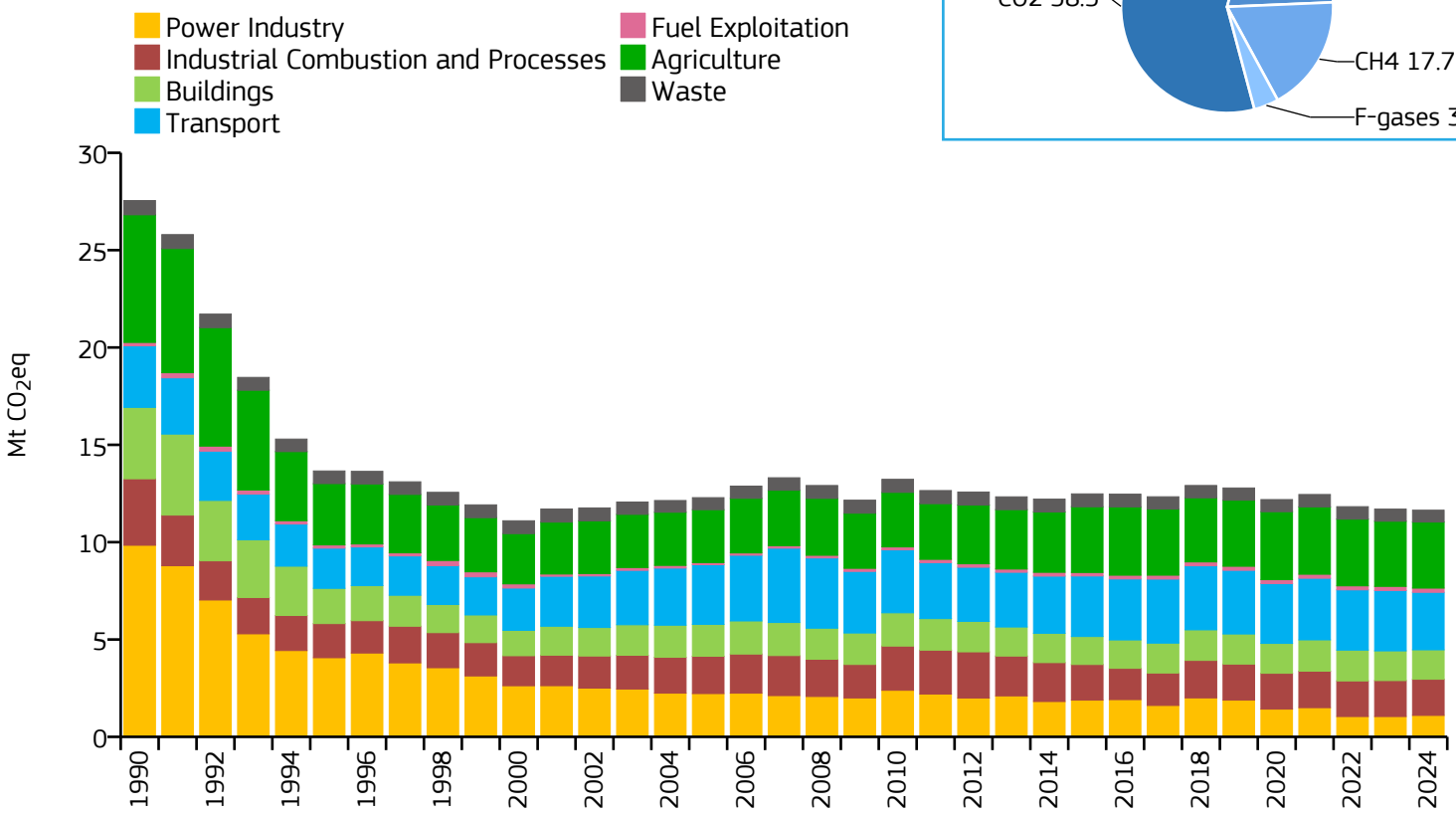
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	41.550	5.510	0.621	7.541M
2015	21.375	3.208	0.469	6.664M
2005	10.292	1.789	0.483	5.754M
1990	6.772	1.590	0.783	4.258M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	n/a	+1%
Industrial Combustion and Processes	> +300%	> +300%	+1%
Buildings	+58%	+37%	+1%
Transport	> +300%	+163%	+5%
Fuel Exploitation	> +300%	> +300%	+6%
Agriculture	+111%	+59%	0%
Waste	+198%	+77%	+2%
All sectors	> +300%	> +300%	+1%

Latvia



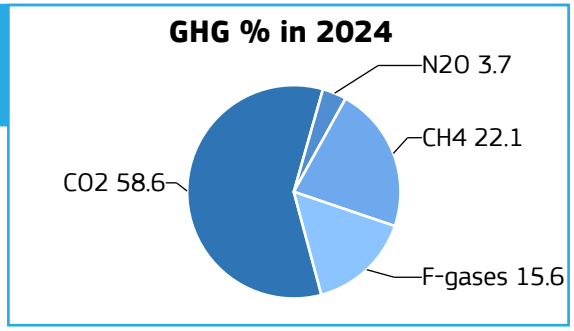
GHG emissions by sector



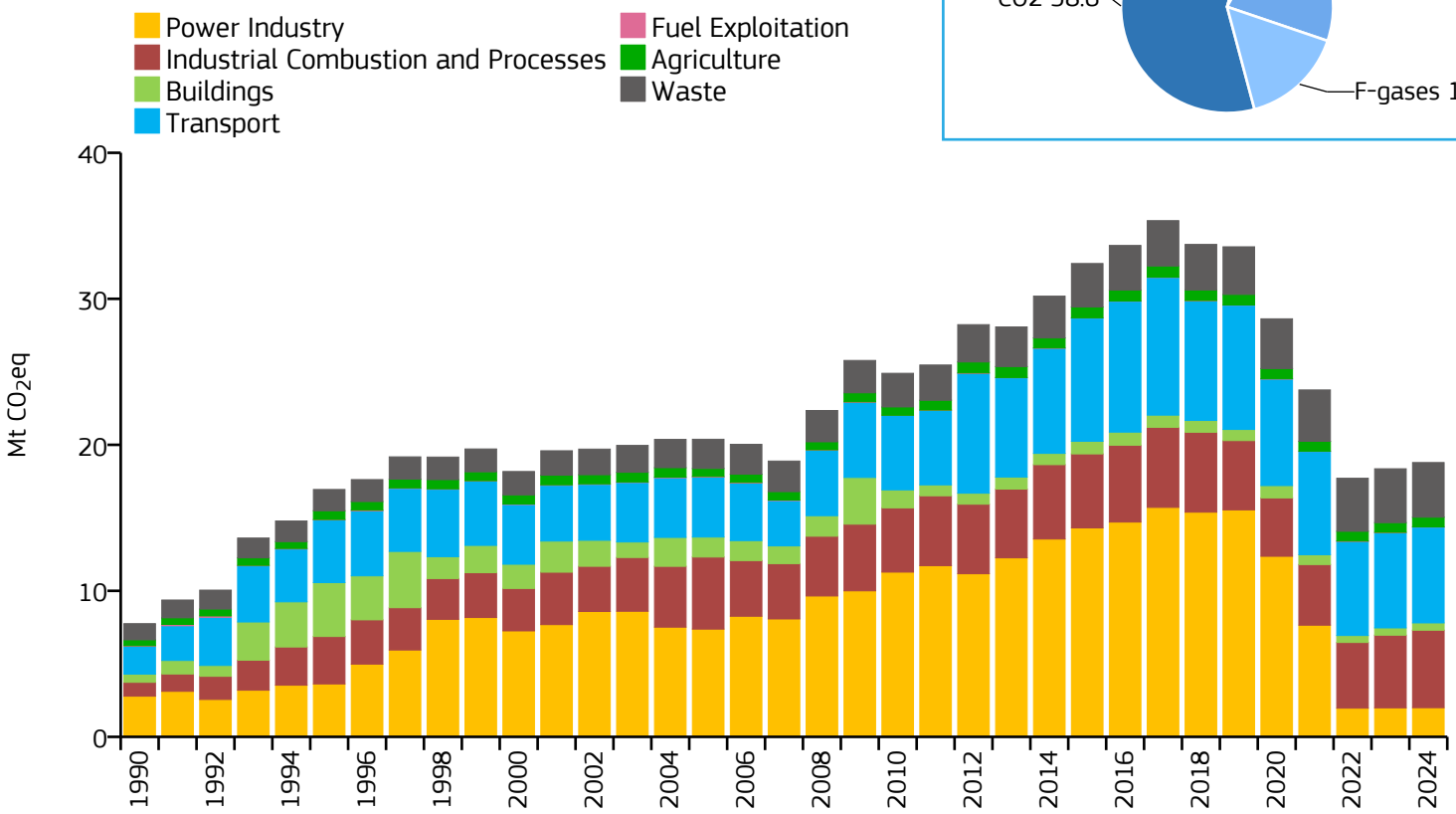
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	11.642	6.372	0.161	1.827M
2015	12.481	6.263	0.206	1.993M
2005	12.286	5.456	0.236	2.252M
1990	27.546	10.339	0.591	2.664M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-89%	-50%	+6%
Industrial Combustion and Processes	-46%	-3%	+1%
Buildings	-59%	-8%	-1%
Transport	-7%	-3%	-5%
Fuel Exploitation	+23%	+95%	+2%
Agriculture	-48%	+25%	+1%
Waste	-17%	-1%	-2%
All sectors	-58%	-5%	0%

Lebanon



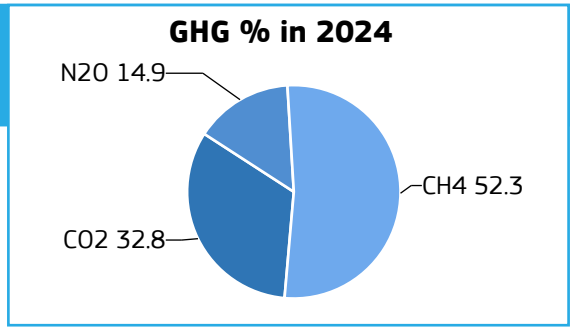
GHG emissions by sector



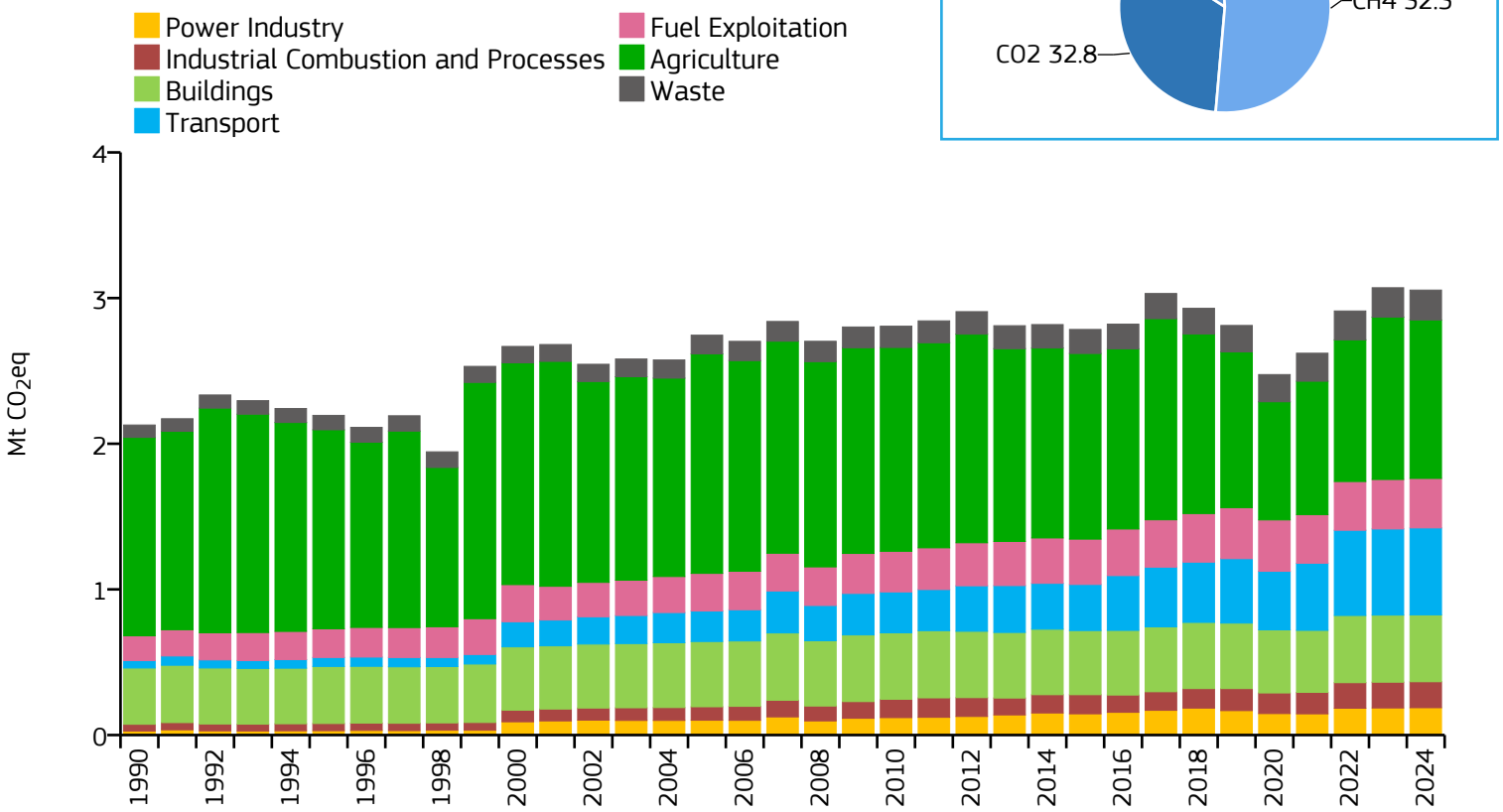
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	18.786	3.301	0.310	5.691M
2015	32.417	5.540	0.334	5.851M
2005	20.381	5.112	0.335	3.987M
1990	7.752	2.868	0.403	2.703M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-28%	-73%	+1%
Industrial Combustion and Processes	> +300%	+8%	+7%
Buildings	-11%	-63%	0%
Transport	+245%	+60%	+1%
Fuel Exploitation	-64%	-58%	0%
Agriculture	+63%	+21%	-1%
Waste	+238%	+87%	+2%
All sectors	+142%	-8%	+2%

Lesotho



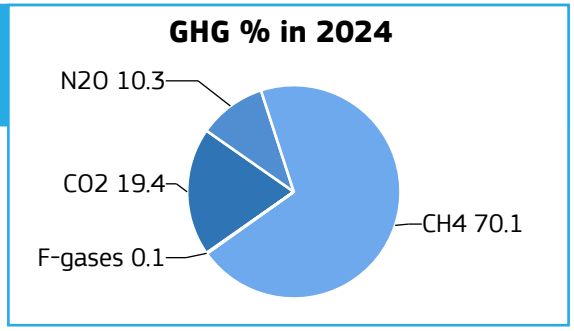
GHG emissions by sector



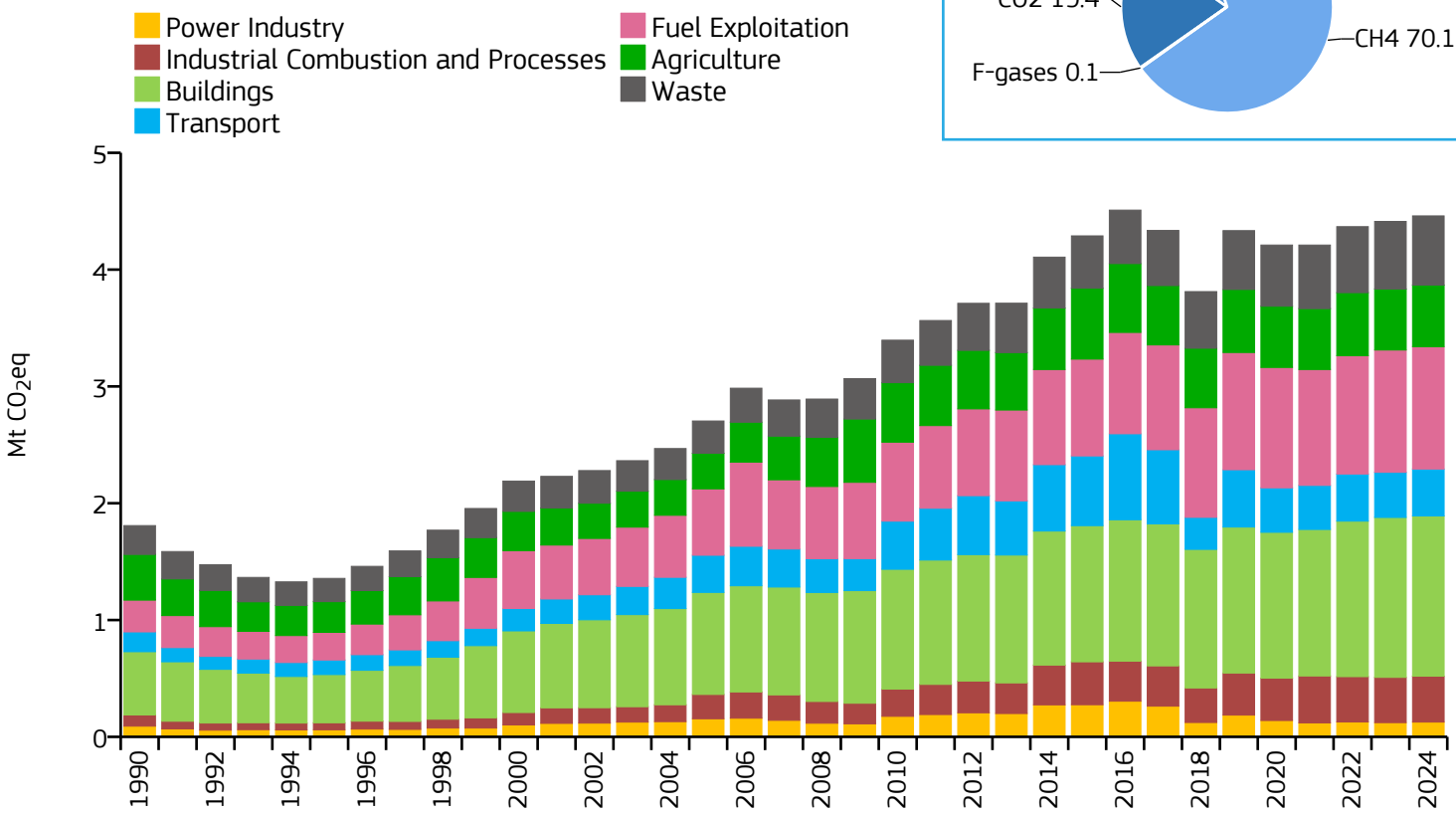
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	3.055	1.253	0.496	2.438M
2015	2.785	1.280	0.443	2.175M
2005	2.745	1.408	0.618	1.950M
1990	2.129	1.327	0.827	1.604M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+84%	+1%
Industrial Combustion and Processes	+286%	+93%	+1%
Buildings	+19%	+2%	0%
Transport	> +300%	+185%	+1%
Fuel Exploitation	+100%	+31%	0%
Agriculture	-20%	-28%	-2%
Waste	+141%	+60%	+2%
All sectors	+44%	+11%	-1%

Liberia



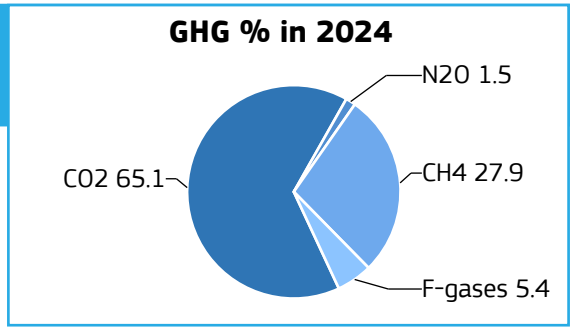
GHG emissions by sector



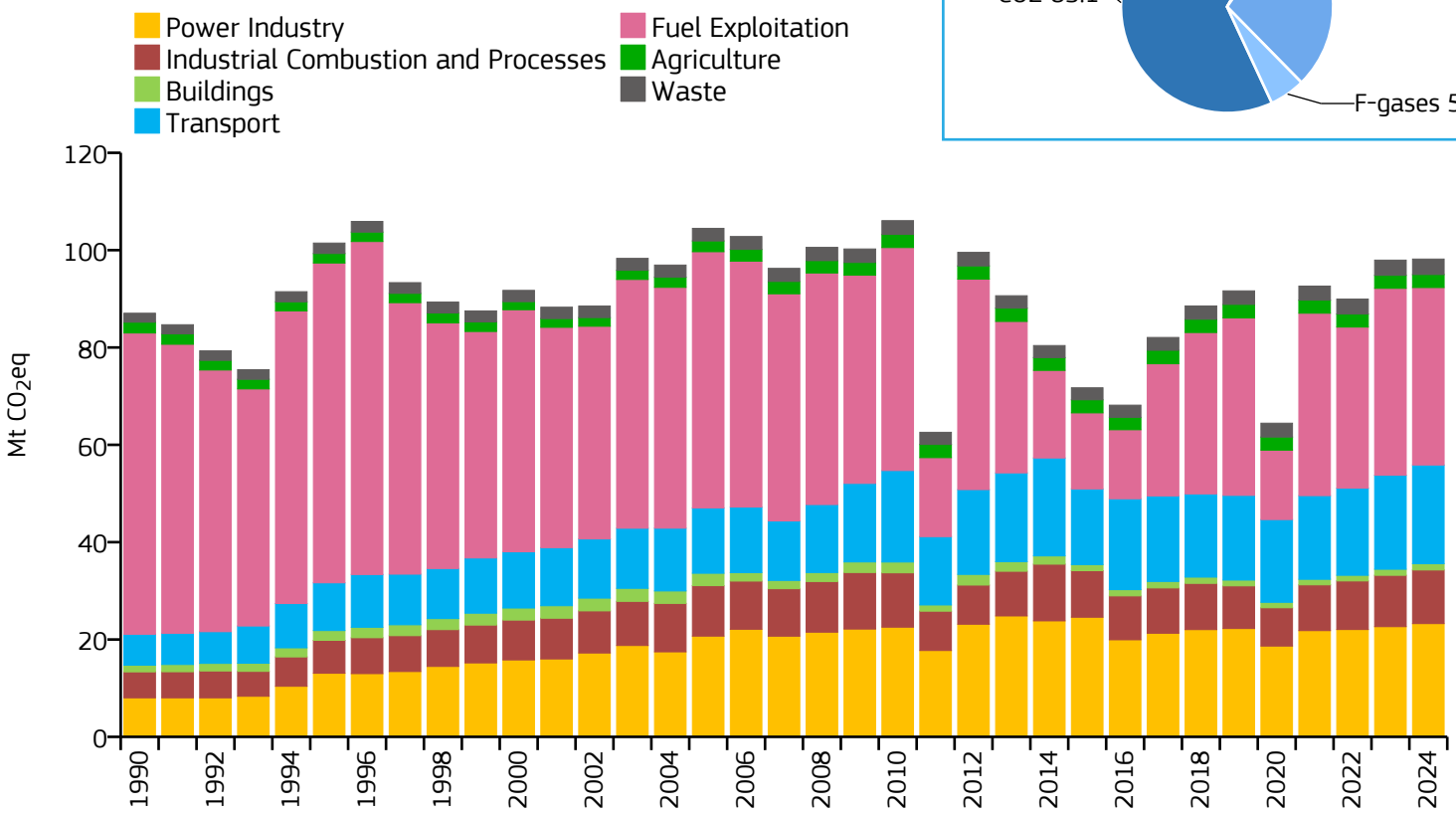
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	4.460	0.792	0.479	5.632M
2015	4.289	0.953	0.537	4.500M
2005	2.704	0.829	0.613	3.261M
1990	1.809	0.862	0.436	2.097M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+38%	-18%	+4%
Industrial Combustion and Processes	> +300%	+89%	+1%
Buildings	+153%	+57%	0%
Transport	+137%	+26%	+4%
Fuel Exploitation	+285%	+84%	0%
Agriculture	+35%	+73%	+1%
Waste	+140%	+114%	+2%
All sectors	+147%	+65%	+1%

Libya



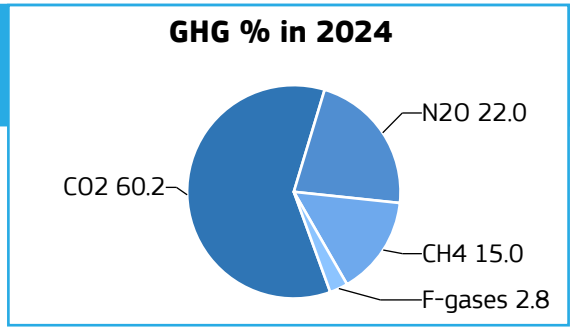
GHG emissions by sector



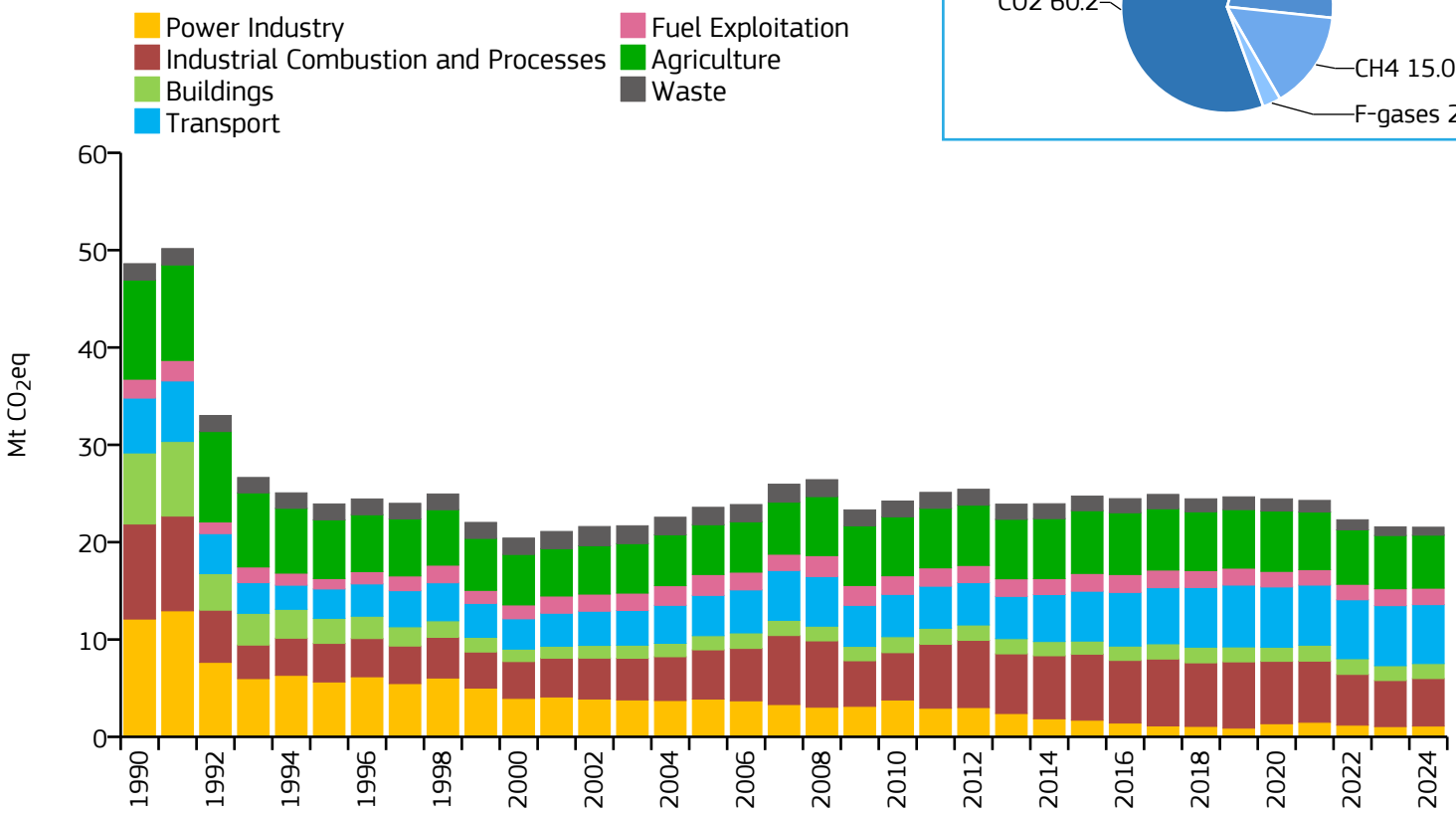
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	98.171	14.097	1.084	6.964M
2015	71.719	11.503	0.901	6.235M
2005	104.478	18.036	0.864	5.793M
1990	87.038	19.618	1.080	4.437M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+190%	+12%	+3%
Industrial Combustion and Processes	+107%	+6%	+4%
Buildings	-5%	-49%	+5%
Transport	+219%	+51%	+5%
Fuel Exploitation	-41%	-31%	-5%
Agriculture	+21%	+21%	0%
Waste	+72%	+23%	+2%
All sectors	+13%	-6%	0%

Lithuania



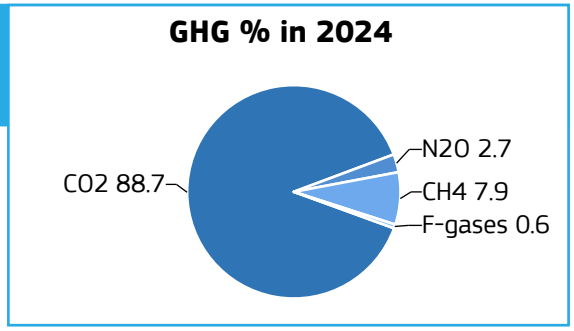
GHG emissions by sector



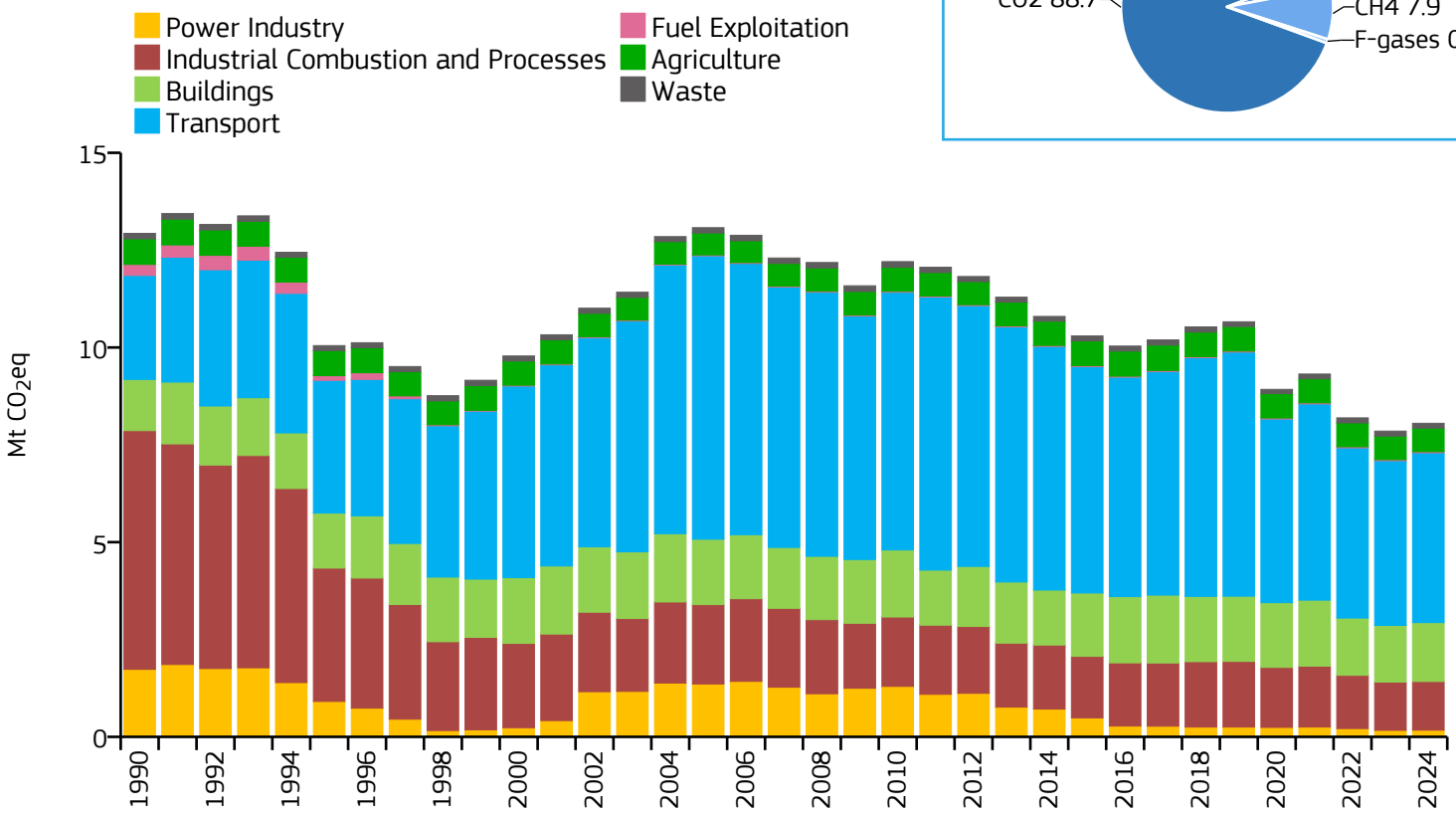
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	21.536	7.689	0.158	2.801M
2015	24.729	8.434	0.241	2.932M
2005	23.579	7.050	0.296	3.344M
1990	48.611	13.152	0.639	3.696M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-91%	-71%	+5%
Industrial Combustion and Processes	-50%	-4%	+3%
Buildings	-79%	+6%	+1%
Transport	+7%	+46%	-2%
Fuel Exploitation	-13%	-21%	-2%
Agriculture	-47%	+6%	-1%
Waste	-51%	-54%	-8%
All sectors	-56%	-9%	0%

Luxembourg



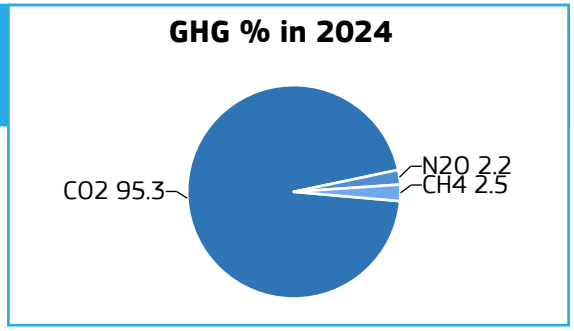
GHG emissions by sector



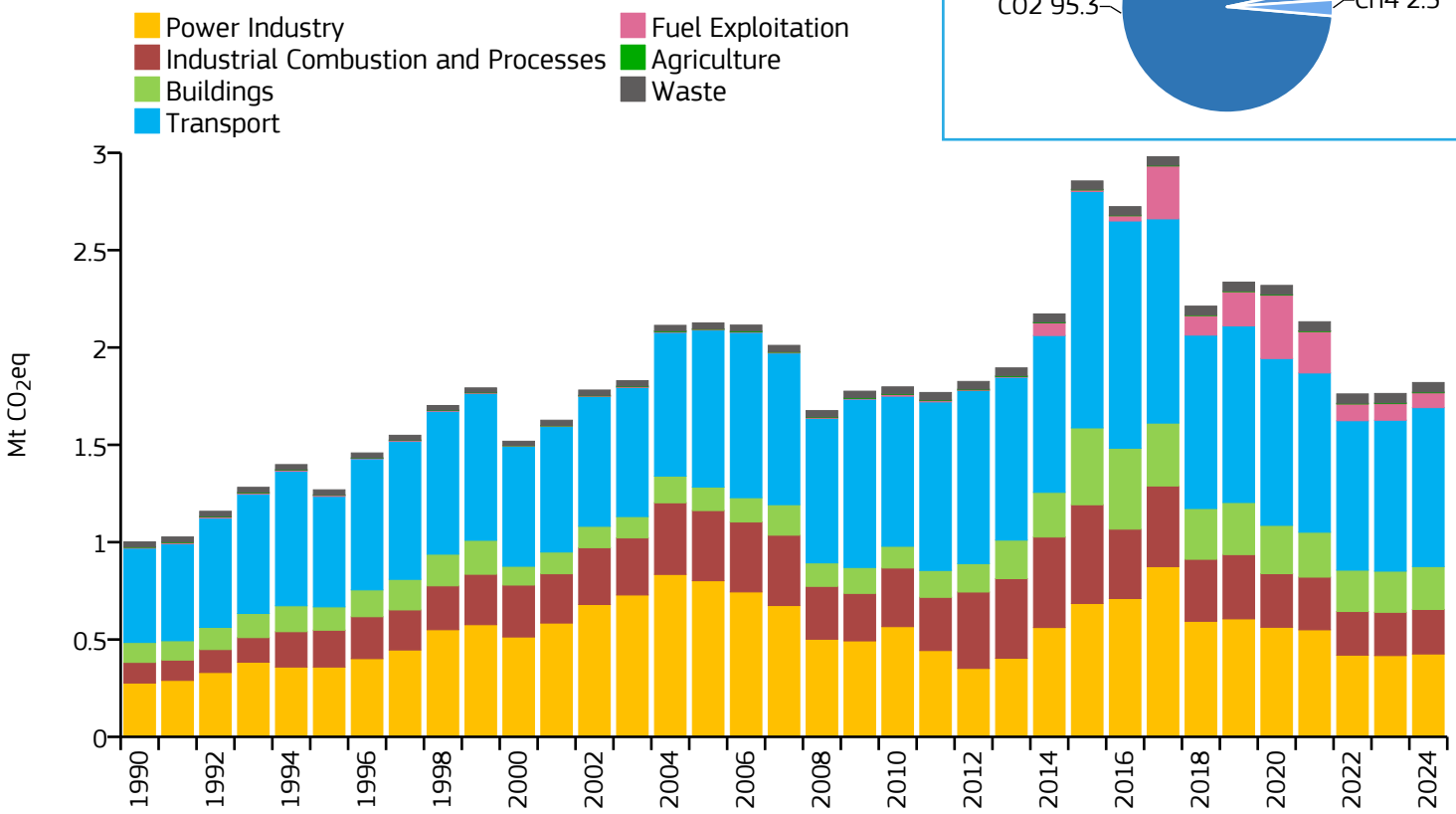
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	8.054	12.703	0.093	634.000k
2015	10.296	18.168	0.139	566.741k
2005	13.077	28.561	0.225	457.842k
1990	12.931	33.869	0.416	381.791k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-90%	-87%	+3%
Industrial Combustion and Processes	-80%	-39%	+1%
Buildings	+15%	-10%	+4%
Transport	+63%	-40%	+3%
Fuel Exploitation	-90%	+25%	+1%
Agriculture	-8%	+7%	0%
Waste	-11%	-8%	-1%
All sectors	-38%	-38%	+3%

Macao



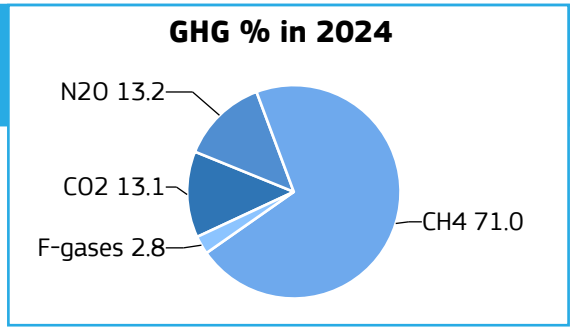
GHG emissions by sector



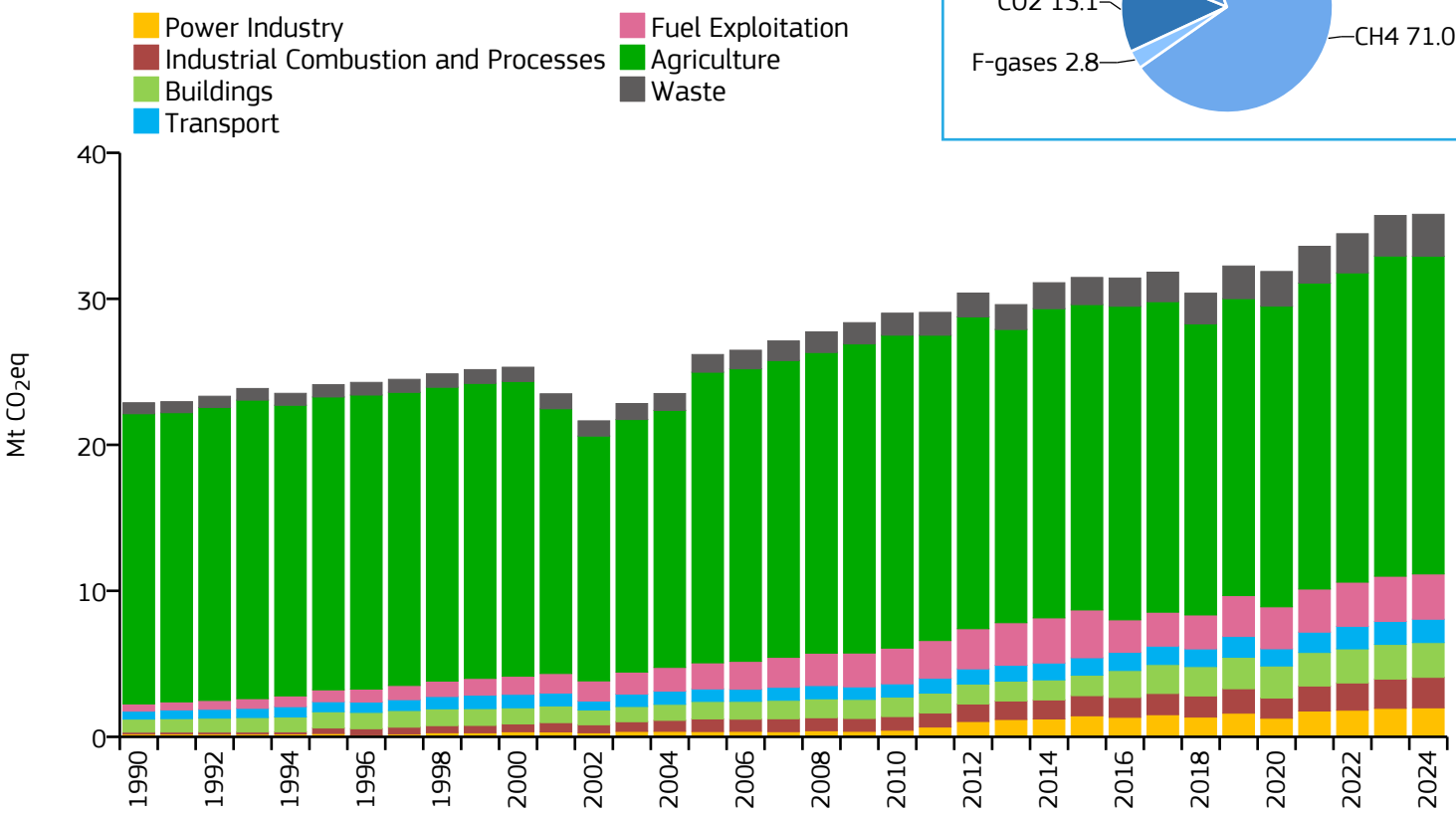
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.820	2.630	0.023	692.000k
2015	2.855	4.752	0.036	600.942k
2005	2.126	4.406	0.052	482.559k
1990	1.001	2.912	0.054	343.935k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+54%	-47%	+2%
Industrial Combustion and Processes	+116%	-37%	+3%
Buildings	+115%	+83%	+4%
Transport	+69%	+1%	+5%
Fuel Exploitation	> +300%	> +300%	-10%
Agriculture	+79%	+17%	+1%
Waste	+90%	+65%	+1%
All sectors	+82%	-14%	+3%

Madagascar



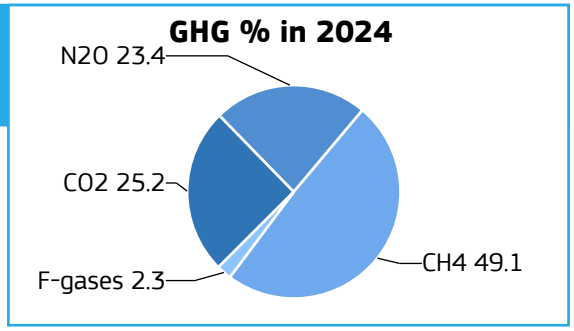
GHG emissions by sector



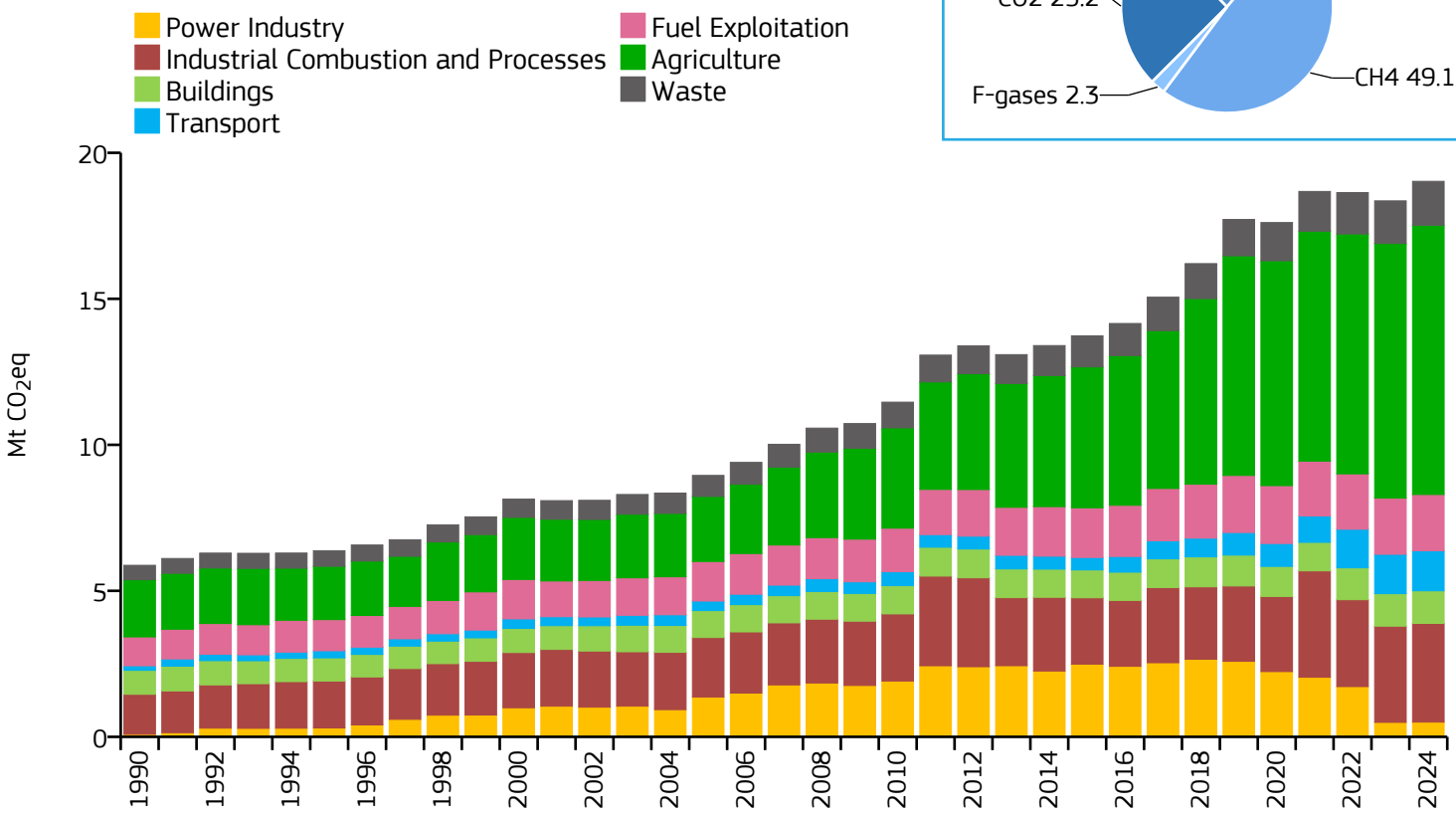
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	35.790	1.165	0.676	30.713M
2015	31.461	1.298	0.760	24.234M
2005	26.185	1.428	0.829	18.337M
1990	22.882	1.973	0.964	11.599M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+2%
Industrial Combustion and Processes	> +300%	+141%	+4%
Buildings	+166%	+99%	0%
Transport	+196%	+86%	+2%
Fuel Exploitation	> +300%	+74%	0%
Agriculture	+10%	+9%	-1%
Waste	+280%	+137%	+3%
All sectors	+56%	+37%	0%

Malawi



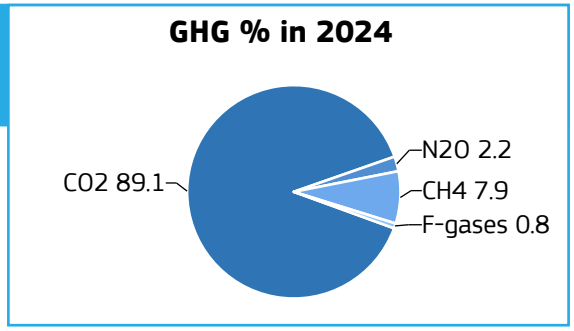
GHG emissions by sector



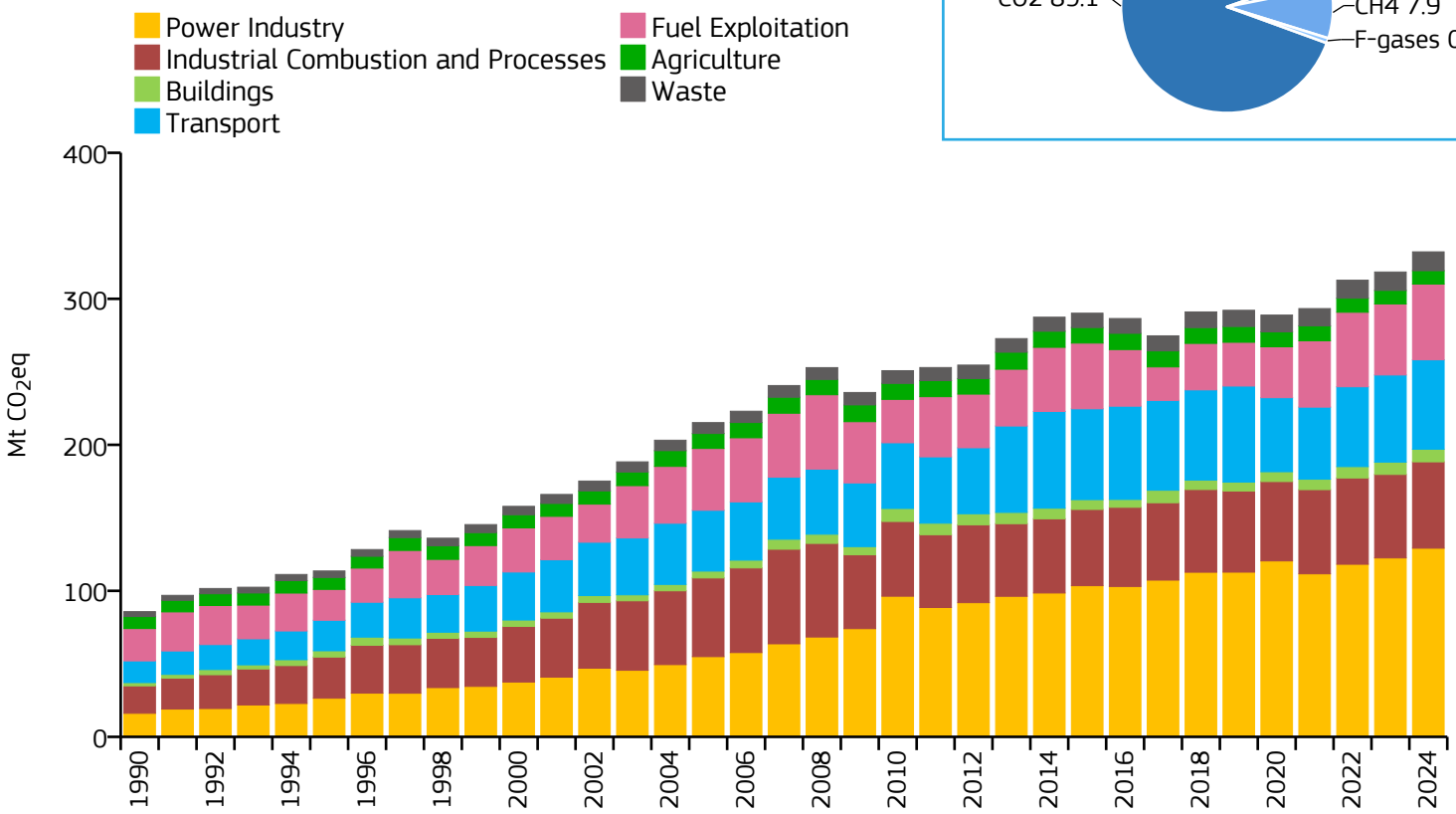
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	19.024	0.840	0.537	22.653M
2015	13.731	0.781	0.503	17.574M
2005	8.952	0.687	0.574	13.040M
1990	5.875	0.622	0.588	9.438M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	-63%	+2%
Industrial Combustion and Processes	+147%	+66%	+3%
Buildings	+36%	+21%	0%
Transport	> +300%	> +300%	+2%
Fuel Exploitation	+95%	+42%	0%
Agriculture	> +300%	> +300%	+6%
Waste	+204%	+109%	+3%
All sectors	+224%	+113%	+4%

Malaysia



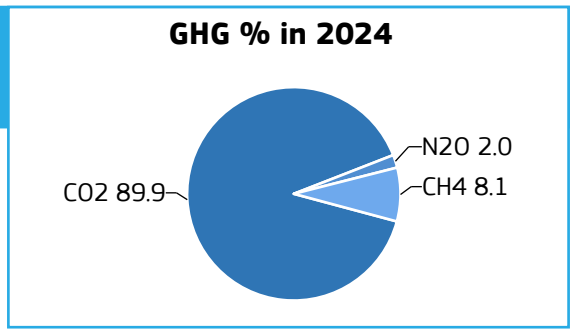
GHG emissions by sector



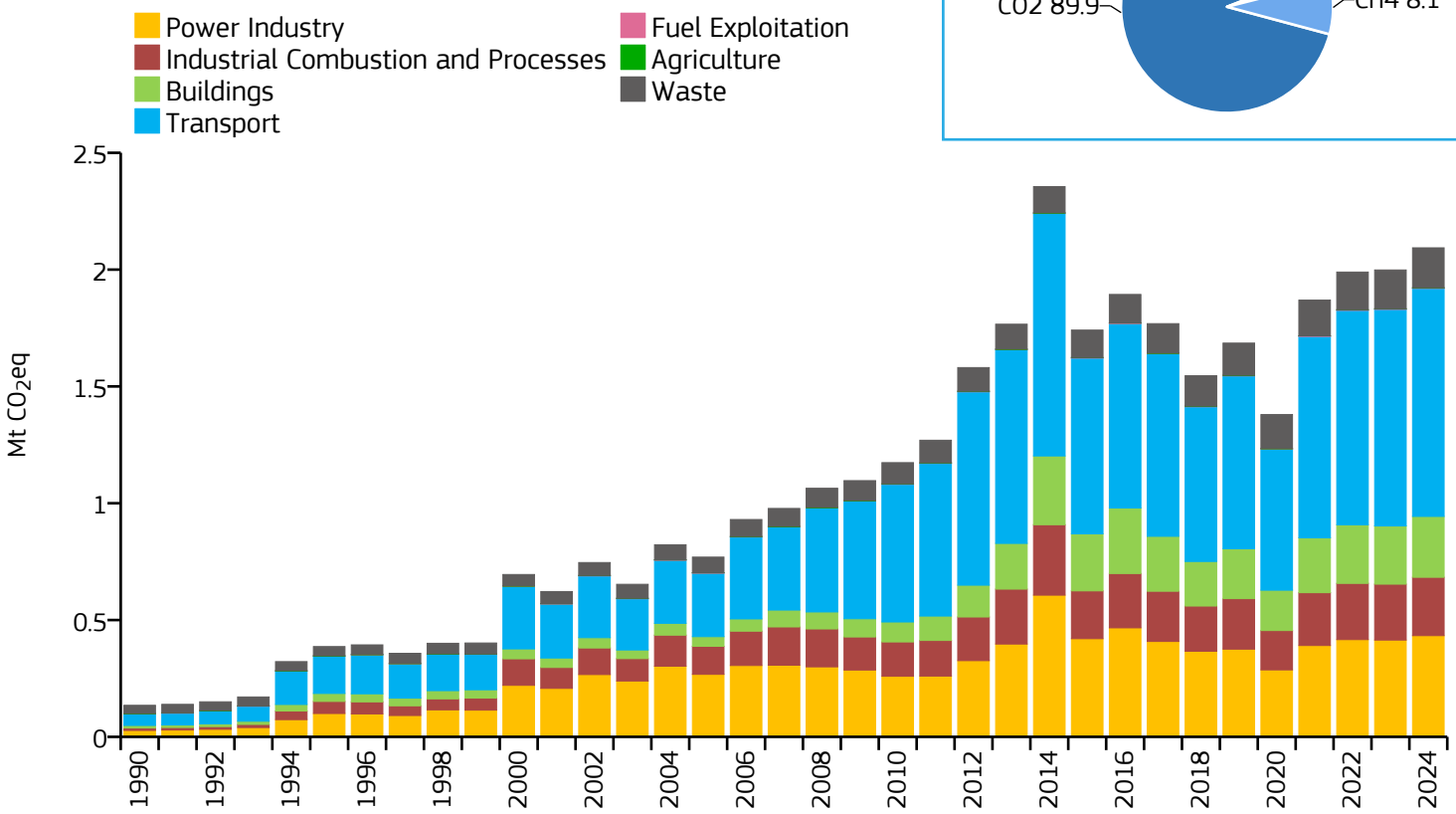
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	332.167	9.615	0.274	34.545M
2015	290.148	9.444	0.335	30.723M
2005	215.213	8.387	0.401	25.659M
1990	85.745	4.754	0.400	18.038M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+135%	+5%
Industrial Combustion and Processes	+215%	+10%	+3%
Buildings	+291%	+84%	+2%
Transport	> +300%	+47%	+3%
Fuel Exploitation	+134%	+22%	+7%
Agriculture	+11%	-10%	-1%
Waste	+285%	+73%	+2%
All sectors	+287%	+54%	+4%

Maldives



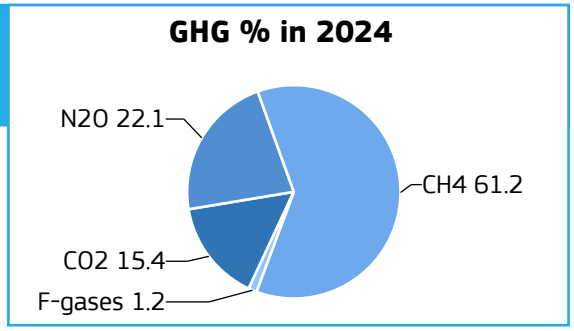
GHG emissions by sector



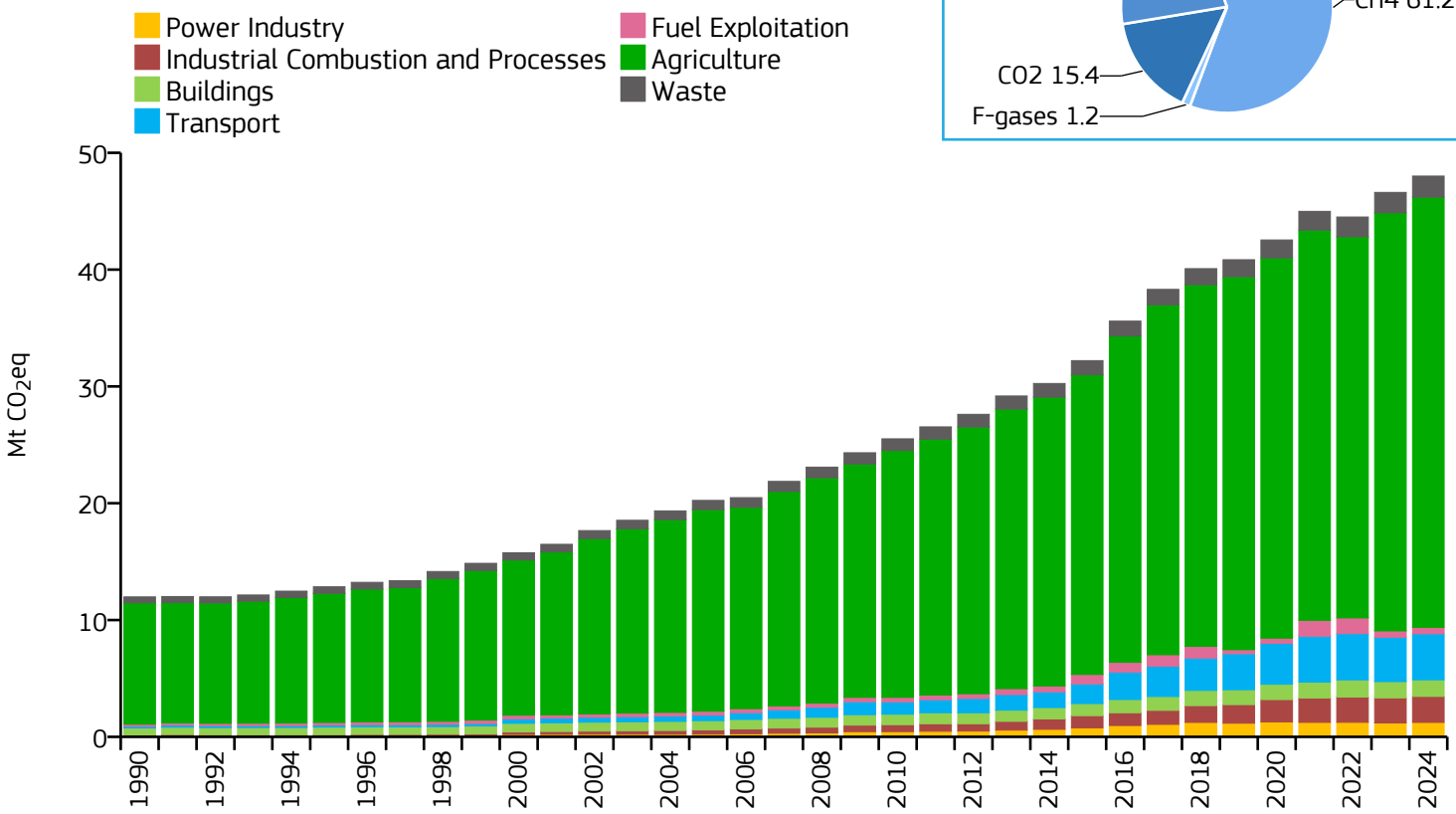
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.093	4.325	0.170	484.000k
2015	1.741	4.161	0.216	418.403k
2005	0.769	2.413	0.180	318.836k
1990	0.135	0.605	0.067	223.215k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+62%	+5%
Industrial Combustion and Processes	> +300%	+108%	+4%
Buildings	> +300%	> +300%	+5%
Transport	> +300%	+259%	+5%
Fuel Exploitation	+94%	+36%	0%
Agriculture	-97%	-12%	0%
Waste	> +300%	+156%	+3%
All sectors	> +300%	+172%	+5%

Mali



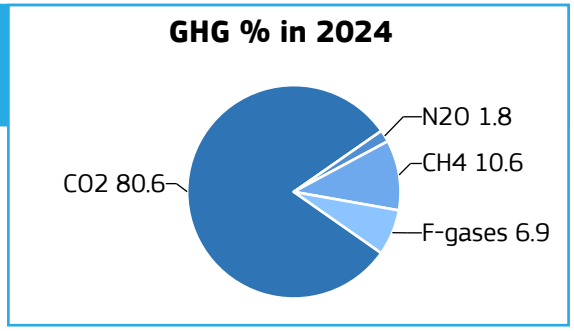
GHG emissions by sector



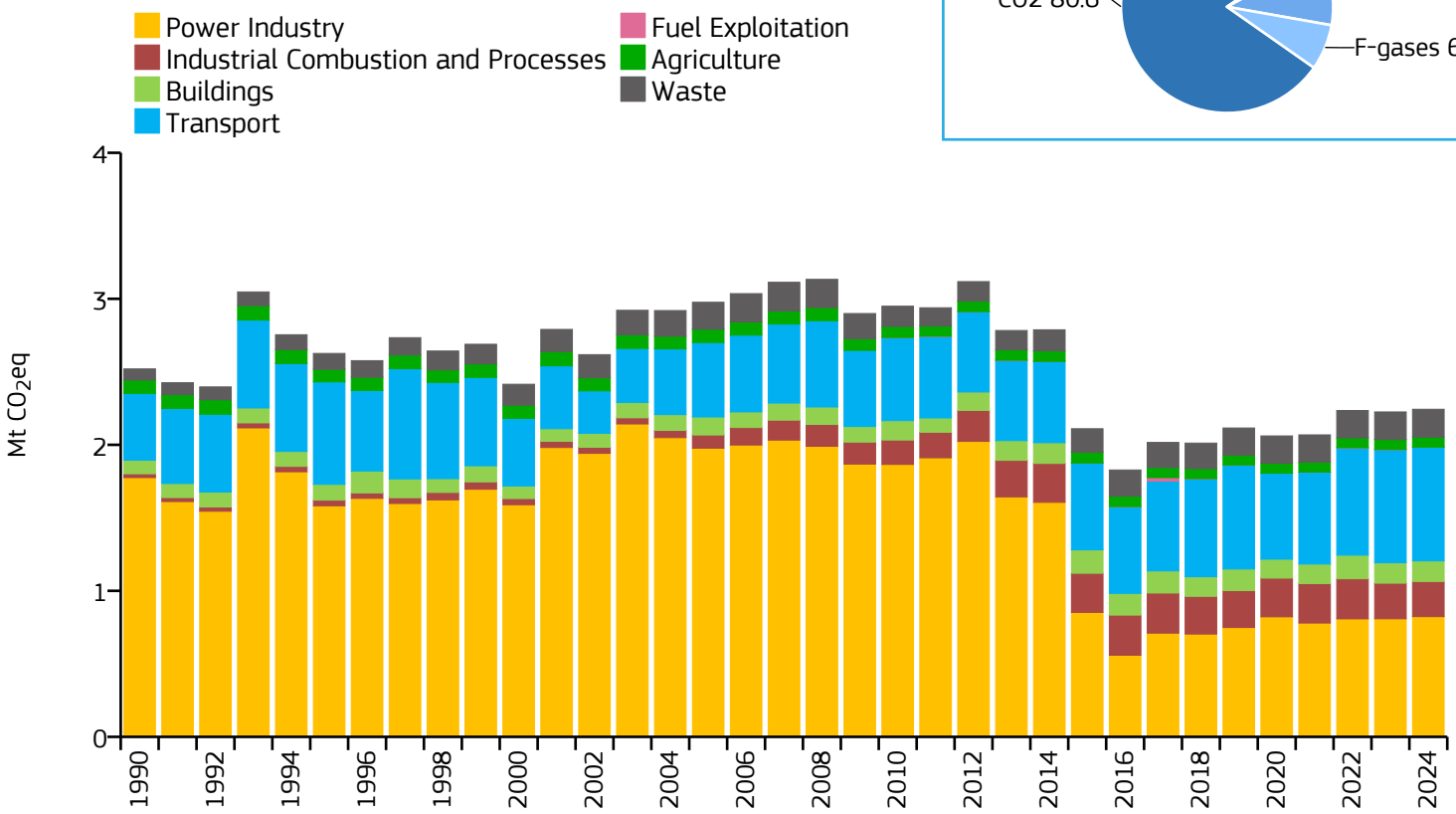
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	48.009	2.105	0.678	22.806M
2015	32.209	1.844	0.645	17.468M
2005	20.242	1.582	0.646	12.799M
1990	11.982	1.415	0.808	8.465M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+4%
Industrial Combustion and Processes	> +300%	> +300%	+4%
Buildings	+140%	+79%	+2%
Transport	> +300%	> +300%	+4%
Fuel Exploitation	+209%	+66%	0%
Agriculture	+254%	+113%	+3%
Waste	+254%	+130%	+3%
All sectors	> +300%	+137%	+3%

Malta



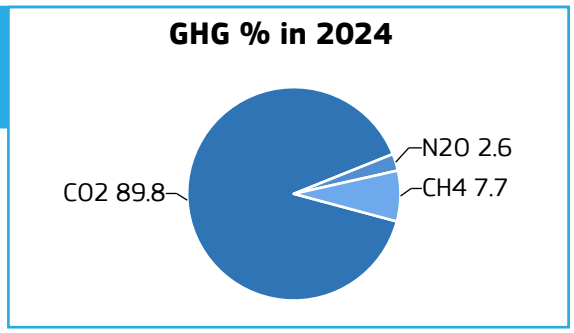
GHG emissions by sector



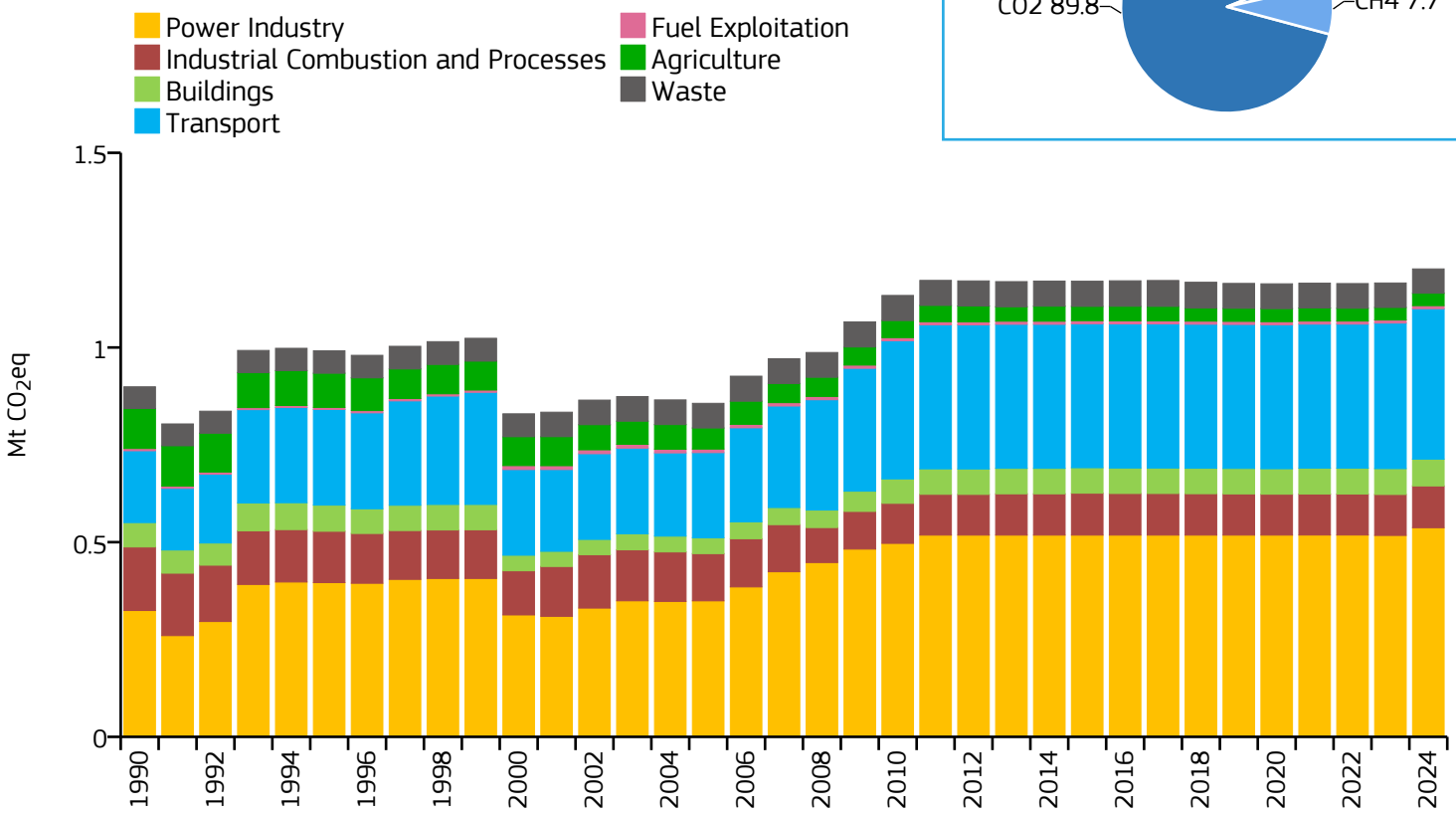
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2.244	5.122	0.065	438.000k
2015	2.110	4.935	0.103	427.616k
2005	2.976	7.317	0.225	406.787k
1990	2.520	6.915	0.391	364.431k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-54%	-58%	+2%
Industrial Combustion and Processes	> +300%	+167%	-1%
Buildings	+51%	+14%	+1%
Transport	+70%	+53%	0%
Fuel Exploitation	n/a	n/a	-79%
Agriculture	-25%	-25%	0%
Waste	+151%	+3%	+1%
All sectors	-11%	-25%	+1%

Martinique



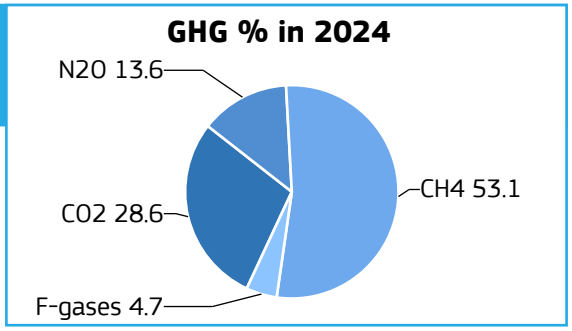
GHG emissions by sector



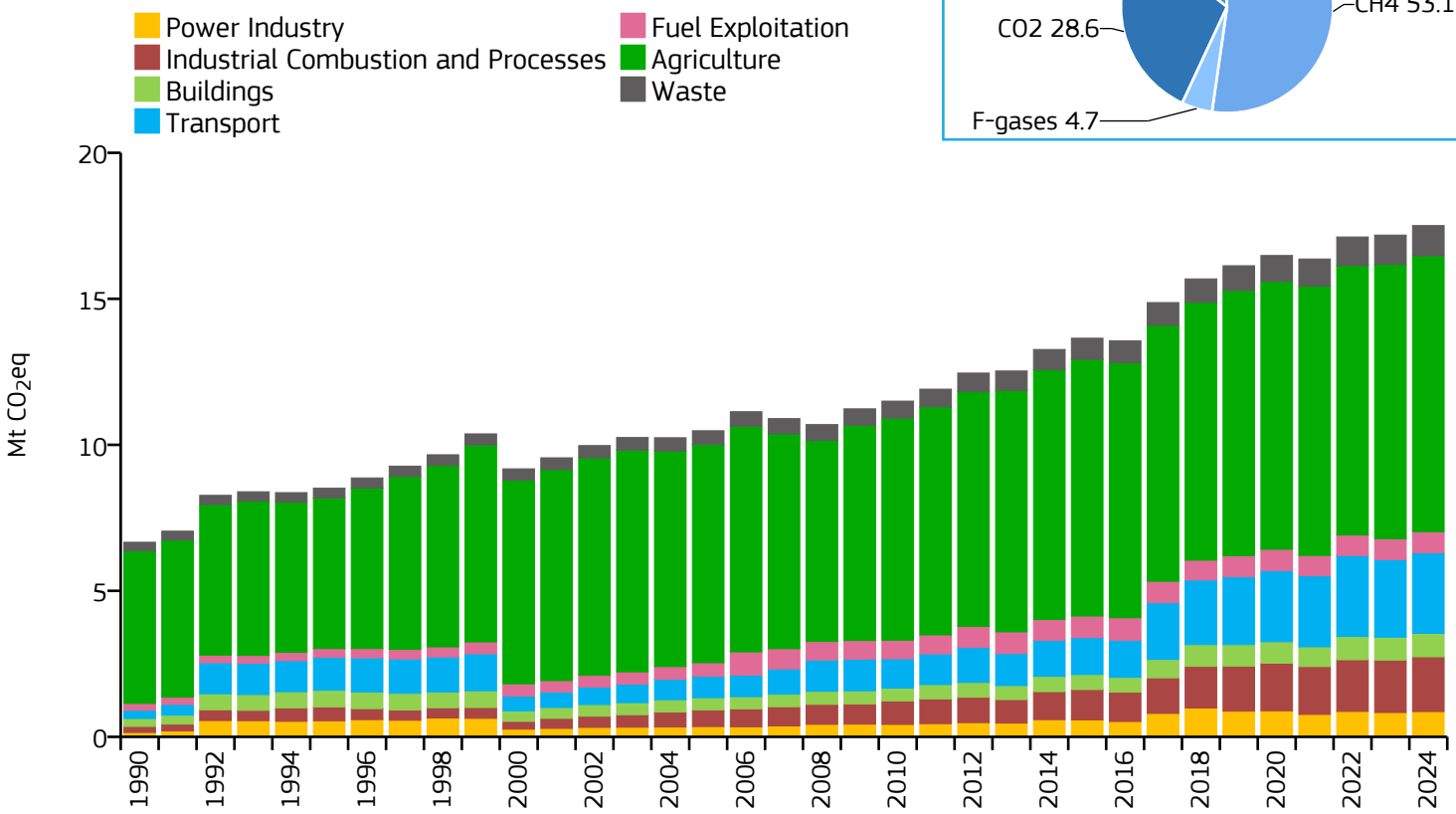
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.202	3.122	n/a	385.000k
2015	1.170	3.033	n/a	385.842k
2005	0.857	2.157	n/a	397.047k
1990	0.899	2.508	n/a	358.449k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+66%	+54%	+4%
Industrial Combustion and Processes	-34%	-12%	+2%
Buildings	+10%	+69%	+4%
Transport	+109%	+77%	+3%
Fuel Exploitation	+34%	-14%	0%
Agriculture	-69%	-41%	-1%
Waste	+12%	-1%	-1%
All sectors	+34%	+40%	+3%

Mauritania



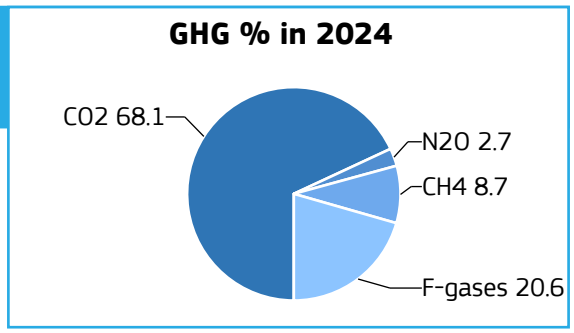
GHG emissions by sector



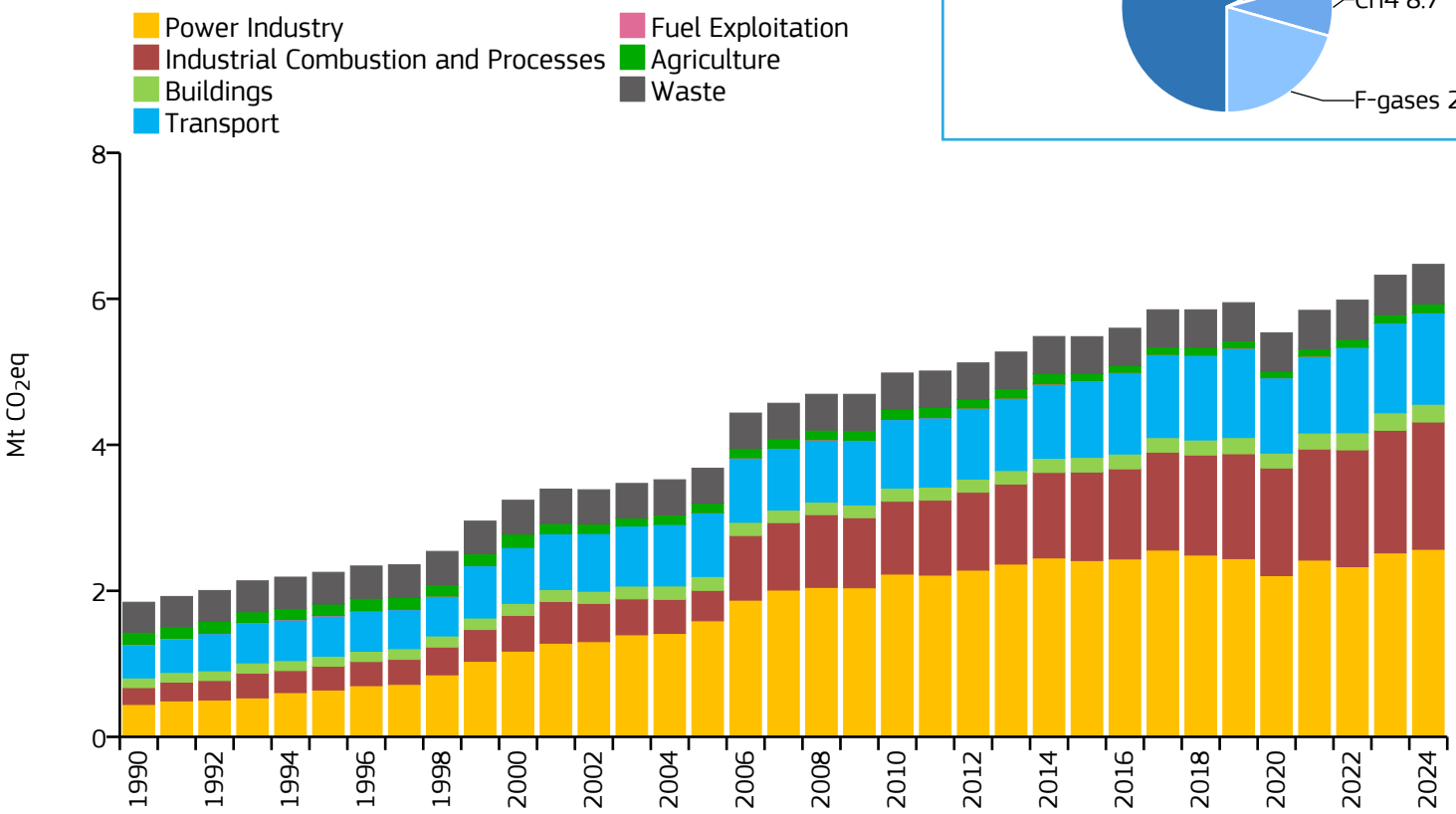
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	17.509	3.311	0.533	5.288M
2015	13.651	3.264	0.577	4.182M
2005	10.482	3.348	0.655	3.131M
1990	6.664	3.283	0.619	2.030M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+145%	+4%
Industrial Combustion and Processes	> +300%	+229%	+5%
Buildings	+195%	+92%	+2%
Transport	> +300%	+279%	+4%
Fuel Exploitation	+205%	+55%	+1%
Agriculture	+81%	+27%	+1%
Waste	+242%	+118%	+3%
All sectors	+163%	+67%	+2%

Mauritius



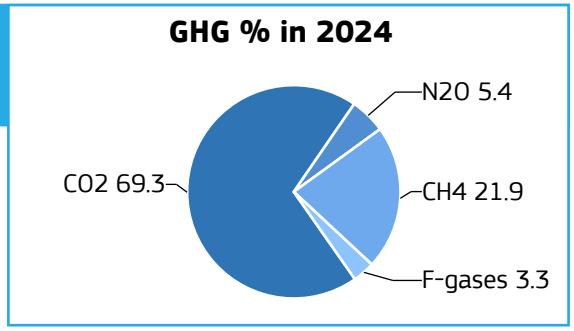
GHG emissions by sector



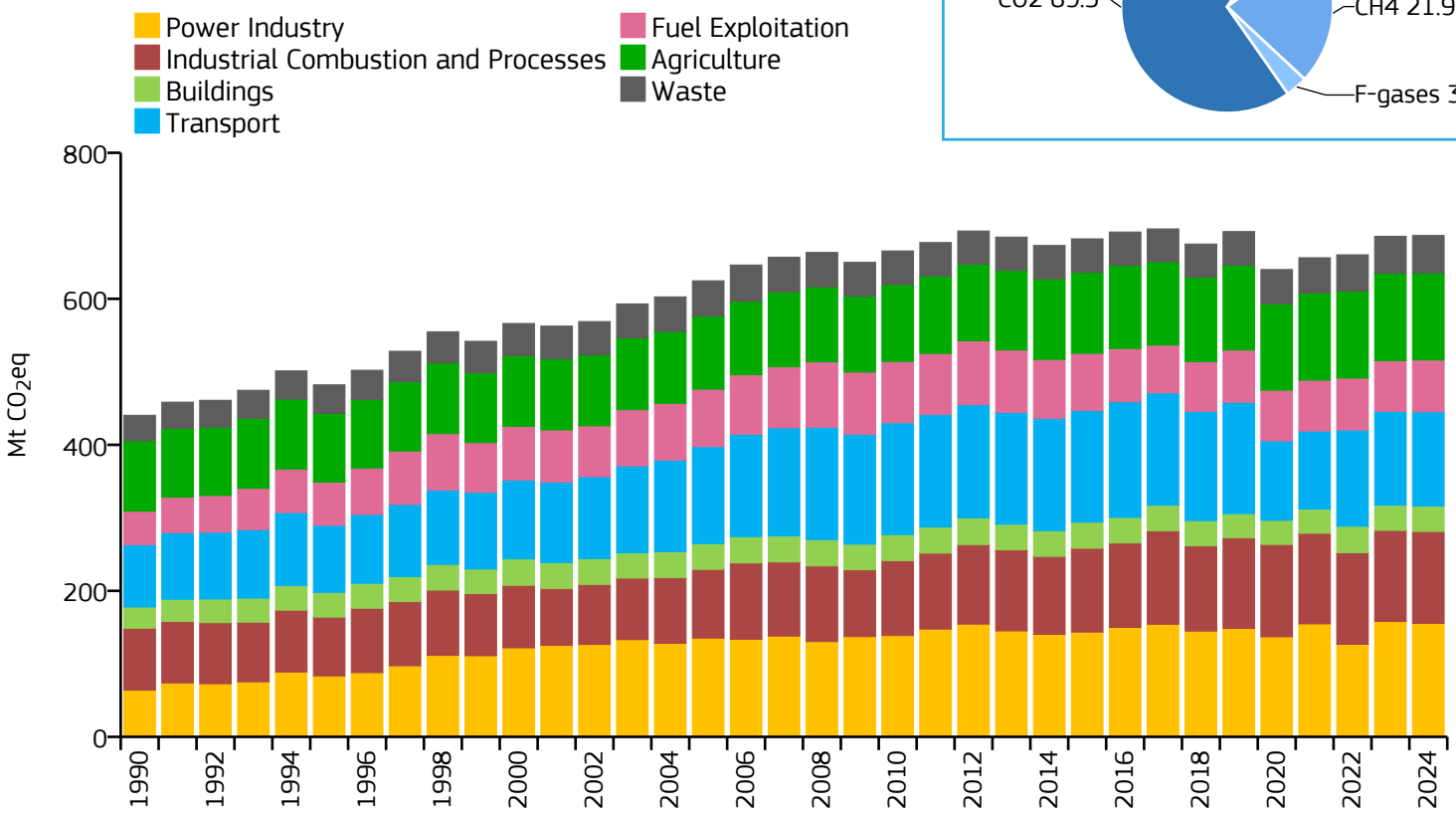
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	6.472	5.048	0.188	1.282M
2015	5.482	4.352	0.194	1.259M
2005	3.679	3.011	0.197	1.222M
1990	1.844	1.746	0.195	1.056M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +62%	→ +2%
Industrial Combustion and Processes	↗ > +300%	↗ > +300%	→ +4%
Buildings	↗ +83%	↗ +28%	→ +2%
Transport	↗ +179%	↗ +44%	→ +2%
Fuel Exploitation	↘ -92%	↘ -77%	→ 0%
Agriculture	↘ -29%	↘ -7%	→ +4%
Waste	↗ +32%	↗ +13%	→ +1%
All sectors	↗ +251%	↗ +76%	→ +2%

Mexico



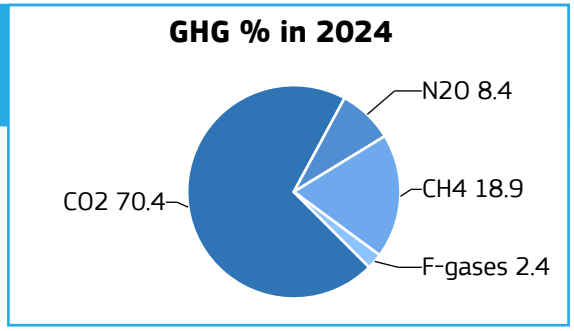
GHG emissions by sector



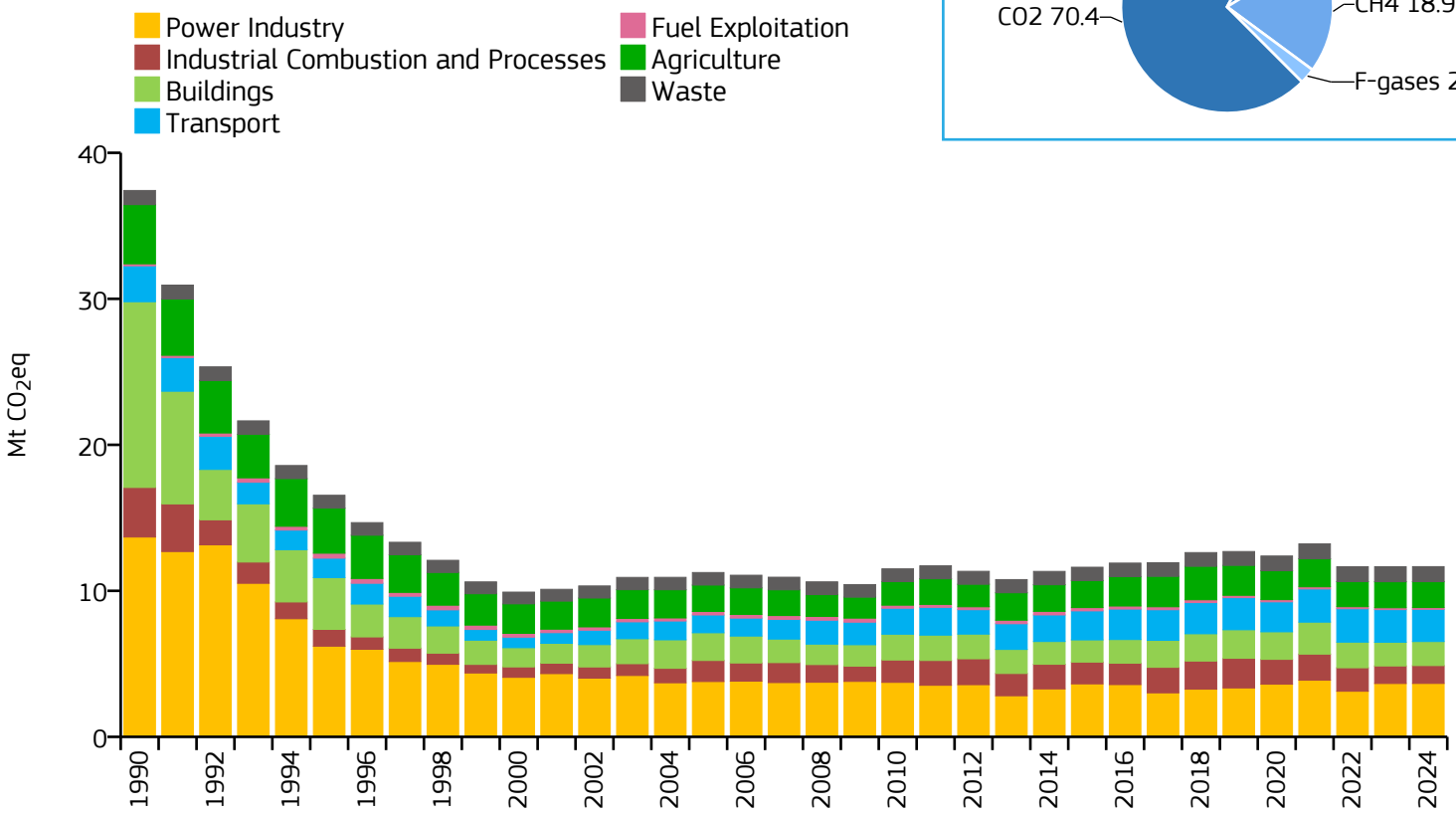
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	686.779	4.915	0.238	139.744M
2015	682.148	5.419	0.263	125.891M
2005	624.679	5.759	0.291	108.472M
1990	440.471	5.160	0.310	85.358M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+143%	+15%	-2%
Industrial Combustion and Processes	+49%	+34%	+1%
Buildings	+20%	-1%	+1%
Transport	+52%	-3%	+1%
Fuel Exploitation	+54%	-10%	+2%
Agriculture	+23%	+19%	-1%
Waste	+48%	+6%	+2%
All sectors	+56%	+10%	0%

Moldova



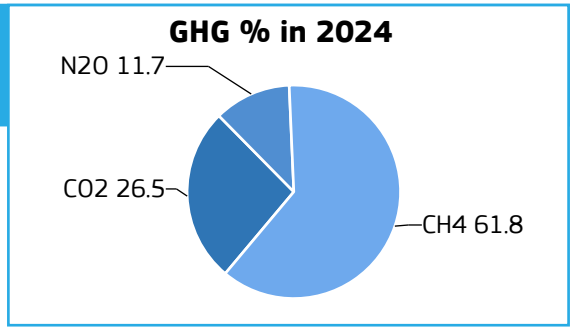
GHG emissions by sector



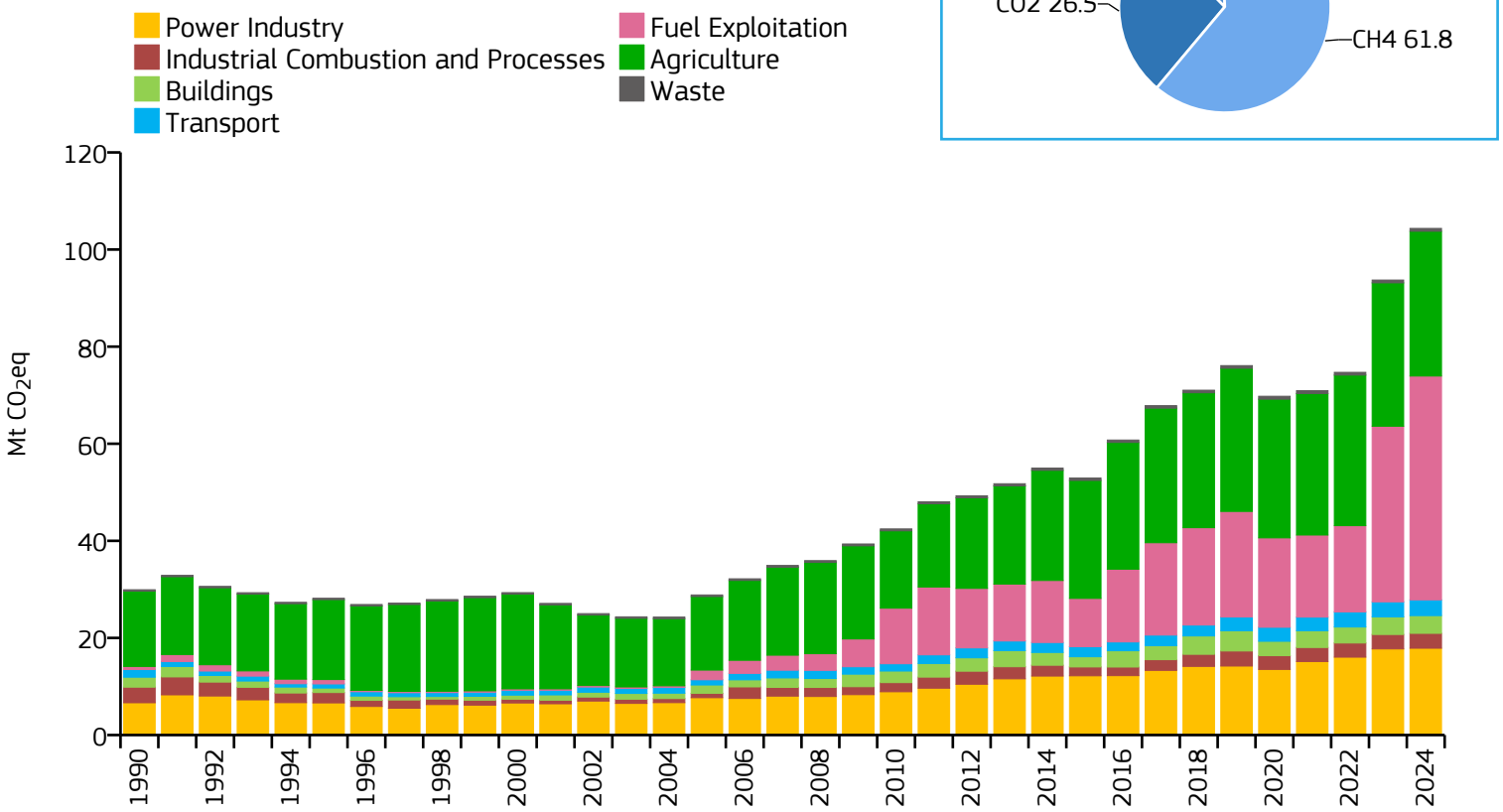
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	11.658	2.943	0.295	3.961M
2015	11.617	2.857	0.350	4.066M
2005	11.255	2.707	0.477	4.158M
1990	37.420	8.574	0.790	4.364M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-73%	-3%	0%
Industrial Combustion and Processes	-64%	-15%	+2%
Buildings	-87%	-13%	+1%
Transport	-10%	+81%	-1%
Fuel Exploitation	-14%	-51%	-7%
Agriculture	-56%	-2%	-1%
Waste	+6%	+20%	0%
All sectors	-69%	+4%	0%

Mongolia



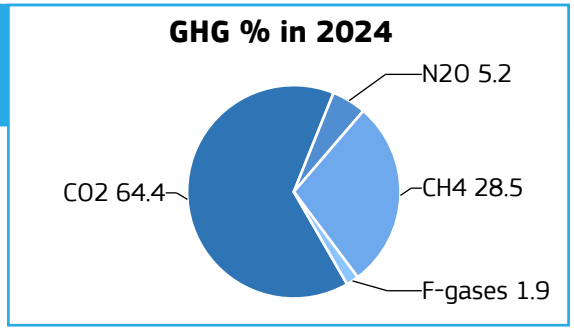
GHG emissions by sector



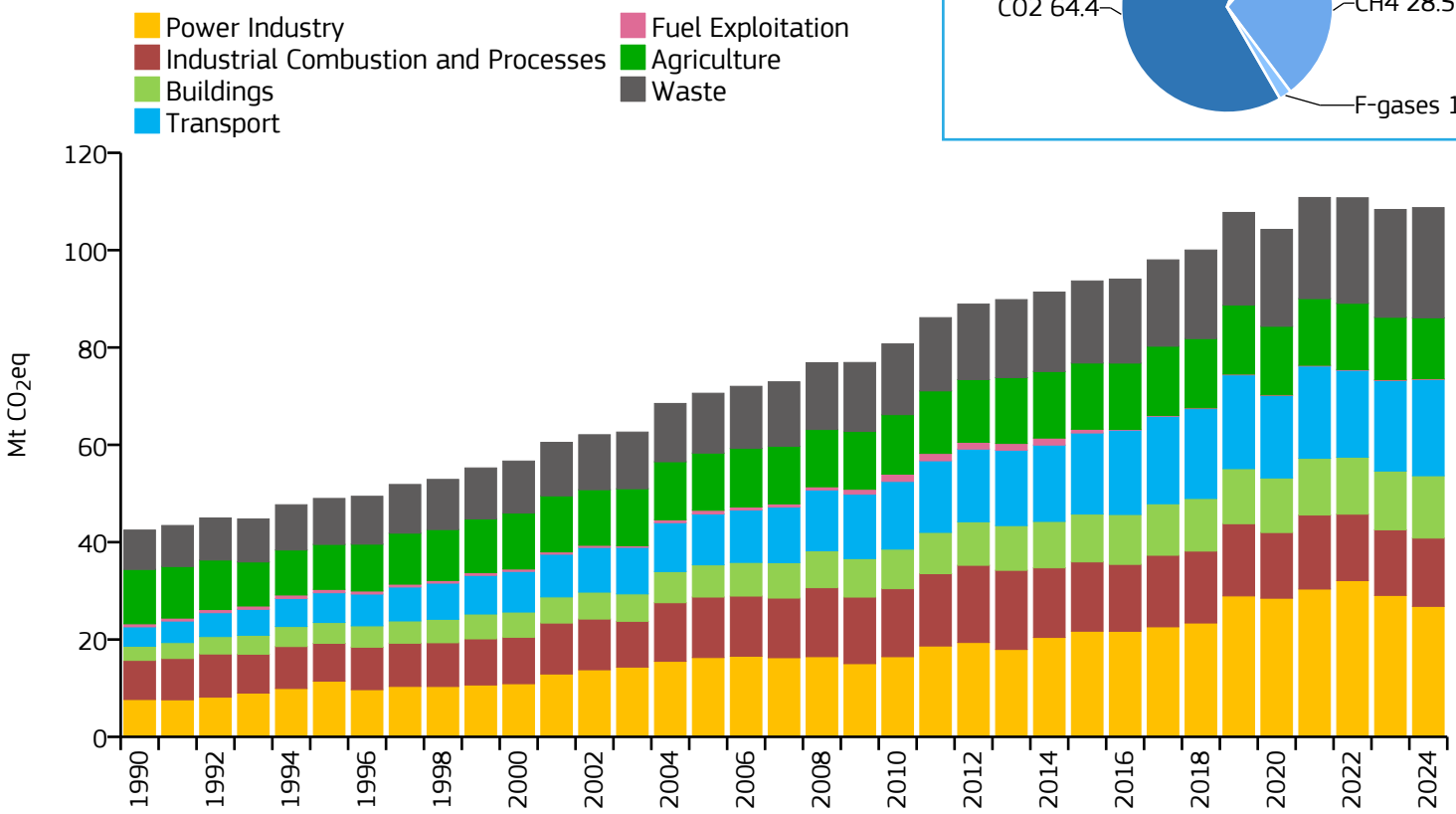
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	104.355	30.993	1.762	3.367M
2015	52.934	17.782	1.251	2.977M
2005	28.857	11.422	1.517	2.526M
1990	29.930	13.703	2.148	2.184M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +169%	↗ +133%	→ +1%
Industrial Combustion and Processes	→ -5%	↗ +239%	→ +3%
Buildings	↗ +79%	↗ +113%	→ +1%
Transport	↗ +104%	↗ +202%	→ +5%
Fuel Exploitation	↗ > +300%	↗ > +300%	↗ +27%
Agriculture	↗ +92%	↗ +97%	→ +1%
Waste	↗ +104%	↗ +79%	→ +2%
All sectors	↗ +249%	↗ +262%	↗ +11%

Morocco



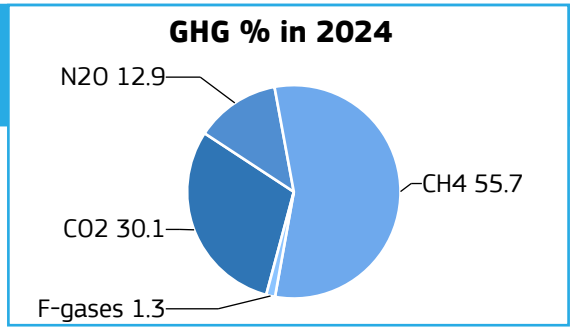
GHG emissions by sector



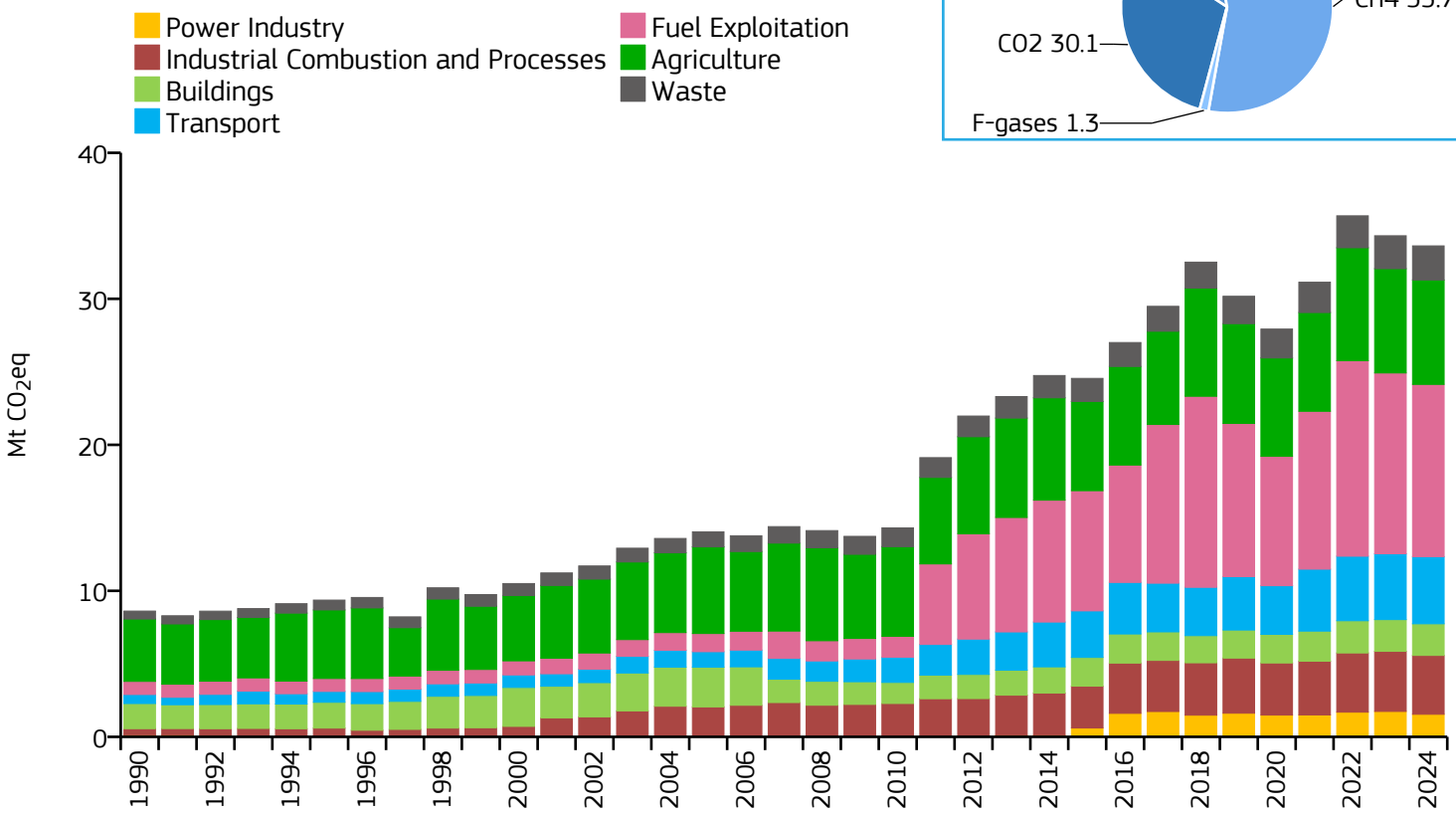
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	108.736	2.809	0.310	38.715M
2015	93.674	2.692	0.326	34.803M
2005	70.600	2.313	0.377	30.521M
1990	42.487	1.708	0.392	24.879M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +250%	↗ +65%	↘ -8%
Industrial Combustion and Processes	↗ +74%	↗ +13%	→ +4%
Buildings	↗ > +300%	↗ +94%	↗ +6%
Transport	↗ > +300%	↗ +89%	↗ +6%
Fuel Exploitation	↘ -76%	↘ -81%	→ 0%
Agriculture	↗ +12%	↗ +7%	→ -2%
Waste	↗ +180%	↗ +84%	→ +2%
All sectors	↗ +156%	↗ +54%	→ 0%

Mozambique



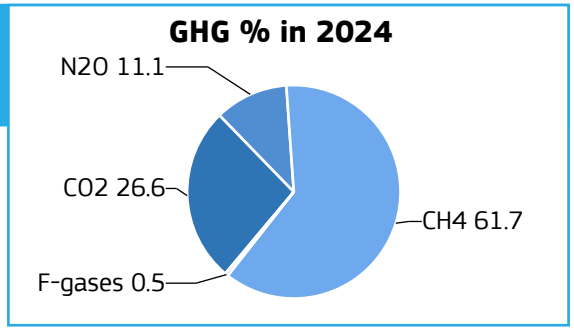
GHG emissions by sector



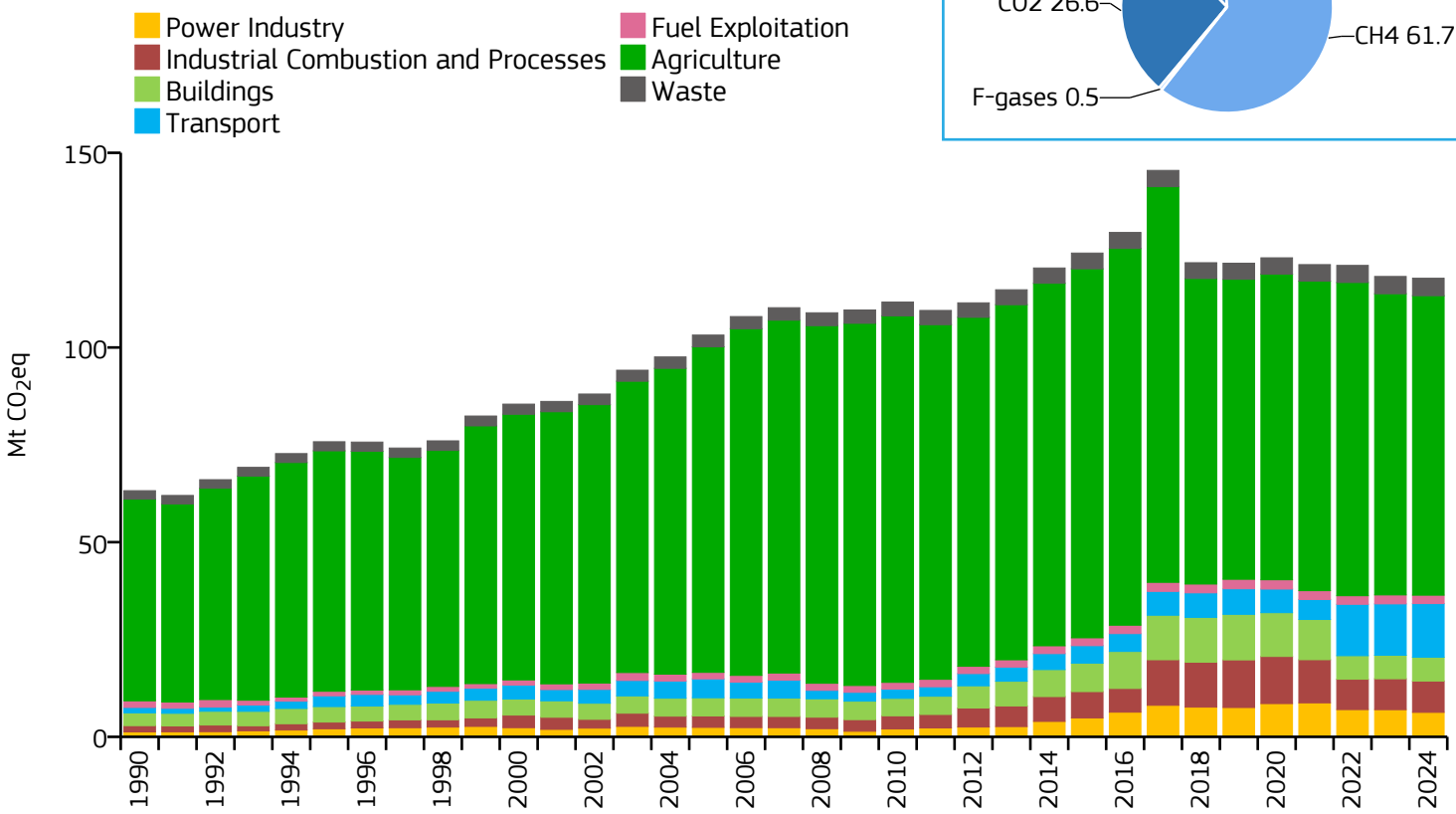
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	33.626	0.931	0.649	36.114M
2015	24.551	0.876	0.611	28.011M
2005	14.042	0.671	0.713	20.923M
1990	8.614	0.650	1.201	13.248M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	↘ -11%
Industrial Combustion and Processes	↗ > +300%	↗ +99%	→ -2%
Buildings	↗ +26%	↘ -20%	→ 0%
Transport	↗ > +300%	↗ > +300%	→ +2%
Fuel Exploitation	↗ > +300%	↗ > +300%	→ -5%
Agriculture	↗ +67%	↗ +21%	→ 0%
Waste	↗ > +300%	↗ +126%	→ +3%
All sectors	↗ +290%	↗ +139%	→ -2%

Myanmar/Burma



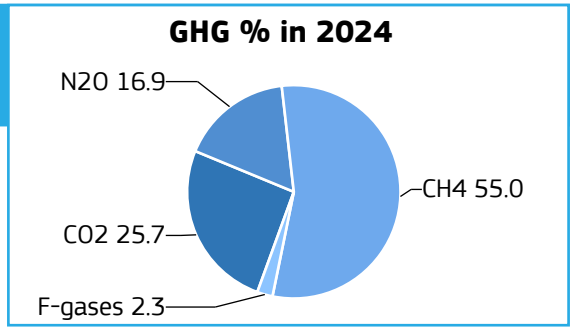
GHG emissions by sector



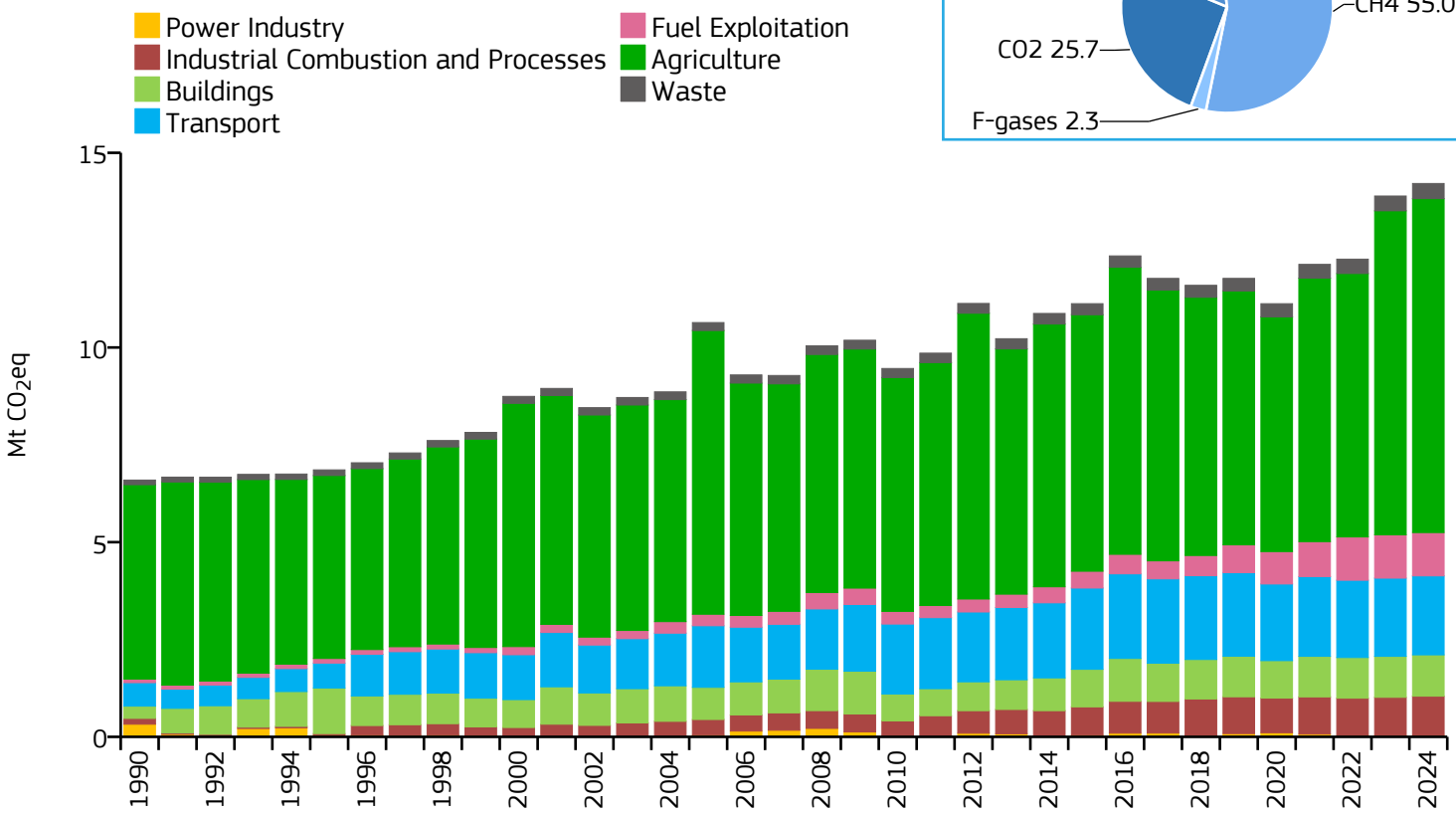
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	117.788	2.082	0.410	56.584M
2015	124.253	2.371	0.458	52.404M
2005	103.186	2.128	0.915	48.483M
1990	63.223	1.556	2.048	40.626M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +158%	↘ -10%
Industrial Combustion and Processes	↗ > +300%	↗ +174%	→ +1%
Buildings	↗ +86%	↗ +31%	→ +1%
Transport	↗ > +300%	↗ +184%	→ +4%
Fuel Exploitation	↗ +26%	↗ +29%	↘ -6%
Agriculture	↗ +49%	↘ -8%	→ -1%
Waste	↗ +106%	↗ +48%	→ +1%
All sectors	↗ +86%	↗ +14%	→ 0%

Namibia



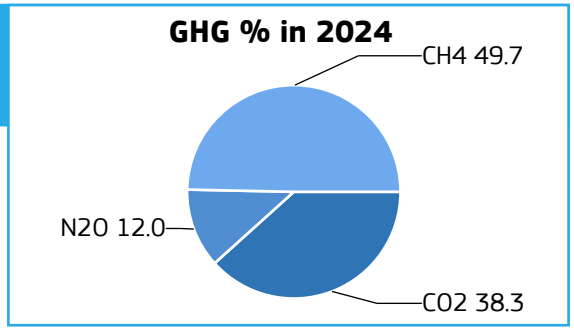
GHG emissions by sector



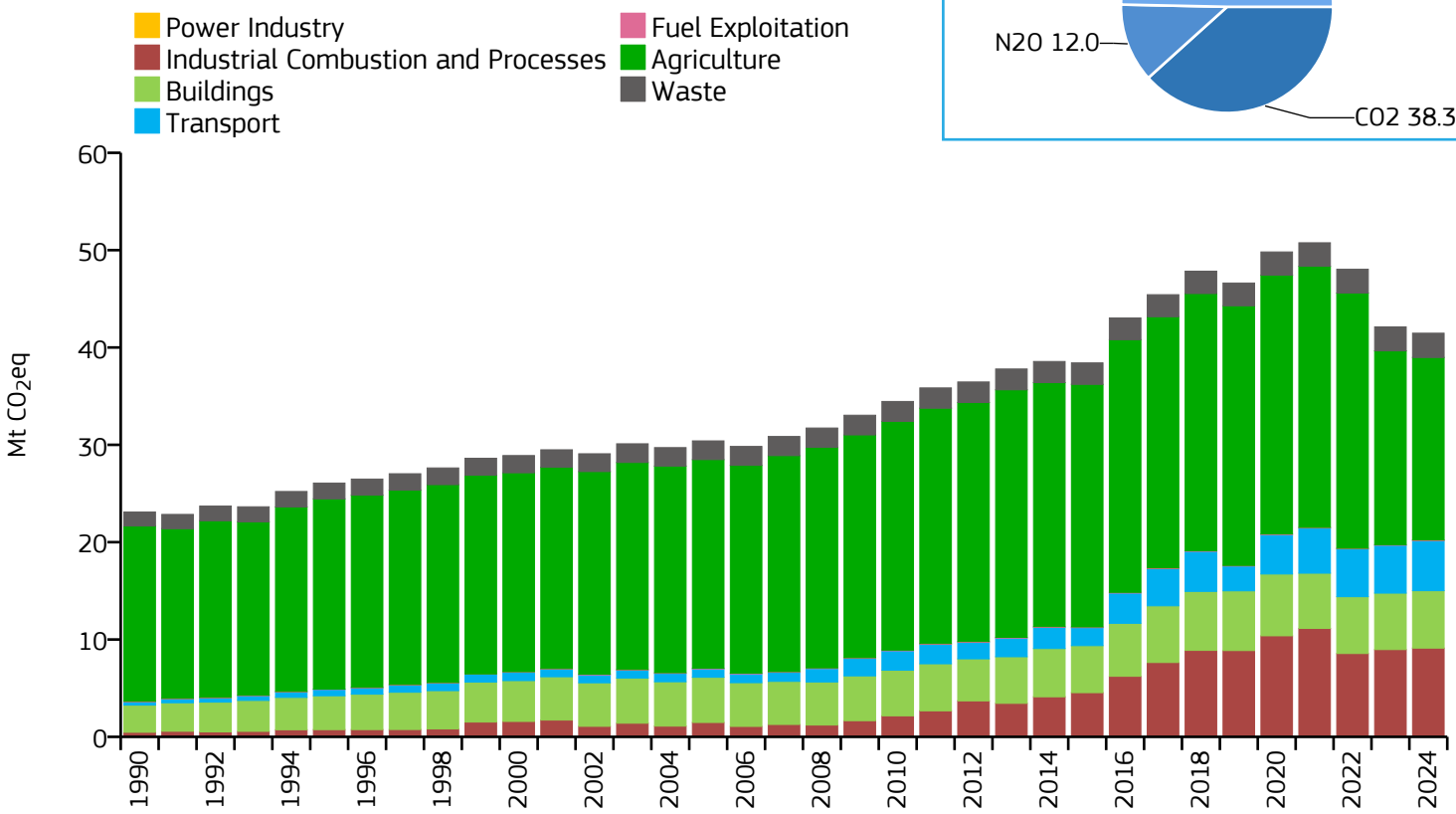
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	14.212	4.874	0.456	2.916M
2015	11.126	4.587	0.385	2.426M
2005	10.640	5.236	0.585	2.032M
1990	6.595	4.662	0.661	1.415M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↘ -90%	↘ -23%	→ +4%
Industrial Combustion and Processes	↗ > +300%	↗ +151%	→ +3%
Buildings	↗ +236%	↗ +29%	→ +1%
Transport	↗ +237%	↗ +28%	→ +1%
Fuel Exploitation	↗ > +300%	↗ +276%	→ 0%
Agriculture	↗ +72%	↗ +18%	→ +3%
Waste	↗ +228%	↗ +91%	→ +2%
All sectors	↗ +115%	↗ +34%	→ +2%

Nepal



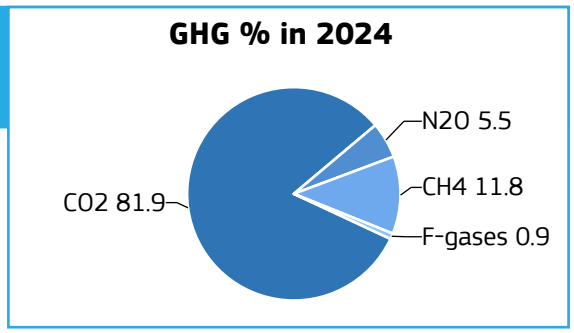
GHG emissions by sector



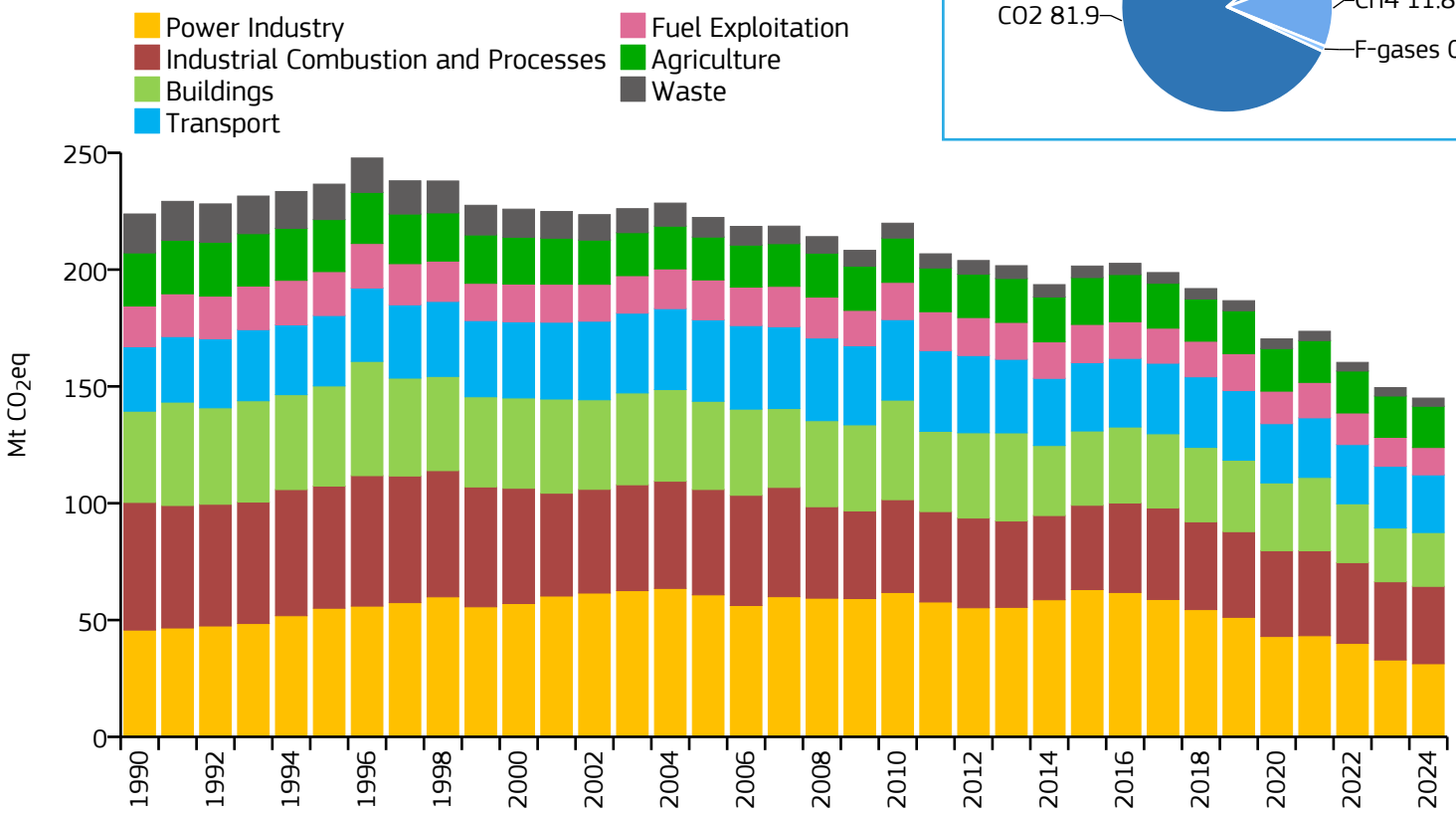
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	41.468	1.316	0.279	31.514M
2015	38.417	1.341	0.369	28.656M
2005	30.406	1.186	0.448	25.640M
1990	23.096	1.232	0.654	18.749M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	-100%	+5%
Industrial Combustion and Processes	> +300%	> +300%	+2%
Buildings	+111%	+27%	+2%
Transport	> +300%	> +300%	+5%
Fuel Exploitation	+86%	-5%	0%
Agriculture	+4%	-13%	-6%
Waste	+74%	+30%	+1%
All sectors	+80%	+36%	-2%

Netherlands



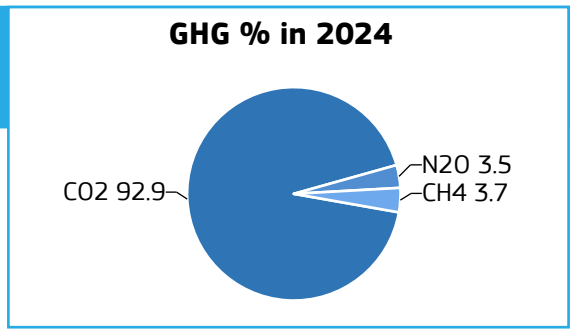
GHG emissions by sector



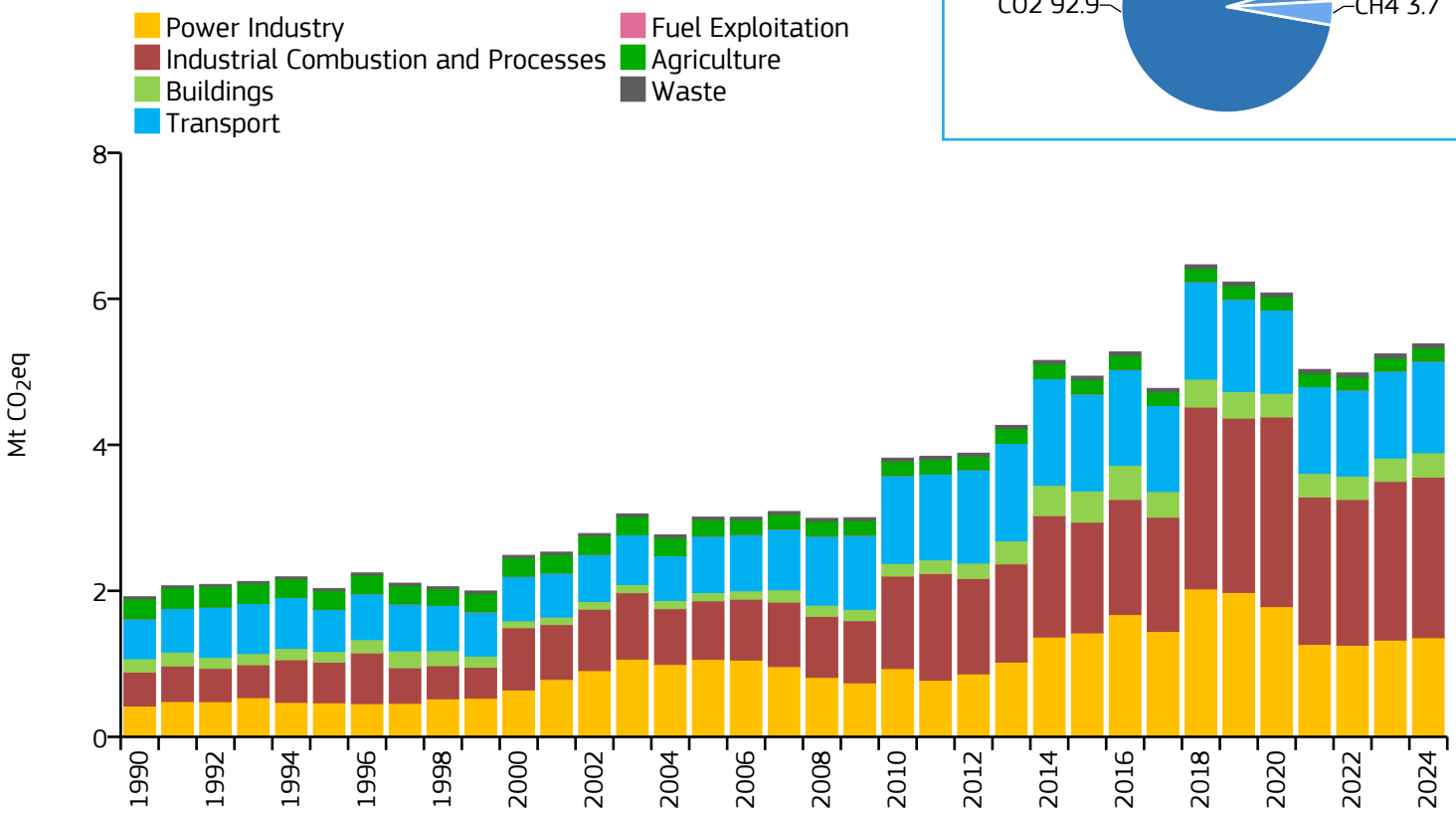
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	145.007	8.348	0.114	17.370M
2015	201.530	11.898	0.189	16.938M
2005	222.300	13.582	0.233	16.367M
1990	223.817	14.956	0.347	14.965M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-32%	-48%	-5%
Industrial Combustion and Processes	-39%	-27%	-1%
Buildings	-41%	-39%	0%
Transport	-10%	-29%	-6%
Fuel Exploitation	-33%	-32%	-6%
Agriculture	-22%	-4%	0%
Waste	-79%	-58%	-3%
All sectors	-35%	-35%	-3%

New Caledonia



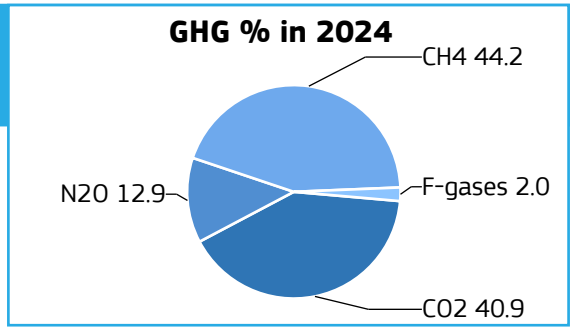
GHG emissions by sector



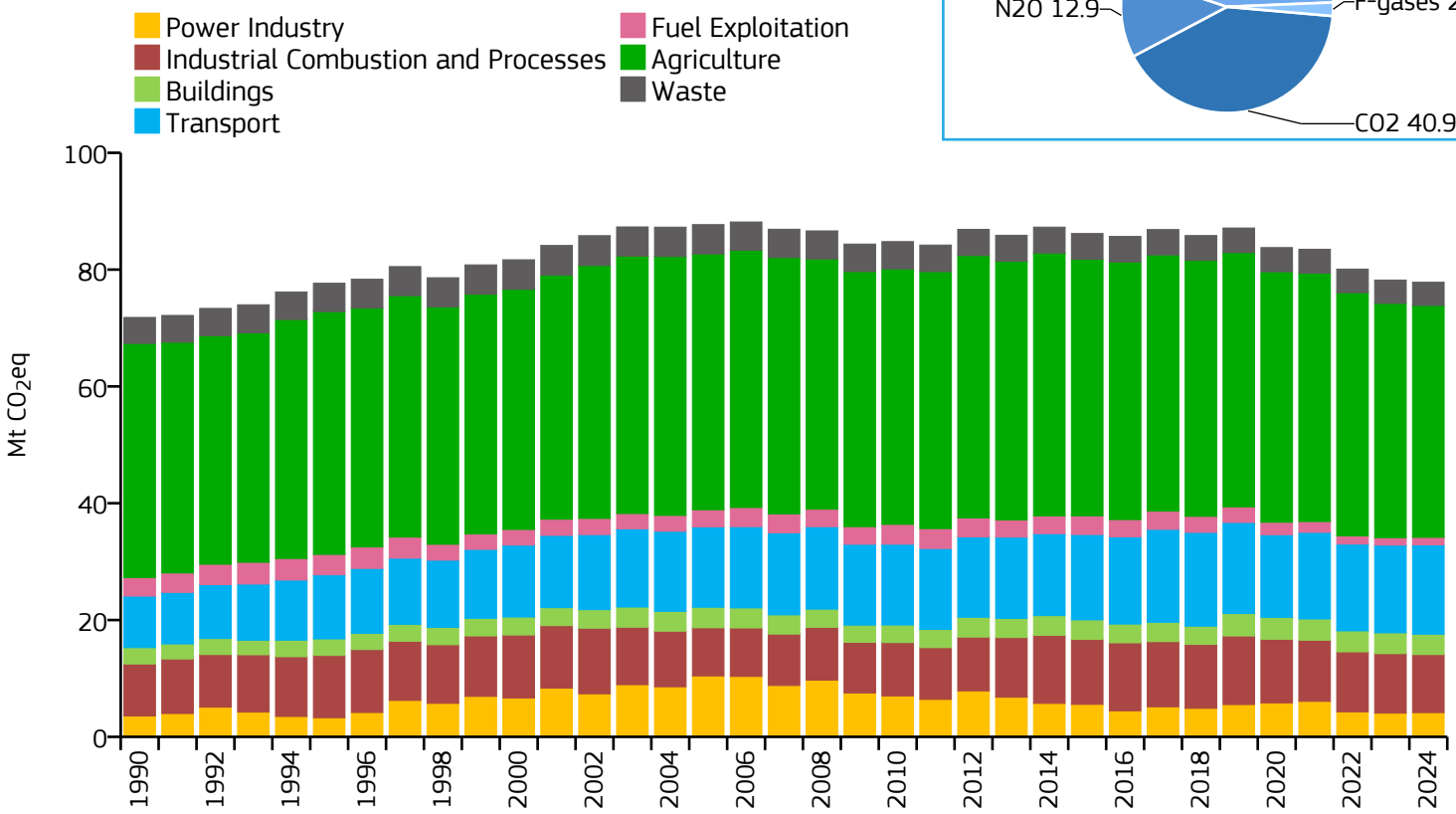
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	5.382	17.879	0.535	301.000k
2015	4.940	18.359	0.496	269.091k
2005	3.010	12.934	0.407	232.686k
1990	1.918	11.299	0.374	169.787k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+221%	+28%	+2%
Industrial Combustion and Processes	> +300%	+175%	+1%
Buildings	+83%	+190%	+5%
Transport	+130%	+62%	+5%
Fuel Exploitation	+99%	+37%	0%
Agriculture	-35%	-20%	0%
Waste	+128%	+55%	+2%
All sectors	+181%	+79%	+3%

New Zealand



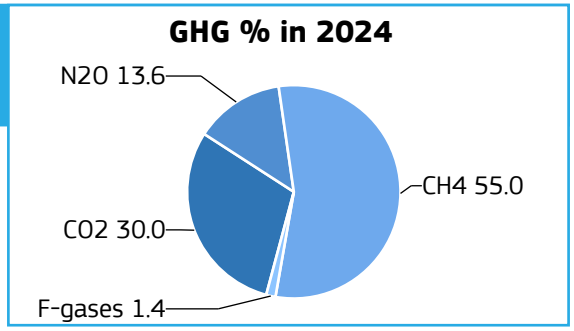
GHG emissions by sector



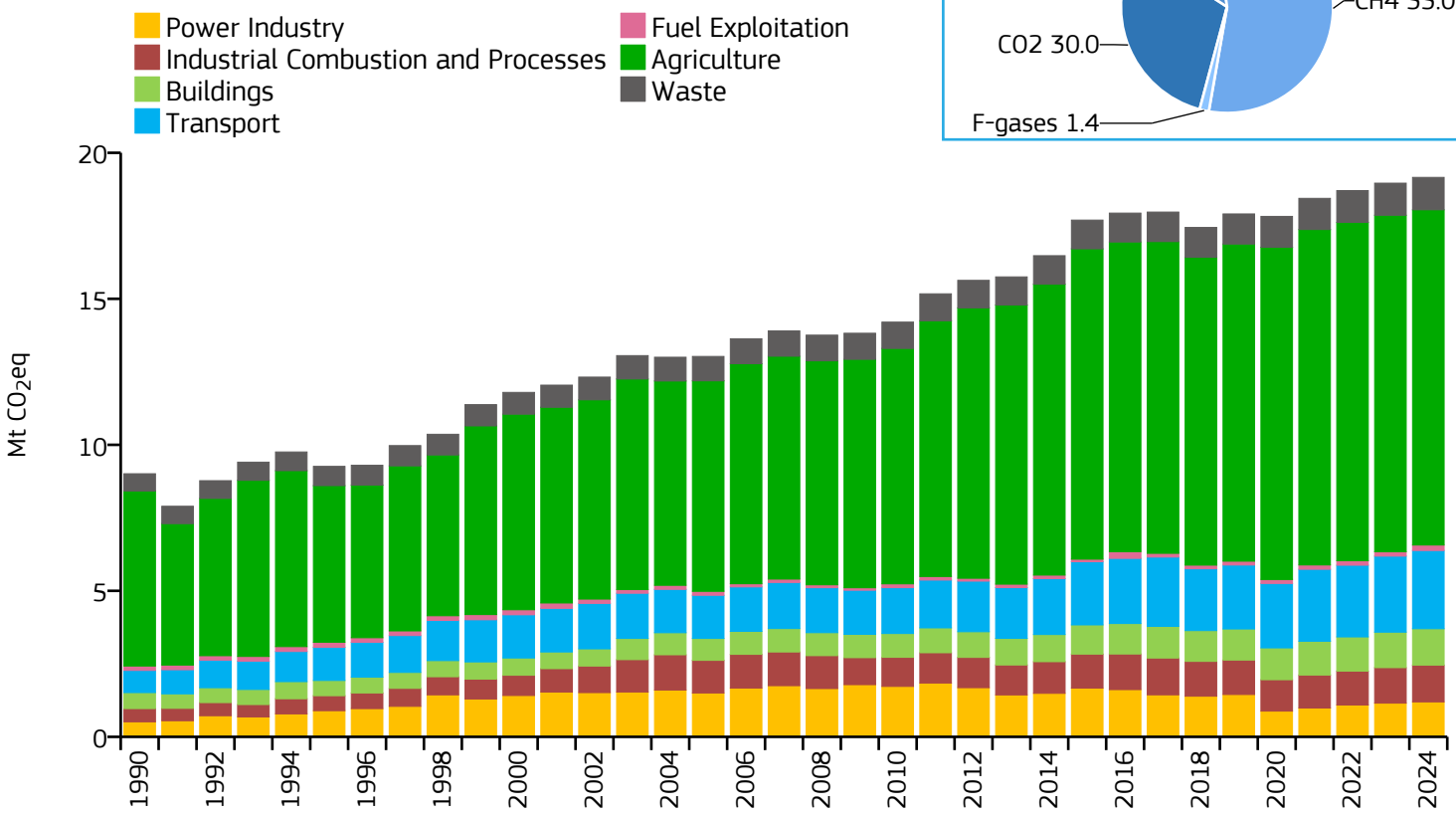
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	77.837	15.586	0.304	4.994M
2015	86.179	18.676	0.416	4.615M
2005	87.701	21.208	0.519	4.135M
1990	71.814	21.133	0.703	3.398M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+16%	-60%	+2%
Industrial Combustion and Processes	+12%	+21%	-2%
Buildings	+25%	-1%	-2%
Transport	+73%	+11%	+2%
Fuel Exploitation	-60%	-56%	0%
Agriculture	-1%	-9%	-1%
Waste	-11%	-21%	-1%
All sectors	+8%	-11%	0%

Nicaragua



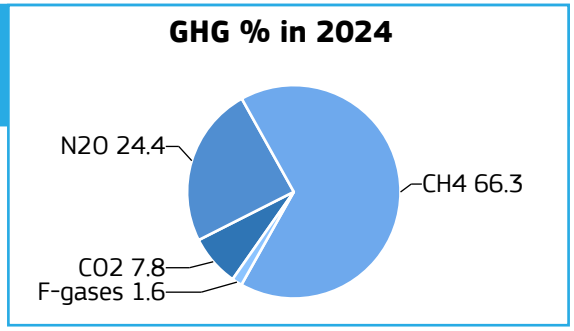
GHG emissions by sector



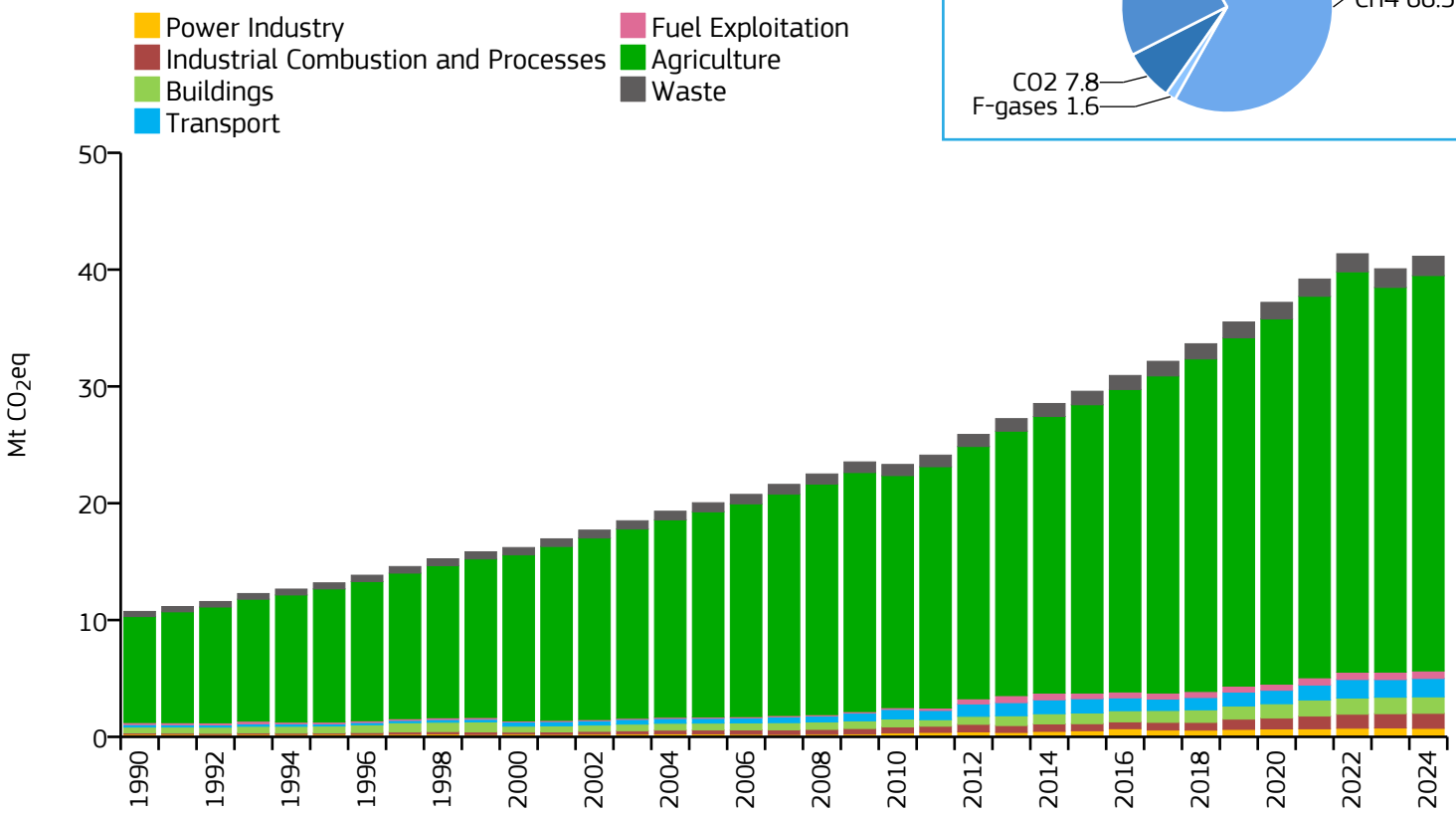
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	19.159	2.873	0.362	6.669M
2015	17.696	2.910	0.415	6.082M
2005	13.027	2.422	0.455	5.379M
1990	9.010	2.174	0.513	4.145M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+133%	-20%	+4%
Industrial Combustion and Processes	+178%	+13%	+4%
Buildings	+128%	+66%	+3%
Transport	+253%	+81%	+3%
Fuel Exploitation	+23%	+38%	+25%
Agriculture	+92%	+59%	0%
Waste	+88%	+33%	+1%
All sectors	+113%	+47%	+1%

Niger



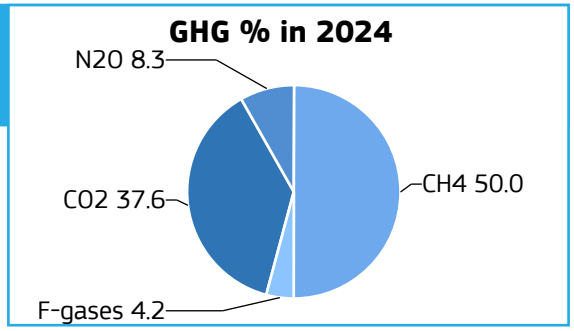
GHG emissions by sector



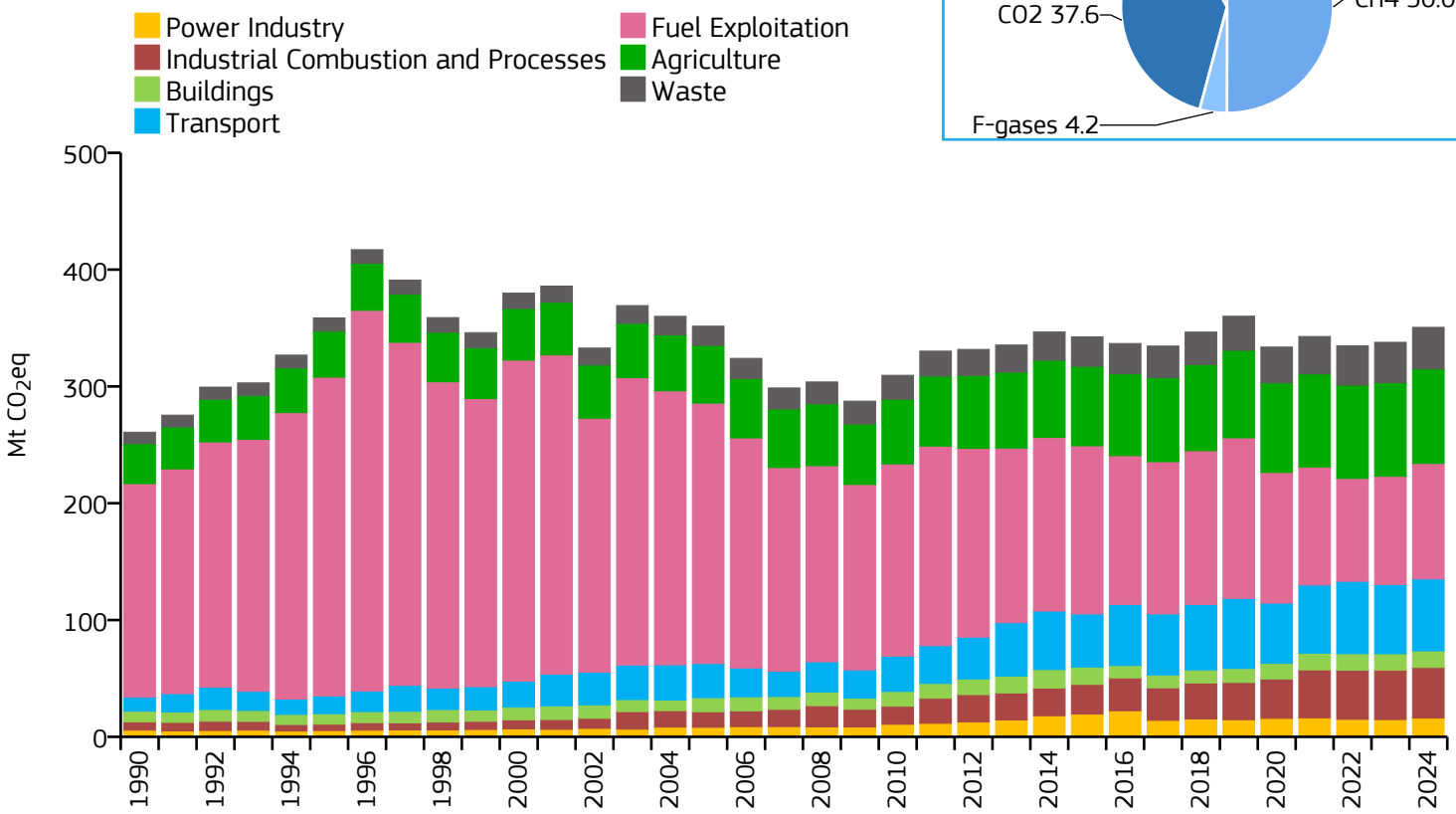
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	41.146	1.469	0.844	28.007M
2015	29.588	1.487	1.008	19.897M
2005	20.043	1.472	1.181	13.618M
1990	10.739	1.340	0.918	8.013M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+225%	+192%	-4%
Industrial Combustion and Processes	> +300%	+279%	+5%
Buildings	+184%	+140%	+1%
Transport	> +300%	+283%	+4%
Fuel Exploitation	+277%	> +300%	+1%
Agriculture	+273%	+93%	+3%
Waste	+276%	+114%	+4%
All sectors	+283%	+105%	+3%

Nigeria



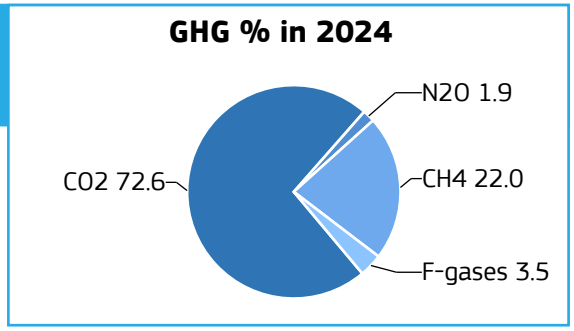
GHG emissions by sector



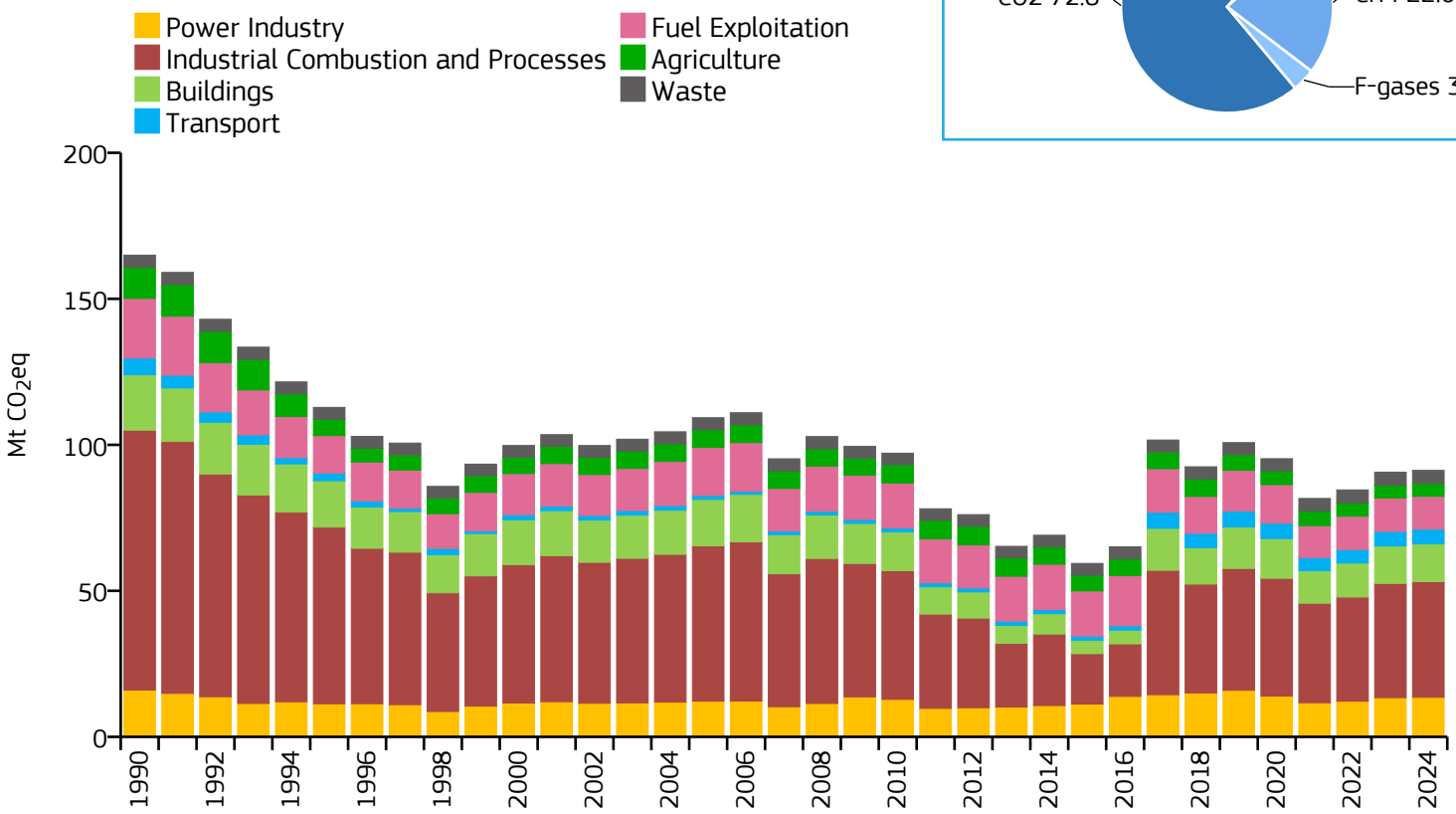
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	350.555	1.538	0.266	227.963M
2015	342.398	1.890	0.300	181.182M
2005	351.604	2.531	0.554	138.939M
1990	260.816	2.738	0.736	95.270M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +182%	↗ +97%	↗ +9%
Industrial Combustion and Processes	↗ > +300%	↗ +225%	→ +2%
Buildings	↗ +55%	↗ +18%	→ +1%
Transport	↗ > +300%	↗ +111%	→ +4%
Fuel Exploitation	↘ -46%	↘ -56%	↗ +7%
Agriculture	↗ +136%	↗ +64%	→ +1%
Waste	↗ +264%	↗ +116%	→ +3%
All sectors	↗ +34%	→ 0%	→ +4%

North Korea



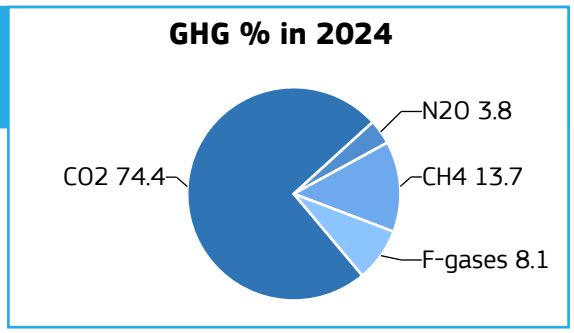
GHG emissions by sector



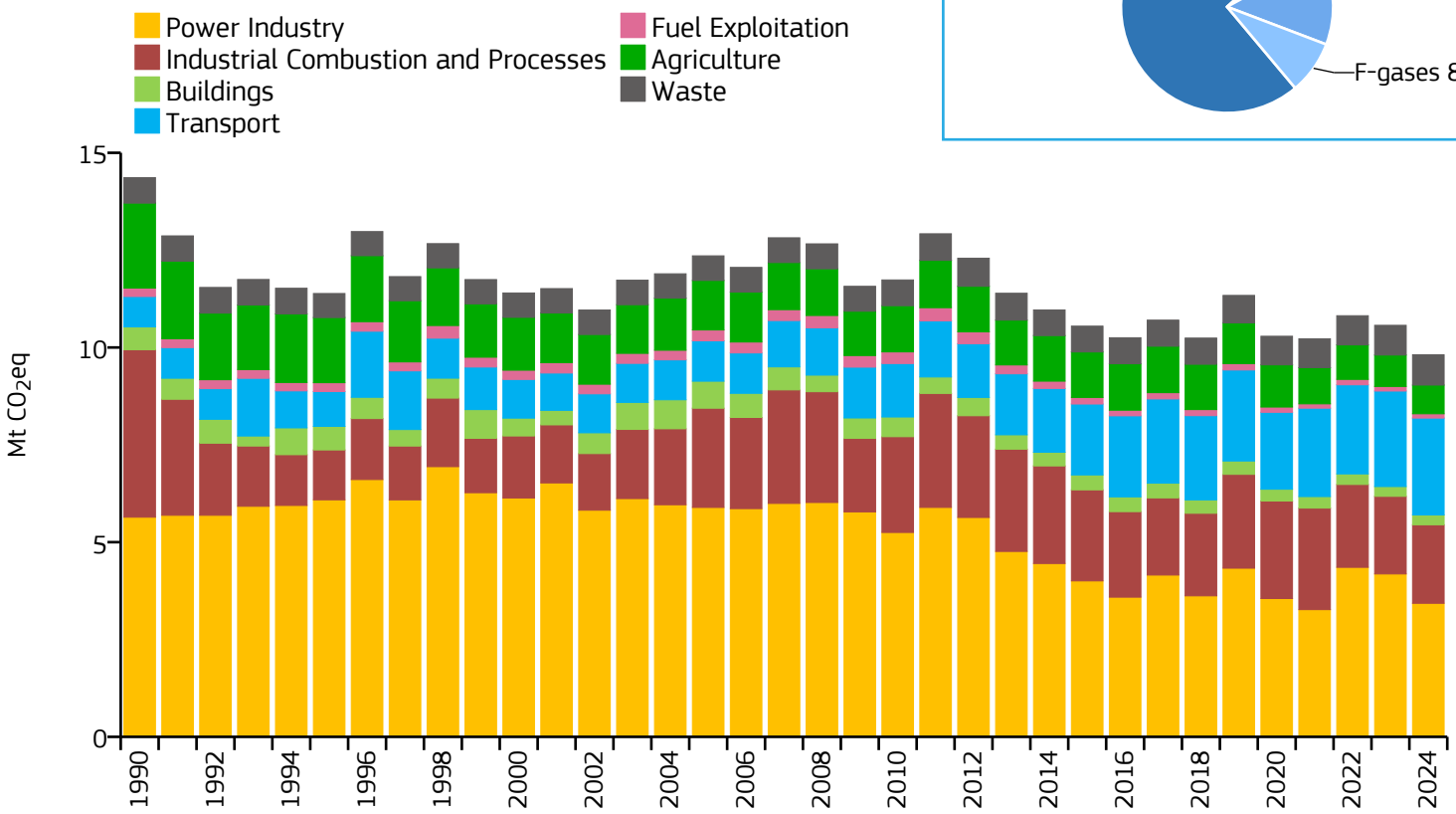
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	91.252	3.475	0.751	26.257M
2015	59.391	2.353	0.499	25.244M
2005	109.289	4.572	0.855	23.904M
1990	164.960	8.129	0.872	20.293M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-16%	+11%	+1%
Industrial Combustion and Processes	-55%	-26%	+1%
Buildings	-32%	-19%	+1%
Transport	-12%	+279%	+2%
Fuel Exploitation	-45%	-32%	-2%
Agriculture	-59%	-27%	+1%
Waste	+8%	+9%	+1%
All sectors	-45%	-17%	+1%

North Macedonia



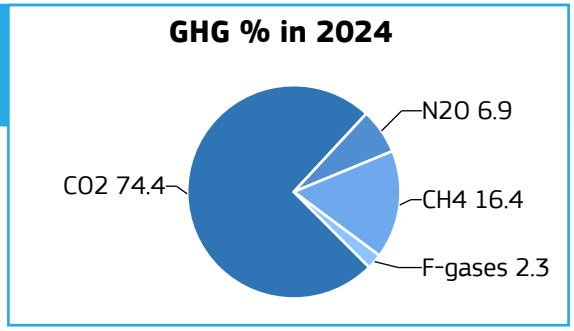
GHG emissions by sector



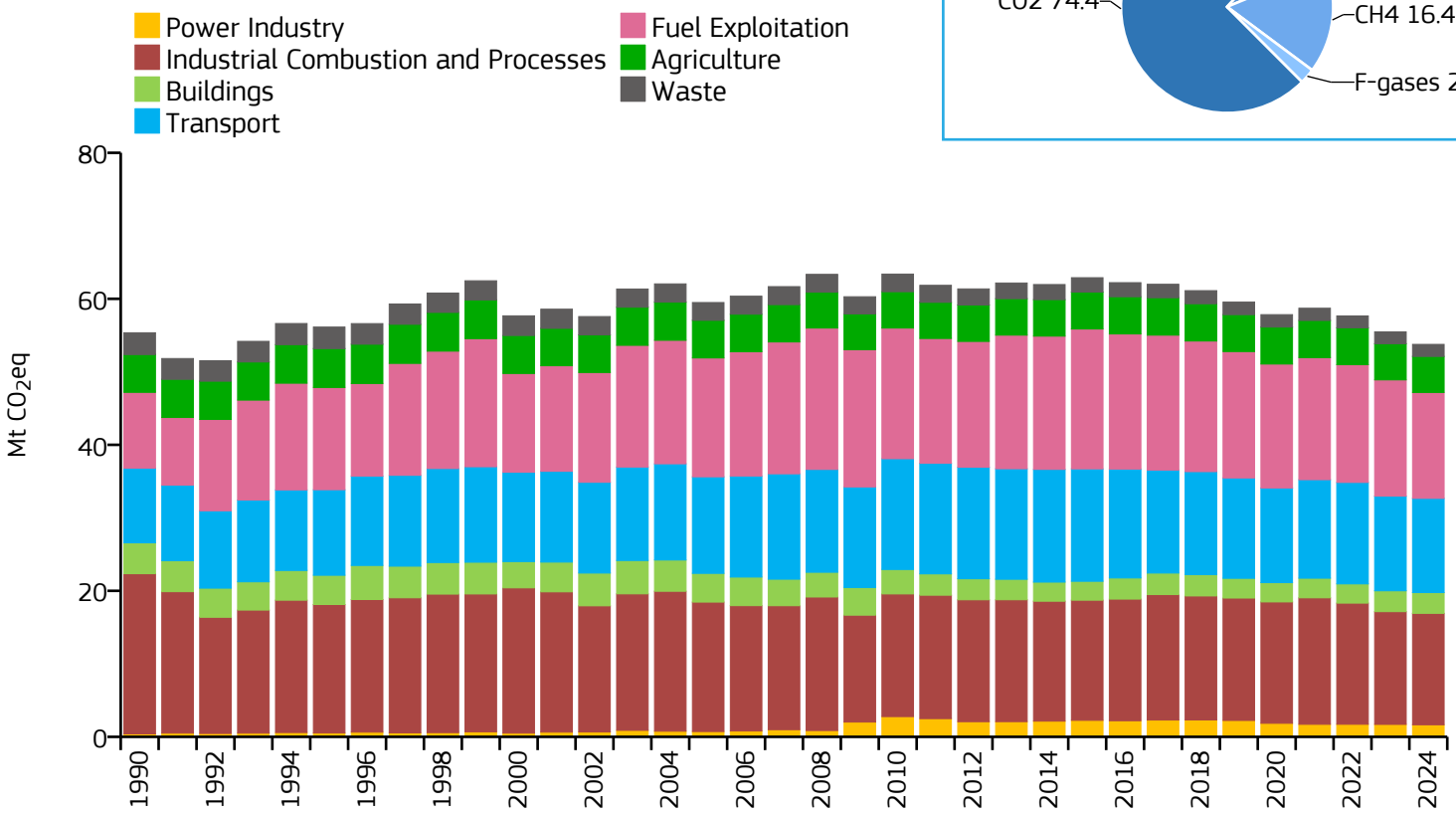
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	9.812	4.697	0.224	2.089M
2015	10.548	5.073	0.287	2.079M
2005	12.354	5.996	0.461	2.060M
1990	14.361	7.194	0.539	1.996M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-39%	-42%	-18%
Industrial Combustion and Processes	-53%	-21%	+1%
Buildings	-57%	-64%	0%
Transport	+219%	+140%	+1%
Fuel Exploitation	-49%	-61%	-6%
Agriculture	-66%	-42%	-9%
Waste	+19%	+23%	+2%
All sectors	-32%	-21%	-7%

Norway



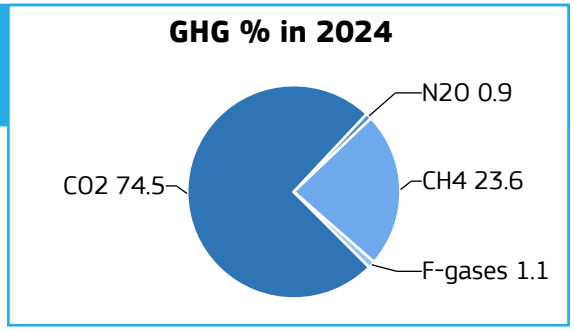
GHG emissions by sector



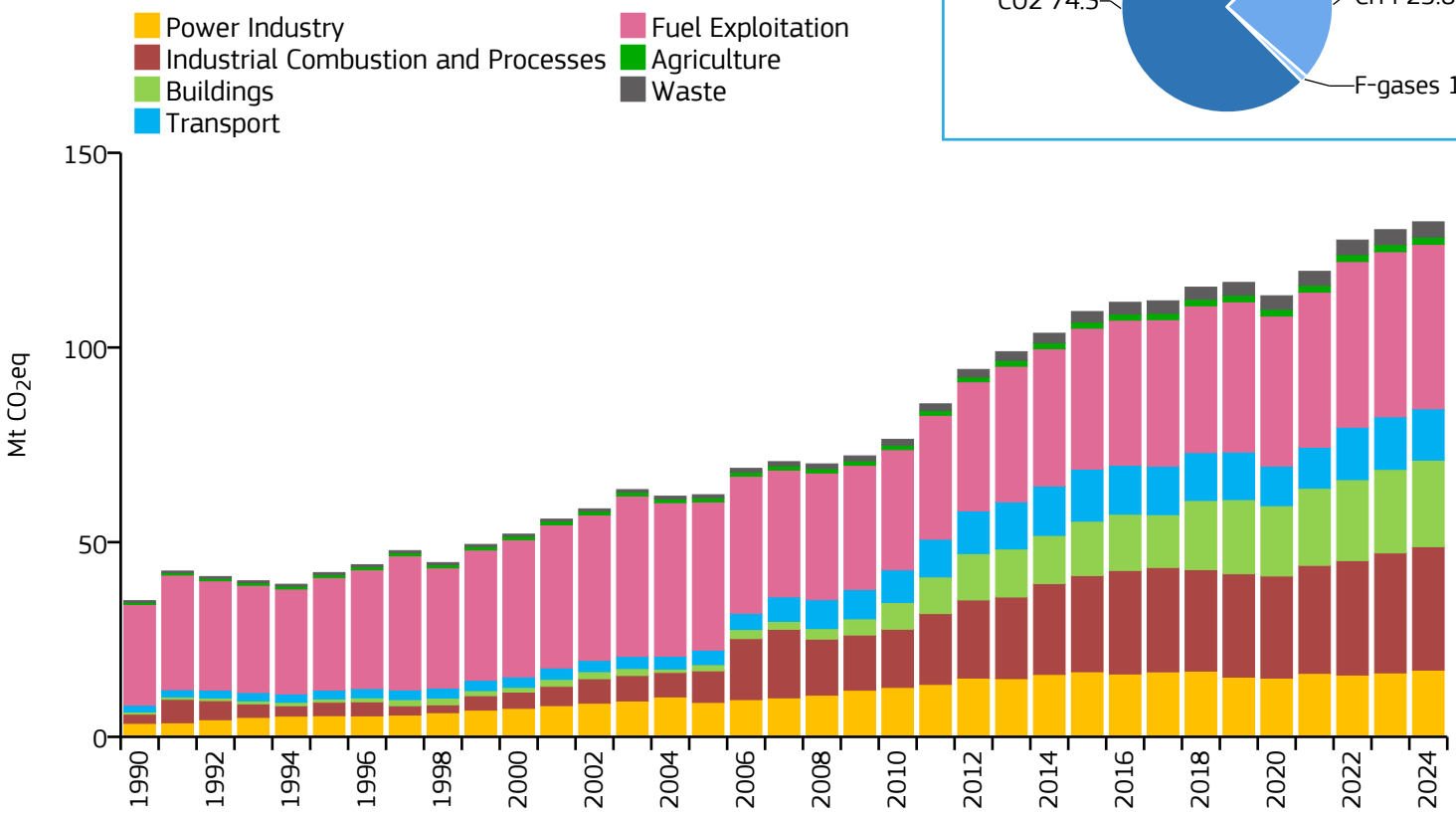
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	53.760	9.505	0.106	5.656M
2015	62.893	12.095	0.142	5.200M
2005	59.493	12.843	0.153	4.632M
1990	55.351	13.032	0.229	4.247M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+128%	-3%
Industrial Combustion and Processes	-30%	-14%	-1%
Buildings	-33%	-28%	-1%
Transport	+26%	-2%	0%
Fuel Exploitation	+40%	-11%	-9%
Agriculture	-5%	-4%	0%
Waste	-45%	-32%	+2%
All sectors	-3%	-10%	-3%

Oman



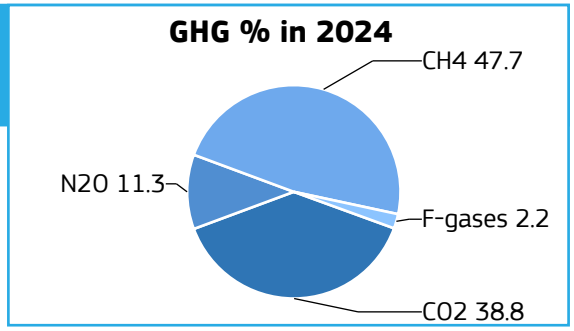
GHG emissions by sector



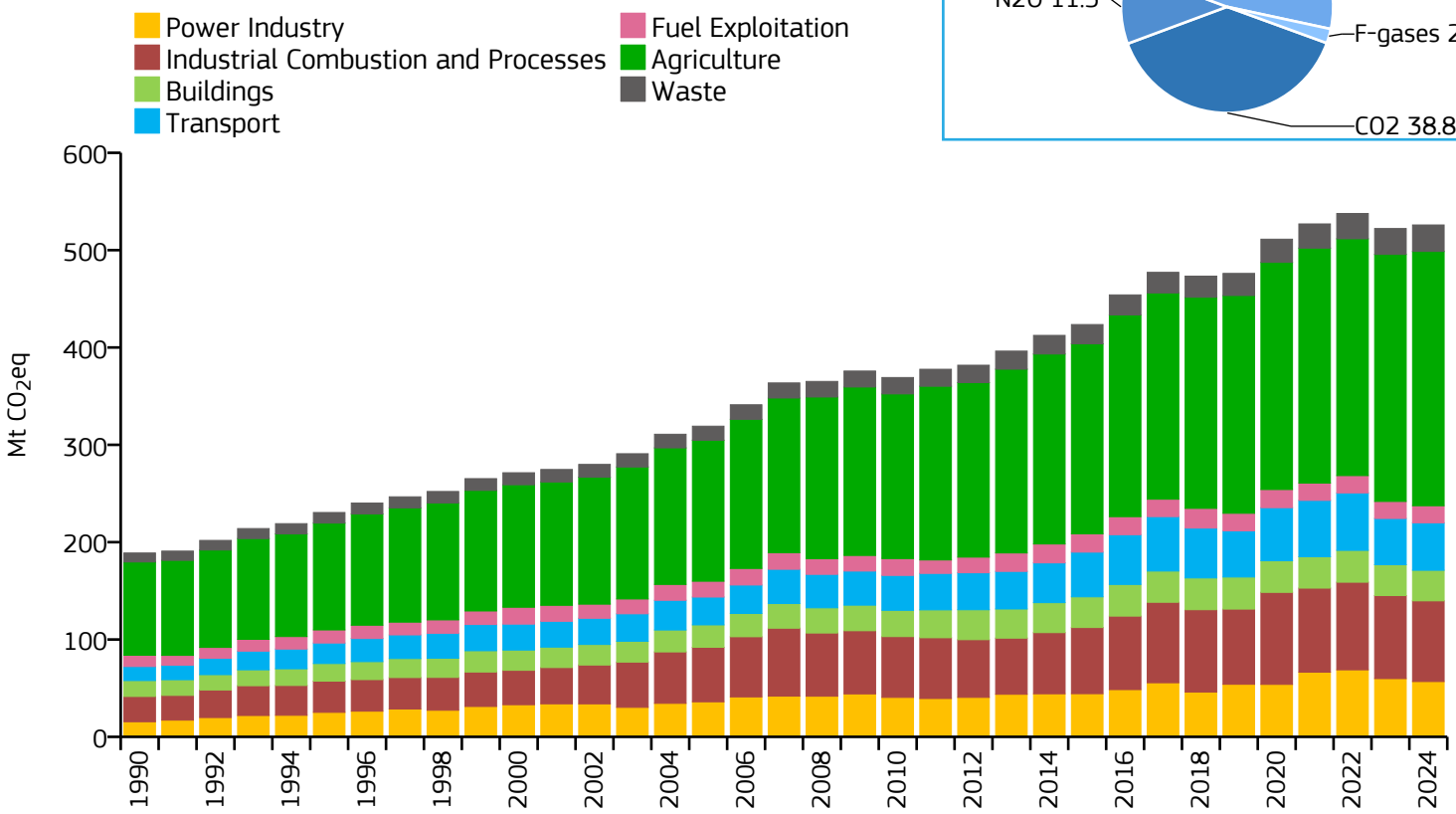
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	132.265	24.022	0.683	5.506M
2015	109.232	26.009	0.656	4.200M
2005	62.188	24.764	0.608	2.511M
1990	34.966	19.295	0.563	1.812M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+94%	+4%
Industrial Combustion and Processes	> +300%	+290%	+3%
Buildings	> +300%	> +300%	+4%
Transport	> +300%	+253%	-3%
Fuel Exploitation	+63%	+11%	0%
Agriculture	+233%	+76%	+2%
Waste	> +300%	> +300%	+3%
All sectors	+278%	+113%	+2%

Pakistan



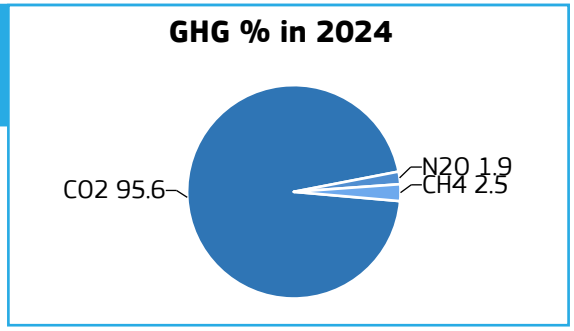
GHG emissions by sector



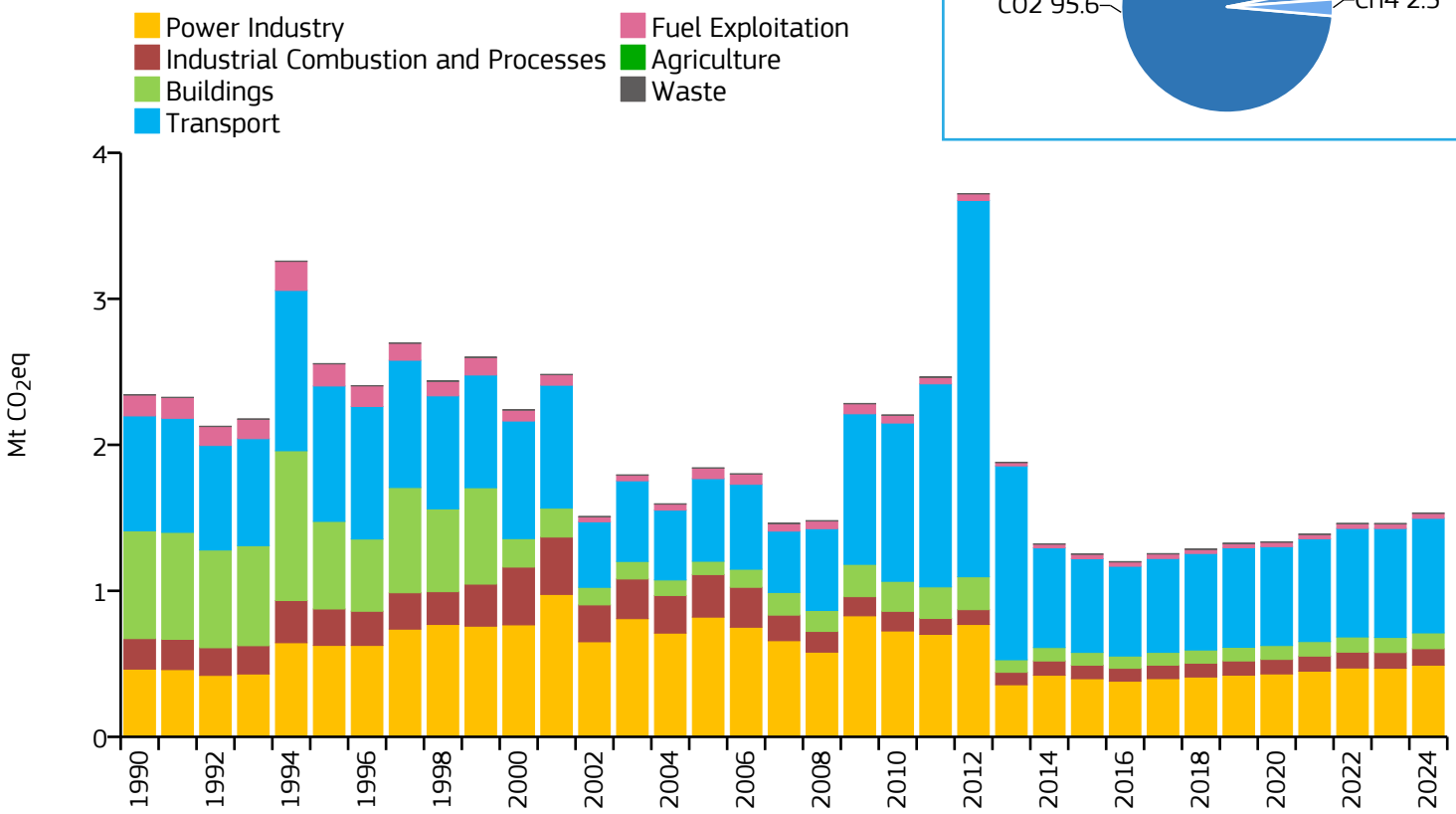
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	525.882	2.357	0.381	223.158M
2015	423.572	2.237	0.420	189.381M
2005	319.165	2.074	0.450	153.910M
1990	188.877	1.754	0.508	107.679M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+266%	+58%	-5%
Industrial Combustion and Processes	+219%	+48%	-3%
Buildings	+92%	+36%	-1%
Transport	+238%	+71%	+3%
Fuel Exploitation	+51%	+8%	0%
Agriculture	+173%	+80%	+3%
Waste	+195%	+88%	+2%
All sectors	+178%	+65%	+1%

Palau



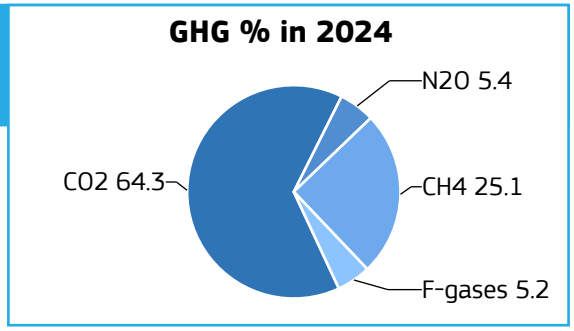
GHG emissions by sector



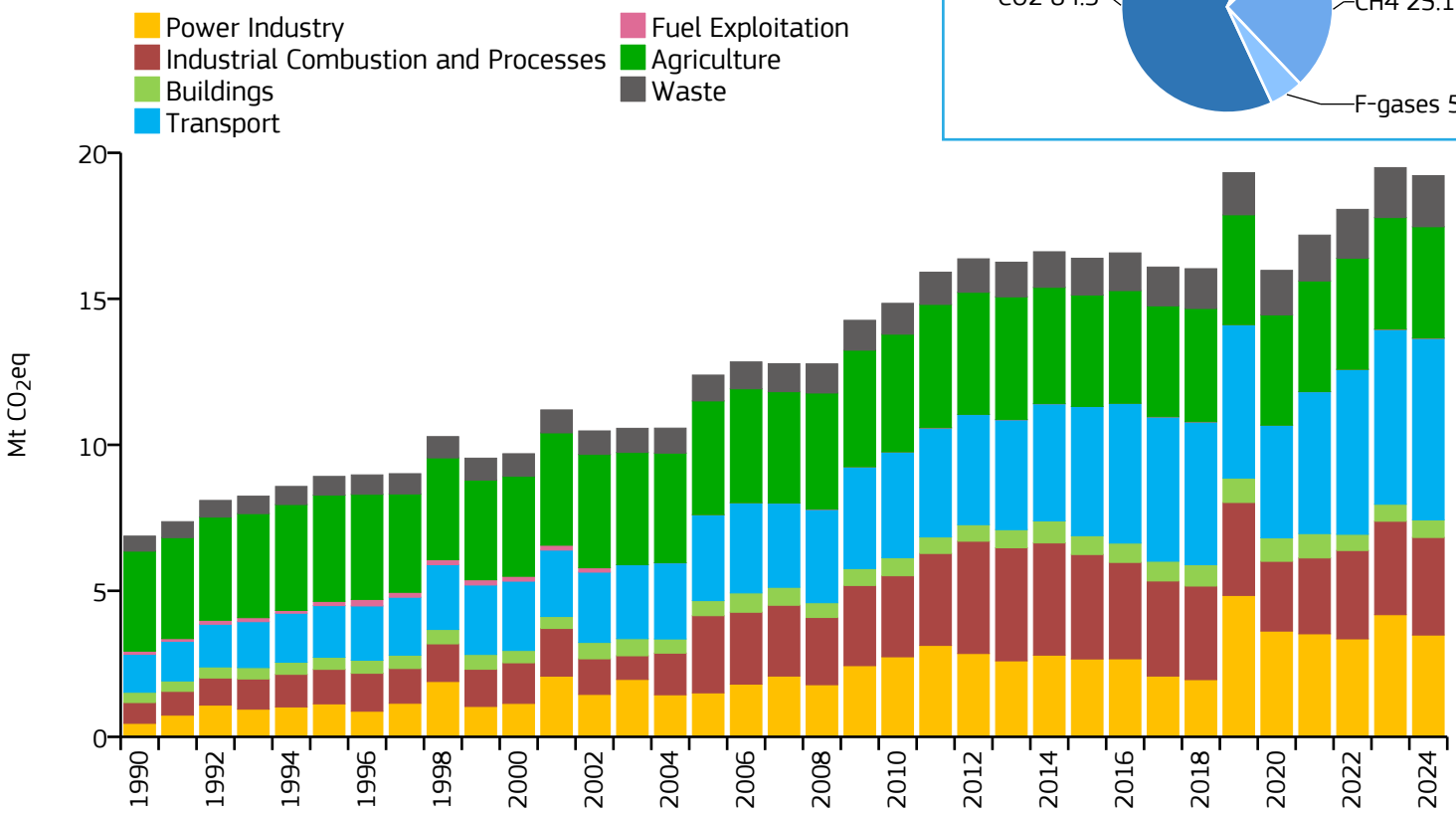
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.534	66.687	5.112	23.000k
2015	1.253	58.869	3.522	21.288k
2005	1.843	92.583	5.350	19.906k
1990	2.343	155.315	8.607	15.088k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+6%	-40%	+5%
Industrial Combustion and Processes	-46%	-61%	+5%
Buildings	-85%	+19%	+5%
Transport	0%	+39%	+5%
Fuel Exploitation	-77%	-54%	+8%
Agriculture	n/a	n/a	n/a
Waste	+84%	+43%	+1%
All sectors	-35%	-17%	+5%

Panama



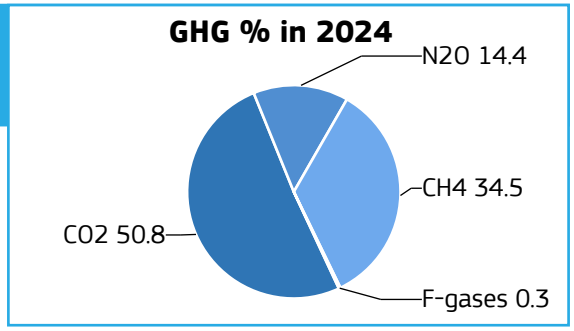
GHG emissions by sector



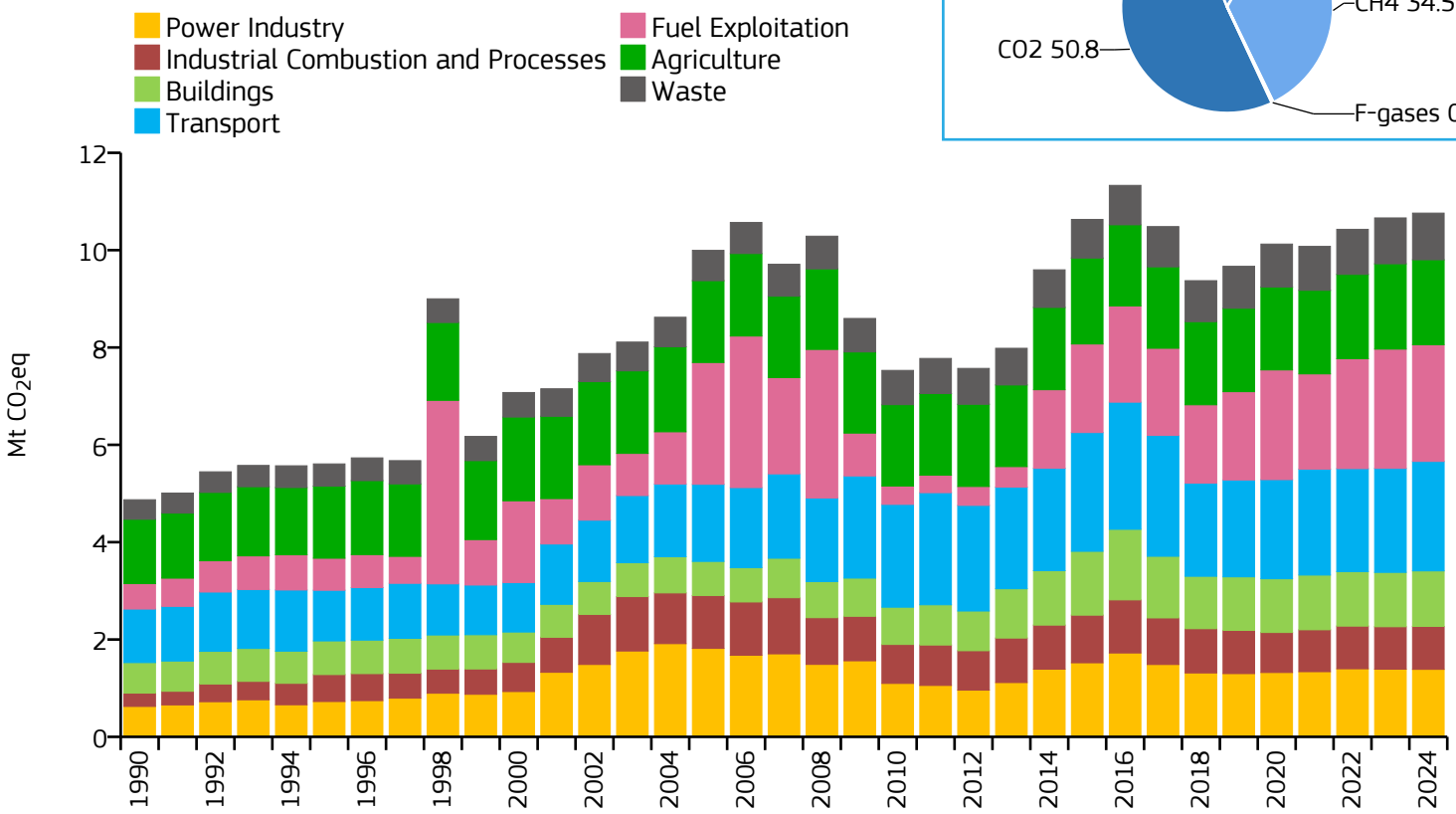
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	19.218	4.237	0.117	4.536M
2015	16.389	4.129	0.138	3.969M
2005	12.388	3.720	0.222	3.330M
1990	6.875	2.782	0.247	2.471M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +131%	↘ -17%
Industrial Combustion and Processes	↗ > +300%	↗ +26%	→ +4%
Buildings	↗ +71%	↗ +17%	→ +3%
Transport	↗ > +300%	↗ +112%	→ +4%
Fuel Exploitation	↘ -96%	↘ -31%	→ 0%
Agriculture	↗ +11%	→ -2%	→ 0%
Waste	↗ +239%	↗ +98%	→ +2%
All sectors	↗ +180%	↗ +55%	→ -1%

Papua New Guinea



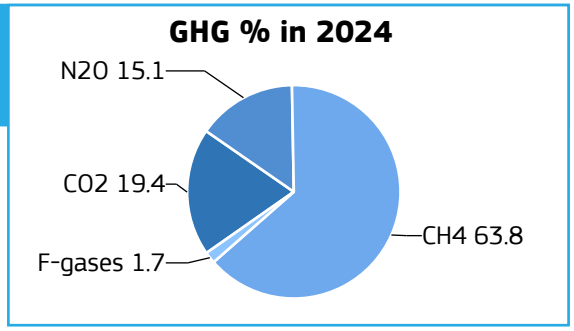
GHG emissions by sector



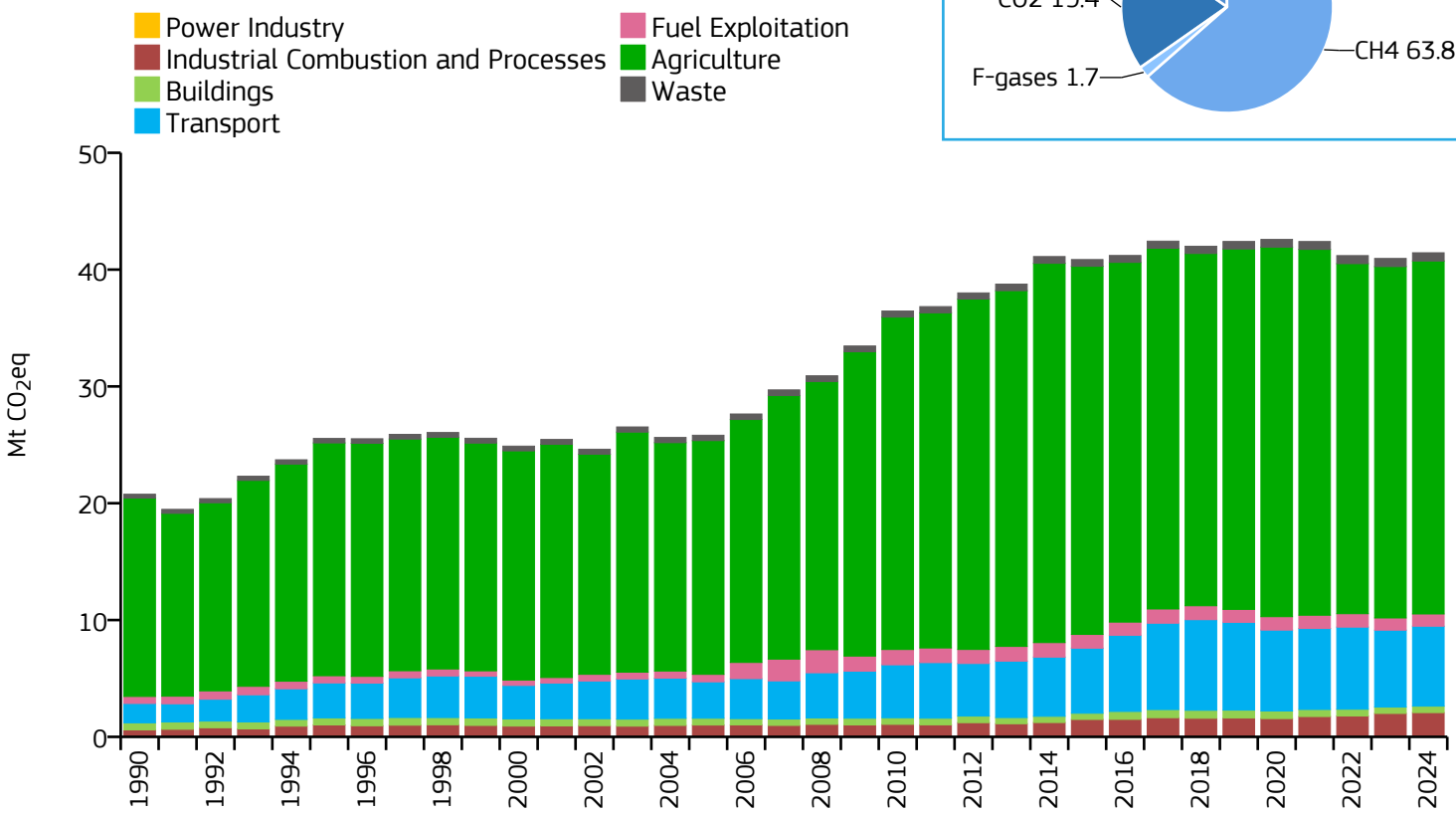
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	10.761	1.140	0.237	9.441M
2015	10.631	1.342	0.293	7.920M
2005	9.995	1.583	0.488	6.315M
1990	4.872	1.130	0.395	4.313M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+122%	-24%	0%
Industrial Combustion and Processes	+223%	-19%	+1%
Buildings	+82%	+63%	+2%
Transport	+104%	+42%	+5%
Fuel Exploitation	> +300%	-4%	-2%
Agriculture	+32%	+4%	0%
Waste	+139%	+54%	+2%
All sectors	+121%	+8%	+1%

Paraguay



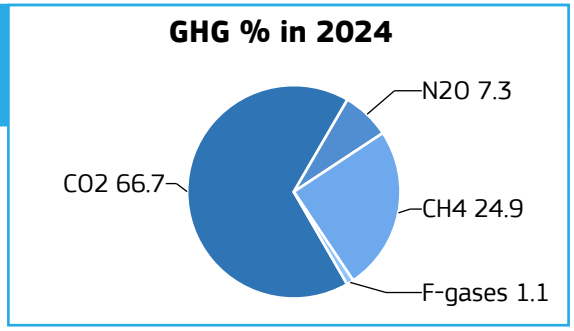
GHG emissions by sector



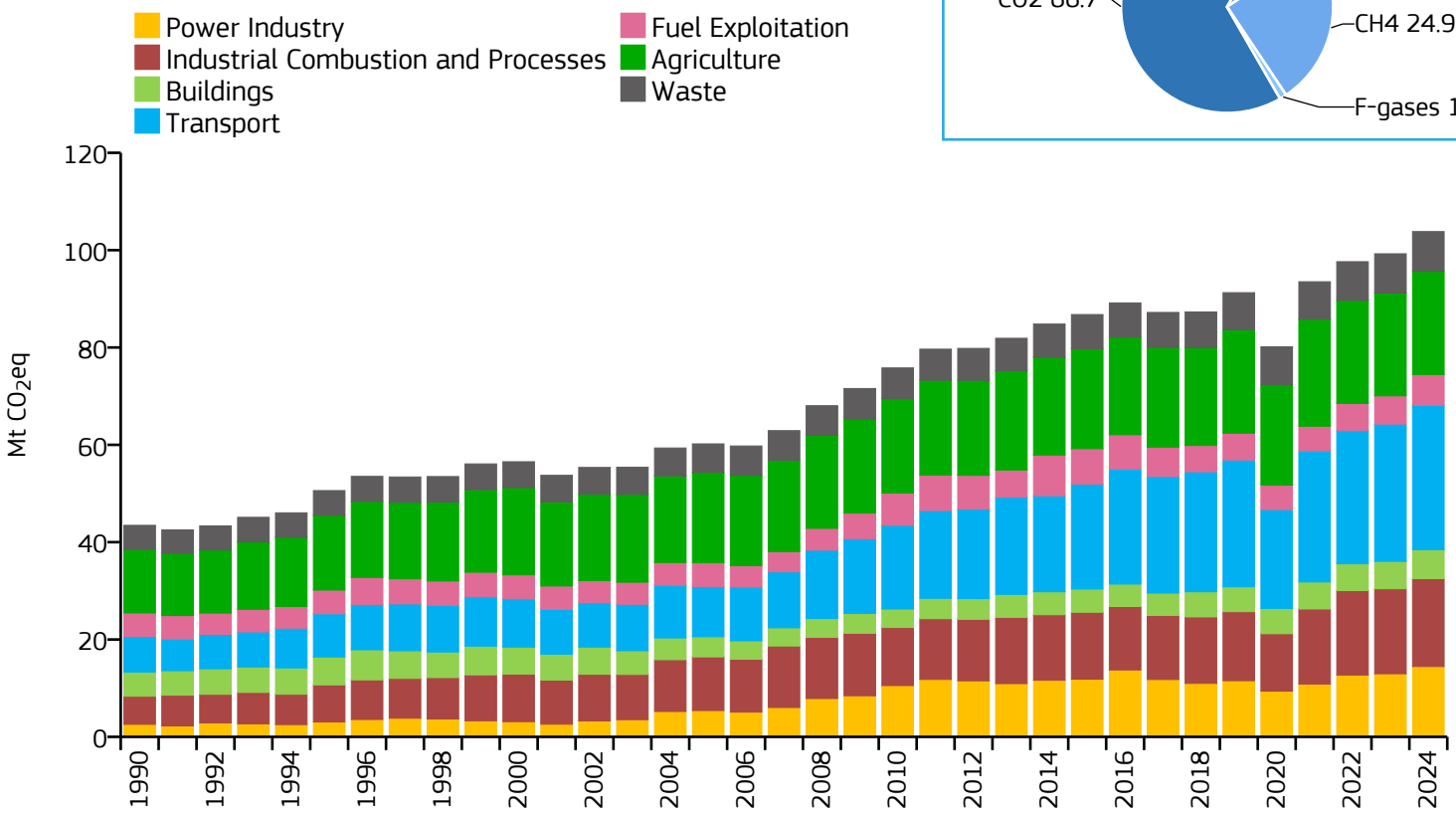
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	41.442	5.604	0.368	7.395M
2015	40.860	6.154	0.460	6.639M
2005	25.820	4.455	0.461	5.795M
1990	20.770	4.929	0.517	4.214M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-51%	n/a	0%
Industrial Combustion and Processes	+254%	+105%	+4%
Buildings	-9%	-5%	+1%
Transport	> +300%	+119%	+4%
Fuel Exploitation	+74%	+64%	0%
Agriculture	+78%	+51%	0%
Waste	+112%	+53%	+1%
All sectors	+100%	+61%	+1%

Peru



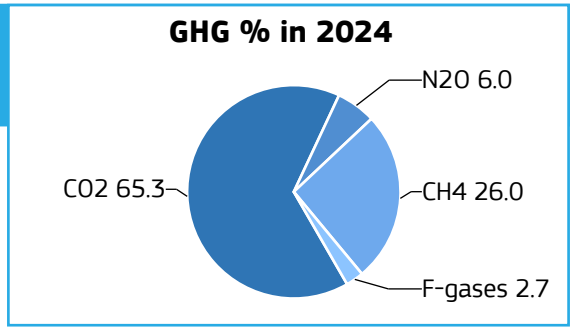
GHG emissions by sector



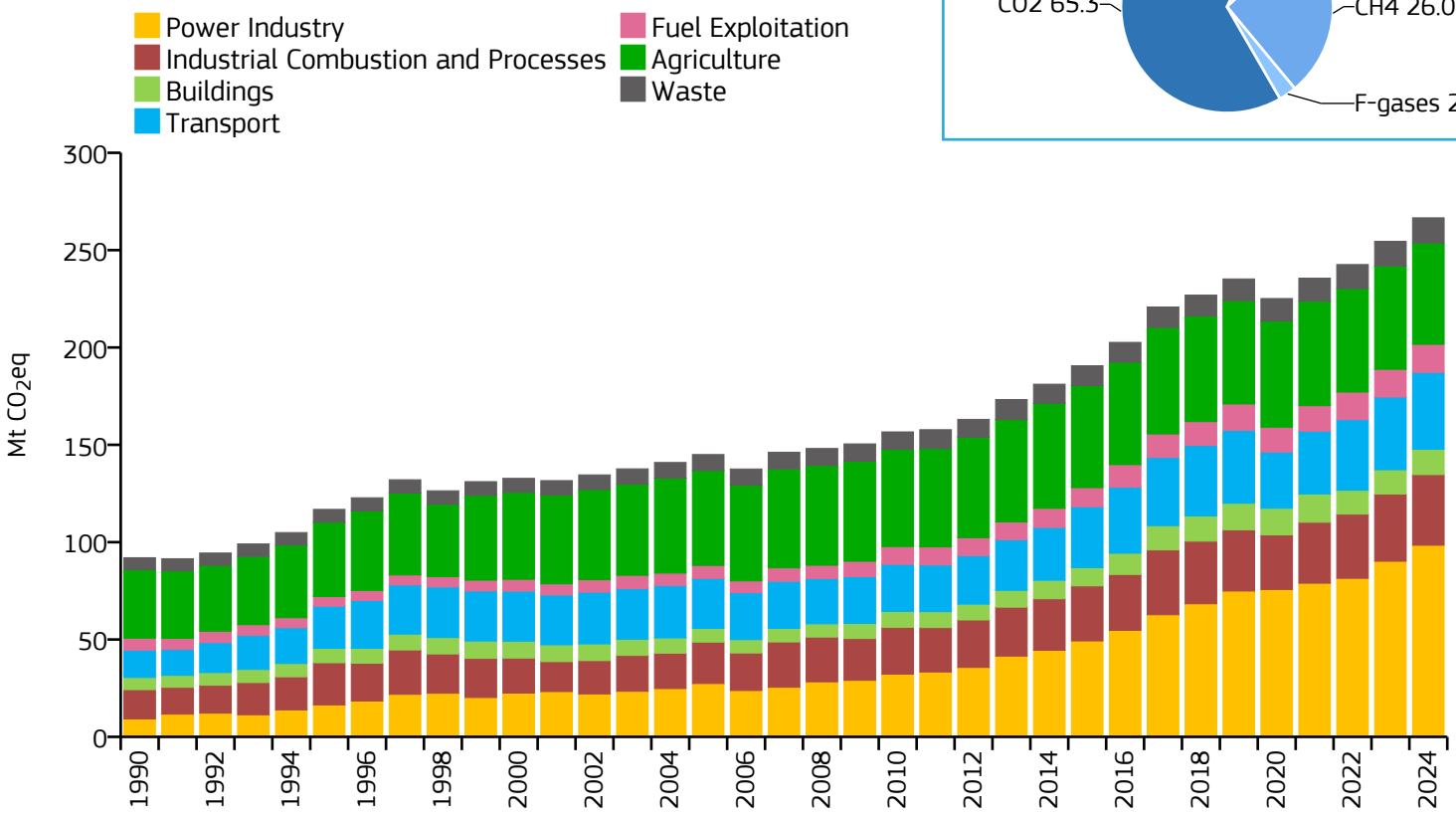
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	103.813	2.985	0.194	34.778M
2015	86.767	2.765	0.196	31.377M
2005	60.195	2.180	0.239	27.610M
1990	43.459	1.991	0.313	21.827M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ +167%	↗ +11%
Industrial Combustion and Processes	↗ +213%	↗ +64%	→ +3%
Buildings	↗ +20%	↗ +44%	↗ +6%
Transport	↗ > +300%	↗ +189%	→ +5%
Fuel Exploitation	↗ +30%	↗ +28%	↗ +9%
Agriculture	↗ +62%	↗ +14%	→ 0%
Waste	↗ +65%	↗ +39%	→ +1%
All sectors	↗ +139%	↗ +72%	→ +5%

Philippines



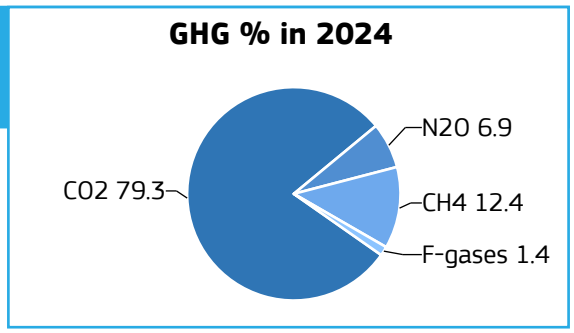
GHG emissions by sector



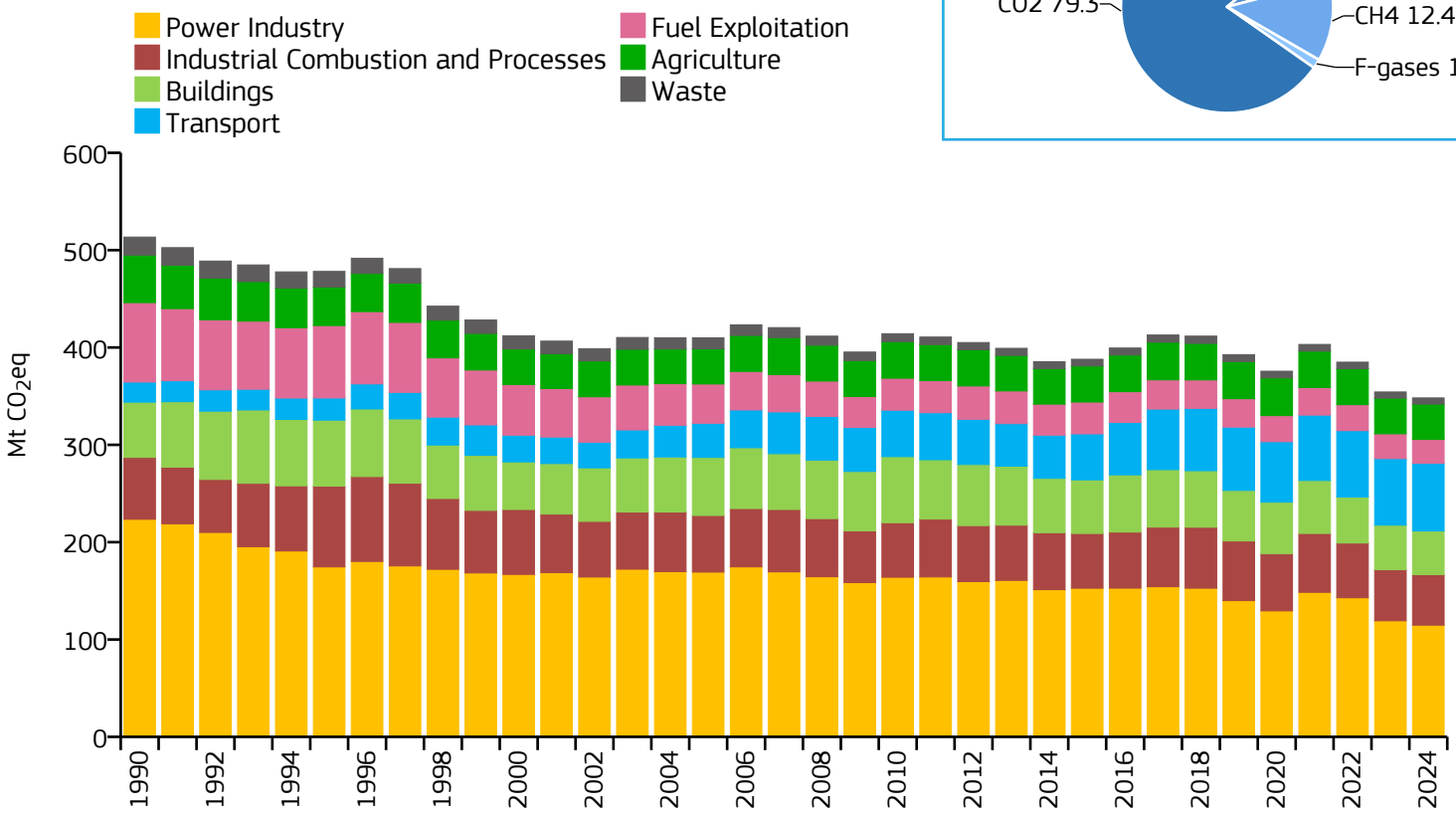
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	266.597	2.297	0.222	116.086M
2015	190.634	1.874	0.235	101.716M
2005	145.001	1.681	0.306	86.274M
1990	92.011	1.485	0.325	61.947M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+259%	+9%
Industrial Combustion and Processes	+142%	+70%	+5%
Buildings	+108%	+85%	+4%
Transport	+181%	+54%	+6%
Fuel Exploitation	+135%	+115%	+1%
Agriculture	+48%	+7%	-2%
Waste	+109%	+57%	+2%
All sectors	+190%	+84%	+5%

Poland



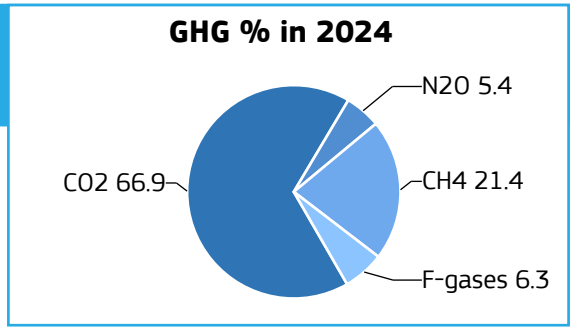
GHG emissions by sector



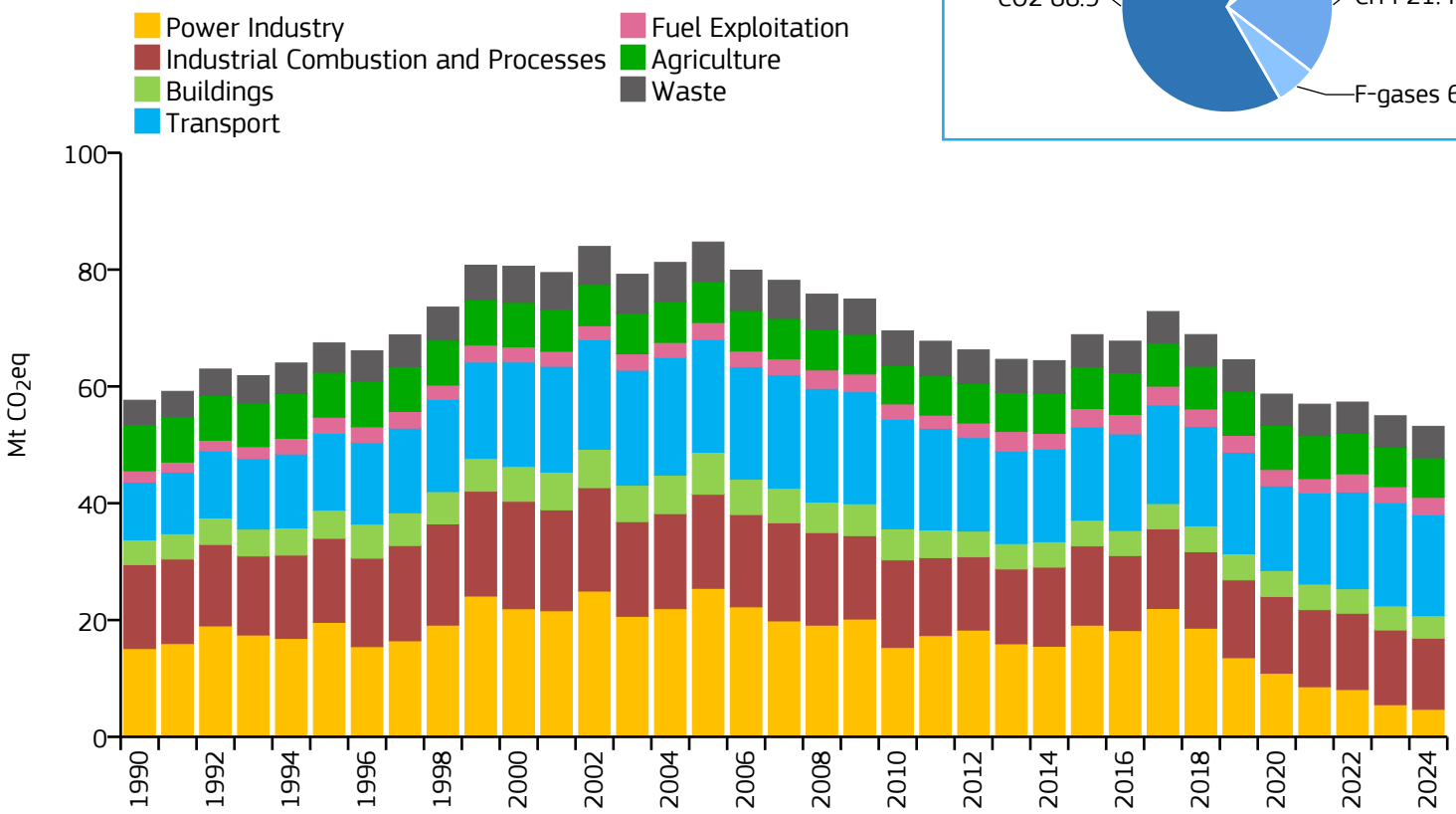
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	348.195	9.284	0.211	37.504M
2015	387.923	10.138	0.322	38.265M
2005	409.952	10.686	0.498	38.363M
1990	513.456	13.528	1.051	37.955M

	2024 vs 1990		2024 vs 2005		2024 vs 2023	
Power Industry	↘	-49%	↘	-32%	→	-4%
Industrial Combustion and Processes	↘	-18%	↘	-11%	→	-1%
Buildings	↘	-21%	↘	-25%	→	-2%
Transport	↗	+236%	↗	+98%	→	+1%
Fuel Exploitation	↘	-70%	↘	-39%	→	-3%
Agriculture	↘	-26%	→	0%	→	-1%
Waste	↘	-66%	↘	-44%	→	-1%
All sectors	↘	-32%	↘	-15%	→	-2%

Portugal



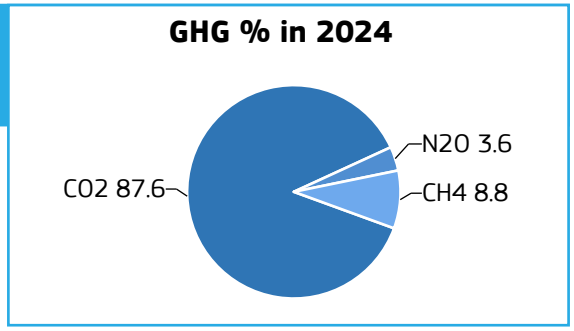
GHG emissions by sector



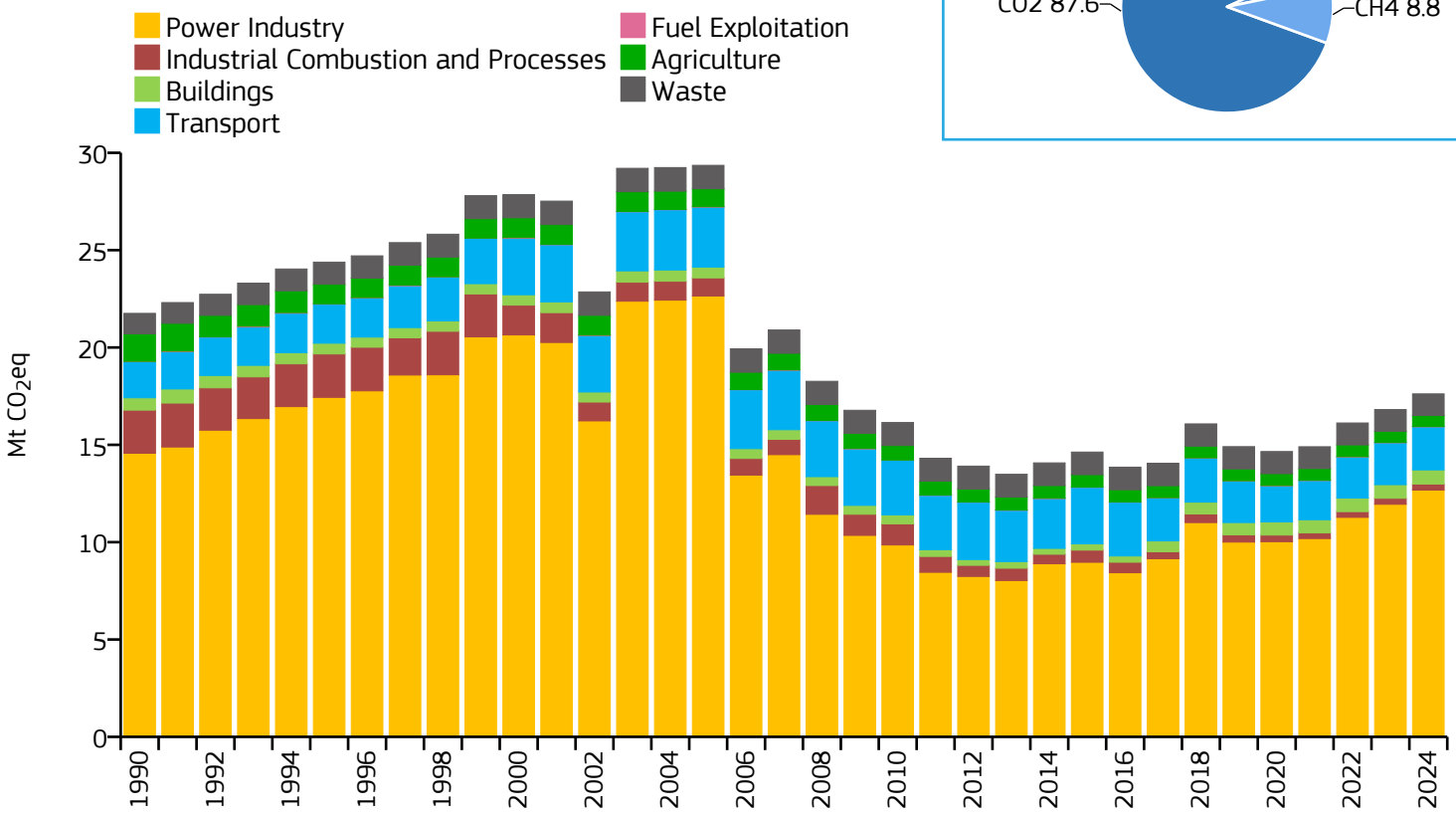
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	53.170	5.274	0.119	10.081M
2015	68.861	6.610	0.186	10.418M
2005	84.725	8.019	0.225	10.566M
1990	57.637	5.791	0.212	9.953M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-69%	-81%	-14%
Industrial Combustion and Processes	-15%	-24%	-5%
Buildings	-9%	-46%	-7%
Transport	+75%	-11%	-2%
Fuel Exploitation	+55%	+3%	+9%
Agriculture	-14%	-4%	0%
Waste	+28%	-20%	0%
All sectors	-8%	-37%	-3%

Puerto Rico



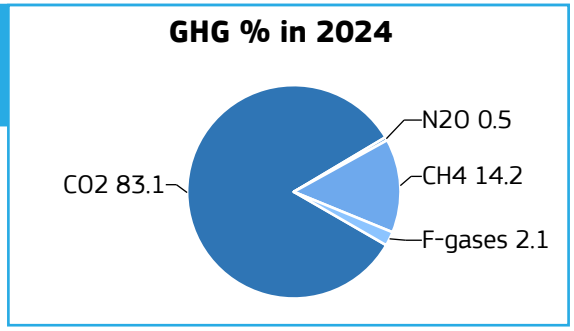
GHG emissions by sector



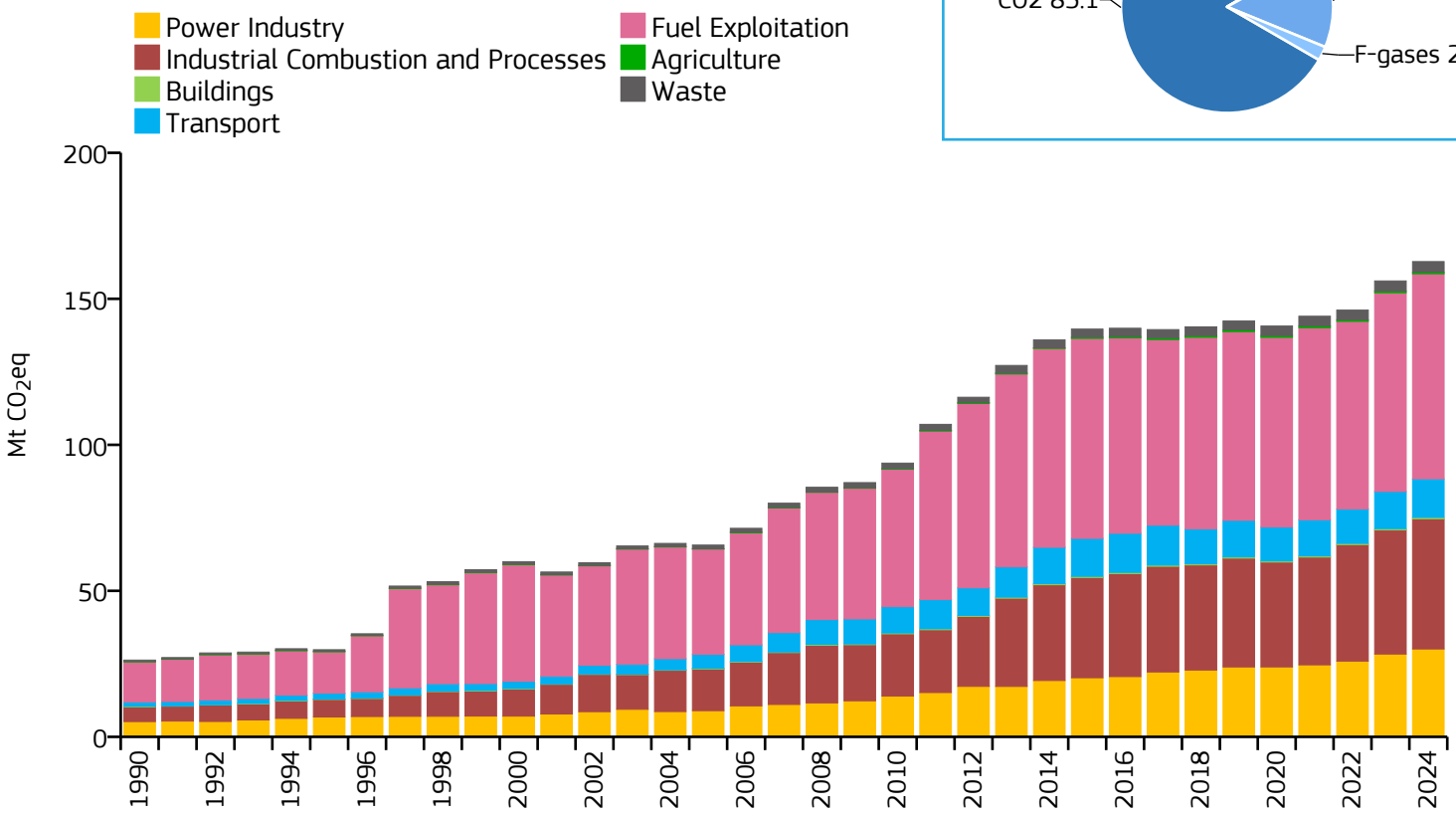
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	17.616	4.854	0.127	3.629M
2015	14.629	3.982	0.099	3.674M
2005	29.357	7.797	0.181	3.765M
1990	21.752	6.183	0.230	3.518M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-13%	-44%	+6%
Industrial Combustion and Processes	-86%	-67%	0%
Buildings	+15%	+31%	+4%
Transport	+19%	-28%	+3%
Fuel Exploitation	-46%	-62%	+6%
Agriculture	-60%	-38%	-1%
Waste	+6%	-8%	-1%
All sectors	-19%	-40%	+5%

Qatar



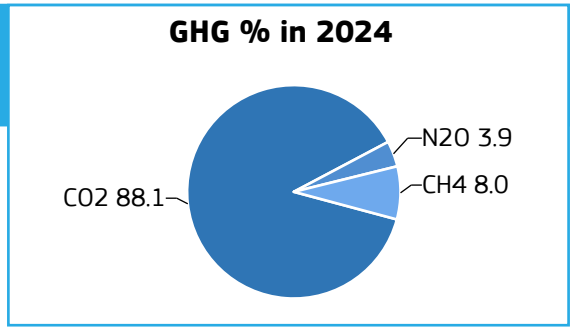
GHG emissions by sector



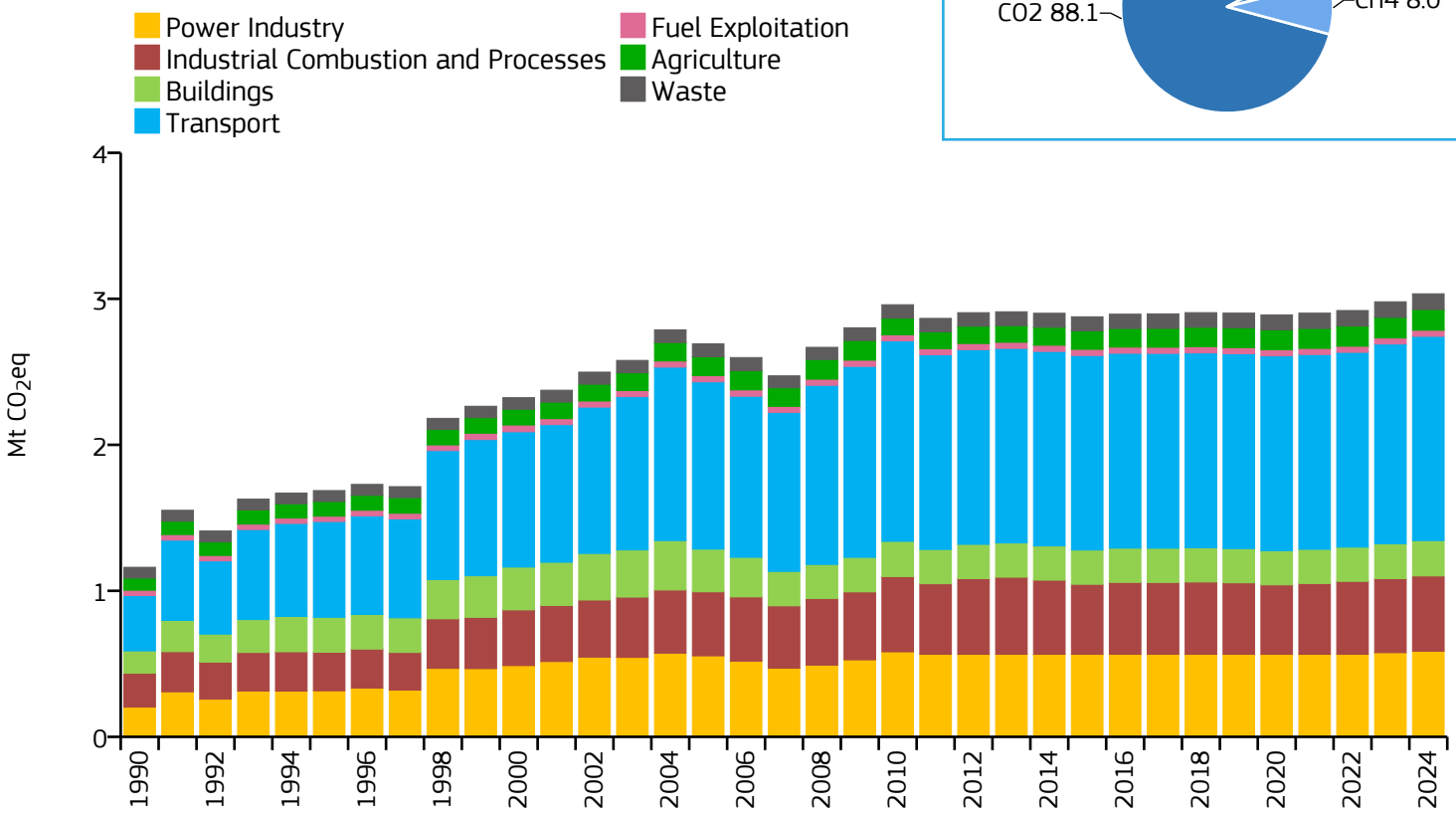
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	162.745	54.539	0.515	2.984M
2015	139.630	56.267	0.484	2.482M
2005	65.672	75.933	0.738	864.863k
1990	26.290	55.179	0.834	476.445k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+236%	+6%
Industrial Combustion and Processes	> +300%	+211%	+5%
Buildings	> +300%	+187%	+4%
Transport	> +300%	+175%	+4%
Fuel Exploitation	> +300%	+95%	+3%
Agriculture	> +300%	> +300%	-2%
Waste	> +300%	+189%	+4%
All sectors	> +300%	+148%	+4%

Réunion



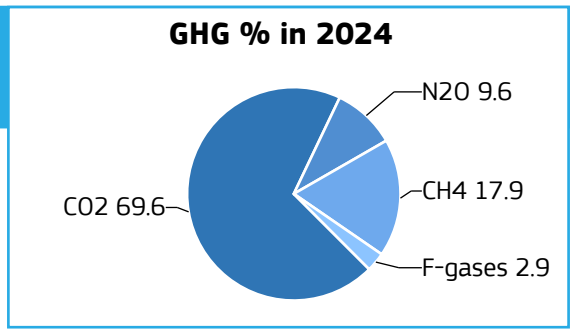
GHG emissions by sector



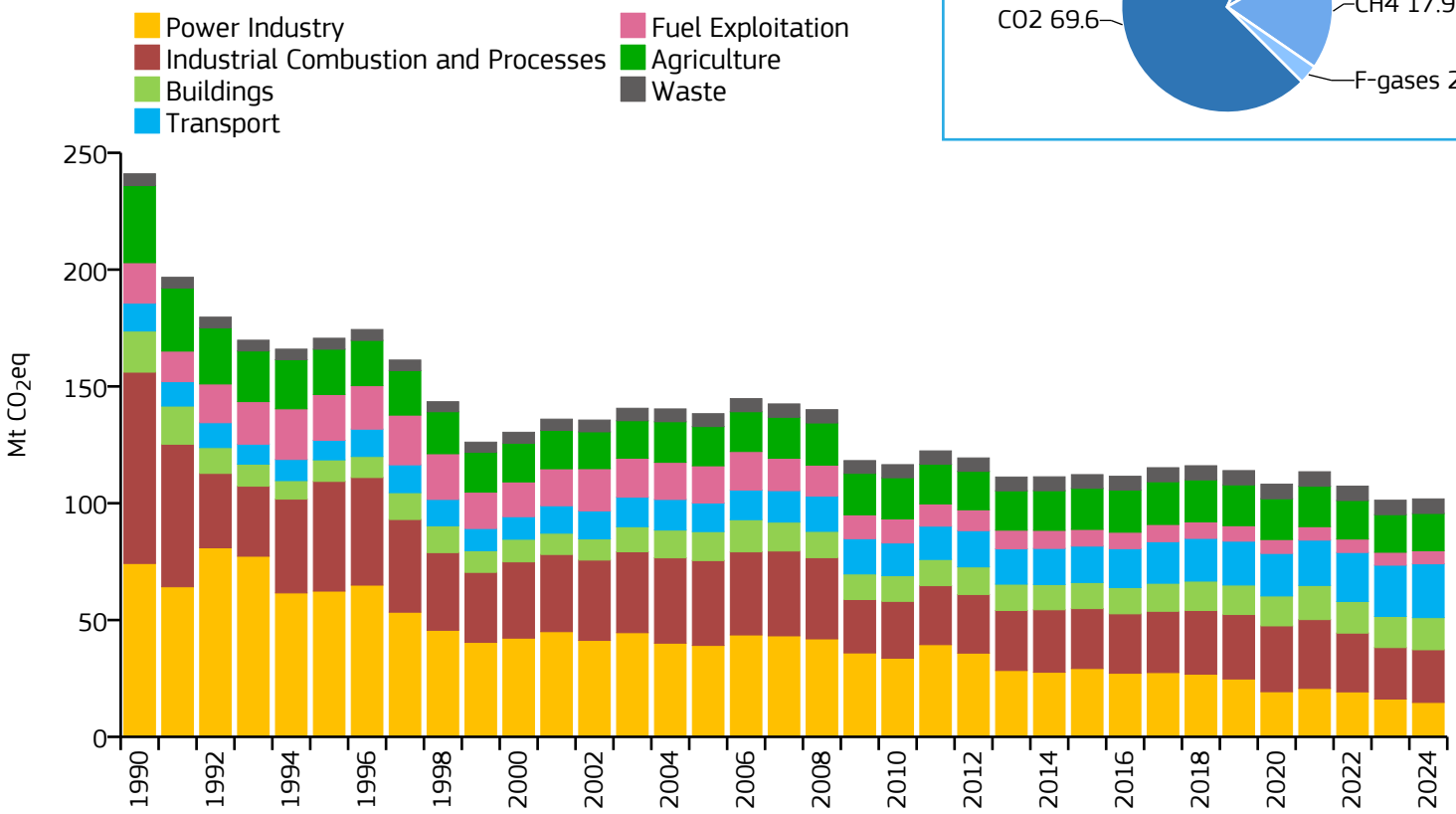
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	3.034	3.291	n/a	922.000k
2015	2.877	3.332	n/a	863.363k
2005	2.691	3.400	n/a	791.598k
1990	1.161	1.902	n/a	610.582k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+188%	+6%	+2%
Industrial Combustion and Processes	+122%	+18%	+2%
Buildings	+59%	-17%	+2%
Transport	+270%	+22%	+2%
Fuel Exploitation	+12%	-4%	0%
Agriculture	+70%	+10%	+1%
Waste	+46%	+22%	+1%
All sectors	+161%	+13%	+2%

Romania



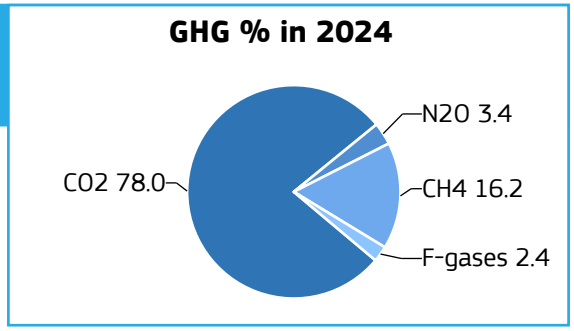
GHG emissions by sector



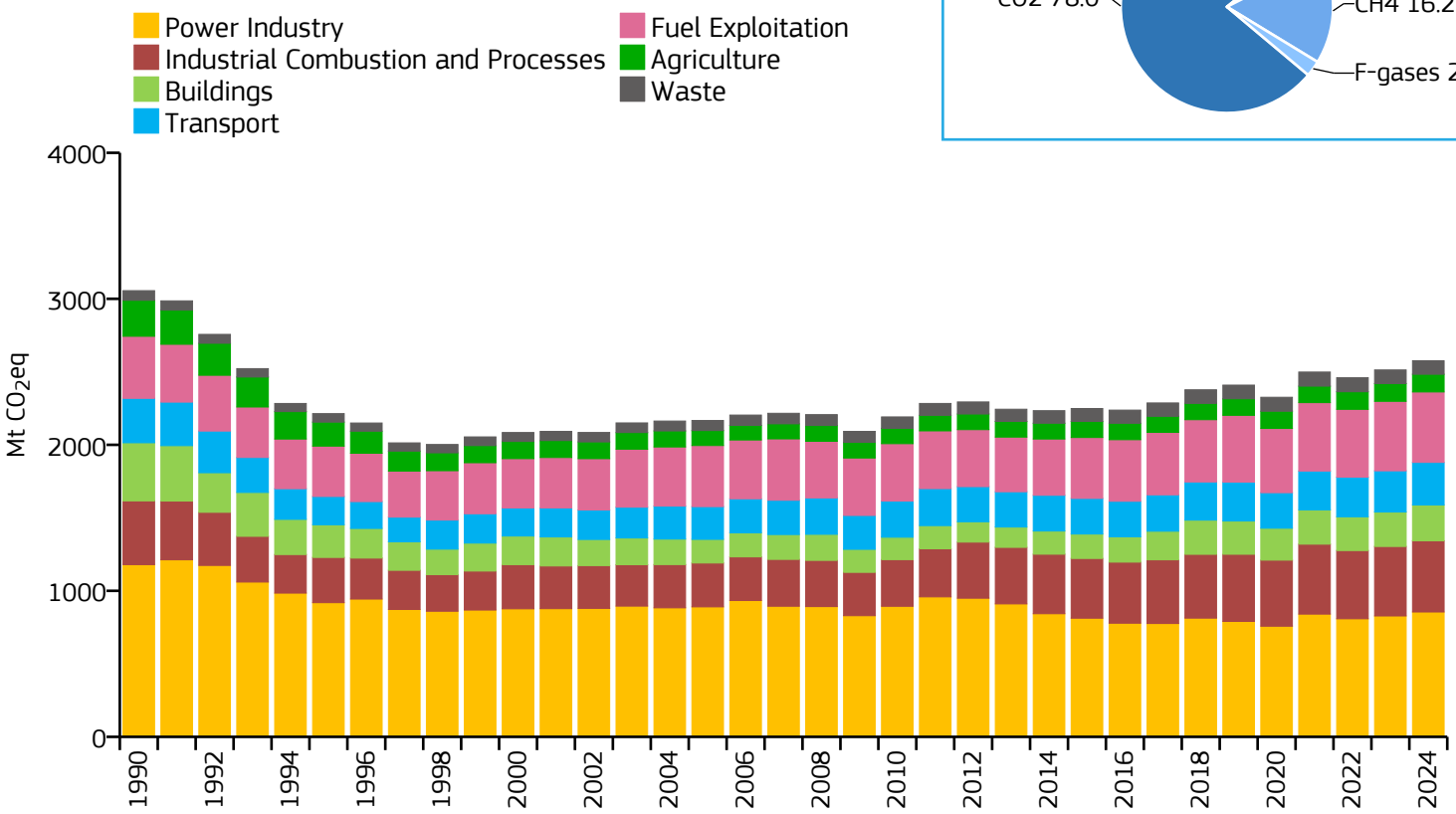
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	101.858	5.356	0.131	19.018M
2015	112.245	5.647	0.194	19.877M
2005	138.328	6.455	0.315	21.431M
1990	241.015	10.261	0.637	23.489M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-80%	-62%	-9%
Industrial Combustion and Processes	-72%	-38%	+2%
Buildings	-22%	+11%	+3%
Transport	+93%	+88%	+5%
Fuel Exploitation	-68%	-65%	+1%
Agriculture	-52%	-5%	-1%
Waste	+23%	+13%	+1%
All sectors	-58%	-26%	+1%

Russia



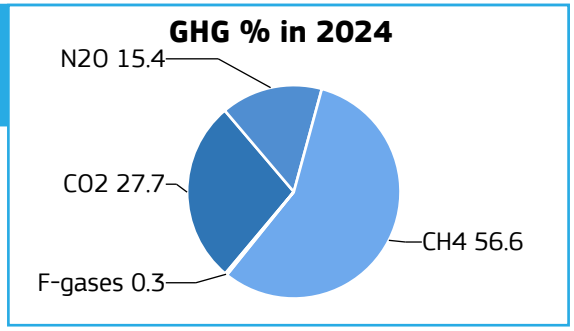
GHG emissions by sector



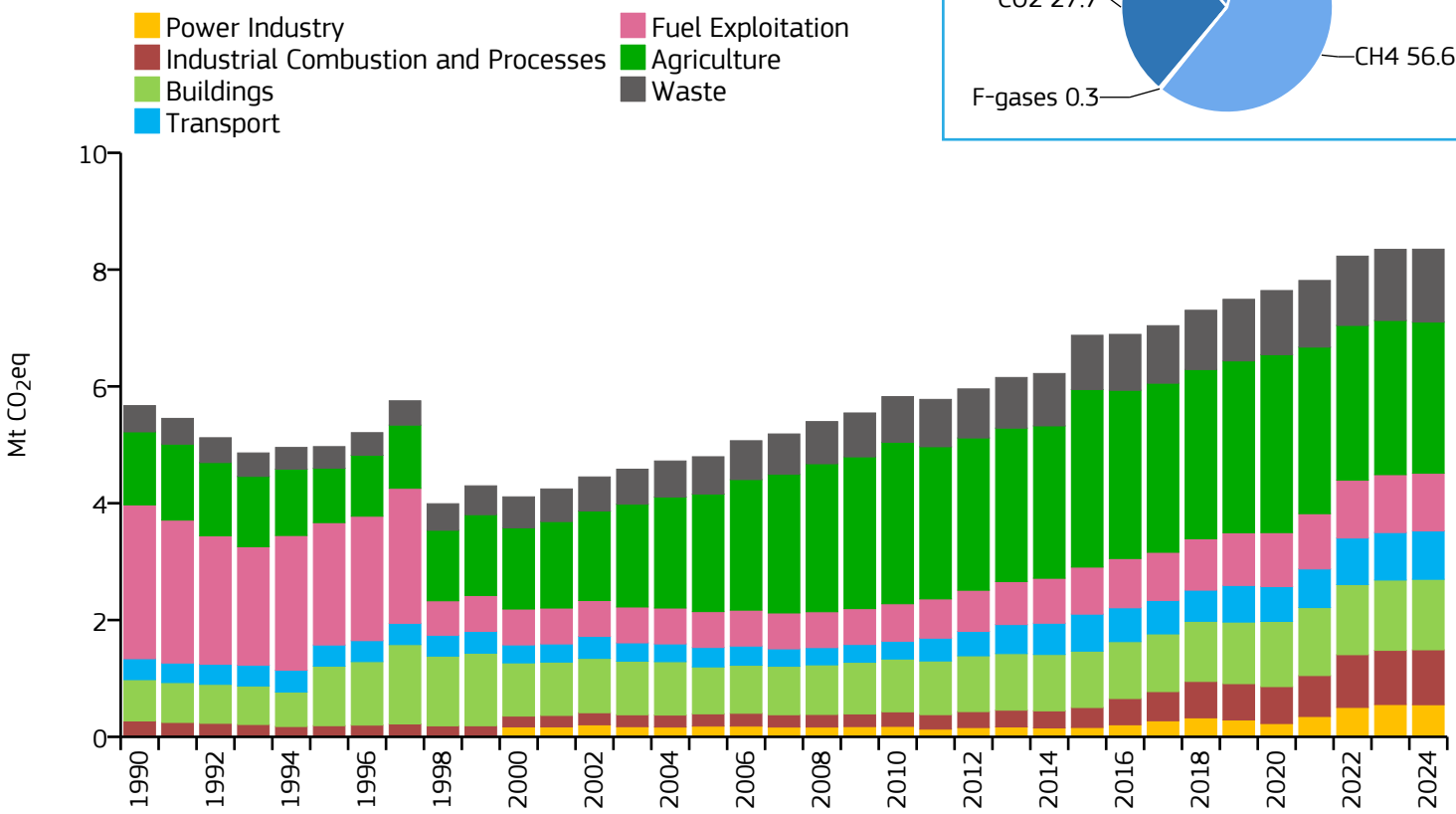
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	2575.655	18.021	0.424	142.924M
2015	2248.754	15.629	0.437	143.888M
2005	2166.725	15.087	0.546	143.618M
1990	3055.885	20.709	0.697	147.564M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-28%	-4%	+3%
Industrial Combustion and Processes	+12%	+62%	+2%
Buildings	-38%	+52%	+4%
Transport	-4%	+30%	+3%
Fuel Exploitation	+14%	+15%	+1%
Agriculture	-51%	+18%	0%
Waste	+40%	+34%	-1%
All sectors	-16%	+19%	+3%

Rwanda



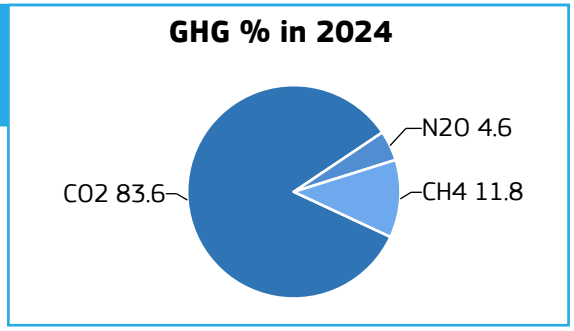
GHG emissions by sector



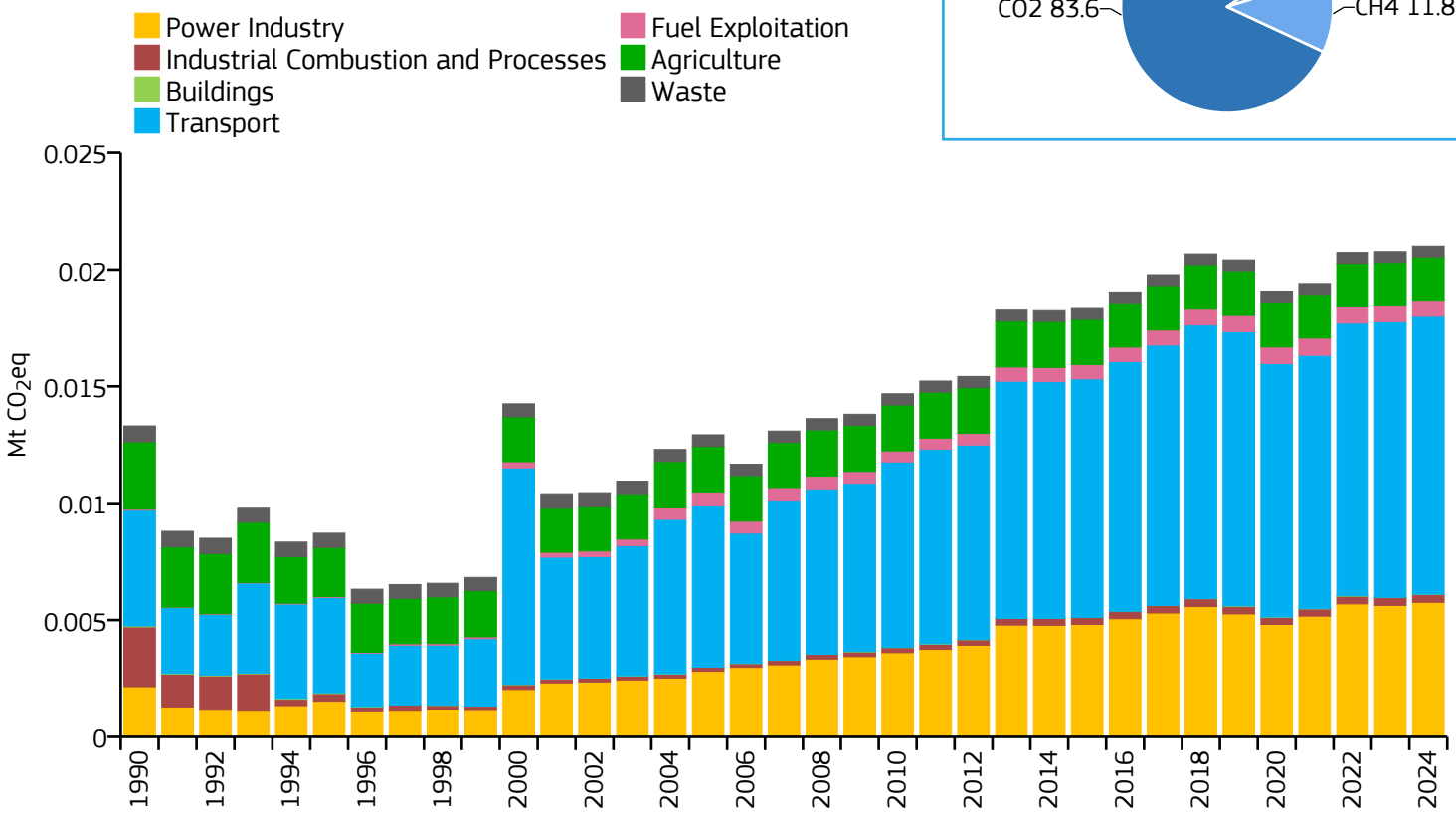
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	8.350	0.586	0.179	14.252M
2015	6.875	0.591	0.264	11.630M
2005	4.796	0.533	0.389	8.992M
1990	5.671	0.784	0.685	7.236M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	n/a	↗ +199%	→ -1%
Industrial Combustion and Processes	↗ +245%	↗ > +300%	→ +1%
Buildings	↗ +71%	↗ +50%	→ 0%
Transport	↗ +131%	↗ +149%	→ +2%
Fuel Exploitation	↘ -62%	↗ +61%	→ 0%
Agriculture	↗ +107%	↗ +29%	→ -2%
Waste	↗ +178%	↗ +95%	→ +3%
All sectors	↗ +47%	↗ +74%	→ 0%

Saint Helena, Ascension and Tristan



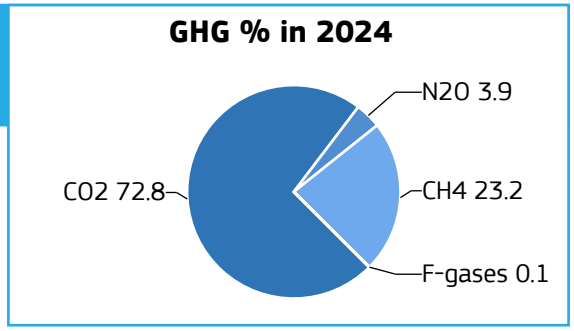
GHG emissions by sector



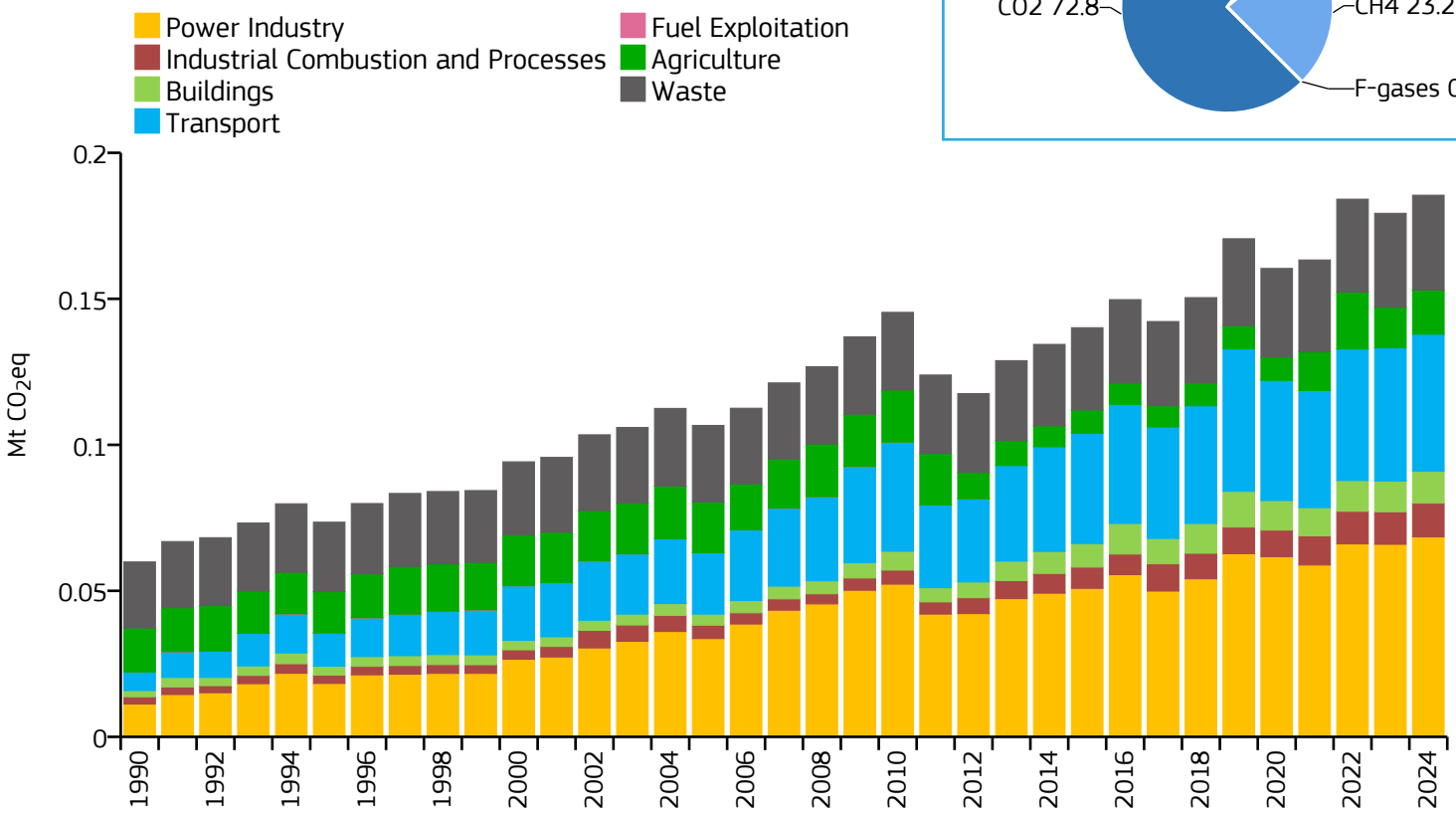
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.021	5.252	n/a	4.000k
2015	0.018	4.545	n/a	4.034k
2005	0.013	3.024	n/a	4.275k
1990	0.013	2.404	n/a	5.535k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+168%	+105%	+2%
Industrial Combustion and Processes	-87%	+96%	+1%
Buildings	-91%	+23%	+1%
Transport	+140%	+71%	+1%
Fuel Exploitation	> +300%	+25%	+1%
Agriculture	-36%	-5%	-1%
Waste	-32%	-6%	0%
All sectors	+58%	+63%	+1%

Saint Kitts and Nevis



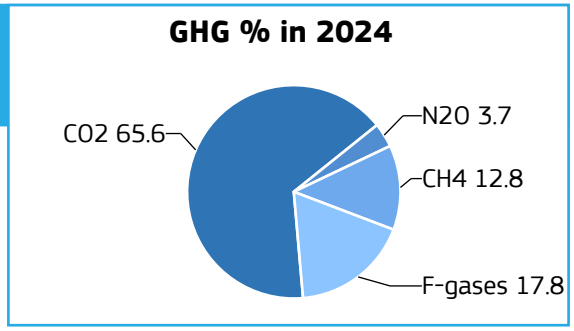
GHG emissions by sector



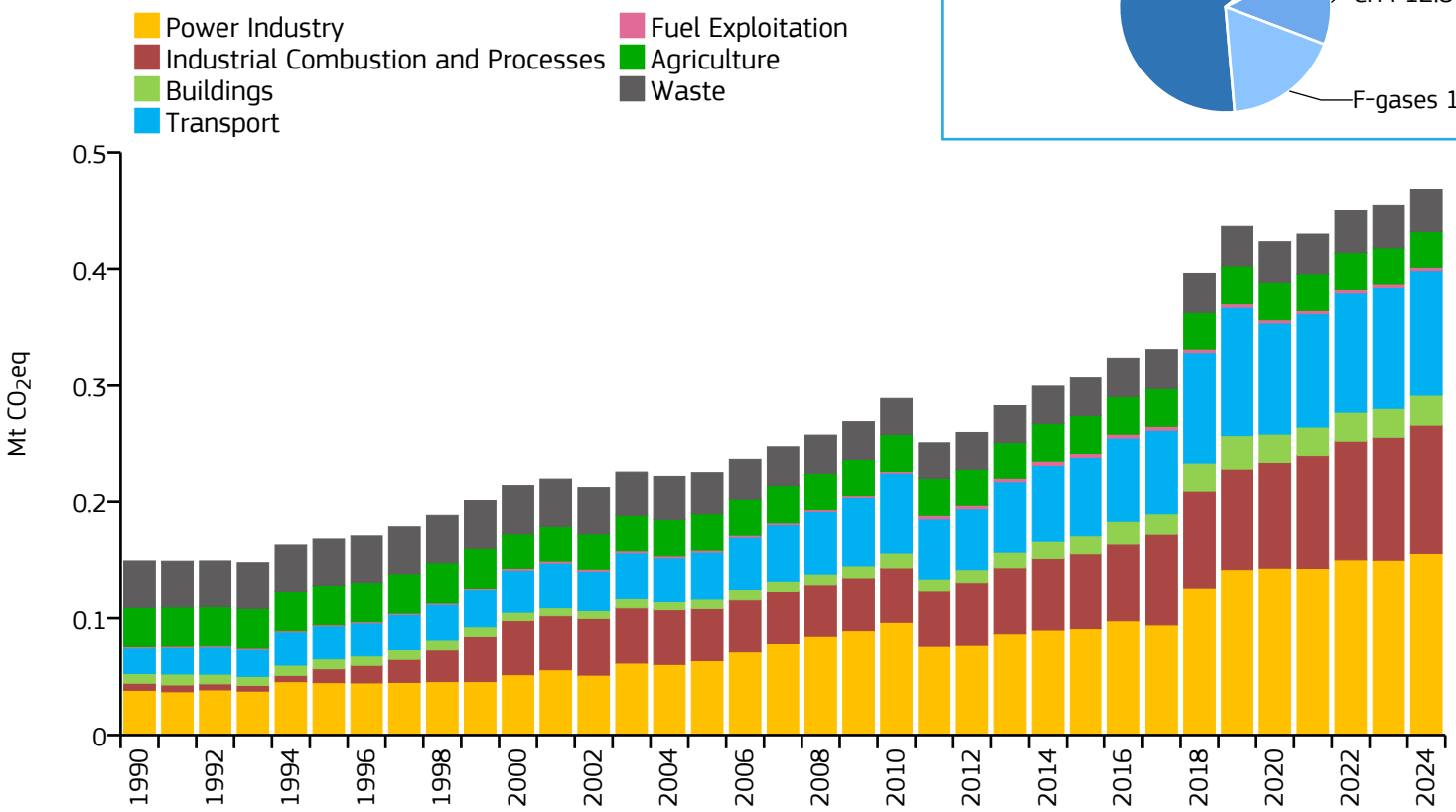
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.185	3.198	0.126	58.000k
2015	0.140	2.581	0.104	54.288k
2005	0.107	2.194	0.102	48.611k
1990	0.060	1.467	0.103	40.834k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+104%	+4%
Industrial Combustion and Processes	> +300%	+151%	+4%
Buildings	> +300%	+189%	+4%
Transport	> +300%	+123%	+3%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	+1%	-13%	+9%
Waste	+44%	+24%	+1%
All sectors	+210%	+74%	+3%

Saint Lucia



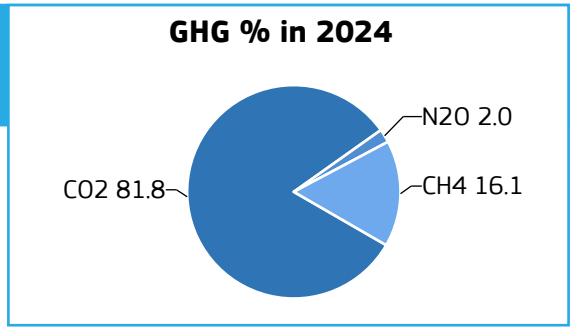
GHG emissions by sector



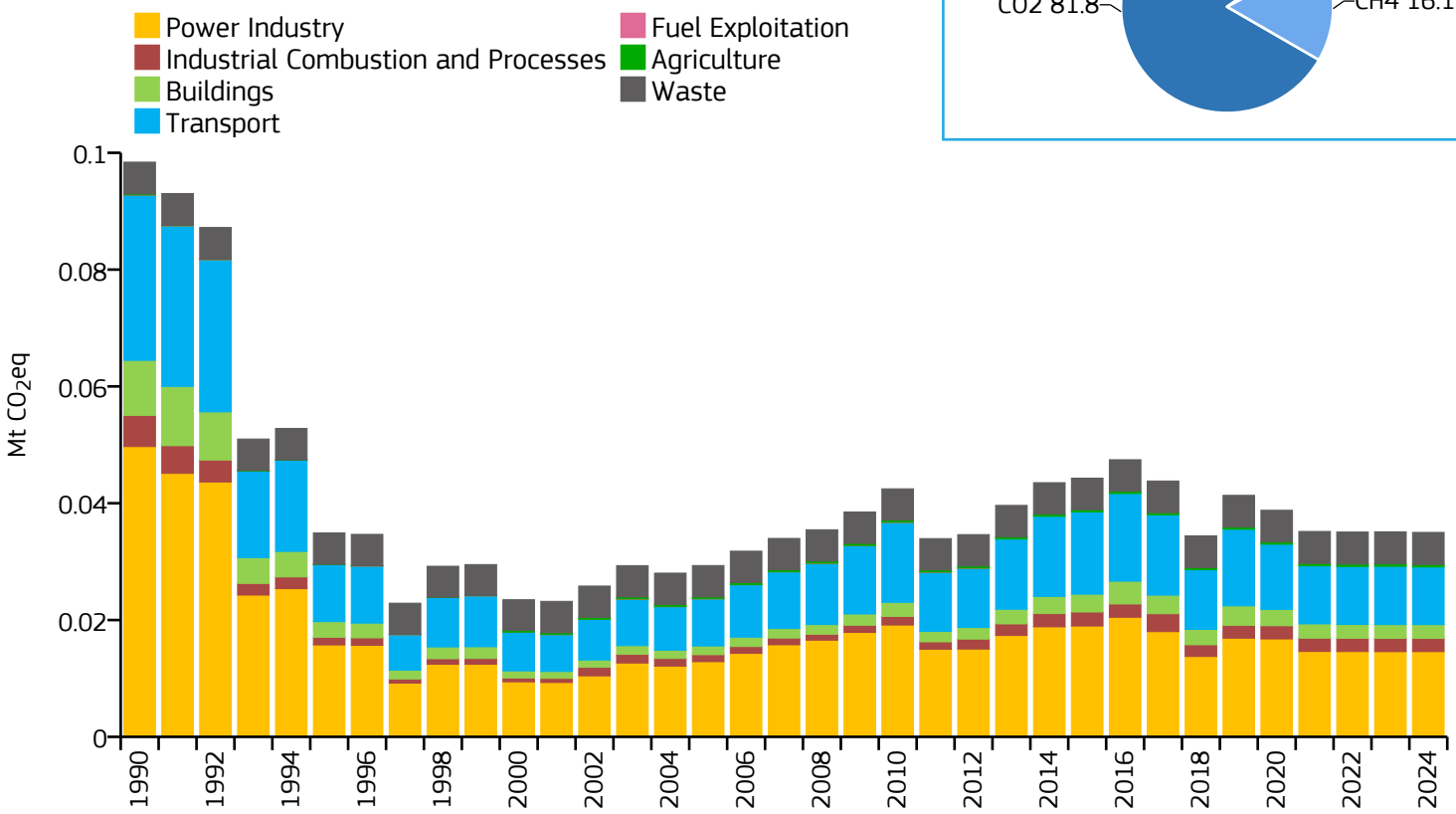
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.469	2.560	0.108	183.000k
2015	0.306	1.730	0.083	177.206k
2005	0.226	1.378	0.070	163.714k
1990	0.150	1.082	0.063	138.185k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+144%	+4%
Industrial Combustion and Processes	> +300%	+143%	+4%
Buildings	+207%	+217%	+4%
Transport	> +300%	+168%	+3%
Fuel Exploitation	+157%	+79%	0%
Agriculture	-11%	-2%	-1%
Waste	-7%	+2%	+1%
All sectors	+213%	+108%	+3%

Saint Pierre and Miquelon



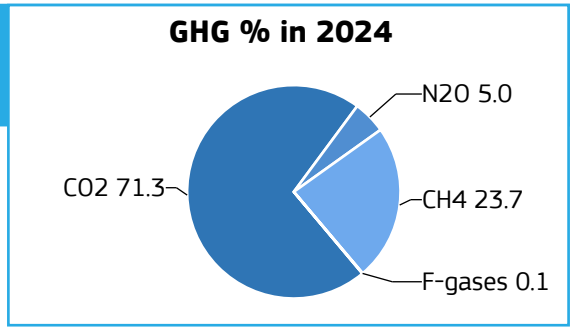
GHG emissions by sector



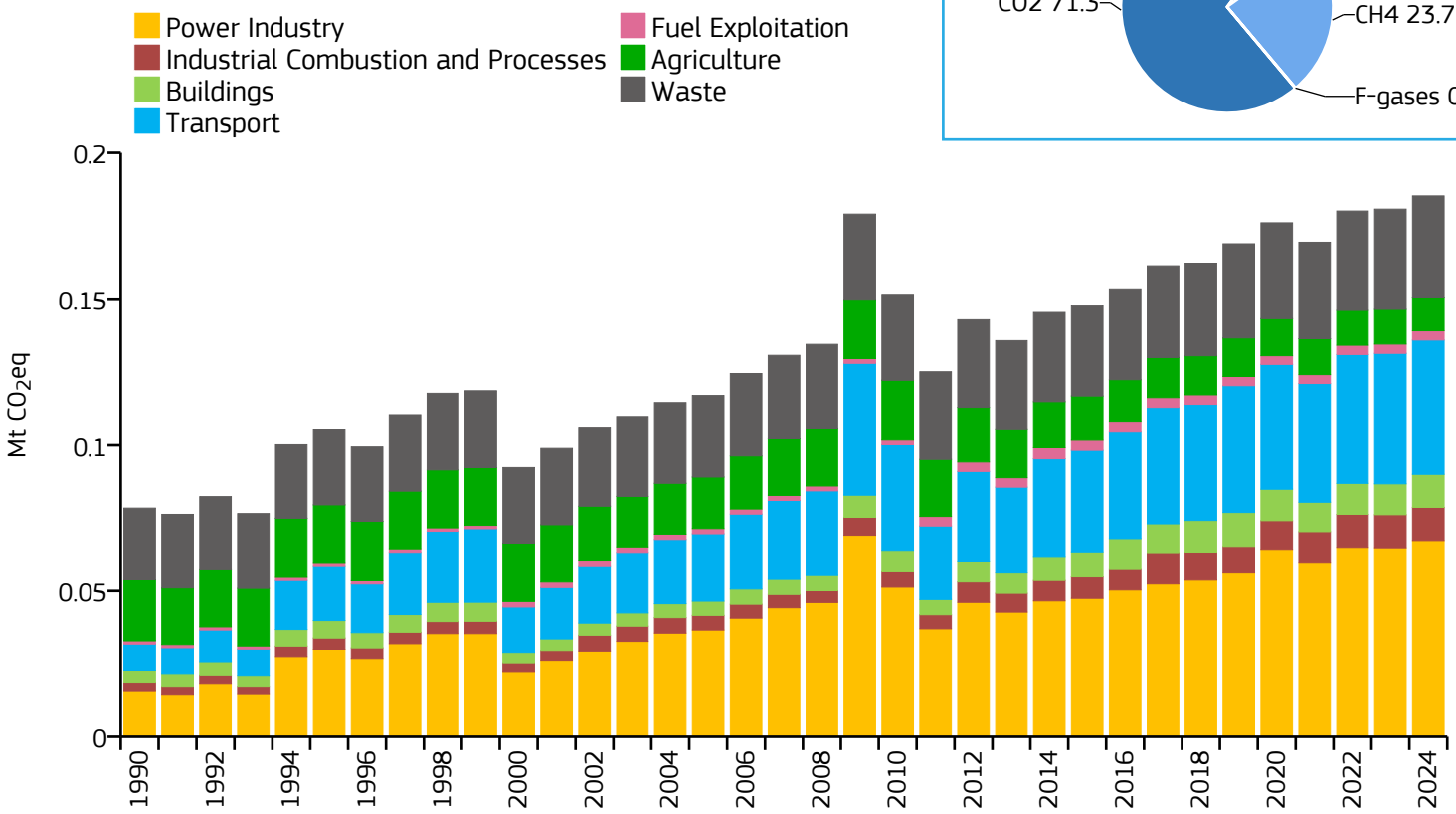
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.035	5.001	n/a	7.000k
2015	0.044	7.042	n/a	6.290k
2005	0.029	4.685	n/a	6.261k
1990	0.098	15.679	n/a	6.276k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-71%	+13%	0%
Industrial Combustion and Processes	-58%	+89%	0%
Buildings	-75%	+58%	0%
Transport	-65%	+22%	-1%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	+161%	+31%	+2%
Waste	+1%	+2%	0%
All sectors	-64%	+19%	0%

Saint Vincent and the Grenadines



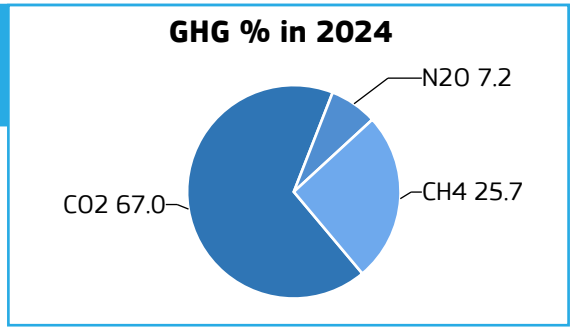
GHG emissions by sector



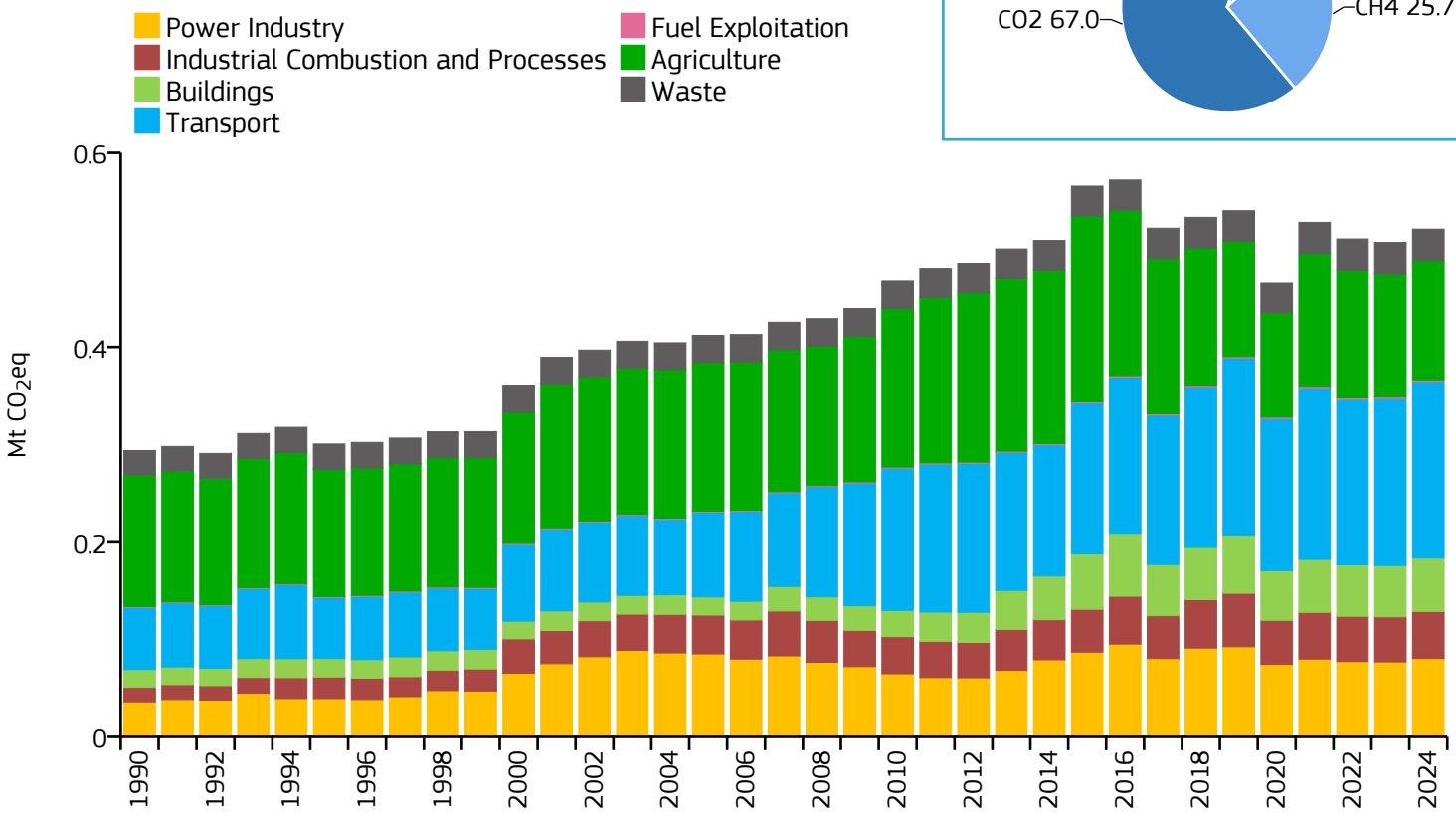
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.185	1.669	0.098	111.000k
2015	0.148	1.349	0.095	109.455k
2005	0.117	1.074	0.084	108.744k
1990	0.078	0.730	0.094	107.505k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+83%	+4%
Industrial Combustion and Processes	> +300%	+133%	+3%
Buildings	+176%	+132%	+4%
Transport	> +300%	+101%	+3%
Fuel Exploitation	+189%	+77%	0%
Agriculture	-45%	-36%	-2%
Waste	+41%	+25%	+1%
All sectors	+136%	+59%	+3%

Samoa



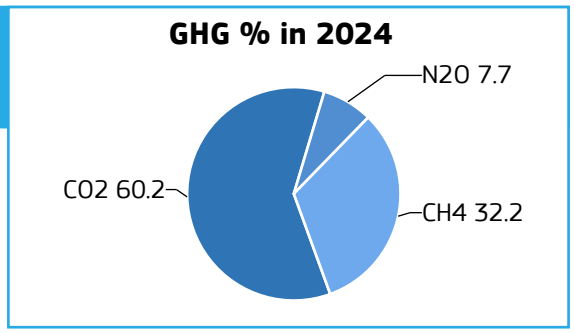
GHG emissions by sector



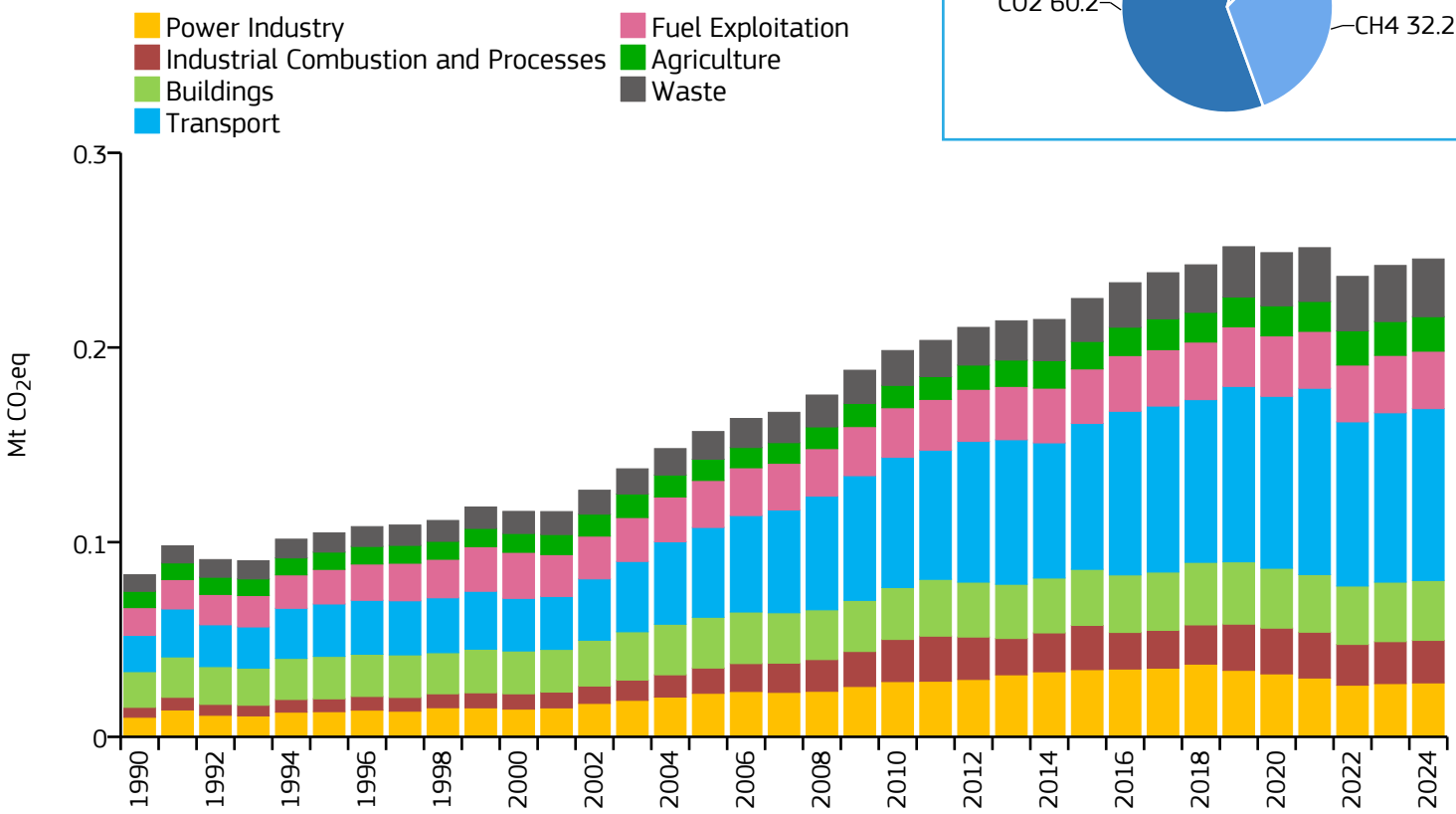
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.522	2.545	0.347	205.000k
2015	0.566	2.920	0.436	193.759k
2005	0.412	2.289	0.372	179.929k
1990	0.294	1.808	0.436	162.866k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+123%	-6%	+5%
Industrial Combustion and Processes	+224%	+21%	+4%
Buildings	+200%	+193%	+4%
Transport	+184%	+110%	+5%
Fuel Exploitation	+71%	+52%	0%
Agriculture	-9%	-20%	-2%
Waste	+28%	+16%	0%
All sectors	+77%	+27%	+3%

São Tomé and Príncipe



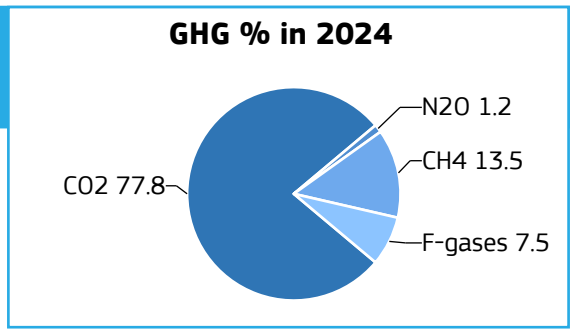
GHG emissions by sector



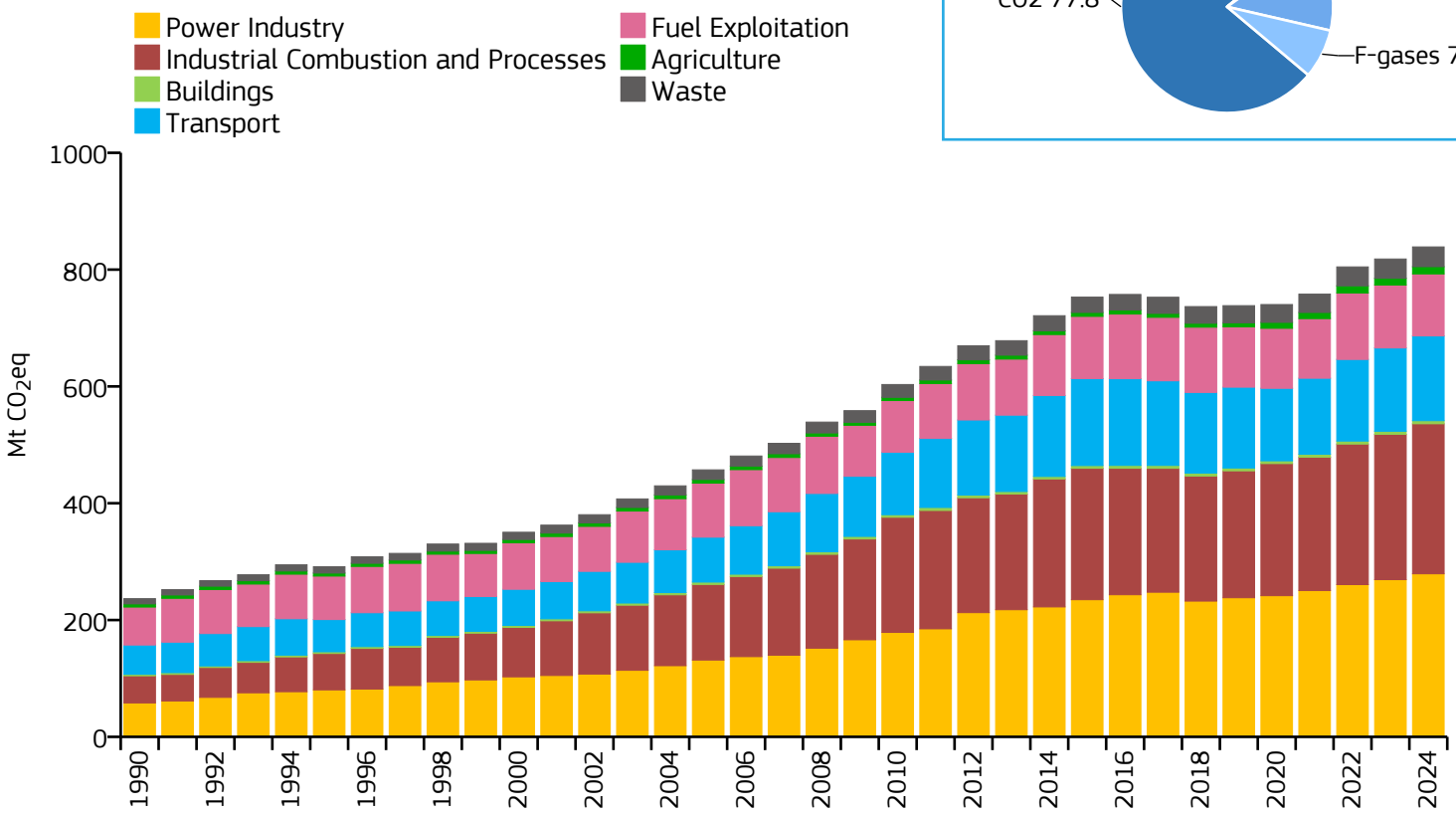
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.245	1.031	0.190	238.000k
2015	0.225	1.151	0.216	195.553k
2005	0.157	1.008	0.222	155.630k
1990	0.083	0.731	0.174	113.893k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+176%	+24%	+1%
Industrial Combustion and Processes	> +300%	+68%	+1%
Buildings	+68%	+18%	+1%
Transport	> +300%	+91%	+1%
Fuel Exploitation	+107%	+22%	0%
Agriculture	+112%	+62%	+2%
Waste	+248%	+109%	+3%
All sectors	+195%	+57%	+1%

Saudi Arabia



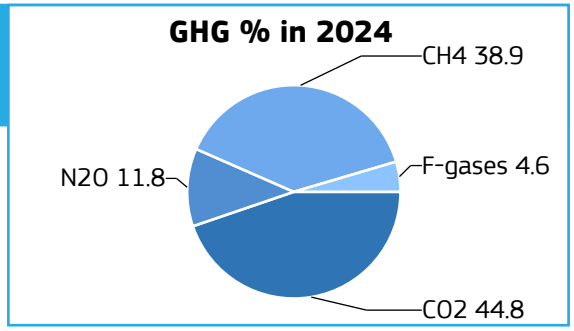
GHG emissions by sector



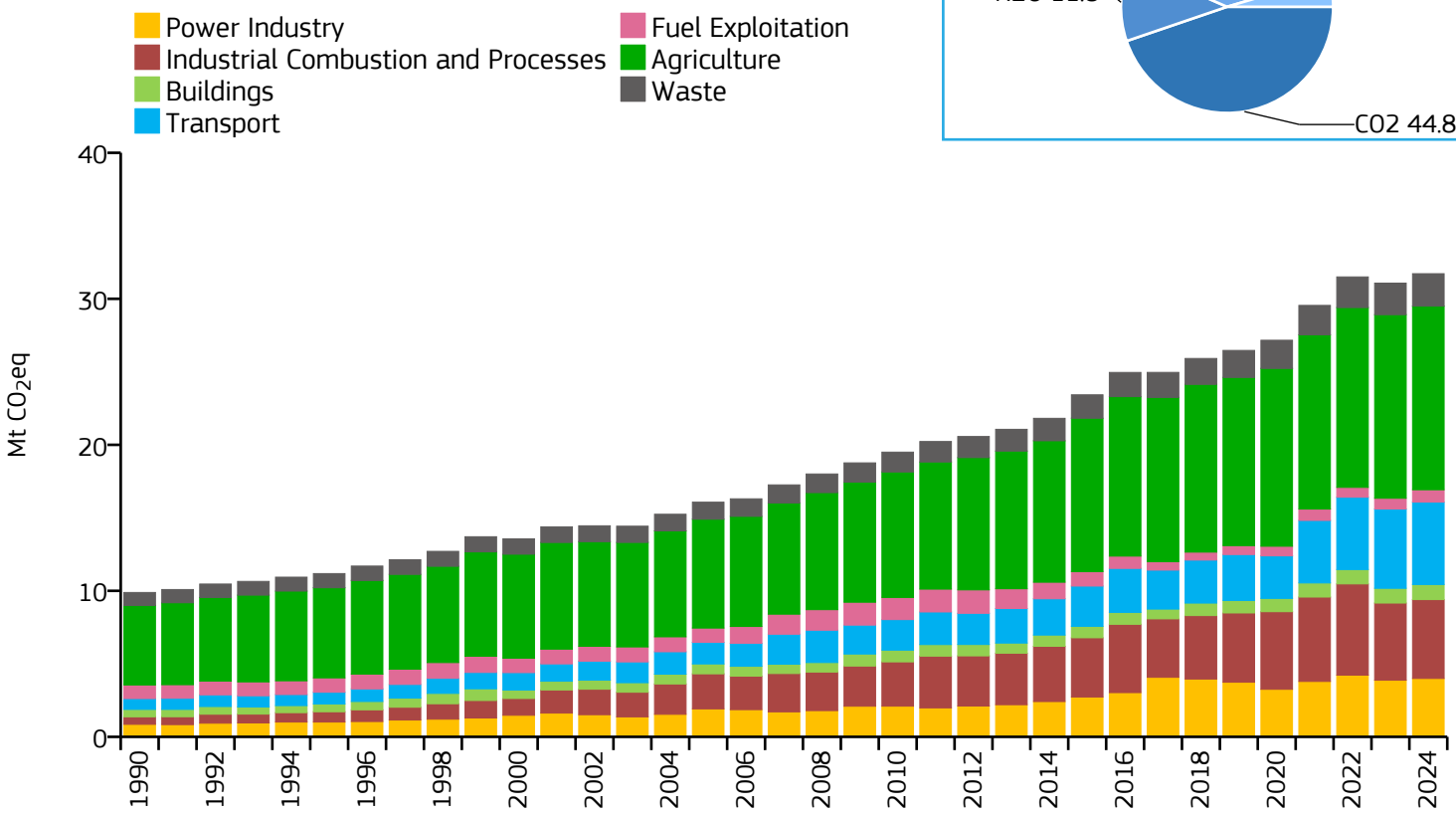
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	838.877	22.790	0.381	36.809M
2015	752.887	23.858	0.432	31.557M
2005	457.159	19.123	0.405	23.906M
1990	236.610	14.492	0.341	16.327M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+112%	+4%
Industrial Combustion and Processes	> +300%	+99%	+3%
Buildings	+108%	+31%	+2%
Transport	+189%	+89%	+2%
Fuel Exploitation	+64%	+15%	-1%
Agriculture	+128%	+100%	+8%
Waste	+277%	+105%	+2%
All sectors	+255%	+83%	+3%

Senegal



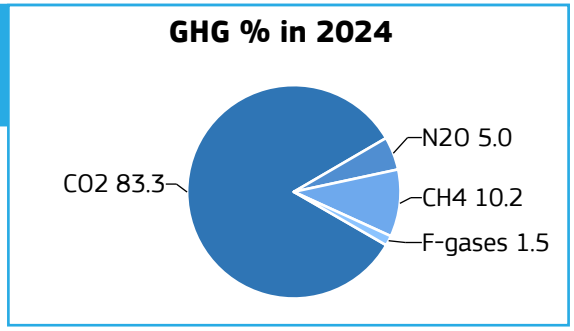
GHG emissions by sector



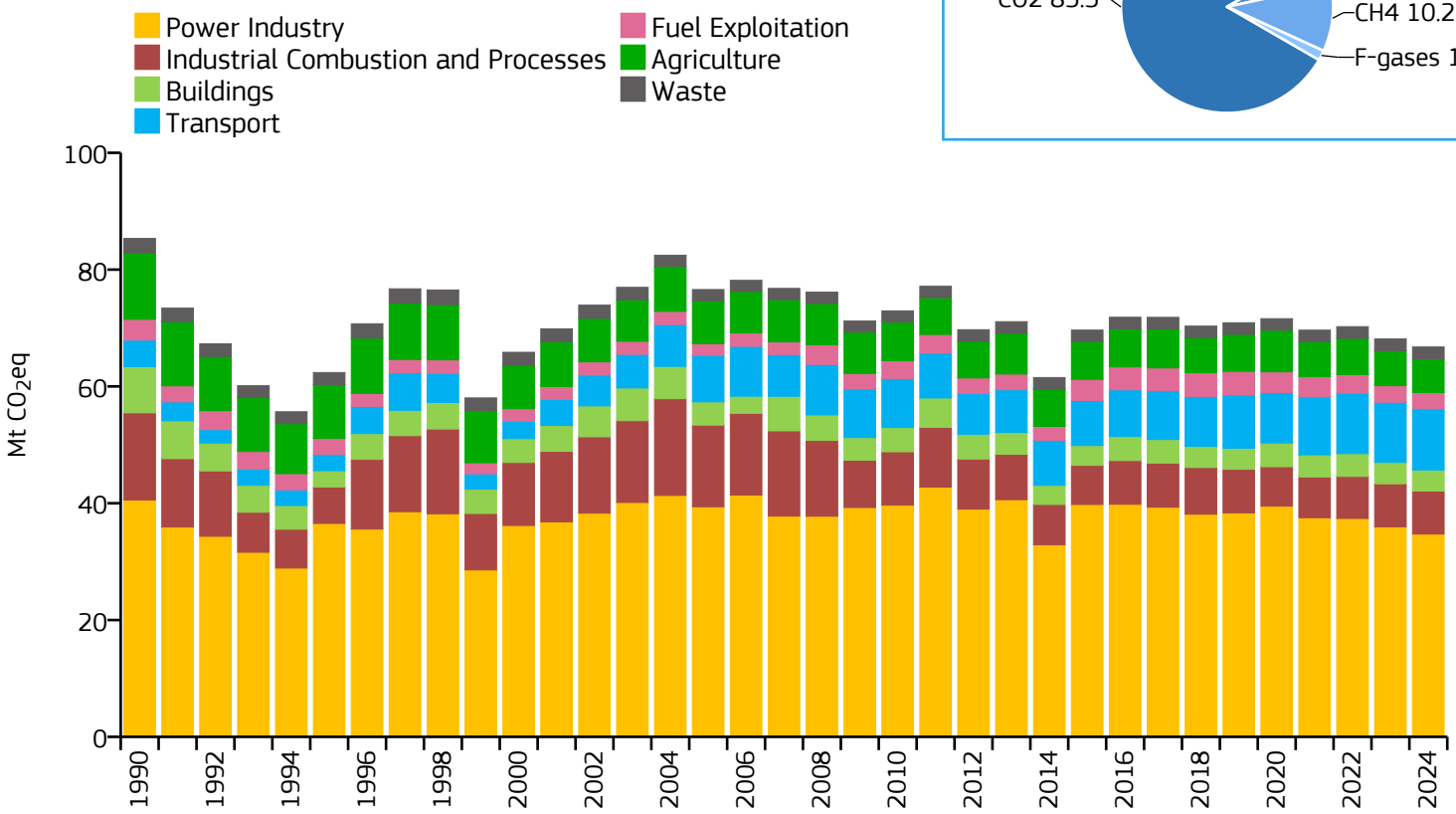
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	31.721	1.662	0.382	19.089M
2015	23.425	1.564	0.447	14.977M
2005	16.072	1.428	0.433	11.251M
1990	9.888	1.309	0.438	7.556M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+109%	+3%
Industrial Combustion and Processes	> +300%	+125%	+2%
Buildings	+104%	+53%	+2%
Transport	> +300%	+281%	+4%
Fuel Exploitation	-9%	-13%	+15%
Agriculture	+131%	+69%	0%
Waste	+150%	+90%	+3%
All sectors	+221%	+97%	+2%

Serbia and Montenegro



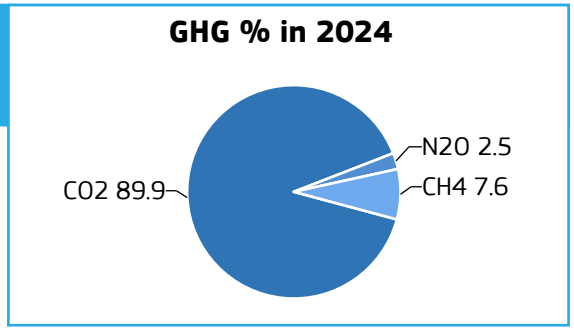
GHG emissions by sector



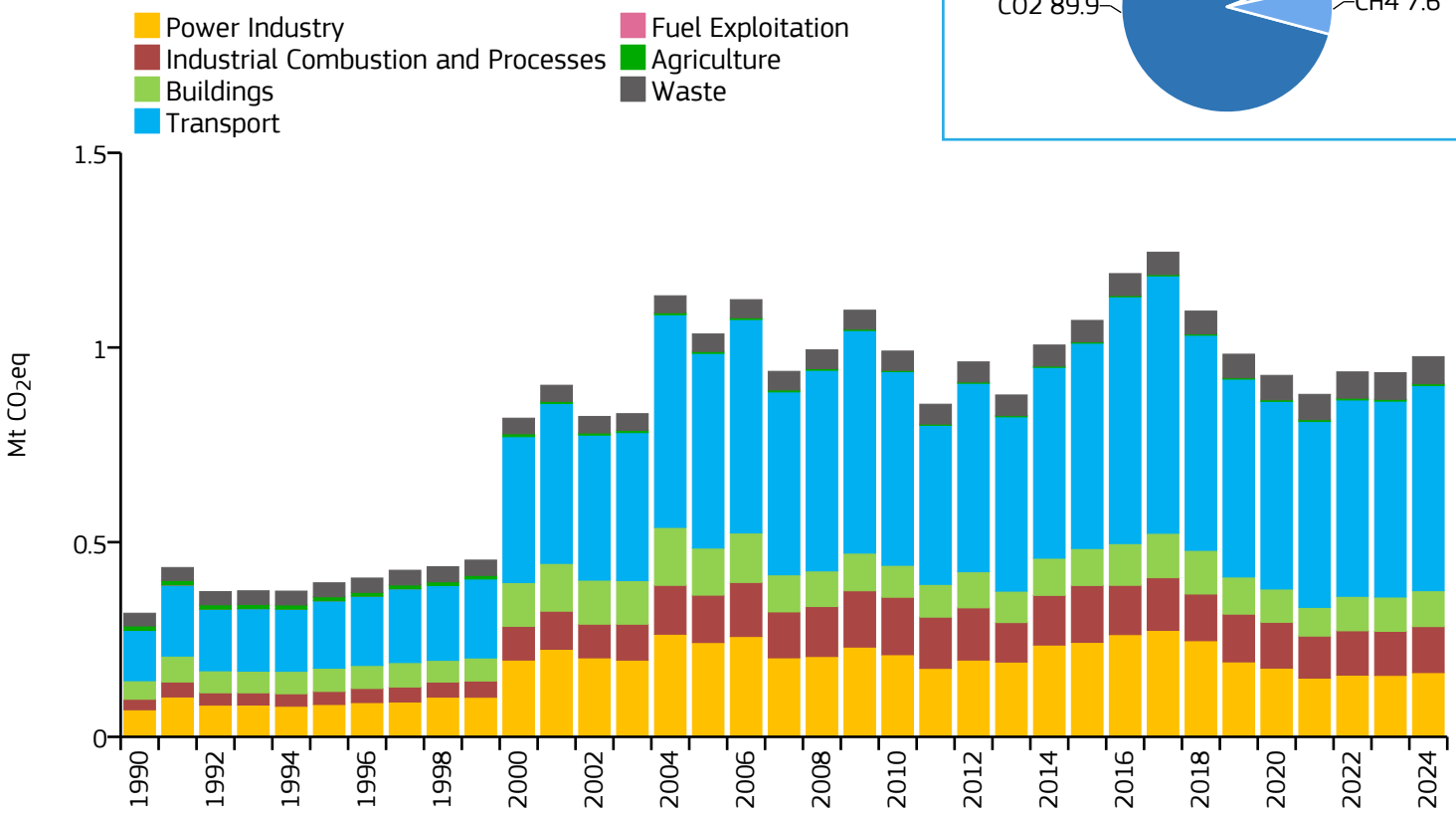
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	66.754	7.252	0.343	9.205M
2015	69.645	7.347	0.435	9.479M
2005	76.586	7.790	0.627	9.831M
1990	85.335	8.422	1.160	10.132M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-14%	-12%	-3%
Industrial Combustion and Processes	-51%	-47%	0%
Buildings	-54%	-9%	-1%
Transport	+131%	+31%	+2%
Fuel Exploitation	-22%	+38%	-2%
Agriculture	-49%	-21%	-3%
Waste	-19%	+5%	0%
All sectors	-22%	-13%	-2%

Seychelles



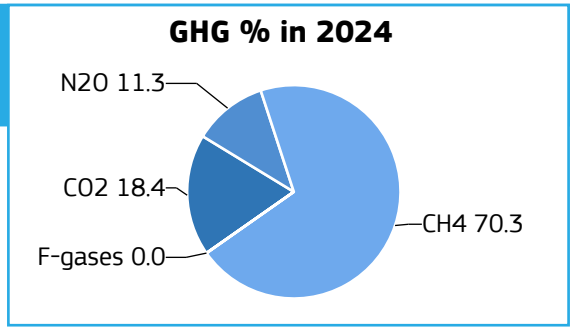
GHG emissions by sector



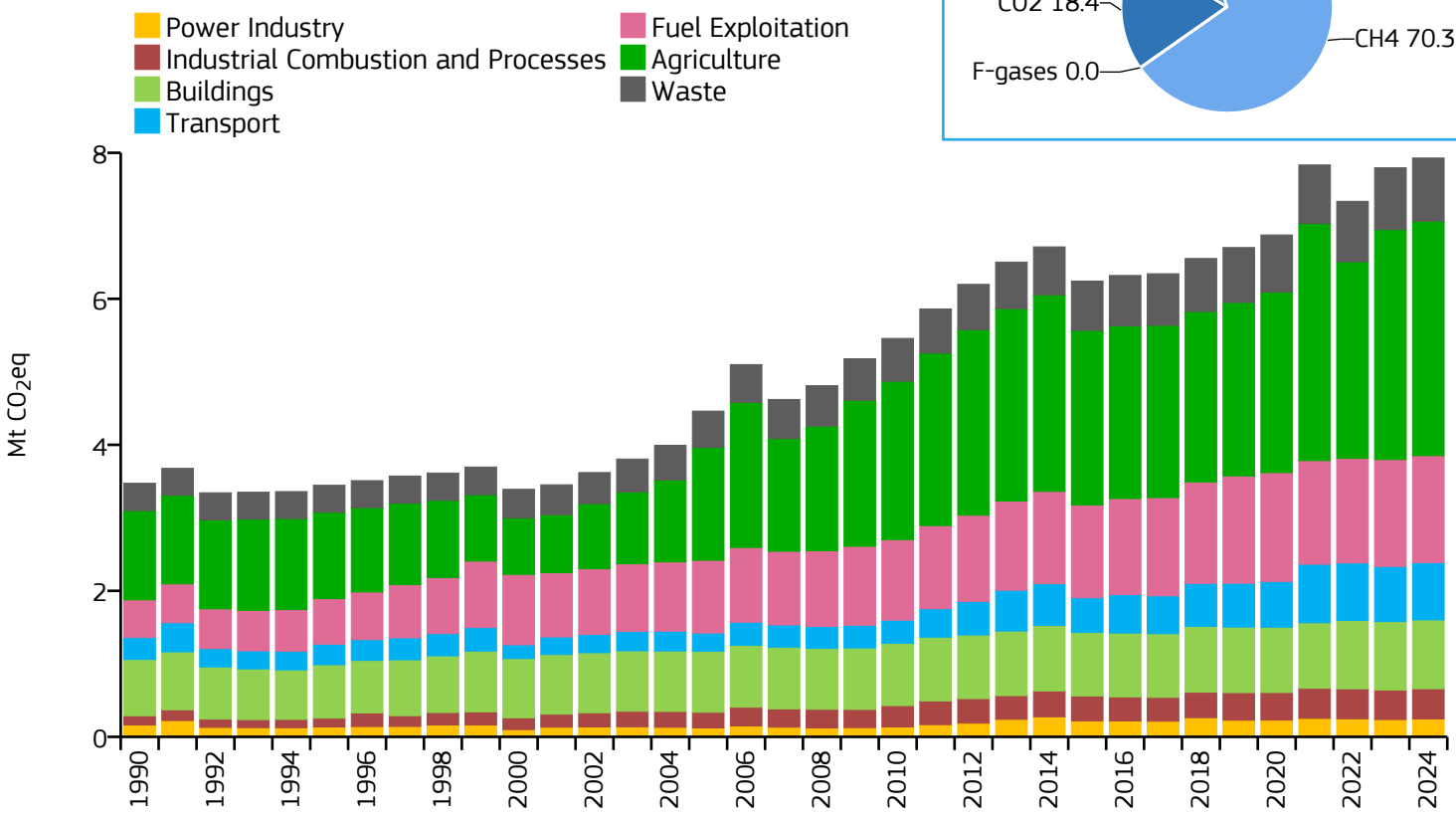
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.976	9.964	0.276	98.000k
2015	1.070	11.409	0.424	93.742k
2005	1.035	11.659	0.627	88.744k
1990	0.318	4.496	0.295	70.624k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +137%	↘ -32%	→ +5%
Industrial Combustion and Processes	↗ > +300%	→ -3%	→ +4%
Buildings	↗ +93%	↘ -24%	→ +5%
Transport	↗ > +300%	→ +5%	→ +5%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	↘ -59%	→ -5%	→ +5%
Waste	↗ +113%	↗ +55%	→ +2%
All sectors	↗ +208%	↘ -6%	→ +4%

Sierra Leone



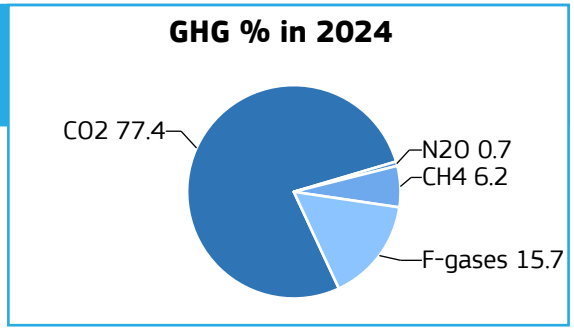
GHG emissions by sector



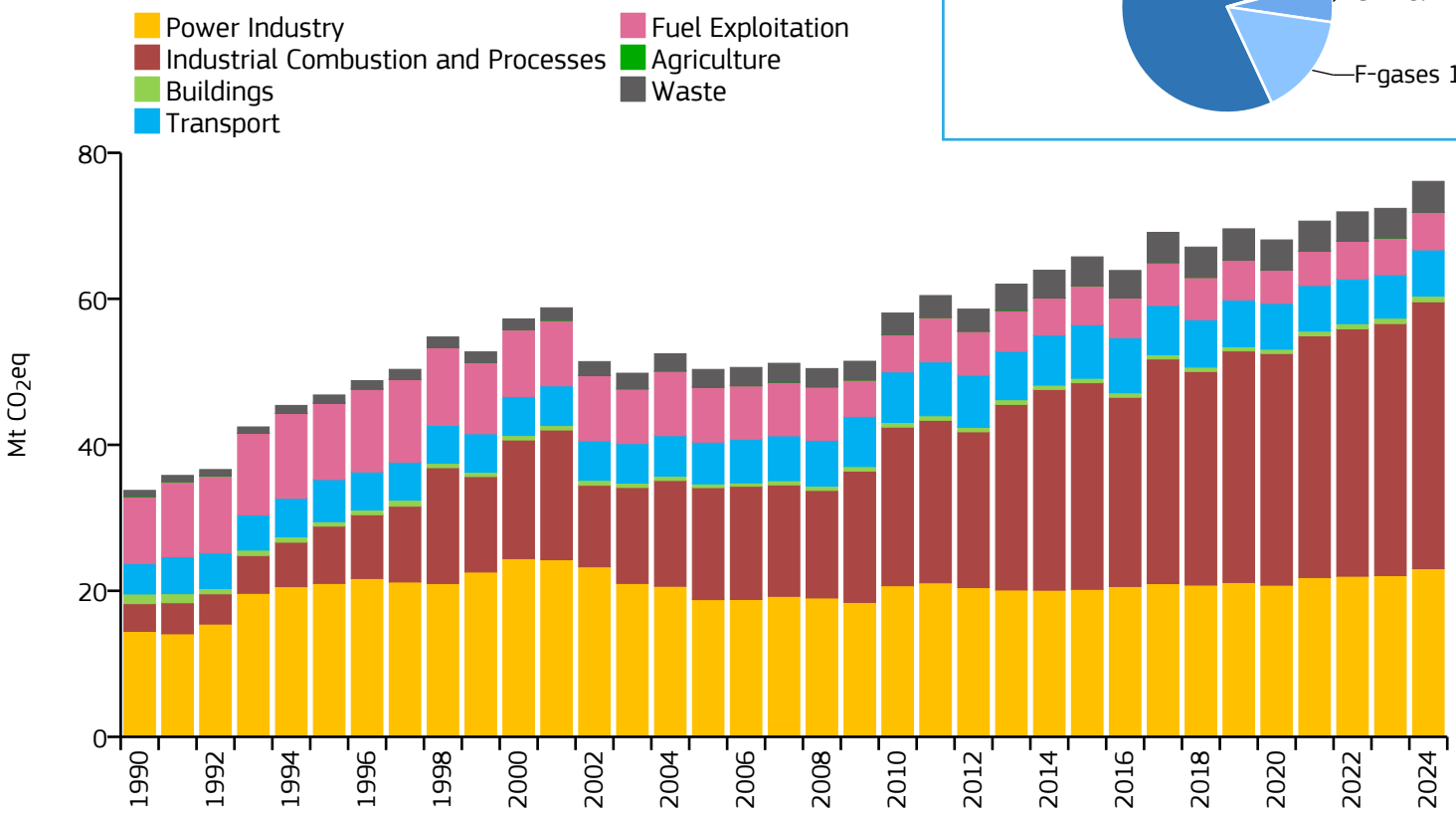
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	7.928	0.911	0.298	8.707M
2015	6.243	0.863	0.337	7.237M
2005	4.461	0.788	0.353	5.658M
1990	3.473	0.805	0.306	4.312M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+52%	+102%	+4%
Industrial Combustion and Processes	+226%	+92%	+2%
Buildings	+22%	+13%	+1%
Transport	+160%	+213%	+4%
Fuel Exploitation	+184%	+47%	0%
Agriculture	+163%	+108%	+2%
Waste	+132%	+74%	+2%
All sectors	+128%	+78%	+2%

Singapore



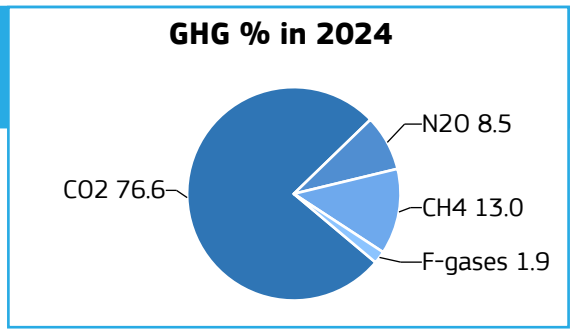
GHG emissions by sector



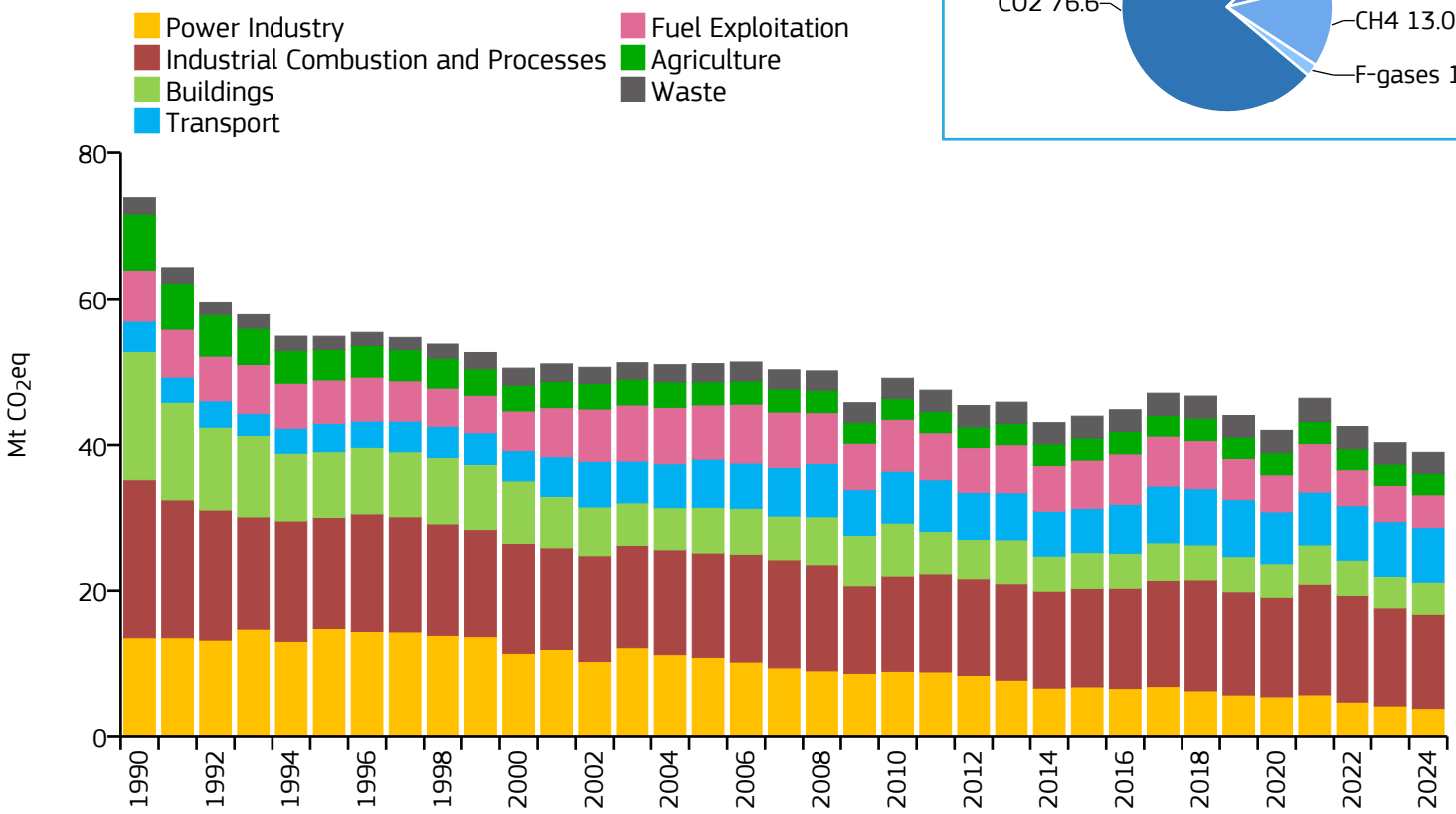
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	76.093	12.435	0.095	6.119M
2015	65.747	11.878	0.109	5.535M
2005	50.329	11.207	0.144	4.491M
1990	33.755	11.203	0.243	3.013M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+59%	+23%	+4%
Industrial Combustion and Processes	> +300%	+138%	+6%
Buildings	-41%	+51%	+6%
Transport	+52%	+11%	+7%
Fuel Exploitation	-44%	-32%	+2%
Agriculture	-78%	-5%	-6%
Waste	> +300%	+75%	+5%
All sectors	+125%	+51%	+5%

Slovakia



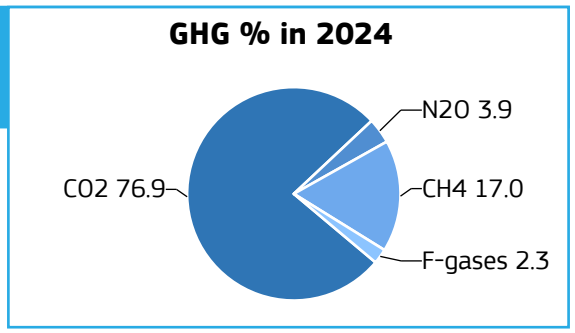
GHG emissions by sector



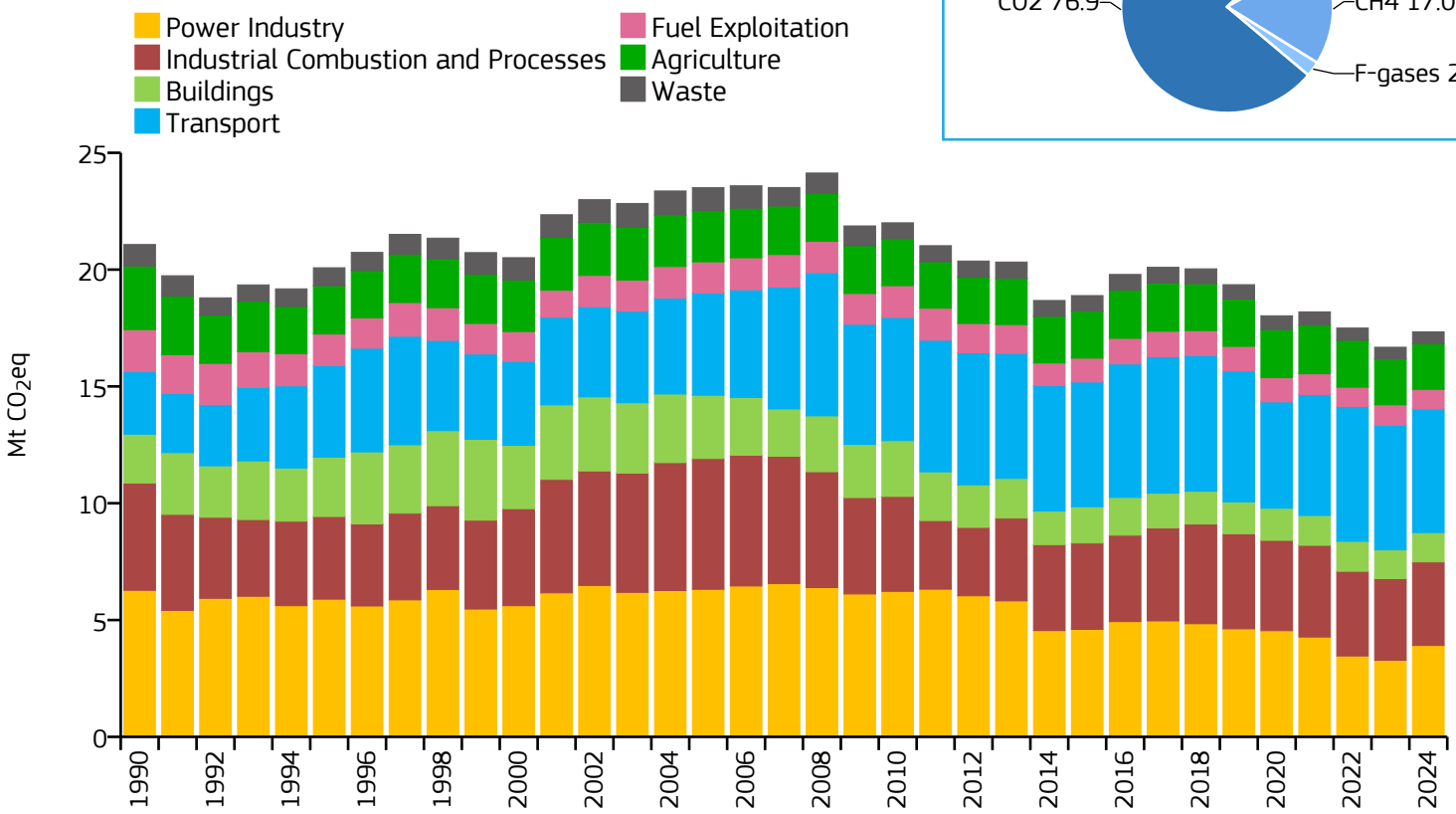
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	39.001	7.164	0.178	5.444M
2015	43.930	8.076	0.242	5.439M
2005	51.095	9.464	0.409	5.399M
1990	73.845	13.963	0.795	5.288M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-71%	-64%	-8%
Industrial Combustion and Processes	-41%	-10%	-4%
Buildings	-75%	-31%	+2%
Transport	+80%	+13%	0%
Fuel Exploitation	-34%	-38%	-9%
Agriculture	-62%	-8%	0%
Waste	+30%	+16%	-1%
All sectors	-47%	-24%	-3%

Slovenia



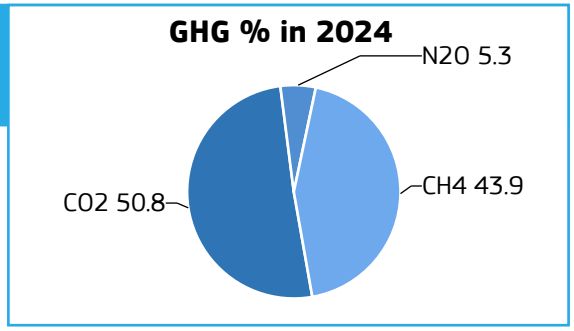
GHG emissions by sector



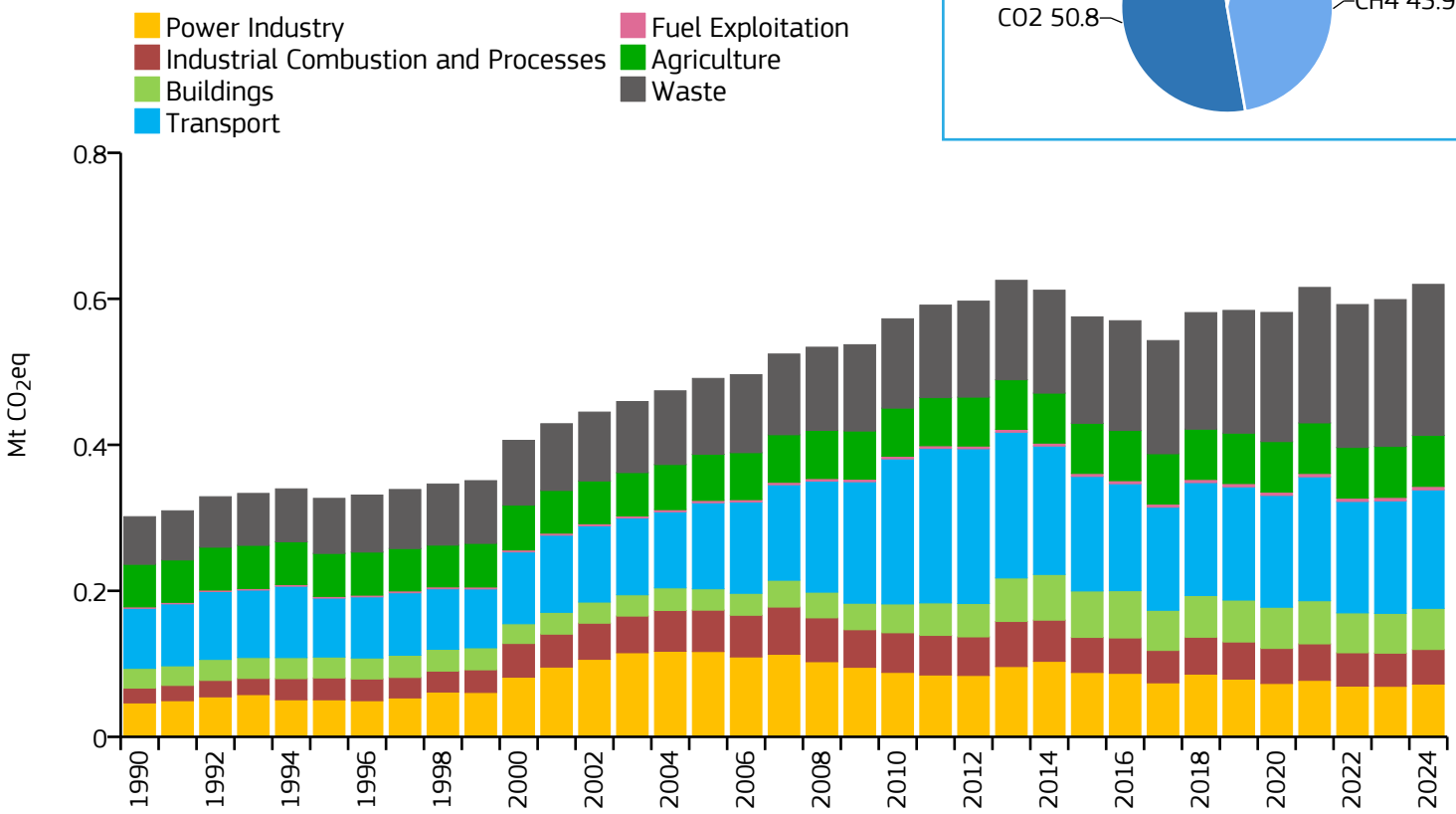
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	17.337	8.343	0.168	2.078M
2015	18.888	9.104	0.238	2.075M
2005	23.508	11.776	0.330	1.996M
1990	21.074	10.503	0.416	2.006M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-38%	-38%	+19%
Industrial Combustion and Processes	-22%	-36%	+2%
Buildings	-40%	-54%	+2%
Transport	+98%	+21%	-1%
Fuel Exploitation	-53%	-37%	-4%
Agriculture	-28%	-11%	-1%
Waste	-44%	-47%	+4%
All sectors	-18%	-26%	+4%

Solomon Islands



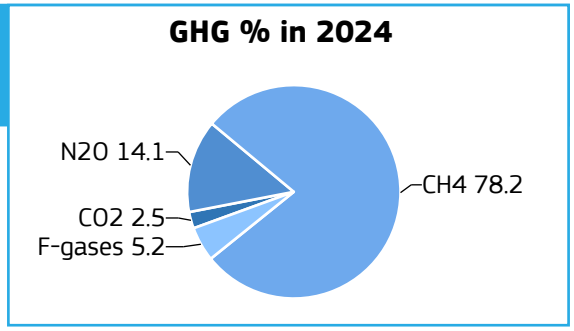
GHG emissions by sector



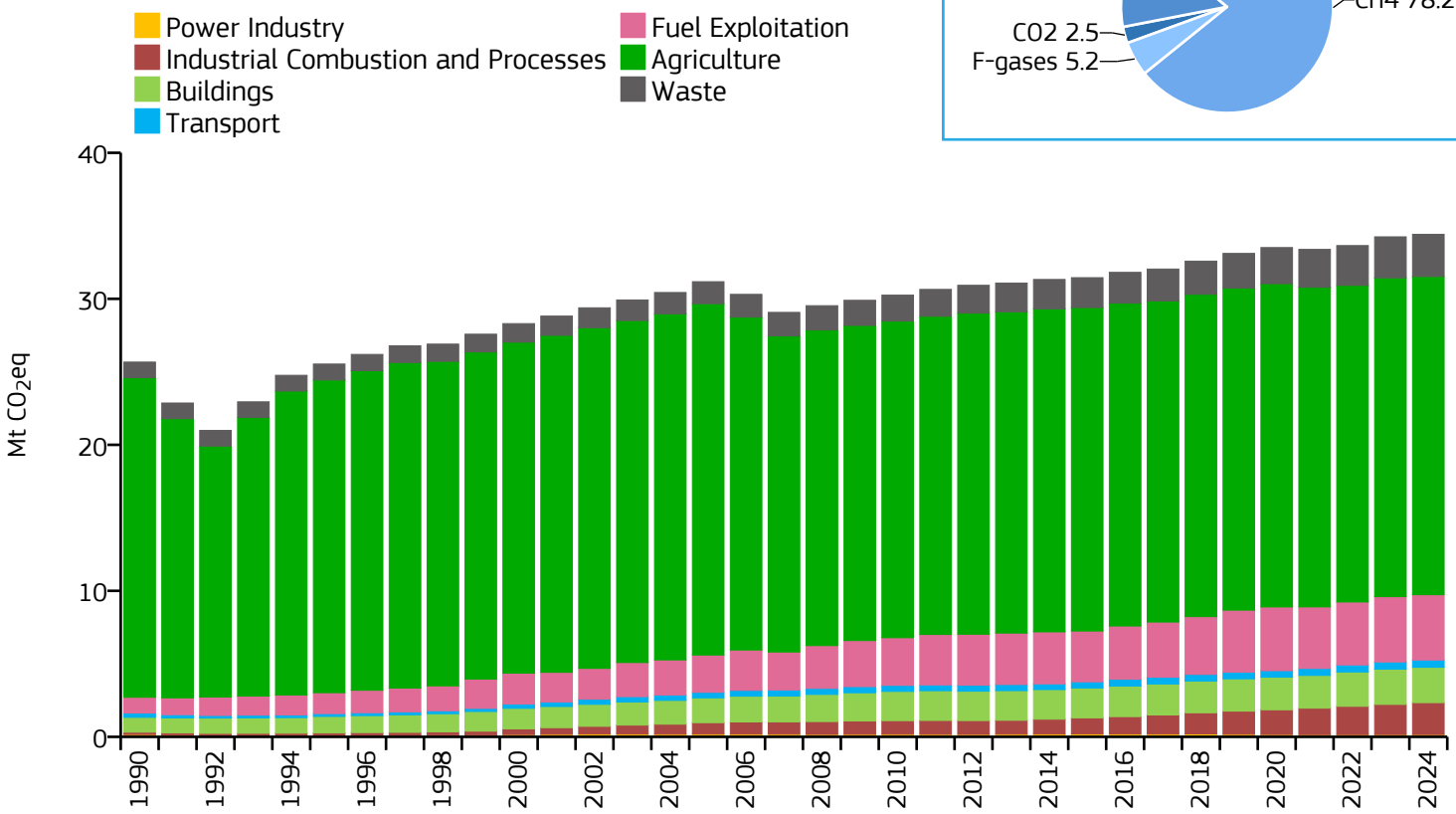
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.620	0.890	0.299	696.000k
2015	0.575	0.979	0.338	587.482k
2005	0.491	1.045	0.444	469.885k
1990	0.302	0.967	0.387	311.840k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+56%	-38%	+5%
Industrial Combustion and Processes	+133%	-17%	+4%
Buildings	+108%	+93%	+3%
Transport	+97%	+38%	+5%
Fuel Exploitation	+138%	+48%	0%
Agriculture	+20%	+11%	0%
Waste	+217%	+99%	+3%
All sectors	+105%	+26%	+3%

Somalia



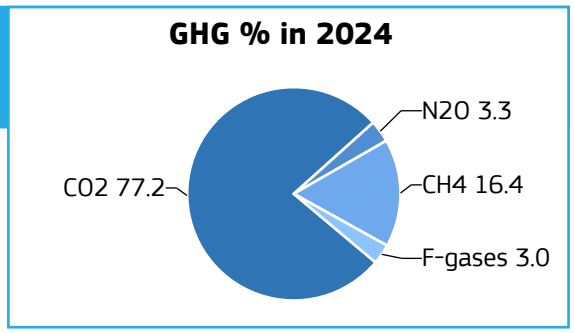
GHG emissions by sector



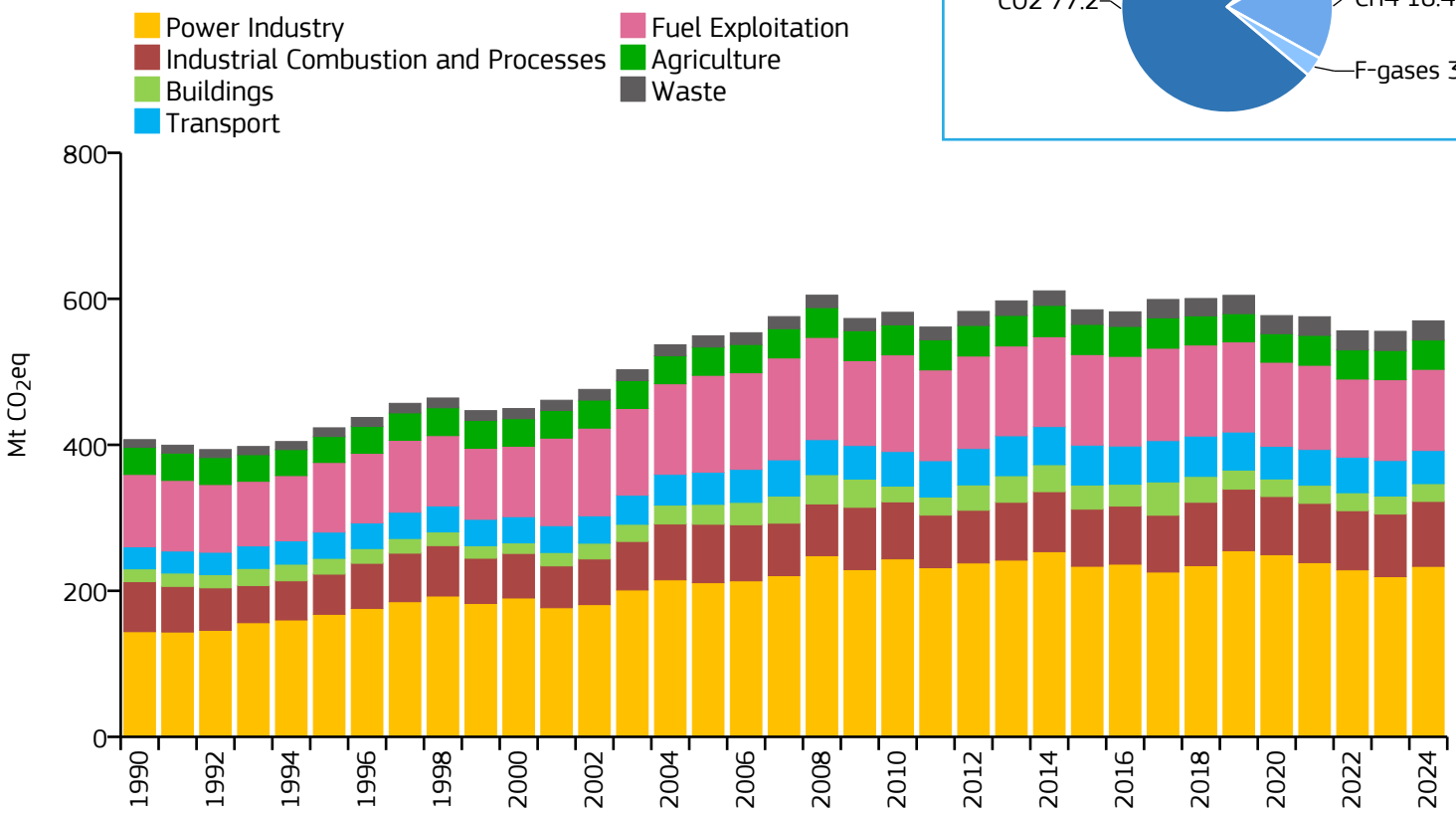
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	34.417	1.899	1.285	18.127M
2015	31.448	2.261	1.695	13.908M
2005	31.173	2.995	3.526	10.410M
1990	25.666	3.470	4.508	7.397M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-1%	-15%	+2%
Industrial Combustion and Processes	> +300%	+178%	+6%
Buildings	+138%	+42%	0%
Transport	+68%	+32%	+2%
Fuel Exploitation	> +300%	+75%	0%
Agriculture	0%	-9%	0%
Waste	+171%	+92%	+3%
All sectors	+34%	+10%	+1%

South Africa



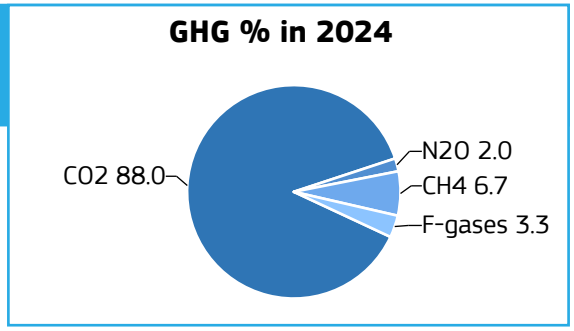
GHG emissions by sector



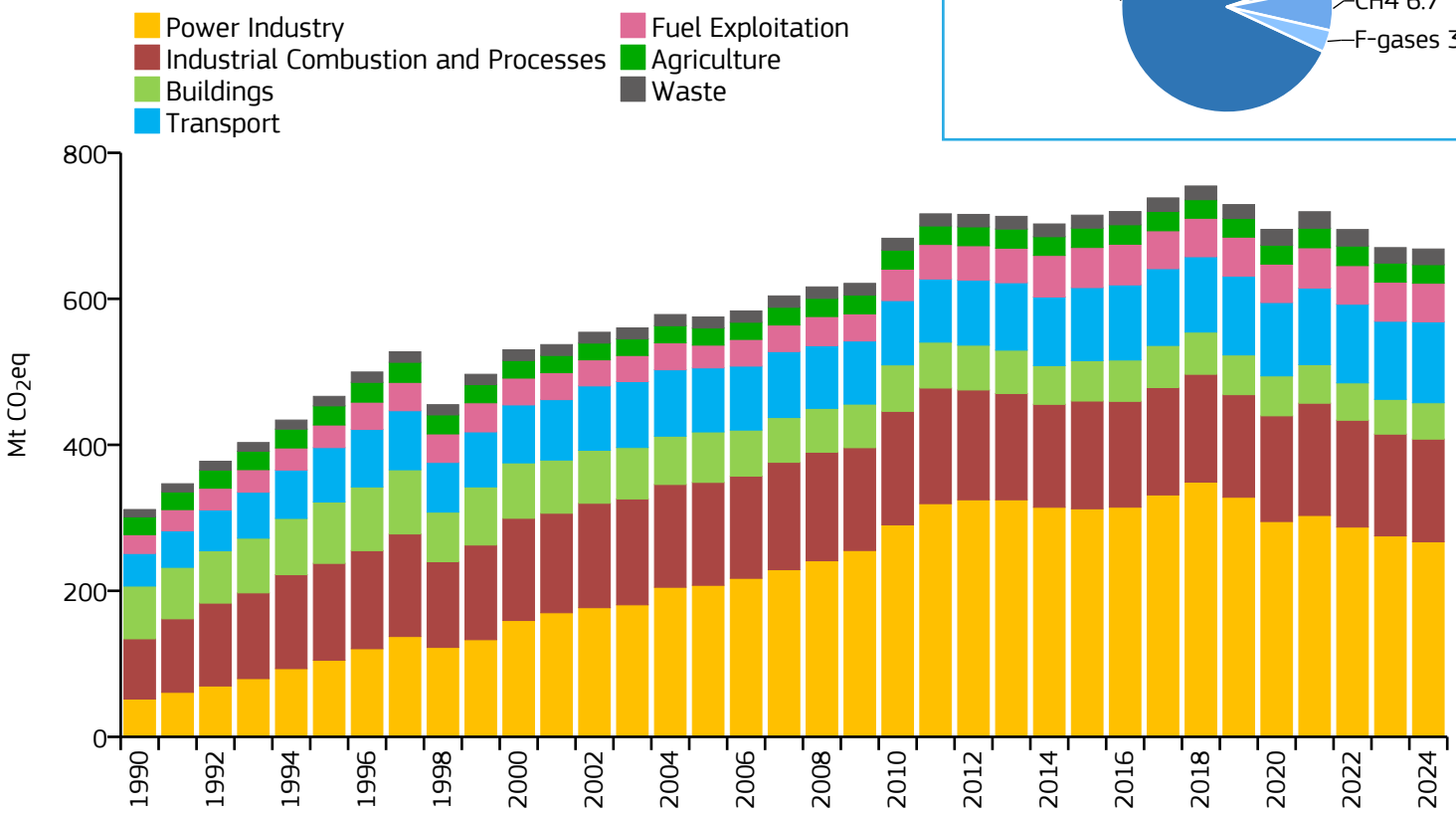
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	569.810	9.309	0.655	61.209M
2015	584.950	10.579	0.708	55.291M
2005	549.403	11.253	0.862	48.821M
1990	407.093	10.838	0.923	37.560M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+62%	+11%	+6%
Industrial Combustion and Processes	+30%	+11%	+4%
Buildings	+38%	-11%	-1%
Transport	+51%	+3%	-7%
Fuel Exploitation	+12%	-16%	0%
Agriculture	+8%	+4%	0%
Waste	+150%	+70%	0%
All sectors	+40%	+4%	+3%

South Korea



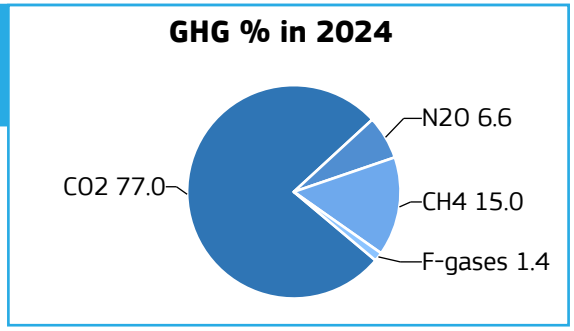
GHG emissions by sector



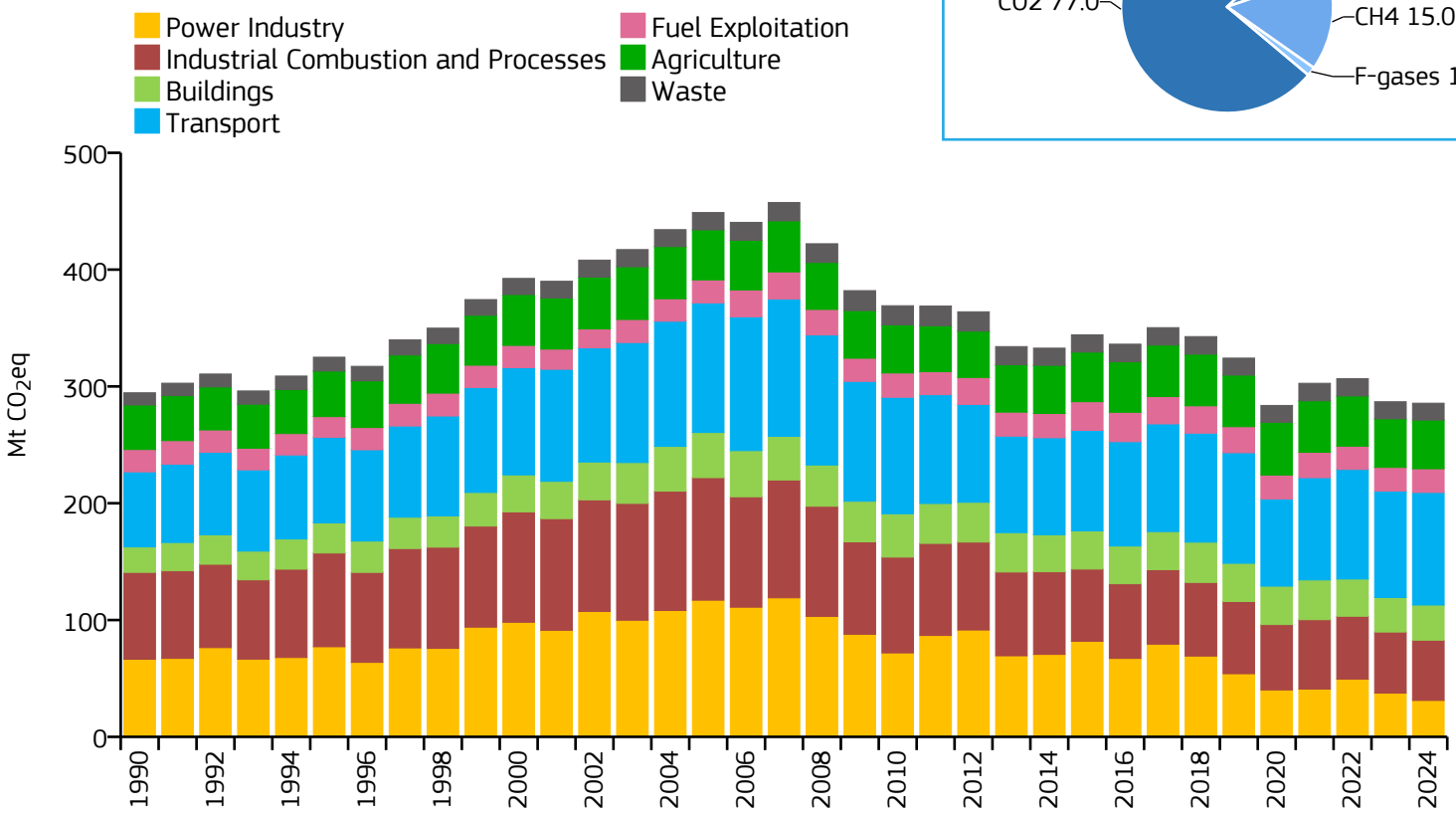
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	668.245	12.828	0.251	52.093M
2015	714.594	14.124	0.330	50.594M
2005	575.115	11.807	0.381	48.709M
1990	311.402	7.255	0.525	42.923M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+29%	-3%
Industrial Combustion and Processes	+70%	0%	+1%
Buildings	-31%	-28%	+5%
Transport	+148%	+26%	+4%
Fuel Exploitation	+105%	+70%	-1%
Agriculture	+4%	+9%	-3%
Waste	+113%	+41%	+2%
All sectors	+115%	+16%	0%

Spain and Andorra



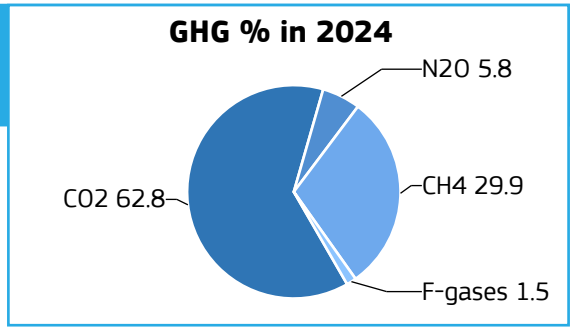
GHG emissions by sector



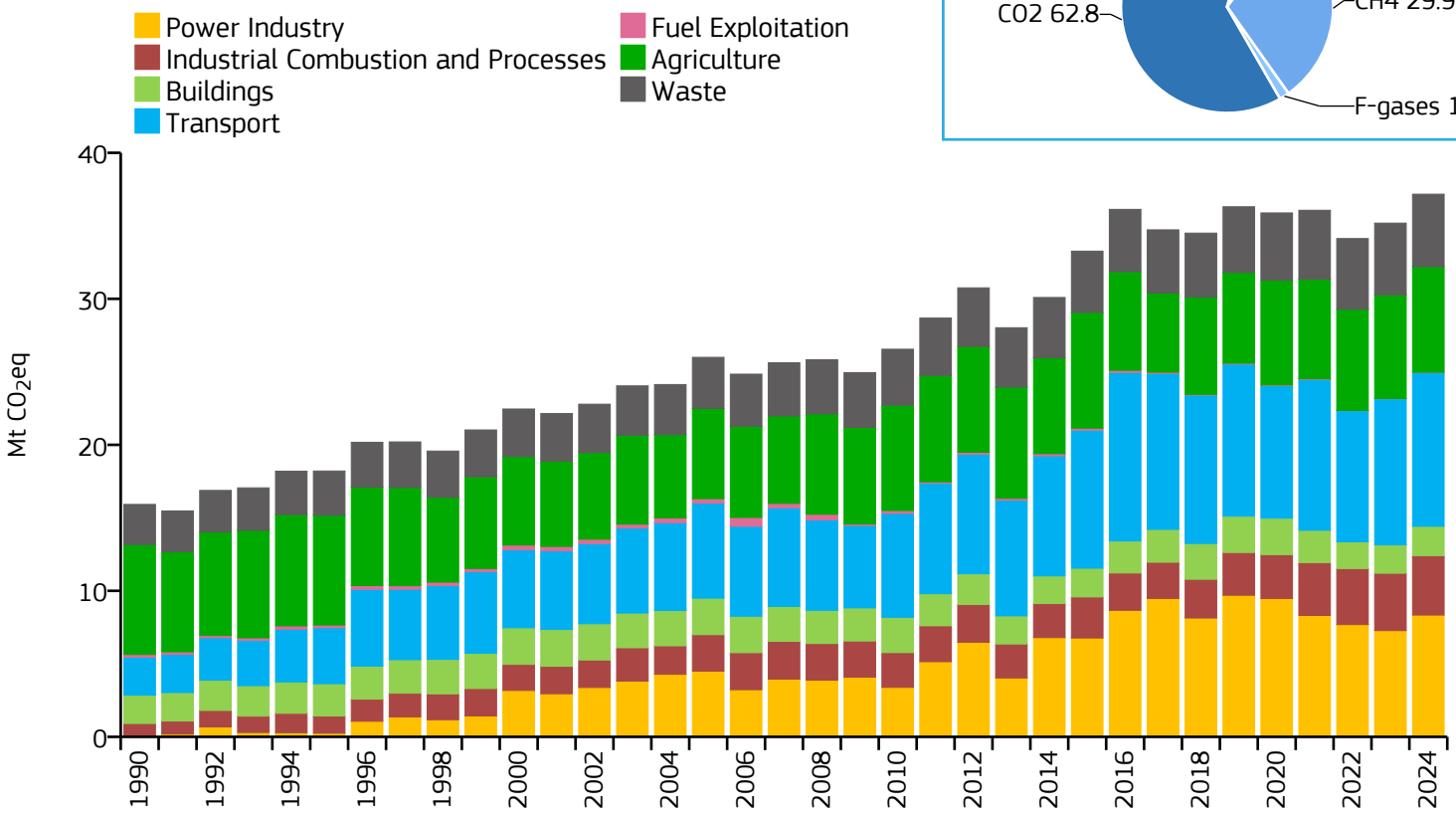
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	285.638	6.163	0.121	46.346M
2015	344.154	7.417	0.172	46.398M
2005	448.861	10.192	0.235	44.043M
1990	294.547	7.494	0.238	39.306M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↘ -53%	↘ -73%	↘ -17%
Industrial Combustion and Processes	↘ -31%	↘ -51%	→ -1%
Buildings	↗ +38%	↘ -22%	→ +2%
Transport	↗ +50%	↘ -13%	↗ +6%
Fuel Exploitation	↗ +6%	→ +3%	→ 0%
Agriculture	↗ +9%	→ -3%	→ 0%
Waste	↗ +38%	→ -3%	→ -1%
All sectors	→ -3%	↘ -36%	→ 0%

Sri Lanka



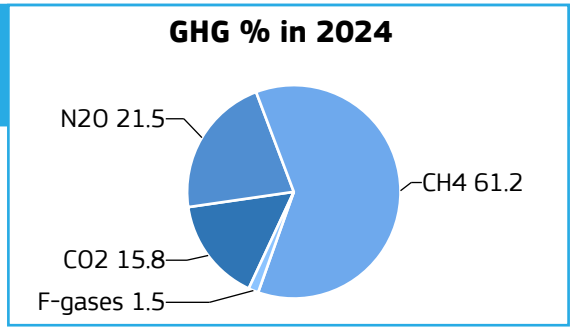
GHG emissions by sector



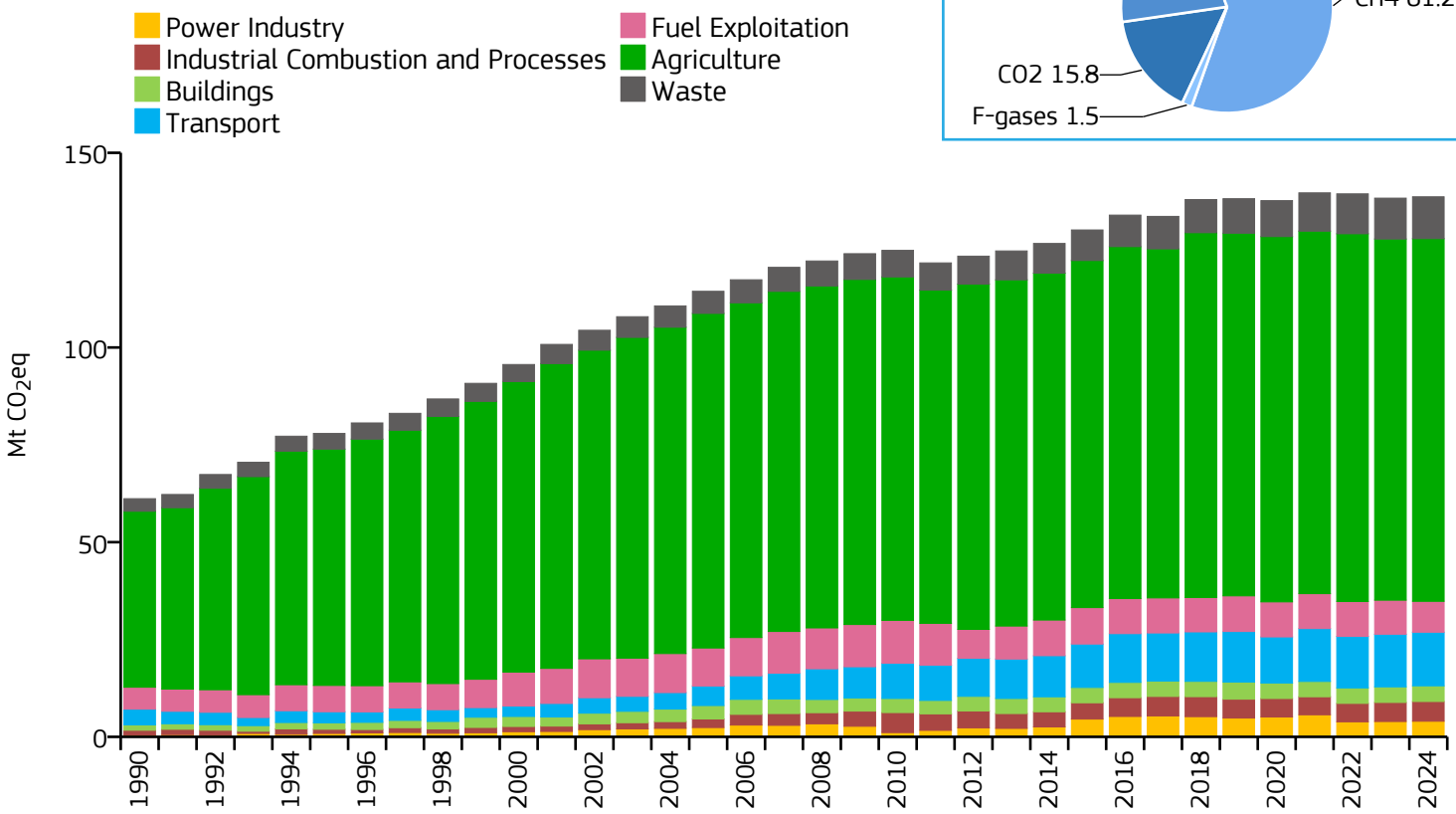
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	37.167	1.744	0.123	21.307M
2015	33.265	1.606	0.119	20.714M
2005	25.992	1.331	0.173	19.525M
1990	15.918	0.919	0.213	17.330M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+85%	+15%
Industrial Combustion and Processes	> +300%	+63%	+4%
Buildings	+3%	-20%	+3%
Transport	> +300%	+62%	+5%
Fuel Exploitation	-91%	-94%	+10%
Agriculture	-4%	+17%	+2%
Waste	+81%	+42%	+1%
All sectors	+133%	+43%	+6%

Sudan and South Sudan



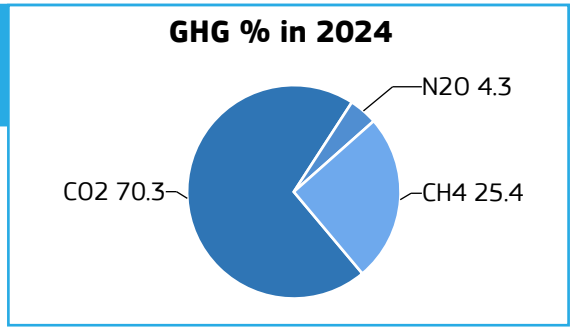
GHG emissions by sector



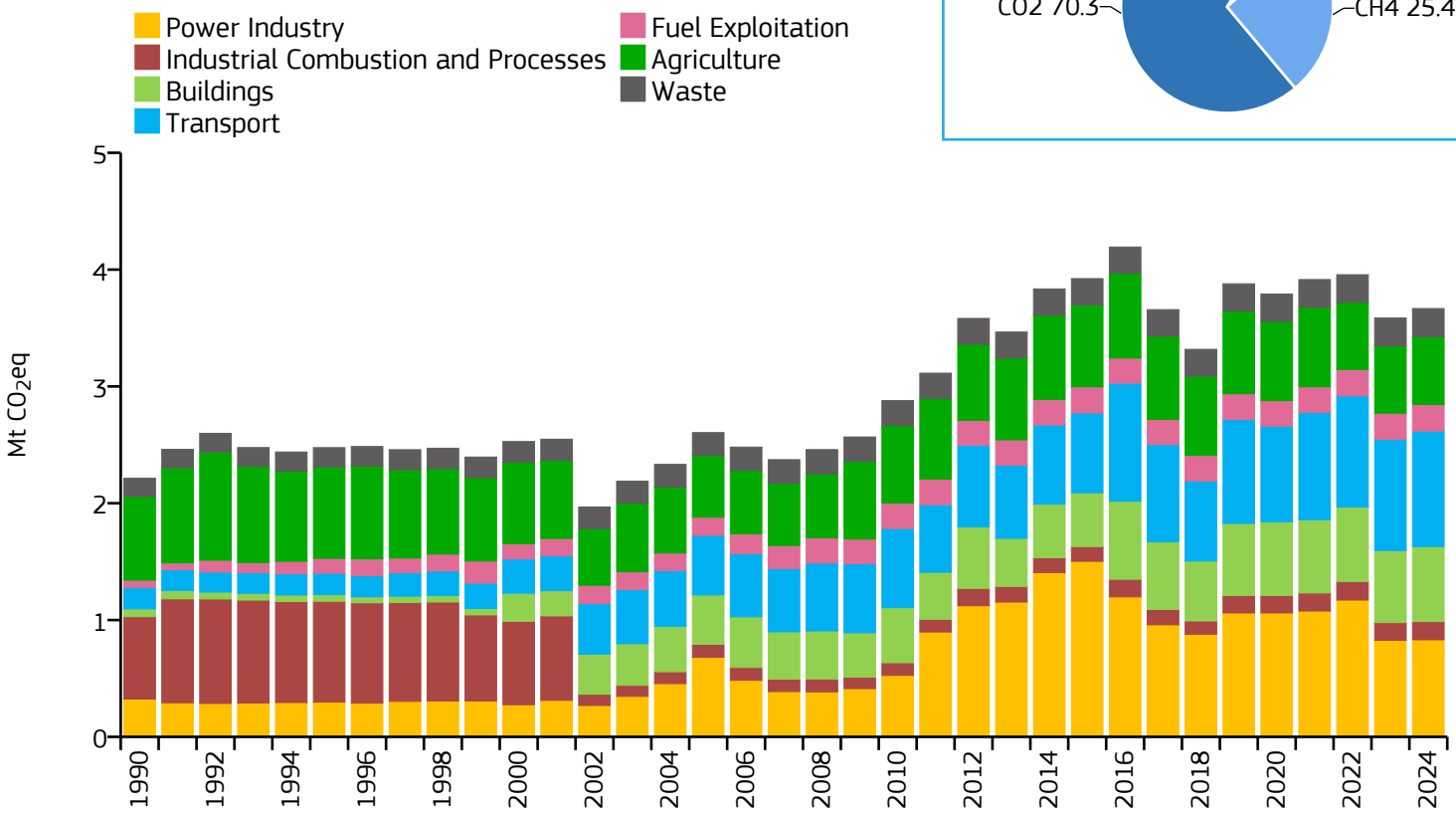
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	138.702	2.180	1.476	63.631M
2015	130.189	2.612	0.702	49.838M
2005	114.428	2.966	0.709	38.584M
1990	61.171	2.382	0.929	25.677M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+68%	+2%
Industrial Combustion and Processes	> +300%	+130%	+4%
Buildings	+191%	+17%	+1%
Transport	+242%	+174%	+2%
Fuel Exploitation	+41%	-19%	-9%
Agriculture	+106%	+8%	0%
Waste	+232%	+89%	+2%
All sectors	+127%	+21%	0%

Suriname



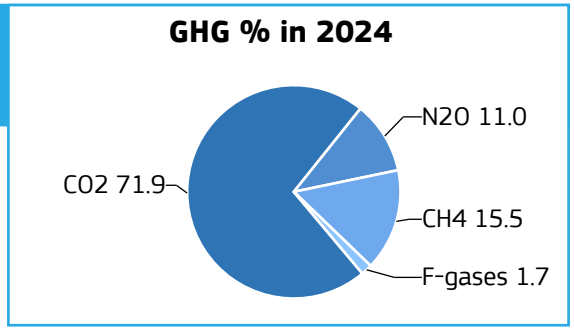
GHG emissions by sector



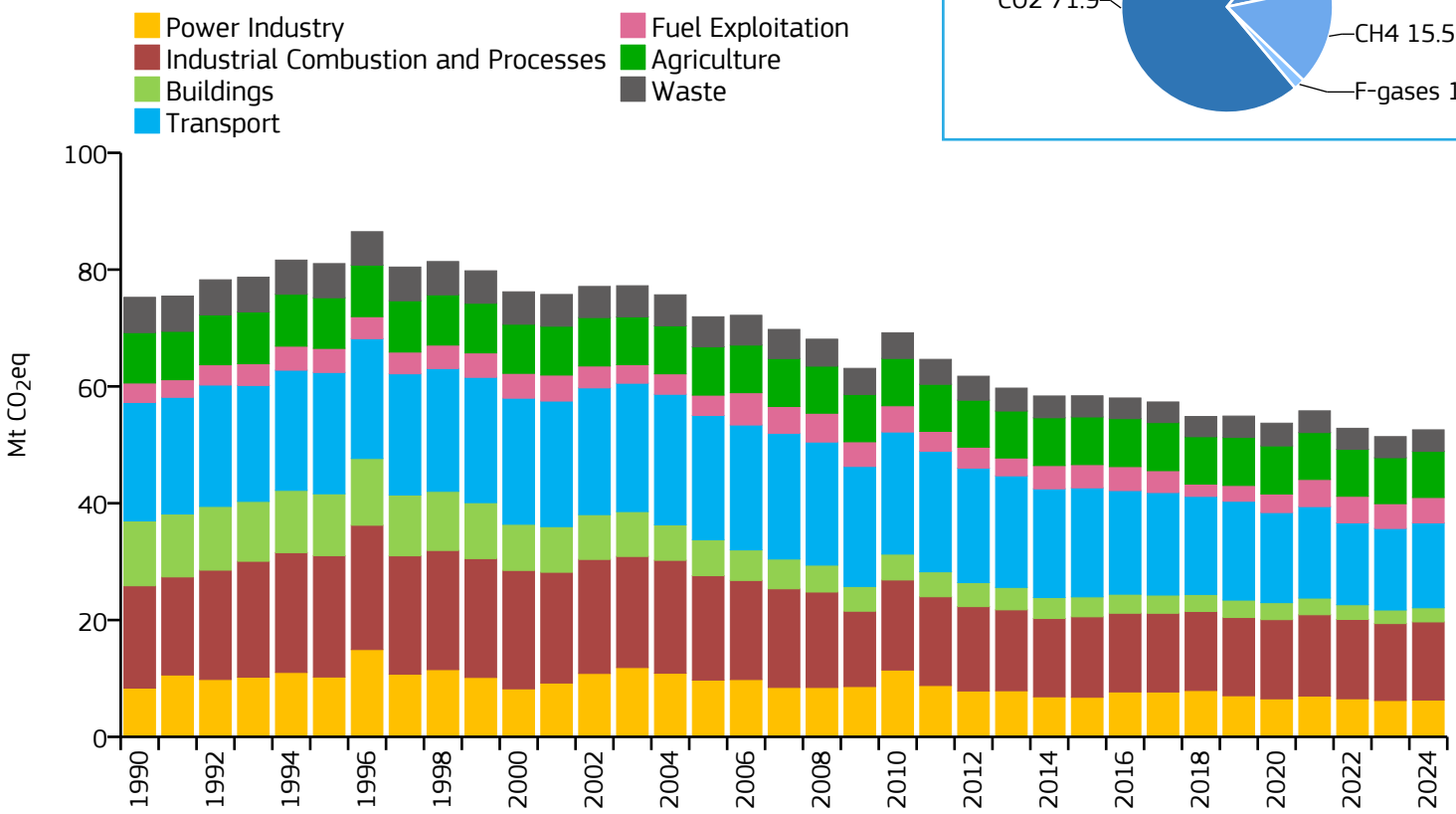
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	3.667	6.162	0.297	595.000k
2015	3.923	7.092	0.289	553.208k
2005	2.605	5.220	0.261	498.946k
1990	2.213	5.432	0.313	407.472k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+157%	+22%	0%
Industrial Combustion and Processes	-78%	+40%	+3%
Buildings	> +300%	+52%	+4%
Transport	> +300%	+94%	+4%
Fuel Exploitation	+269%	+47%	+2%
Agriculture	-19%	+10%	+1%
Waste	+55%	+22%	+1%
All sectors	+66%	+41%	+2%

Sweden



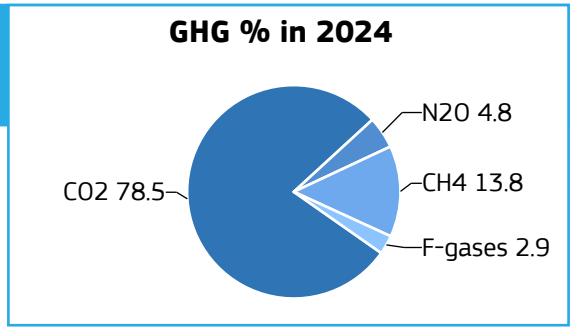
GHG emissions by sector



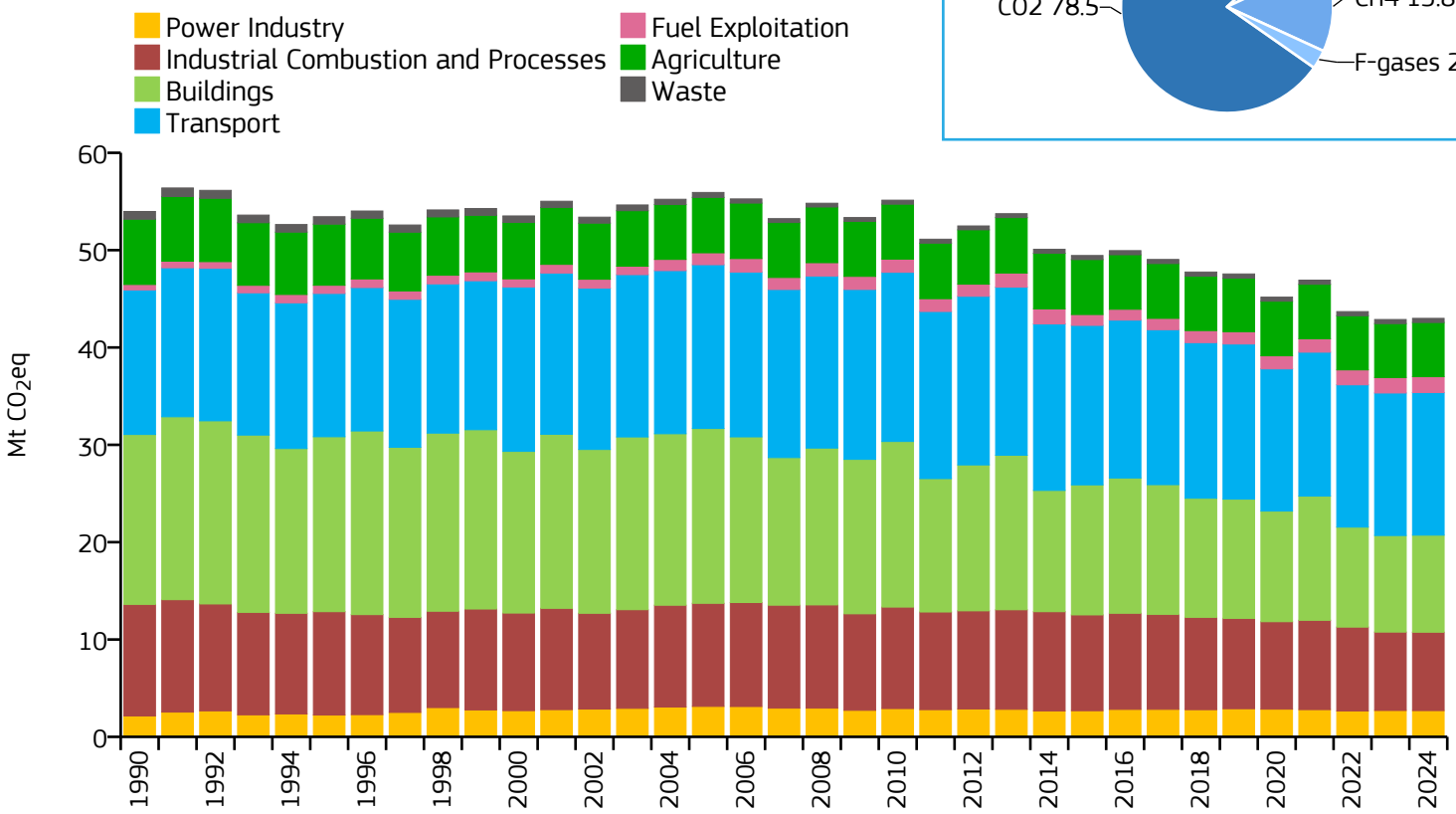
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	52.566	5.066	0.079	10.376M
2015	58.391	5.980	0.101	9.764M
2005	71.924	7.957	0.150	9.039M
1990	75.252	8.784	0.219	8.567M

	2024 vs 1990		2024 vs 2005		2024 vs 2023	
Power Industry	↘	-25%	↘	-35%	→	+1%
Industrial Combustion and Processes	↘	-24%	↘	-25%	→	+2%
Buildings	↘	-78%	↘	-61%	→	+4%
Transport	↘	-28%	↘	-32%	→	+4%
Fuel Exploitation	↗	+30%	↗	+25%	→	+2%
Agriculture	↘	-9%	→	-5%	→	0%
Waste	↘	-39%	↘	-28%	→	+2%
All sectors	↘	-30%	↘	-27%	→	+2%

Switzerland and Liechtenstein



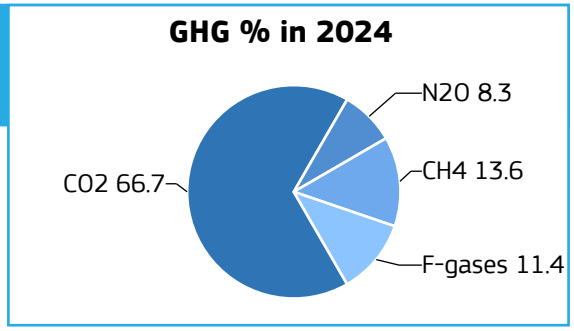
GHG emissions by sector



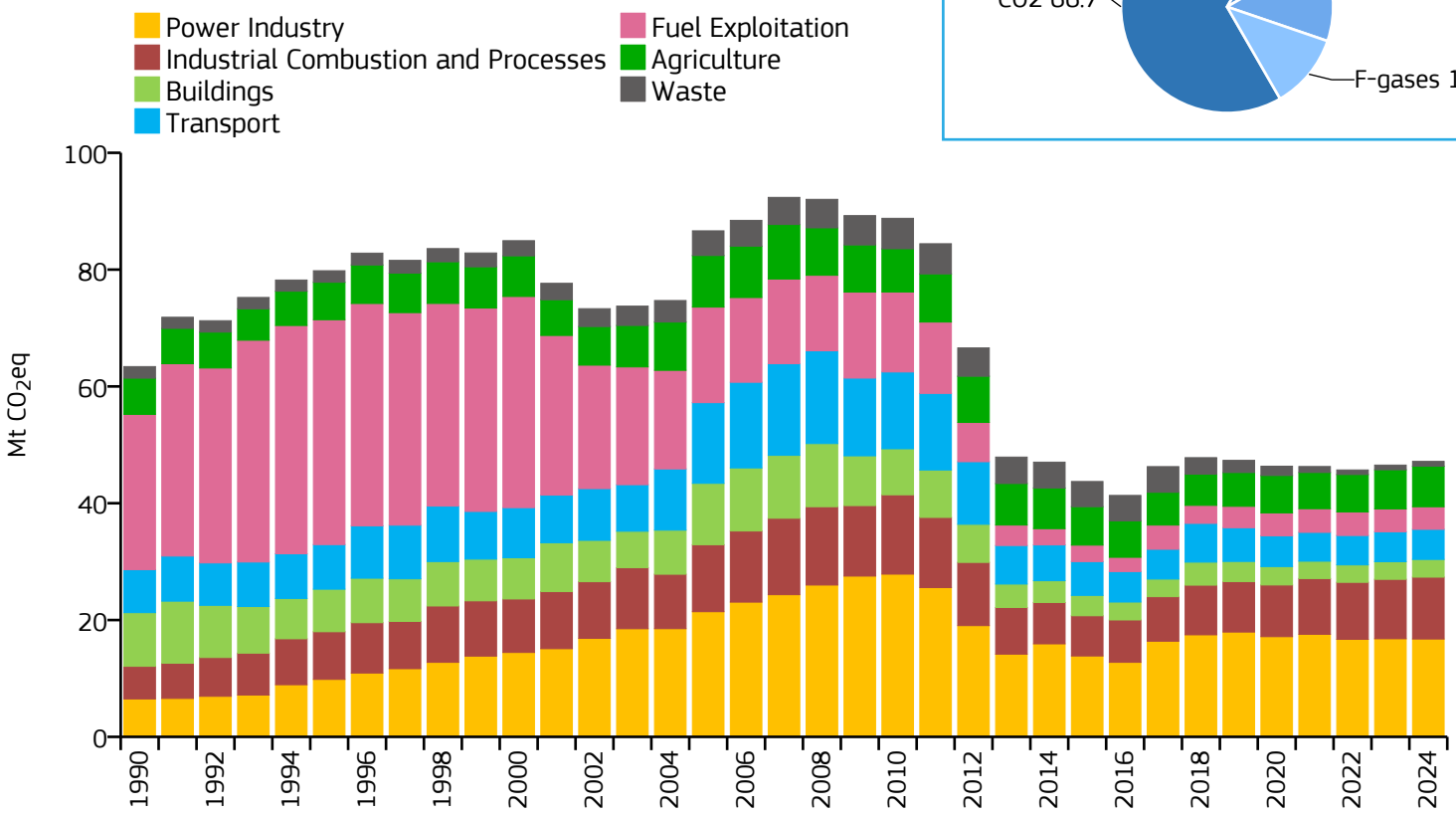
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	42.992	4.830	0.058	8.901M
2015	49.448	5.943	0.078	8.320M
2005	55.929	7.547	0.108	7.410M
1990	53.974	8.086	0.126	6.675M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+26%	-14%	0%
Industrial Combustion and Processes	-30%	-24%	0%
Buildings	-43%	-45%	+1%
Transport	-1%	-13%	0%
Fuel Exploitation	+192%	+33%	+2%
Agriculture	-17%	-2%	+1%
Waste	-47%	-16%	0%
All sectors	-20%	-23%	0%

Syria



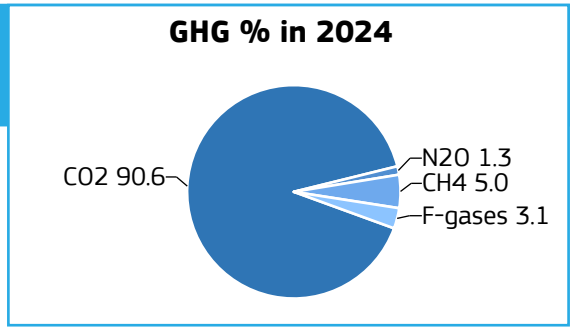
GHG emissions by sector



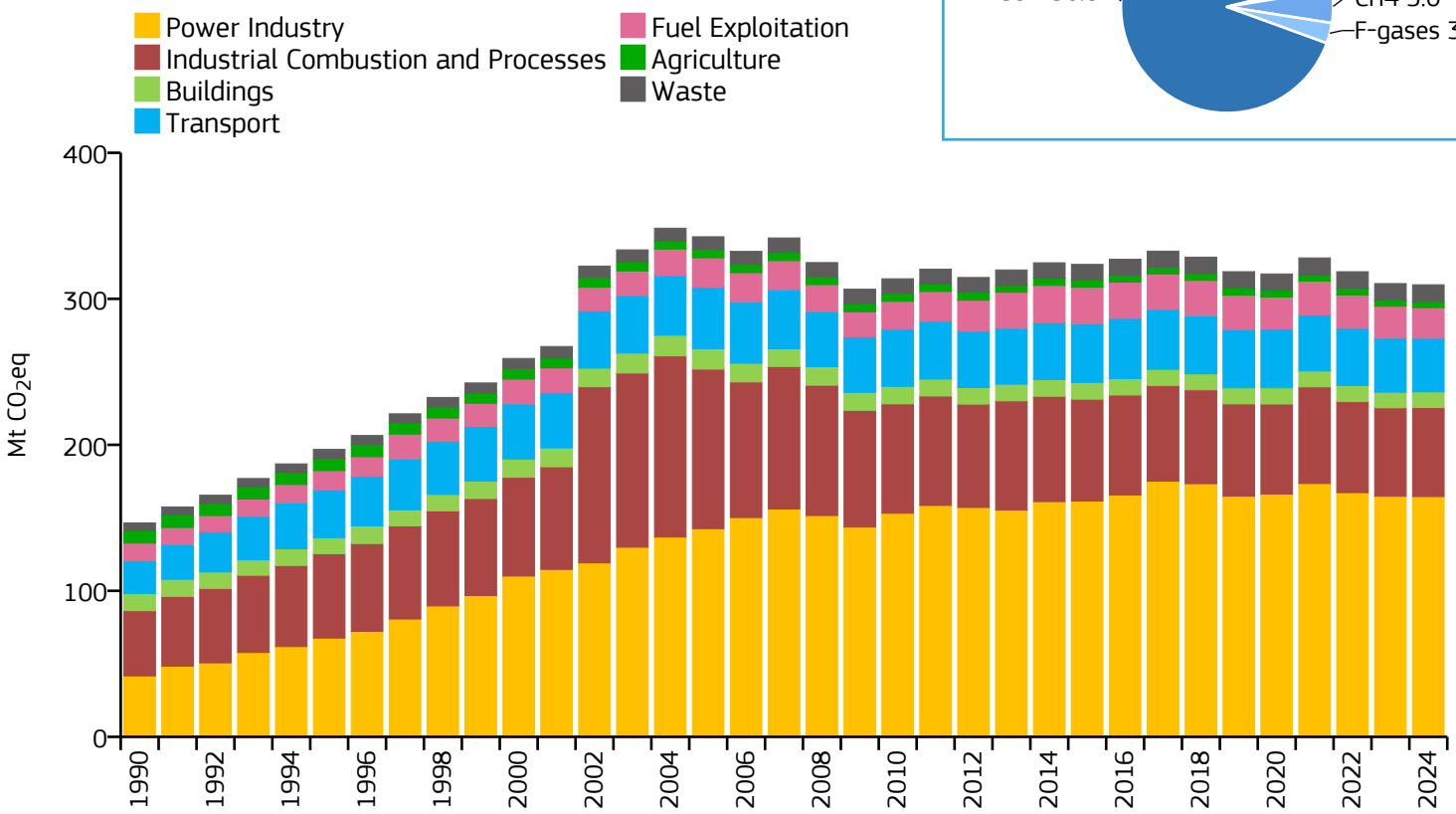
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	47.166	2.097	0.477	22.488M
2015	43.720	2.334	0.425	18.735M
2005	86.642	4.736	0.522	18.295M
1990	63.399	5.094	0.865	12.446M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+158%	-22%	0%
Industrial Combustion and Processes	+90%	-8%	+4%
Buildings	-67%	-71%	+1%
Transport	-30%	-63%	+1%
Fuel Exploitation	-85%	-76%	-1%
Agriculture	+12%	-21%	+4%
Waste	-59%	-81%	+2%
All sectors	-26%	-46%	+1%

Taiwan



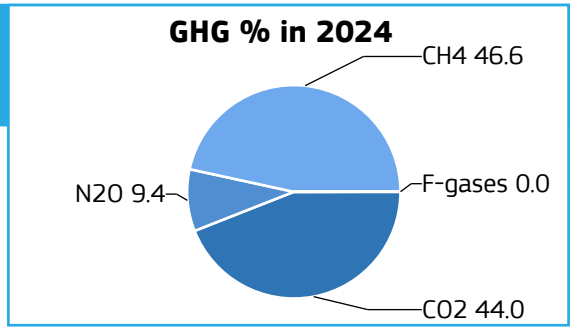
GHG emissions by sector



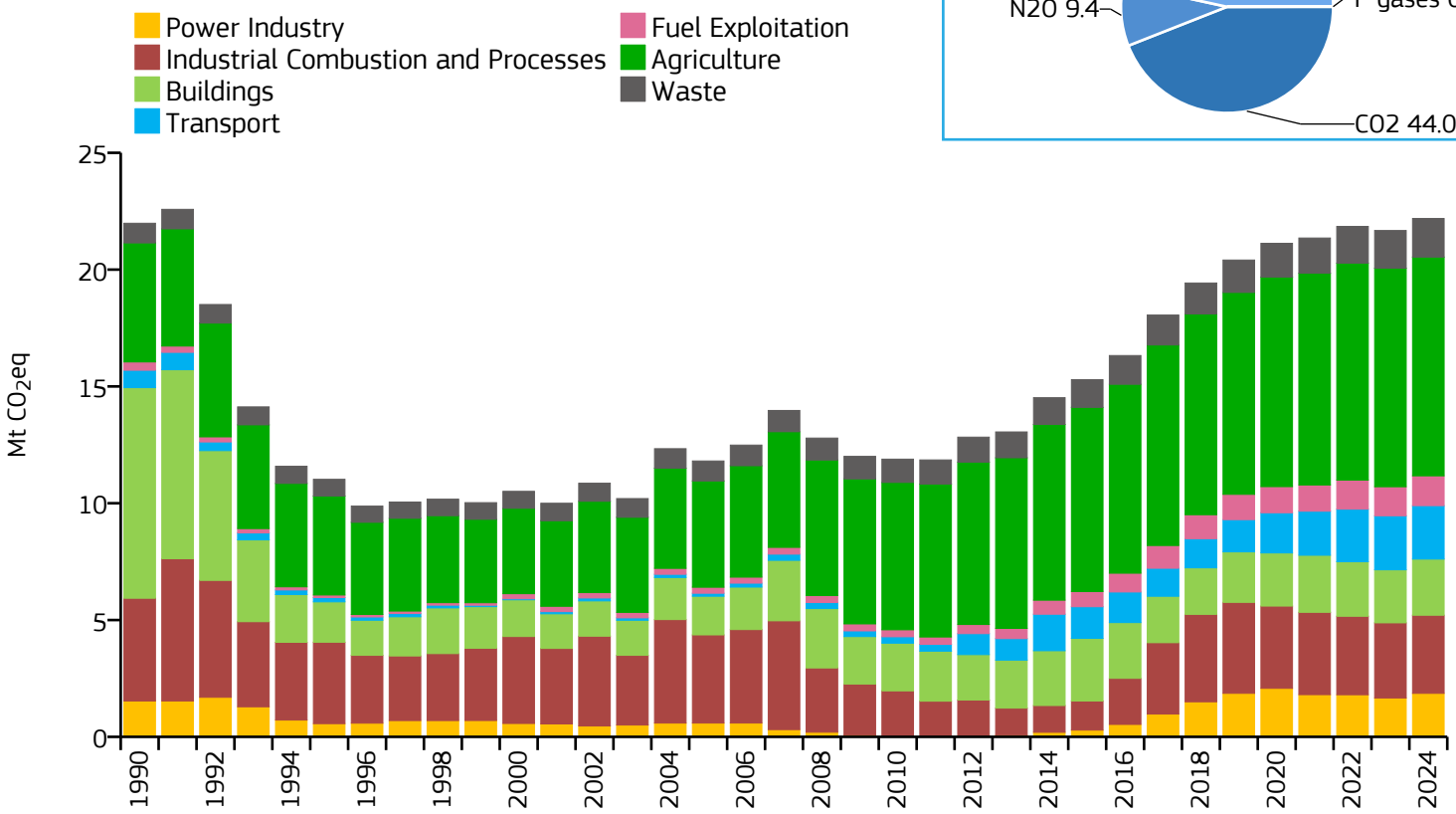
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	309.612	12.896	0.186	24.009M
2015	323.559	13.777	0.259	23.486M
2005	342.502	15.153	0.391	22.603M
1990	146.523	7.214	0.391	20.312M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +294%	↗ +15%	→ 0%
Industrial Combustion and Processes	↗ +36%	↘ -44%	→ +1%
Buildings	↘ -9%	↘ -23%	→ +1%
Transport	↗ +65%	↘ -12%	→ -1%
Fuel Exploitation	↗ +70%	→ +3%	→ -4%
Agriculture	↘ -50%	↘ -26%	→ +2%
Waste	↗ +112%	↗ +31%	→ +1%
All sectors	↗ +111%	↘ -10%	→ 0%

Tajikistan



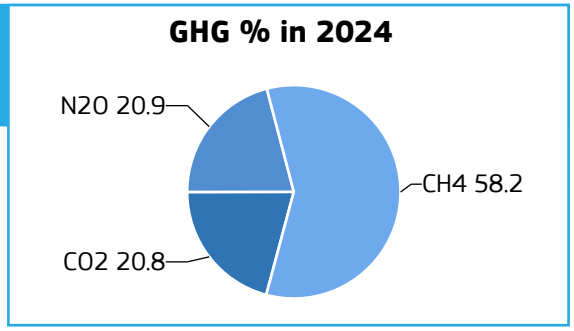
GHG emissions by sector



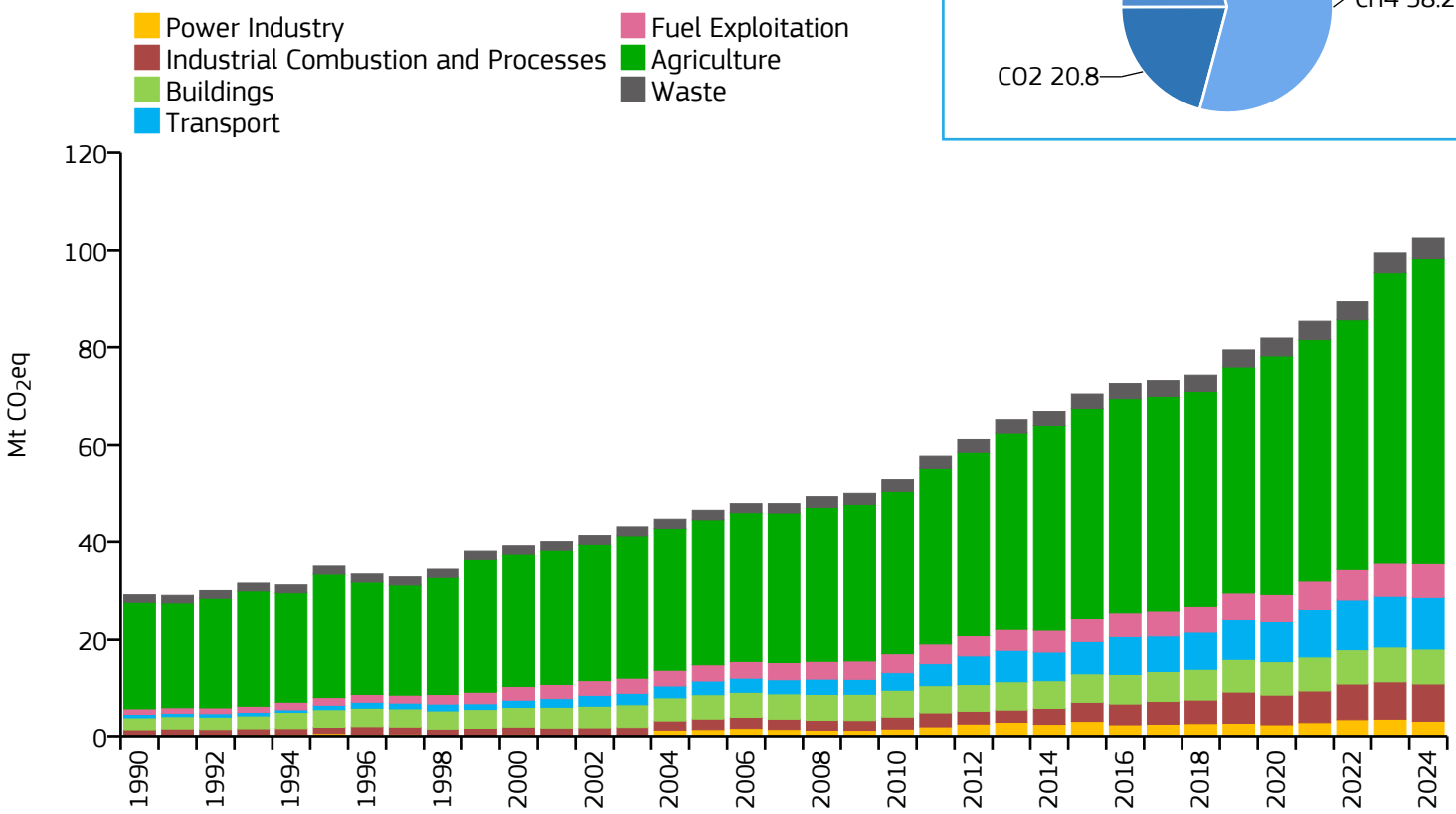
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	22.189	2.178	0.441	10.188M
2015	15.288	1.788	0.582	8.549M
2005	11.809	1.723	0.868	6.854M
1990	21.985	4.161	0.976	5.284M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +21%	↗ +215%	↗ +12%
Industrial Combustion and Processes	↘ -24%	↘ -11%	→ +4%
Buildings	↘ -73%	↗ +45%	↗ +6%
Transport	↗ +207%	↗ > +300%	→ -1%
Fuel Exploitation	↗ +260%	↗ > +300%	→ +3%
Agriculture	↗ +84%	↗ +106%	→ 0%
Waste	↗ +96%	↗ +93%	→ +3%
All sectors	→ +1%	↗ +88%	→ +2%

Tanzania



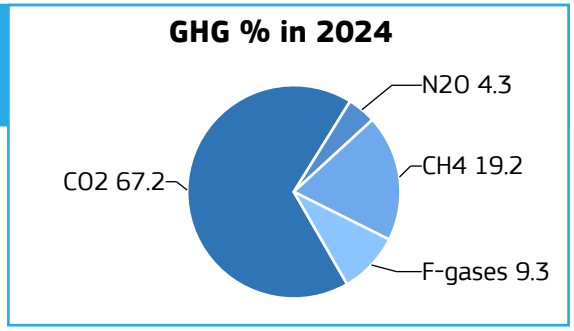
GHG emissions by sector



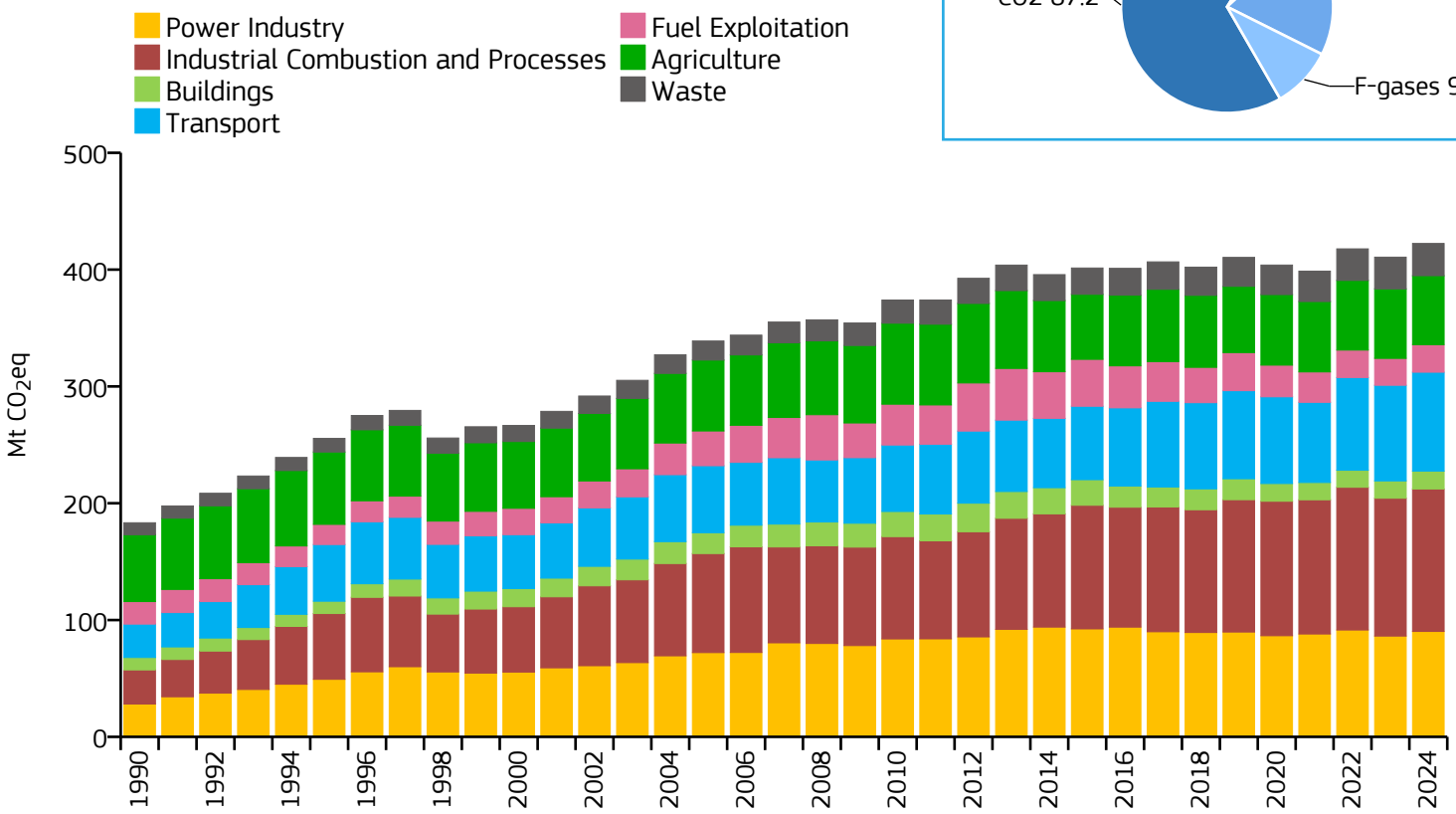
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	102.525	1.452	0.416	70.613M
2015	70.416	1.307	0.448	53.880M
2005	46.441	1.178	0.542	39.410M
1990	29.197	1.147	0.641	25.460M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+126%	-12%
Industrial Combustion and Processes	> +300%	+263%	0%
Buildings	+191%	+37%	0%
Transport	> +300%	+277%	+2%
Fuel Exploitation	> +300%	+109%	+2%
Agriculture	+188%	+112%	+5%
Waste	+170%	+113%	+3%
All sectors	+251%	+121%	+3%

Thailand



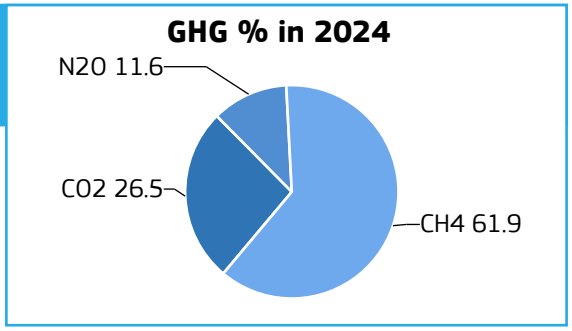
GHG emissions by sector



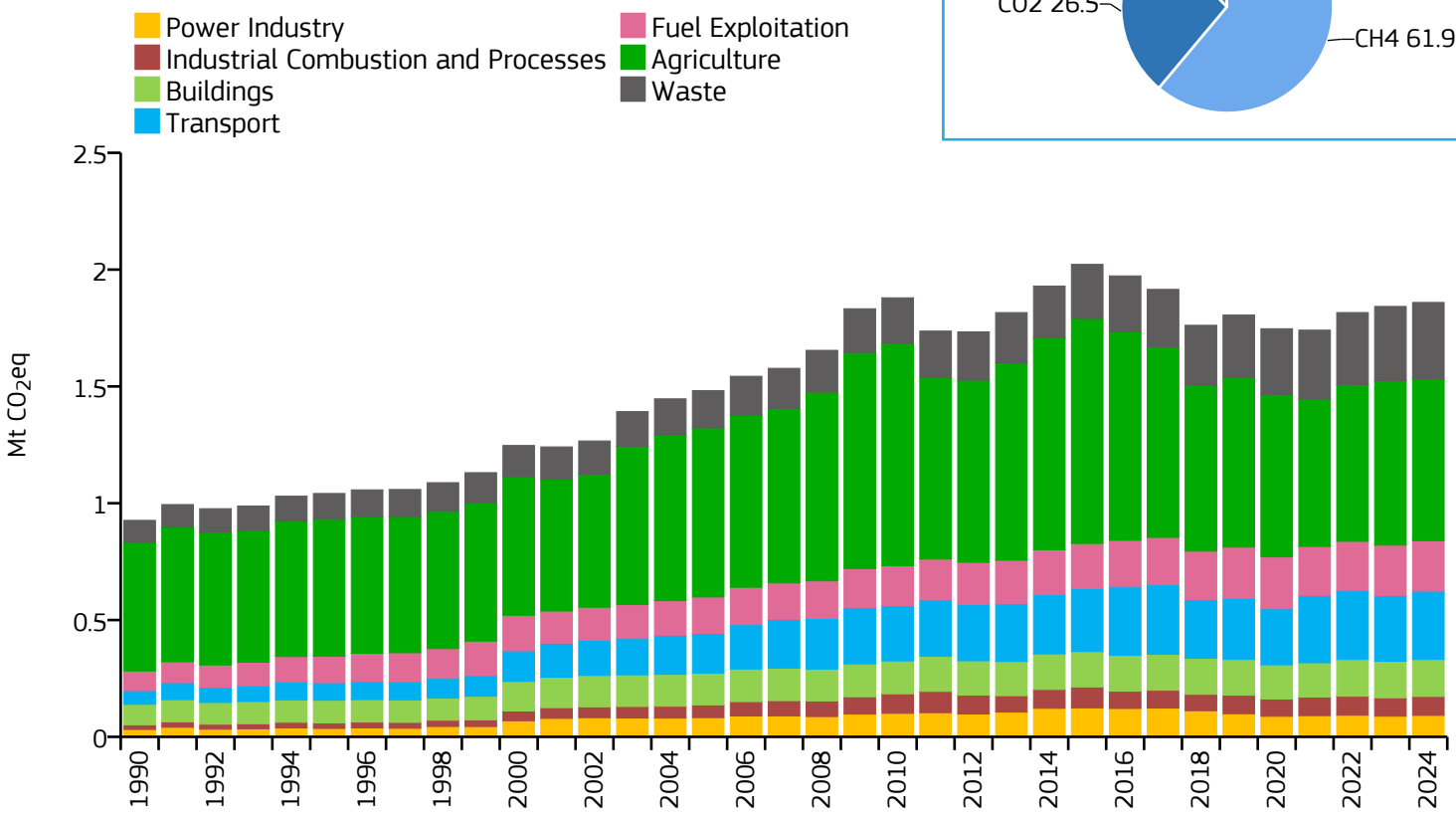
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	422.387	6.064	0.271	69.660M
2015	401.383	5.846	0.302	68.658M
2005	338.872	5.180	0.355	65.425M
1990	183.282	3.239	0.385	56.583M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +221%	↗ +25%	→ +5%
Industrial Combustion and Processes	↗ > +300%	↗ +44%	→ +3%
Buildings	↗ +44%	↘ -14%	→ +3%
Transport	↗ +196%	↗ +48%	→ +3%
Fuel Exploitation	↗ +22%	↘ -21%	→ +3%
Agriculture	→ +3%	→ -3%	→ -1%
Waste	↗ +169%	↗ +69%	→ +2%
All sectors	↗ +130%	↗ +25%	→ +3%

The Gambia



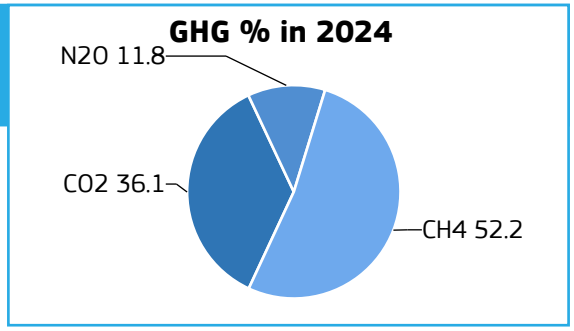
GHG emissions by sector



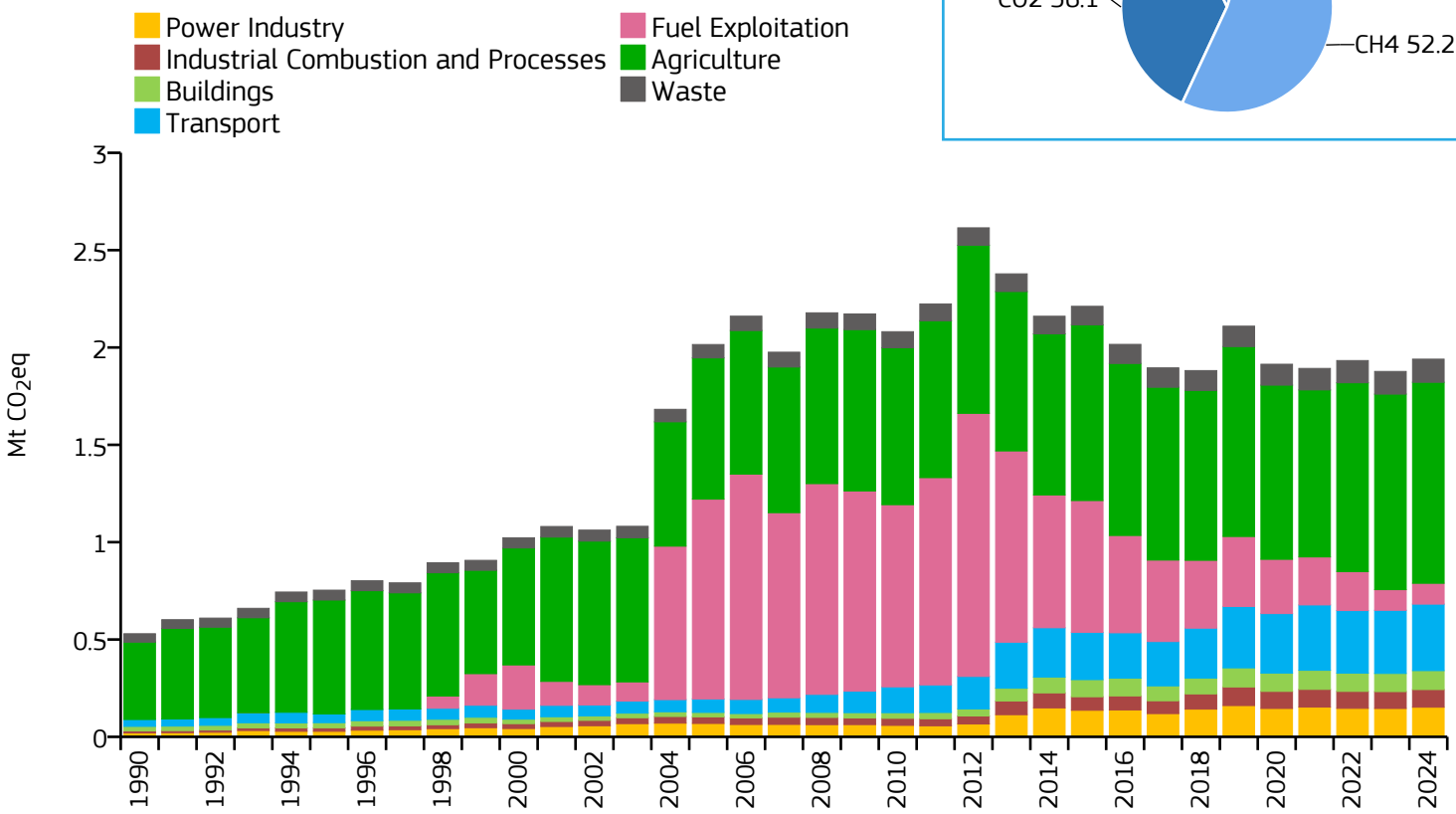
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.860	0.725	0.222	2.566M
2015	2.022	1.023	0.364	1.978M
2005	1.482	1.026	0.335	1.444M
1990	0.927	1.011	0.331	916.808k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+191%	+11%	+4%
Industrial Combustion and Processes	> +300%	+49%	+3%
Buildings	+81%	+17%	+1%
Transport	> +300%	+72%	+4%
Fuel Exploitation	+156%	+38%	0%
Agriculture	+26%	-4%	-2%
Waste	+253%	+106%	+3%
All sectors	+101%	+25%	+1%

Timor-Leste



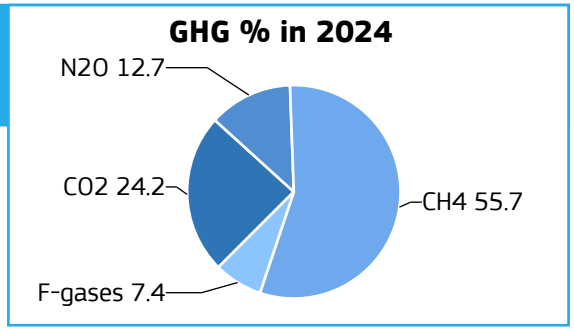
GHG emissions by sector



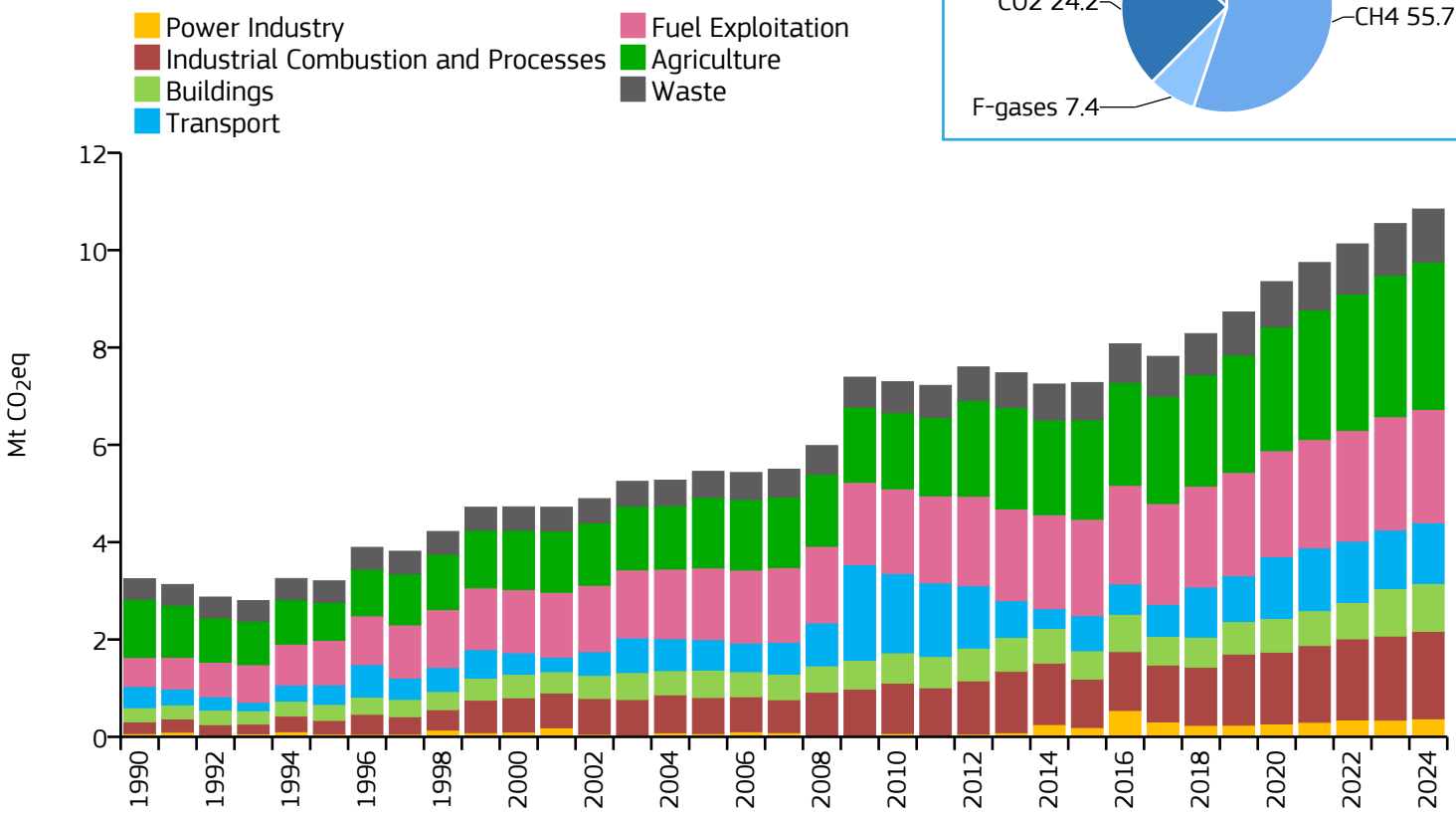
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	1.940	1.290	0.311	1.504M
2015	2.211	1.782	0.411	1.241M
2005	2.015	1.963	0.651	1.026M
1990	0.530	0.704	0.325	751.933k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+121%	+5%
Industrial Combustion and Processes	> +300%	+167%	+4%
Buildings	> +300%	> +300%	+4%
Transport	> +300%	> +300%	+5%
Fuel Exploitation	n/a	-90%	+1%
Agriculture	+160%	+42%	+3%
Waste	+175%	+73%	+2%
All sectors	+266%	-4%	+3%

Togo



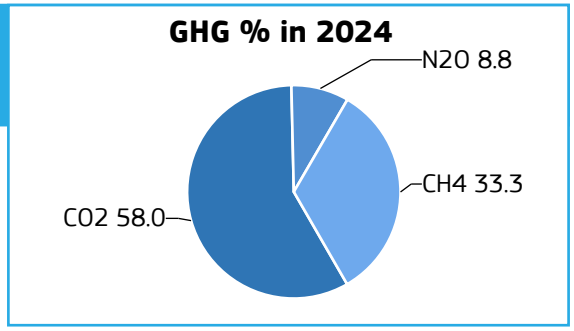
GHG emissions by sector



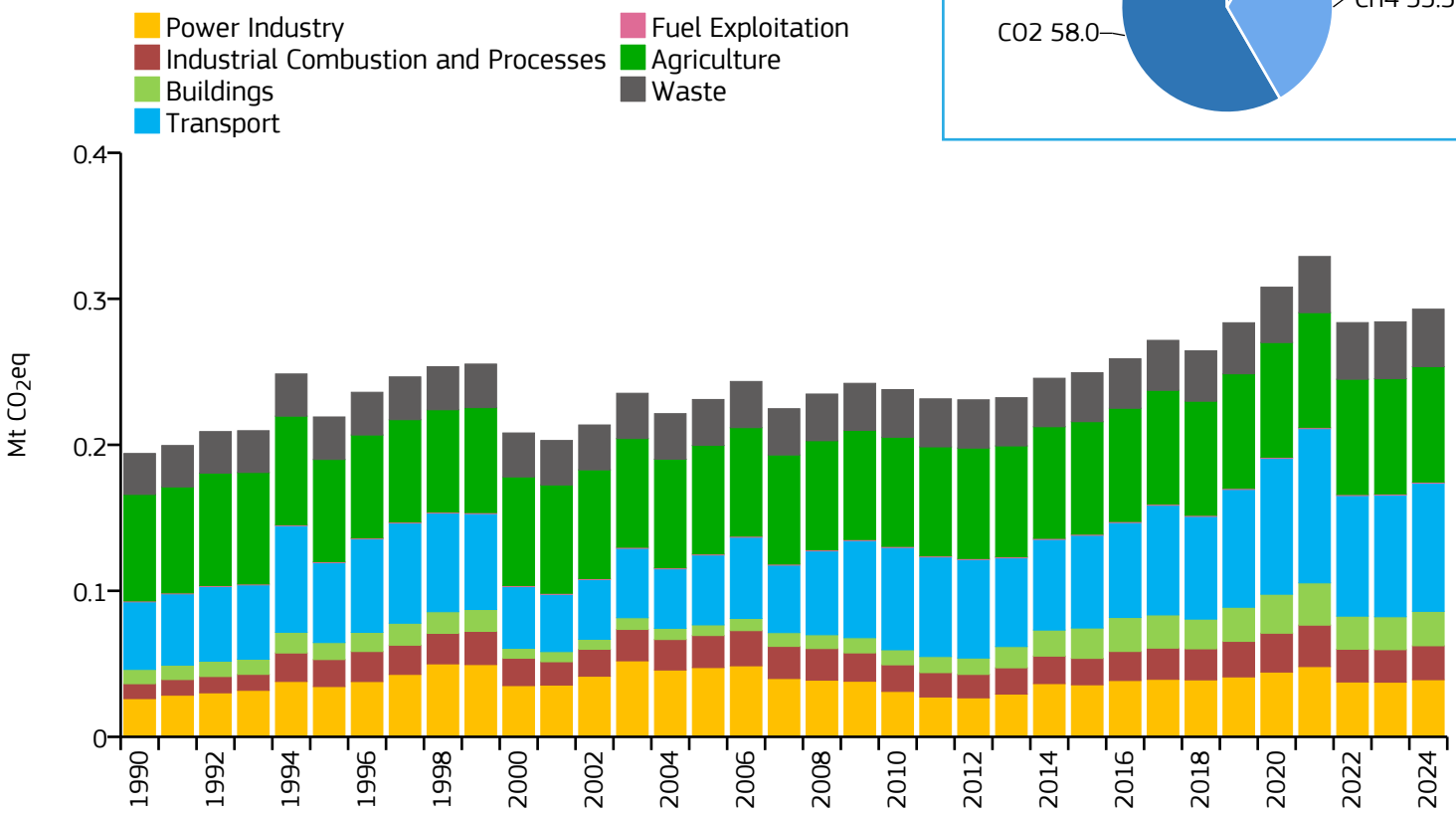
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	10.844	1.179	0.400	9.200M
2015	7.280	0.982	0.410	7.417M
2005	5.455	0.960	0.480	5.683M
1990	3.249	0.858	0.374	3.787M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	↗ +9%
Industrial Combustion and Processes	↗ > +300%	↗ +143%	→ +4%
Buildings	↗ +237%	↗ +74%	→ +1%
Transport	↗ +188%	↗ +100%	→ +4%
Fuel Exploitation	↗ +290%	↗ +58%	→ 0%
Agriculture	↗ +153%	↗ +109%	→ +4%
Waste	↗ +157%	↗ +103%	→ +3%
All sectors	↗ +234%	↗ +99%	→ +3%

Tonga



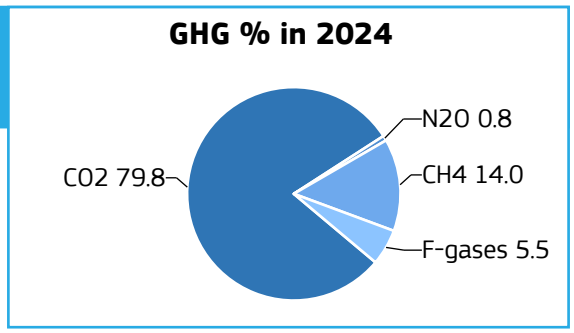
GHG emissions by sector



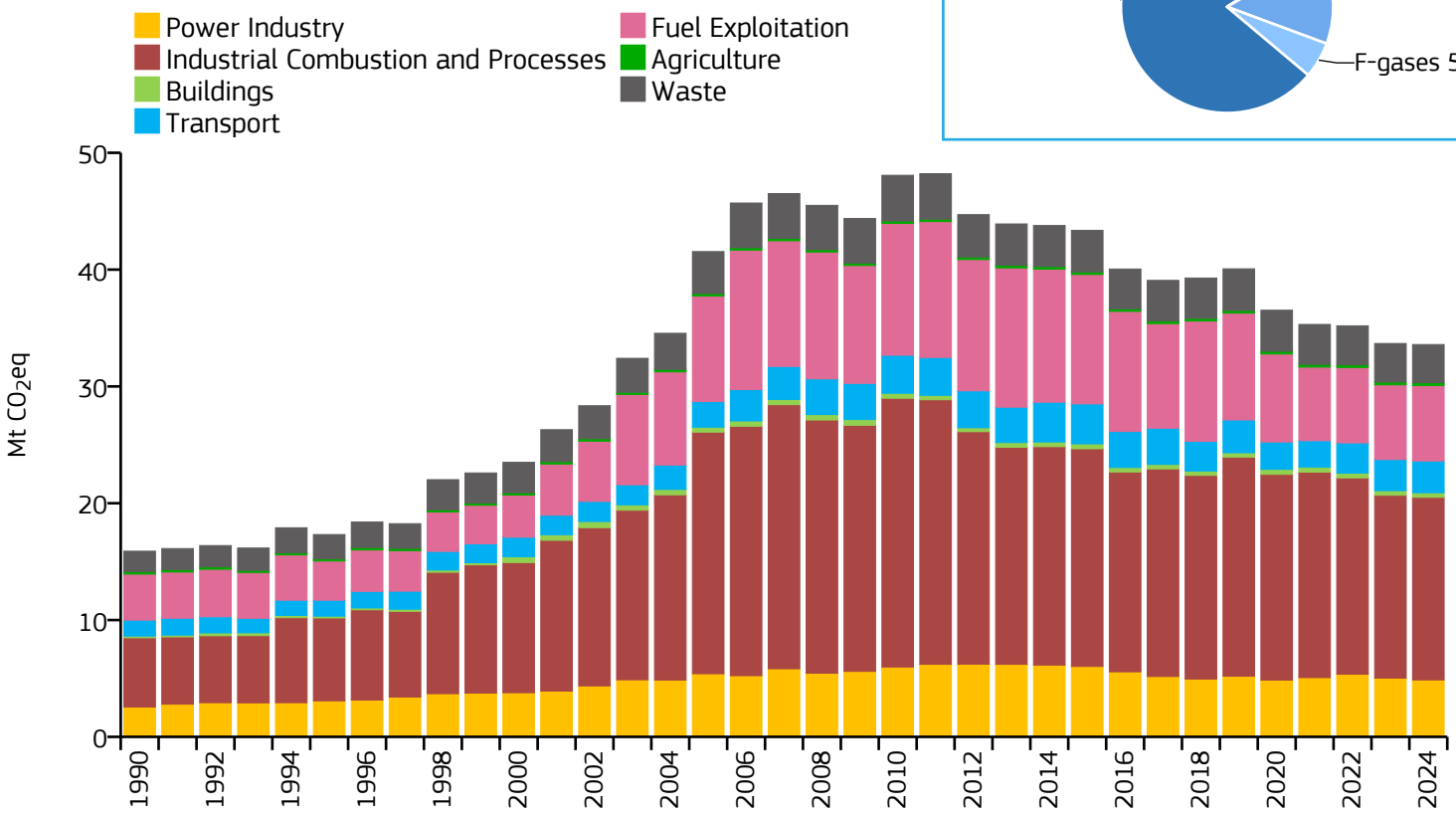
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.293	2.547	0.388	115.000k
2015	0.249	2.344	0.379	106.364k
2005	0.231	2.287	0.375	101.041k
1990	0.194	2.040	0.434	95.153k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+49%	-17%	+5%
Industrial Combustion and Processes	+127%	+6%	+4%
Buildings	+141%	+222%	+5%
Transport	+90%	+83%	+5%
Fuel Exploitation	+15%	-1%	0%
Agriculture	+8%	+6%	0%
Waste	+40%	+25%	+1%
All sectors	+51%	+27%	+3%

Trinidad and Tobago



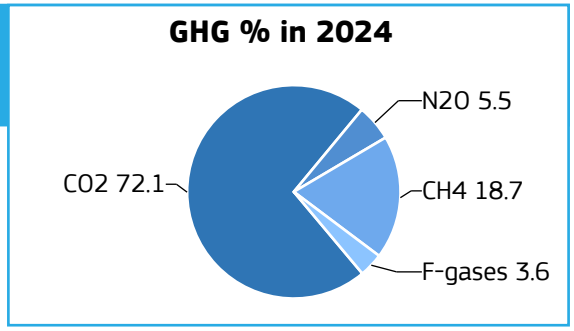
GHG emissions by sector



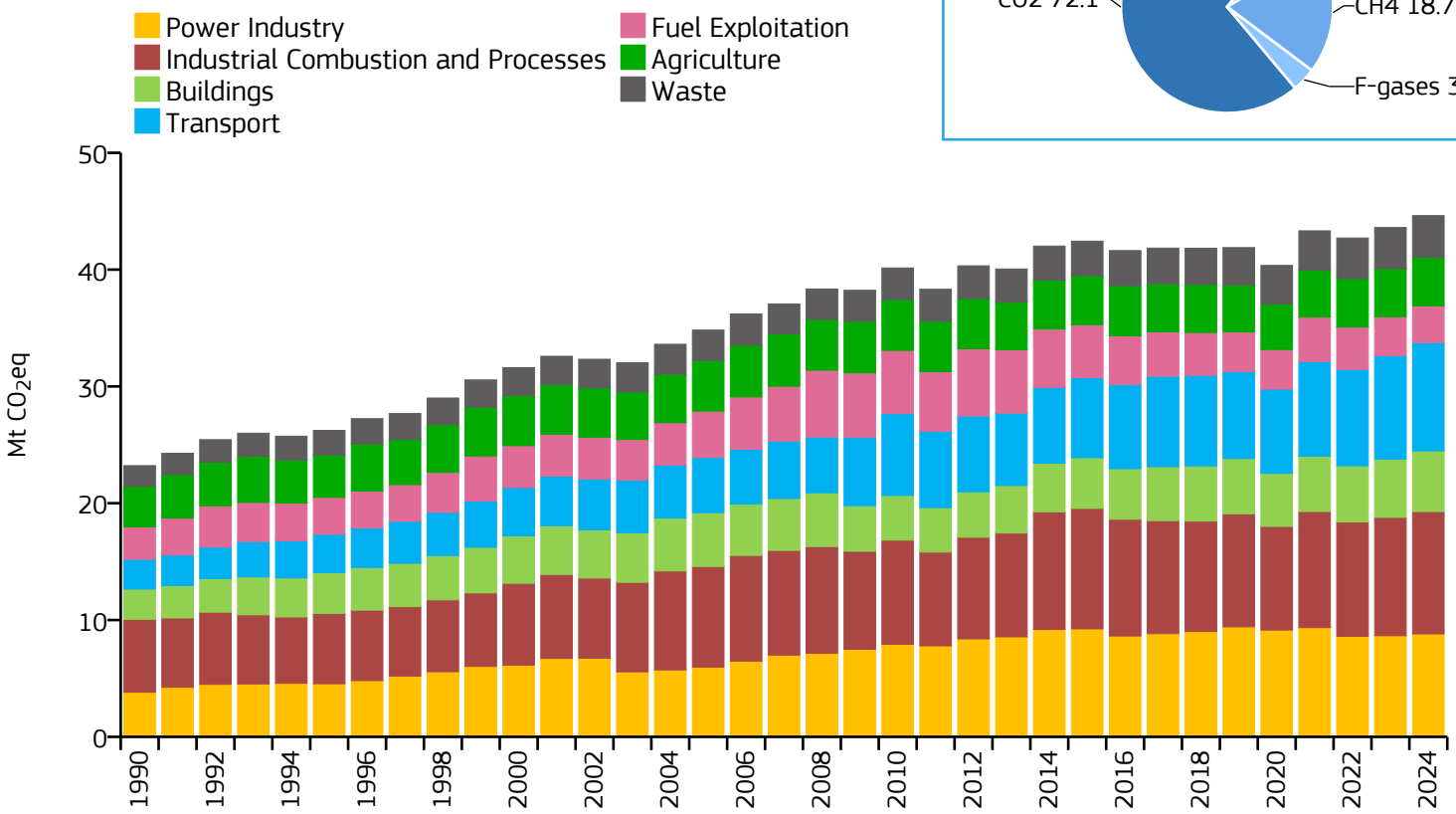
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	33.587	24.320	0.776	1.381M
2015	43.362	31.882	0.825	1.360M
2005	41.542	32.031	1.085	1.297M
1990	15.894	13.008	1.068	1.222M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+91%	-10%	-3%
Industrial Combustion and Processes	+164%	-24%	0%
Buildings	+170%	-7%	0%
Transport	+98%	+24%	+2%
Fuel Exploitation	+64%	-29%	+1%
Agriculture	+13%	+16%	+1%
Waste	+87%	-9%	-1%
All sectors	+111%	-19%	0%

Tunisia



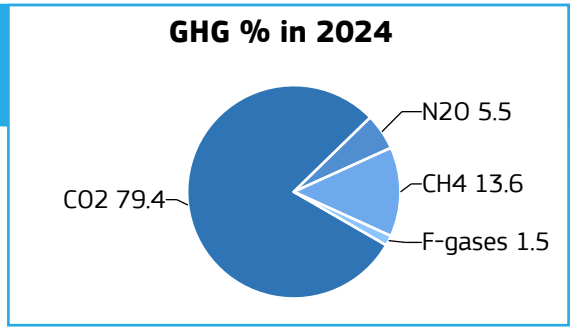
GHG emissions by sector



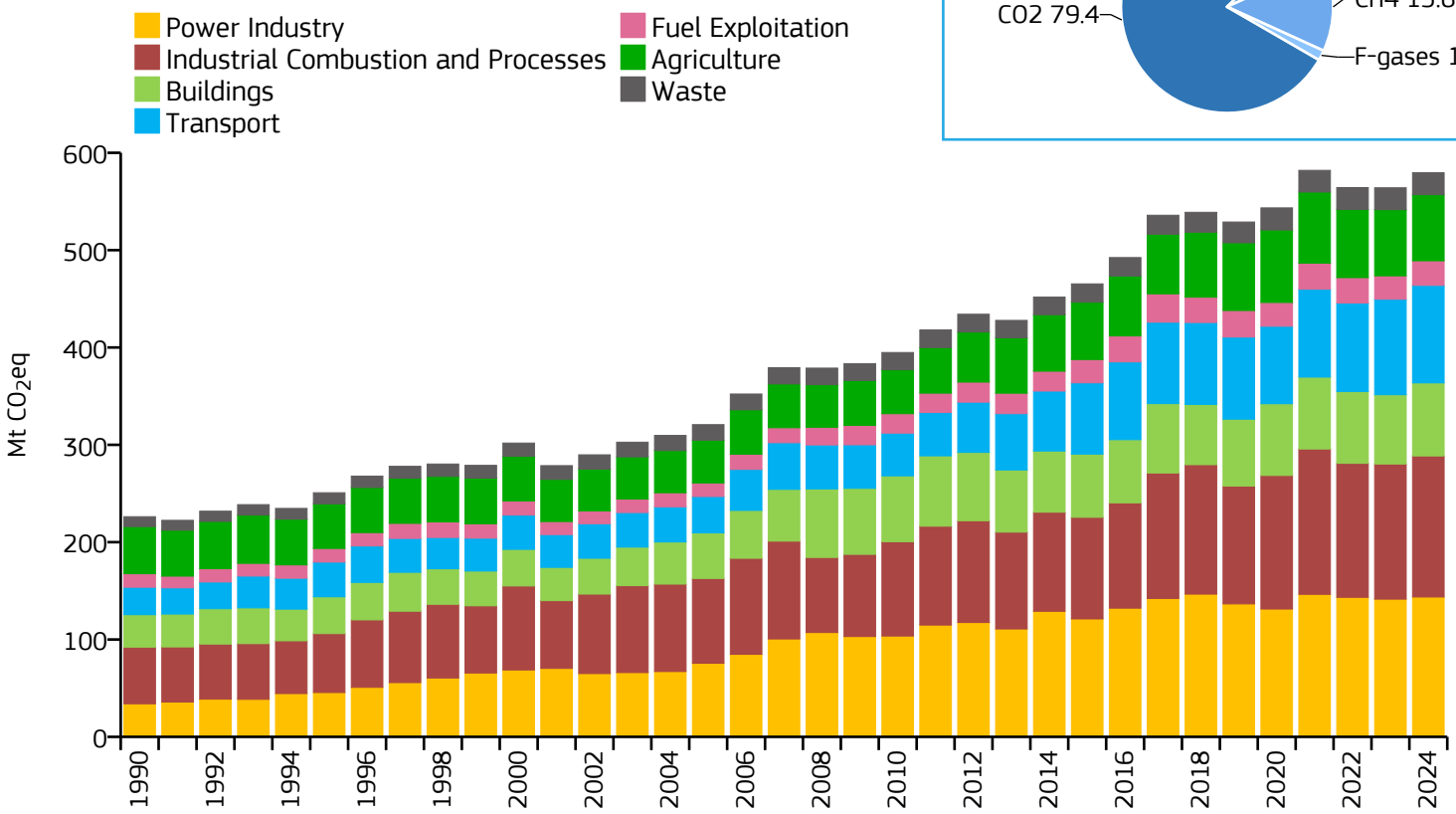
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	44.621	3.617	0.286	12.335M
2015	42.436	3.764	0.291	11.274M
2005	34.824	3.447	0.322	10.102M
1990	23.218	2.820	0.414	8.233M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+131%	+48%	+2%
Industrial Combustion and Processes	+68%	+22%	+3%
Buildings	+101%	+13%	+4%
Transport	+263%	+96%	+5%
Fuel Exploitation	+14%	-21%	-5%
Agriculture	+19%	-4%	+1%
Waste	+102%	+37%	+1%
All sectors	+92%	+28%	+2%

Türkiye



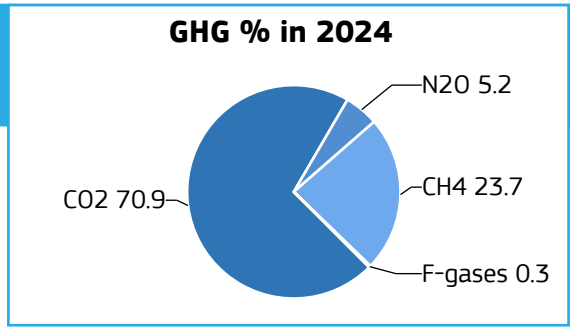
GHG emissions by sector



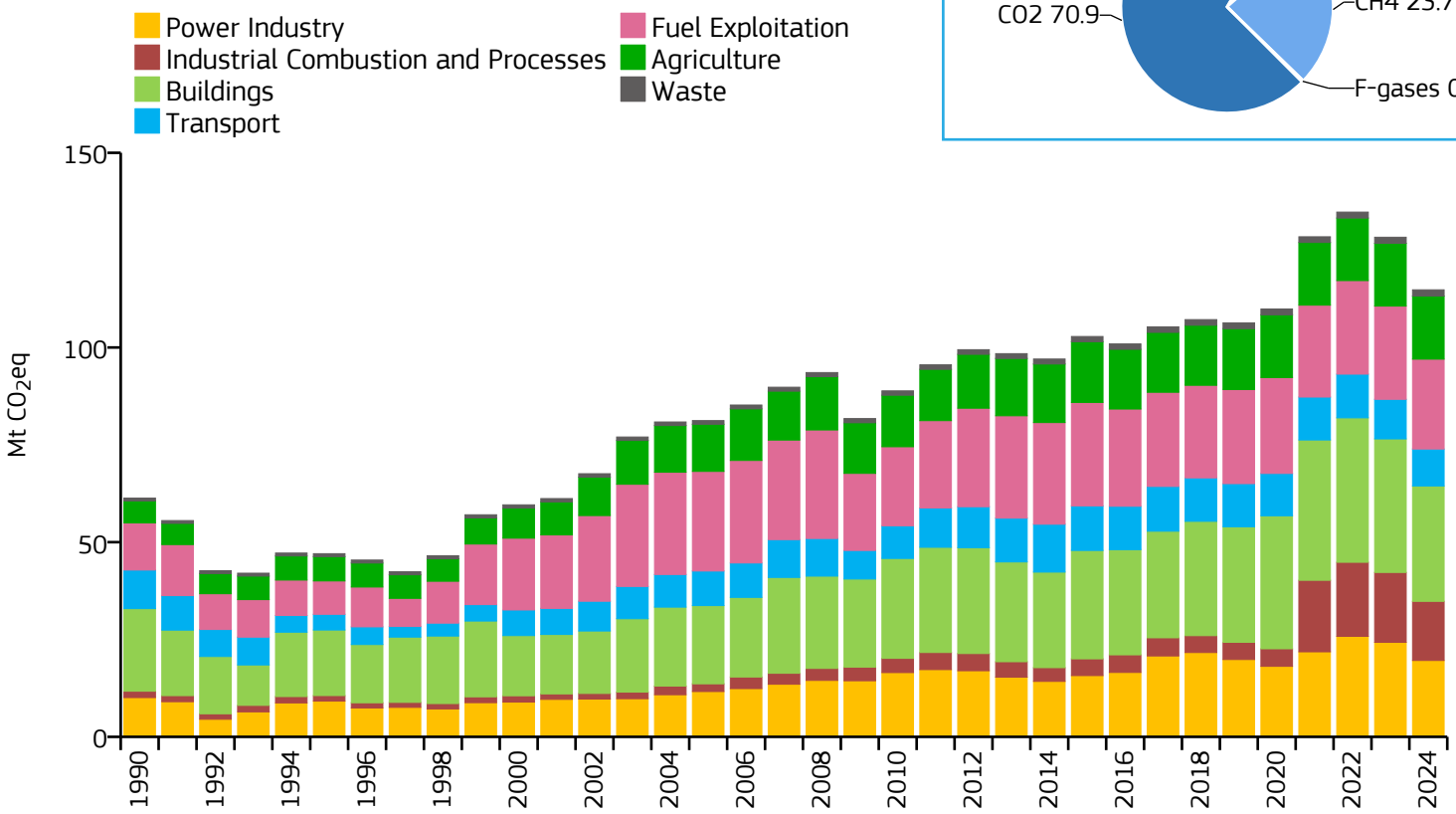
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	579.507	6.758	0.192	85.752M
2015	465.348	5.945	0.231	78.272M
2005	320.730	4.723	0.262	67.903M
1990	226.178	4.195	0.336	53.922M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+90%	+2%
Industrial Combustion and Processes	+149%	+66%	+4%
Buildings	+125%	+60%	+5%
Transport	+255%	+168%	+2%
Fuel Exploitation	+81%	+81%	+5%
Agriculture	+40%	+55%	0%
Waste	+121%	+41%	0%
All sectors	+156%	+81%	+3%

Turkmenistan



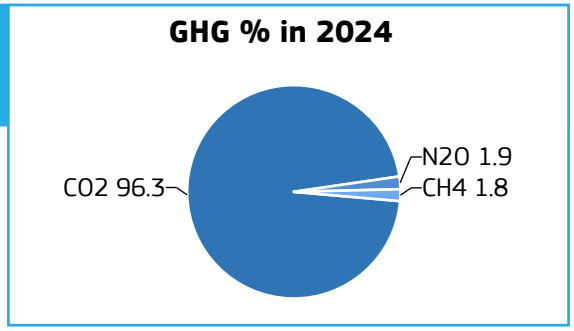
GHG emissions by sector



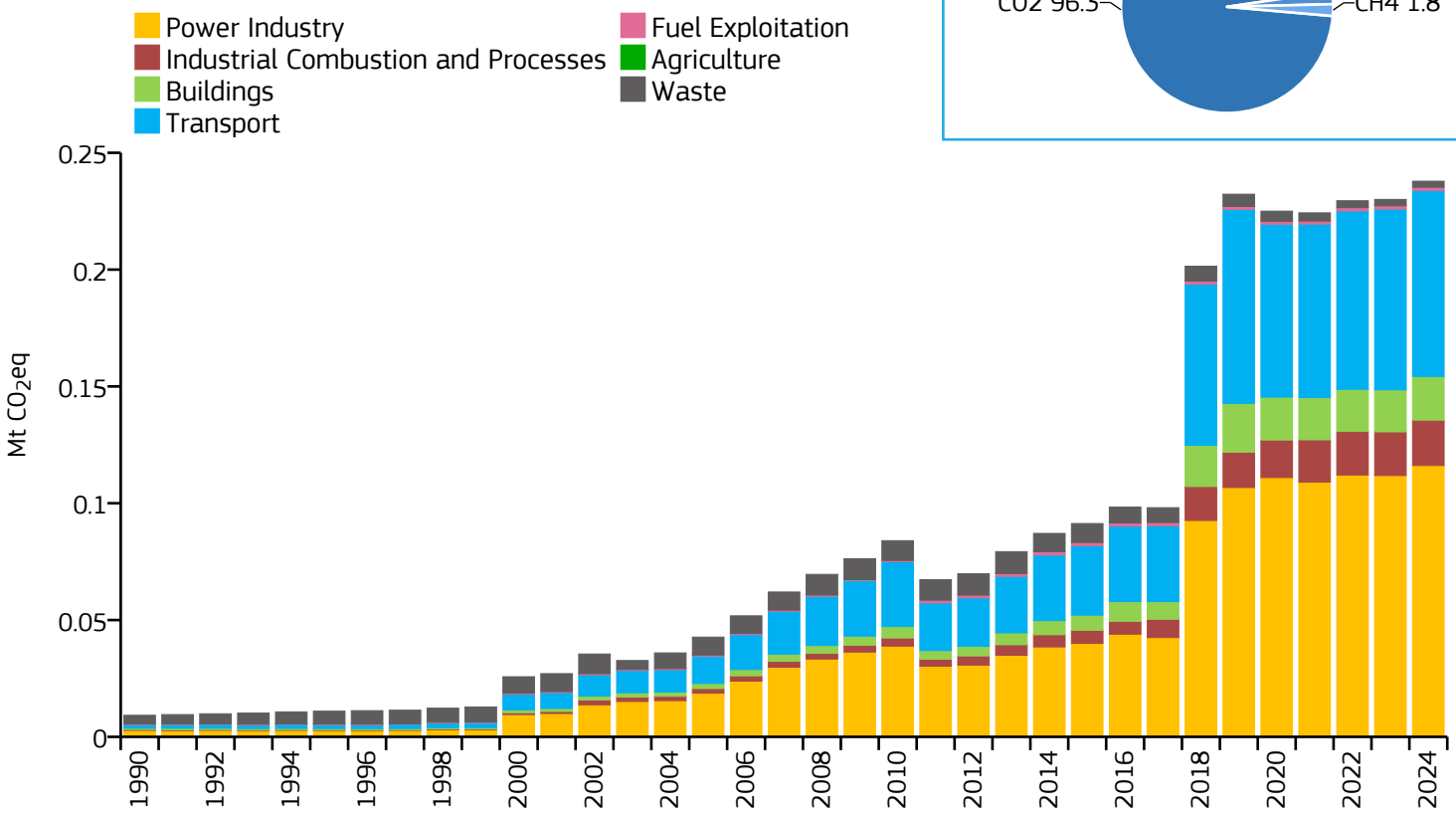
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	114.812	18.061	0.853	6.357M
2015	102.824	18.476	1.267	5.565M
2005	81.222	17.083	2.704	4.755M
1990	61.318	16.645	2.057	3.684M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+94%	+69%	-19%
Industrial Combustion and Processes	> +300%	> +300%	-15%
Buildings	+40%	+48%	-14%
Transport	-4%	+7%	-7%
Fuel Exploitation	+91%	-10%	-4%
Agriculture	+186%	+34%	+1%
Waste	+123%	+71%	+2%
All sectors	+87%	+41%	-11%

Turks and Caicos Islands



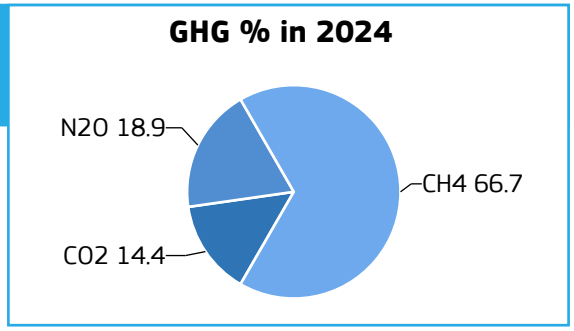
GHG emissions by sector



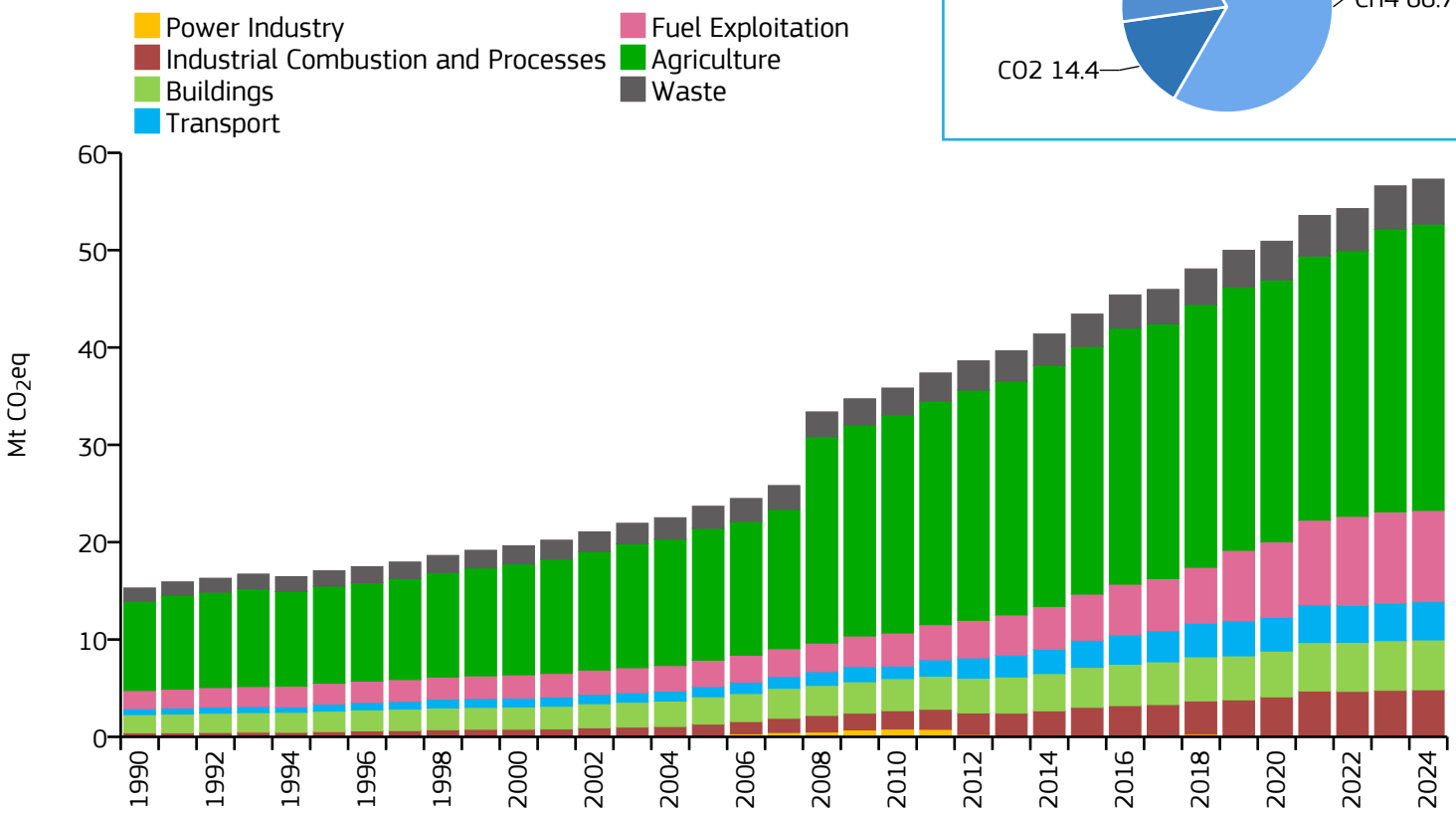
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.238	6.099	0.162	39.000k
2015	0.091	2.659	0.145	34.339k
2005	0.043	1.614	0.093	26.448k
1990	0.009	0.798	0.074	11.552k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+4%
Industrial Combustion and Processes	> +300%	> +300%	+4%
Buildings	> +300%	> +300%	+4%
Transport	> +300%	> +300%	+3%
Fuel Exploitation	> +300%	+190%	0%
Agriculture	n/a	n/a	n/a
Waste	-31%	-67%	-6%
All sectors	> +300%	> +300%	+3%

Uganda



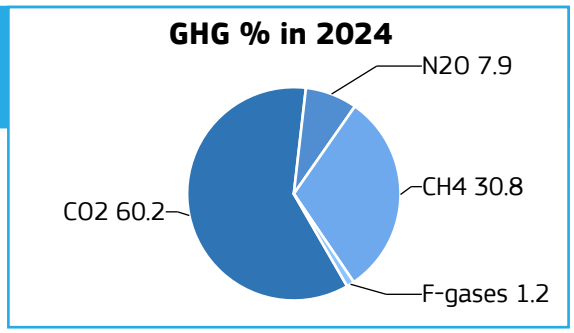
GHG emissions by sector



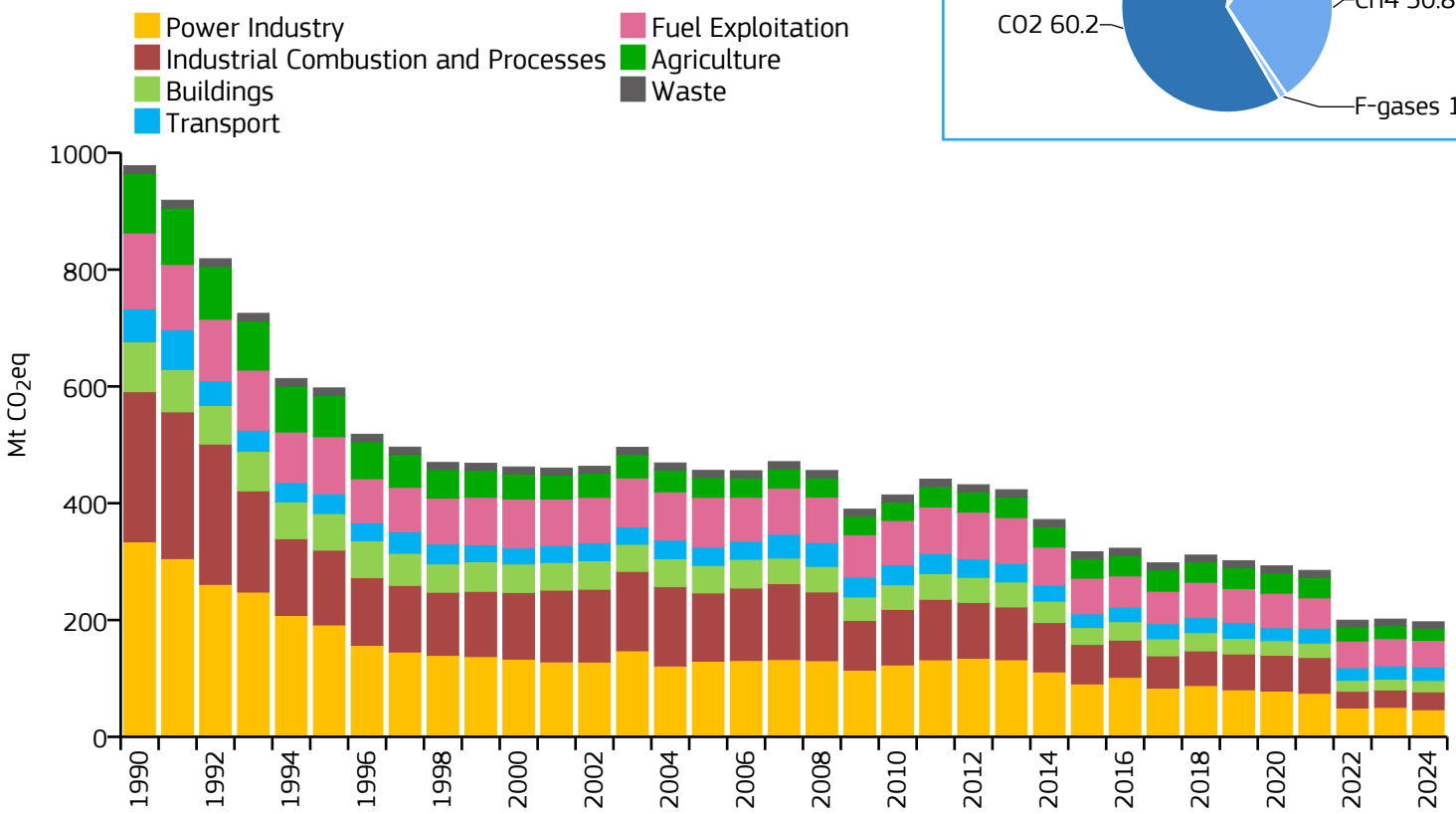
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	57.298	1.072	0.397	53.437M
2015	43.428	1.082	0.459	40.145M
2005	23.688	0.830	0.480	28.544M
1990	15.294	0.877	0.806	17.439M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+136%	+2%
Industrial Combustion and Processes	> +300%	+277%	+1%
Buildings	+173%	+82%	0%
Transport	> +300%	+278%	+2%
Fuel Exploitation	> +300%	+245%	0%
Agriculture	+220%	+117%	+1%
Waste	+243%	+103%	+3%
All sectors	+275%	+142%	+1%

Ukraine



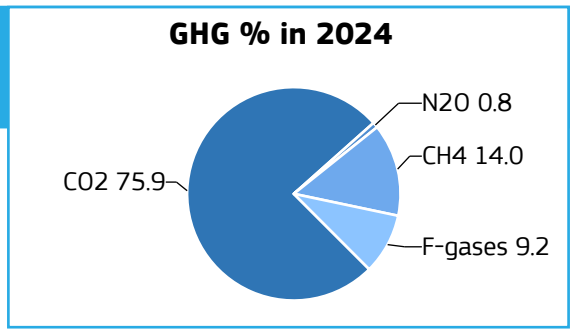
GHG emissions by sector



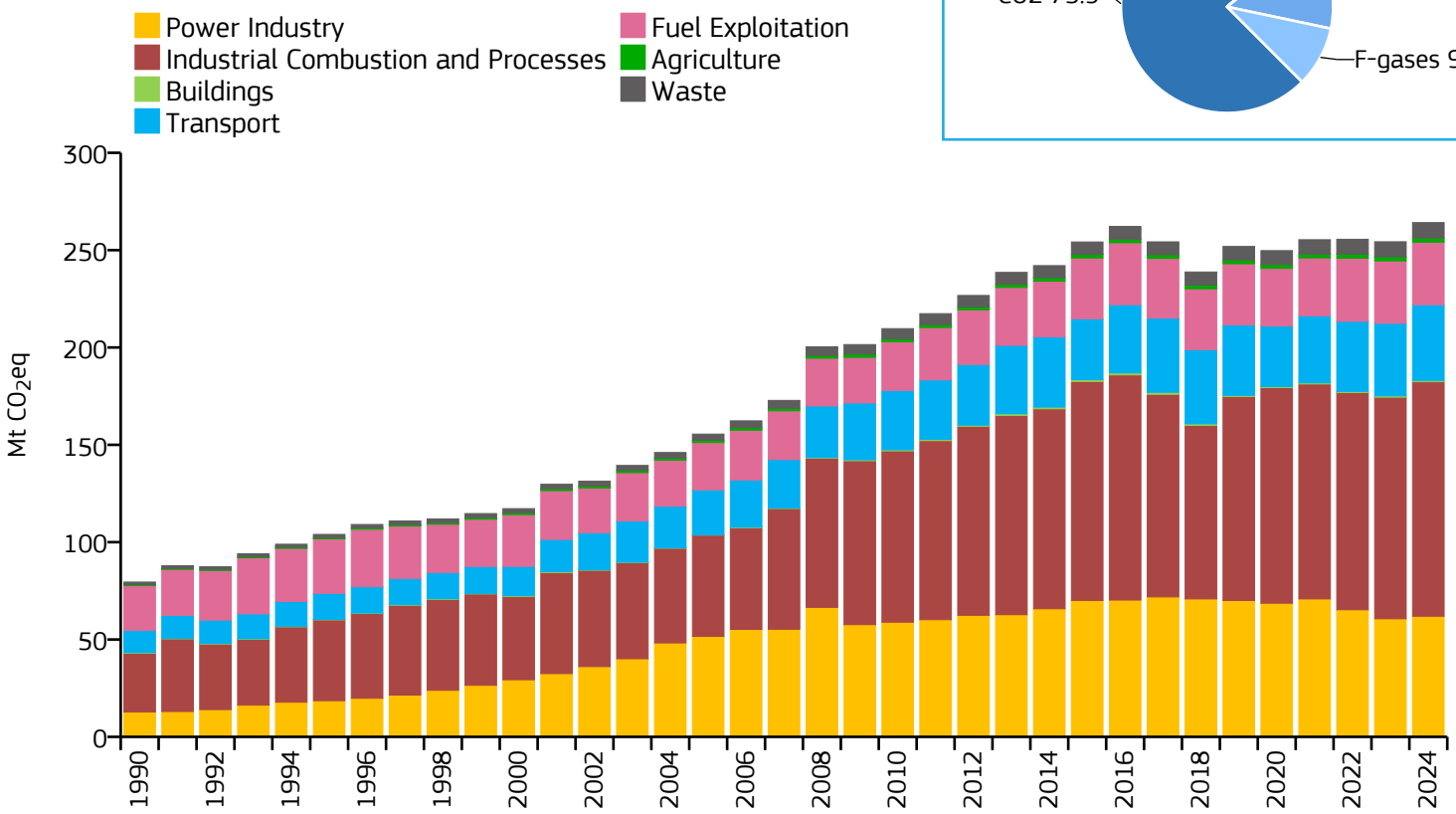
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	196.964	4.614	0.339	42.688M
2015	316.859	7.095	0.473	44.658M
2005	456.235	9.729	0.614	46.892M
1990	977.946	19.002	0.823	51.464M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-86%	-64%	-8%
Industrial Combustion and Processes	-88%	-74%	+3%
Buildings	-77%	-59%	+4%
Transport	-59%	-26%	+2%
Fuel Exploitation	-65%	-46%	-2%
Agriculture	-80%	-39%	-7%
Waste	-19%	-11%	-3%
All sectors	-80%	-57%	-2%

United Arab Emirates



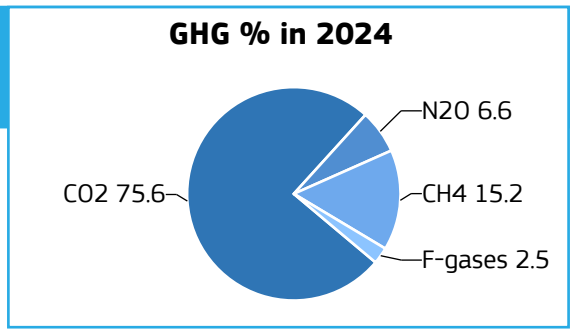
GHG emissions by sector



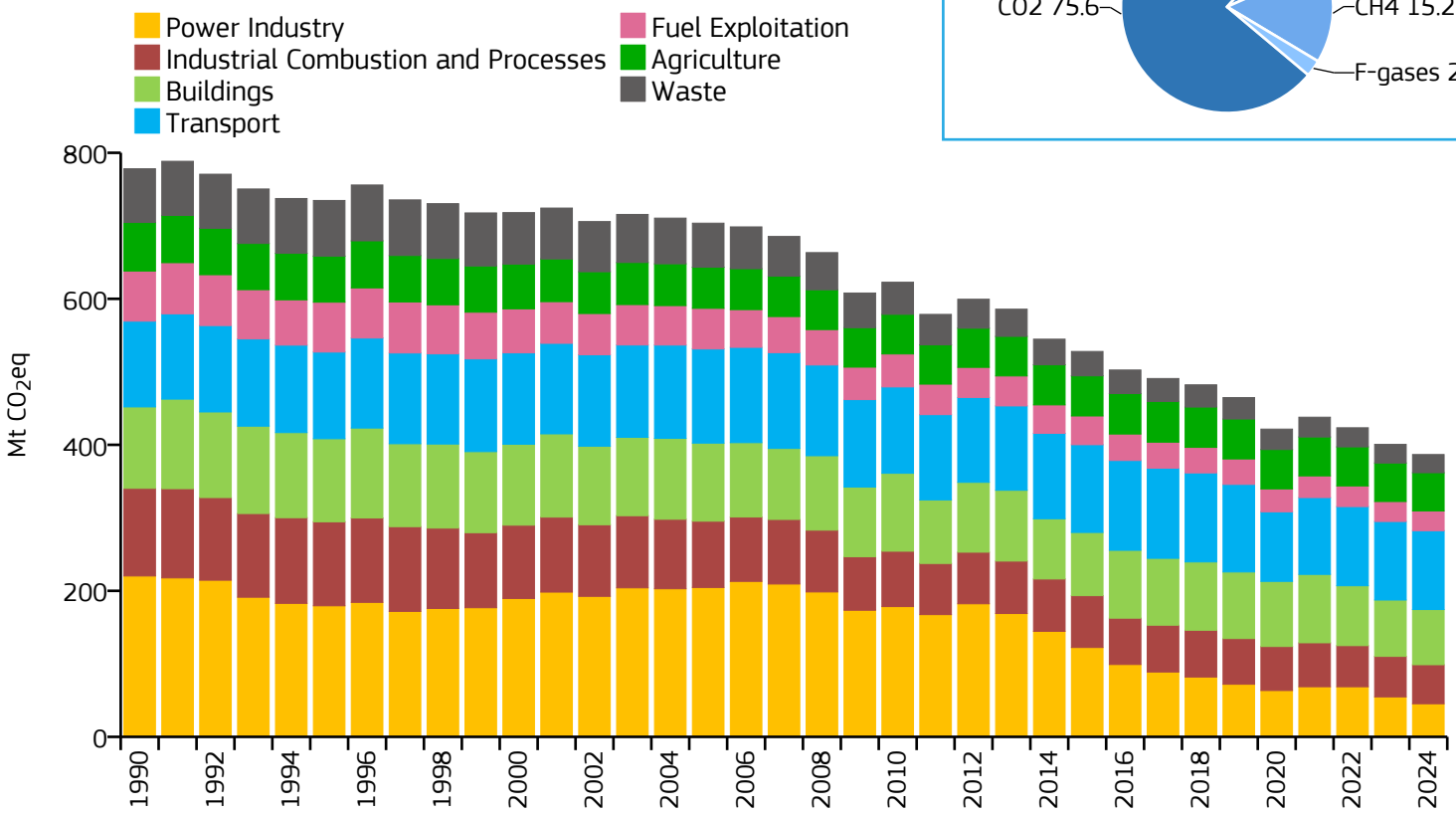
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	264.148	25.618	0.354	10.311M
2015	254.207	27.769	0.426	9.154M
2005	155.519	33.959	0.370	4.580M
1990	79.504	42.740	0.388	1.860M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	+20%	+2%
Industrial Combustion and Processes	+299%	+132%	+6%
Buildings	+119%	> +300%	+4%
Transport	+239%	+68%	+4%
Fuel Exploitation	+40%	+32%	0%
Agriculture	> +300%	+74%	+2%
Waste	> +300%	+154%	+2%
All sectors	+232%	+70%	+4%

United Kingdom



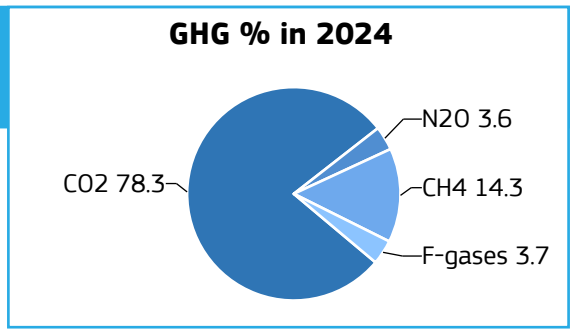
GHG emissions by sector



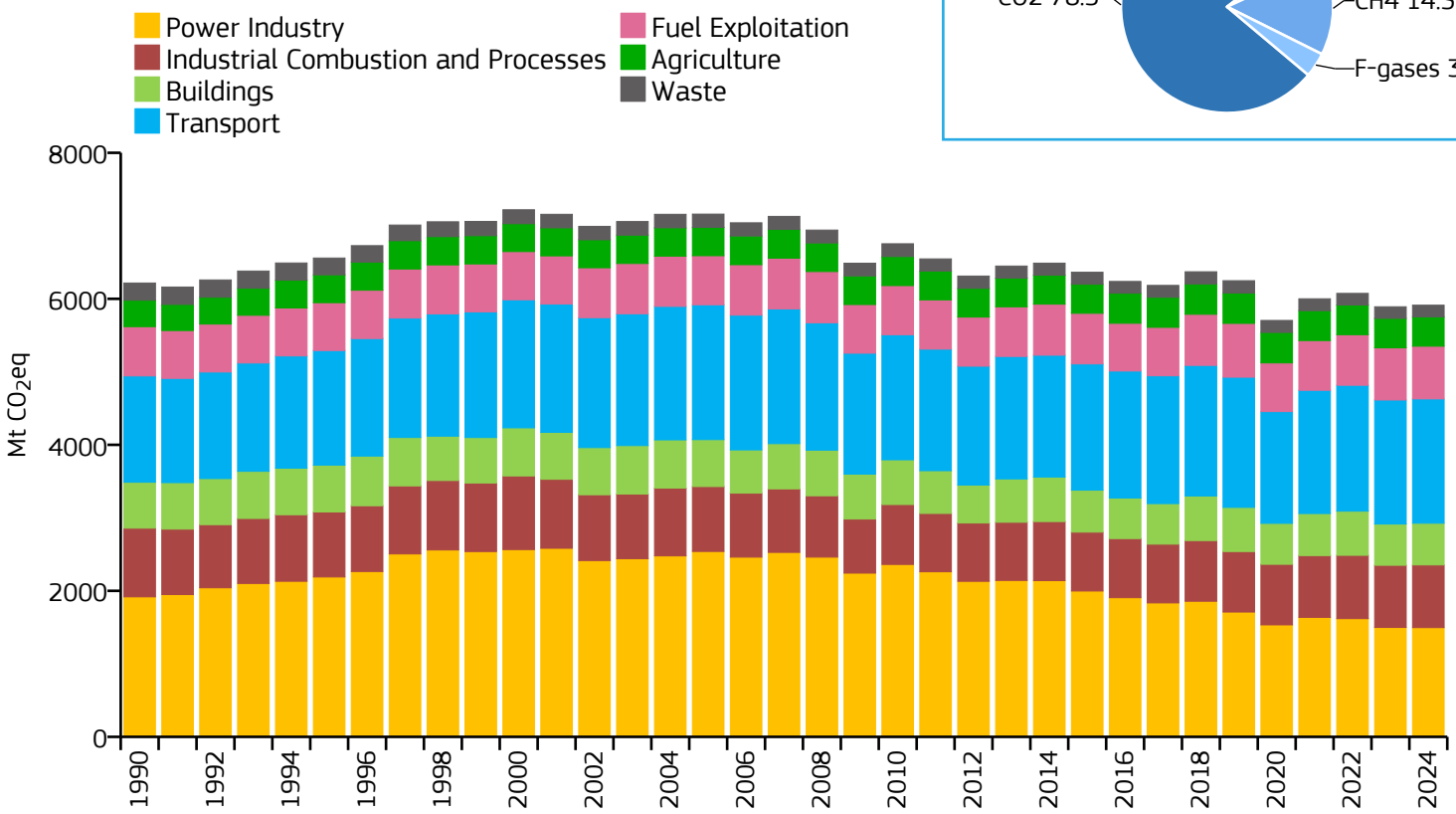
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	386.696	5.625	0.106	68.745M
2015	527.898	8.072	0.162	65.397M
2005	703.628	11.671	0.244	60.287M
1990	778.131	13.608	0.396	57.183M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↘ -79%	↘ -78%	↘ -17%
Industrial Combustion and Processes	↘ -55%	↘ -41%	→ -4%
Buildings	↘ -32%	↘ -29%	→ -2%
Transport	↘ -8%	↘ -16%	→ 0%
Fuel Exploitation	↘ -61%	↘ -51%	→ -1%
Agriculture	↘ -21%	↘ -7%	→ -1%
Waste	↘ -66%	↘ -59%	→ -2%
All sectors	↘ -50%	↘ -45%	→ -3%

United States



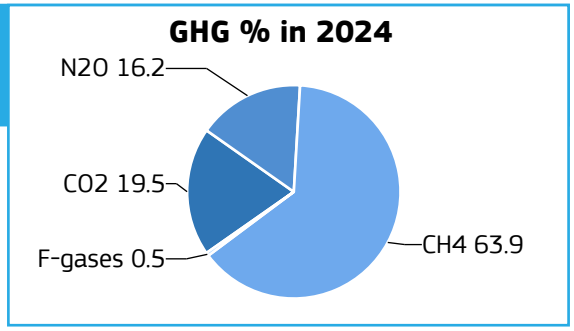
GHG emissions by sector



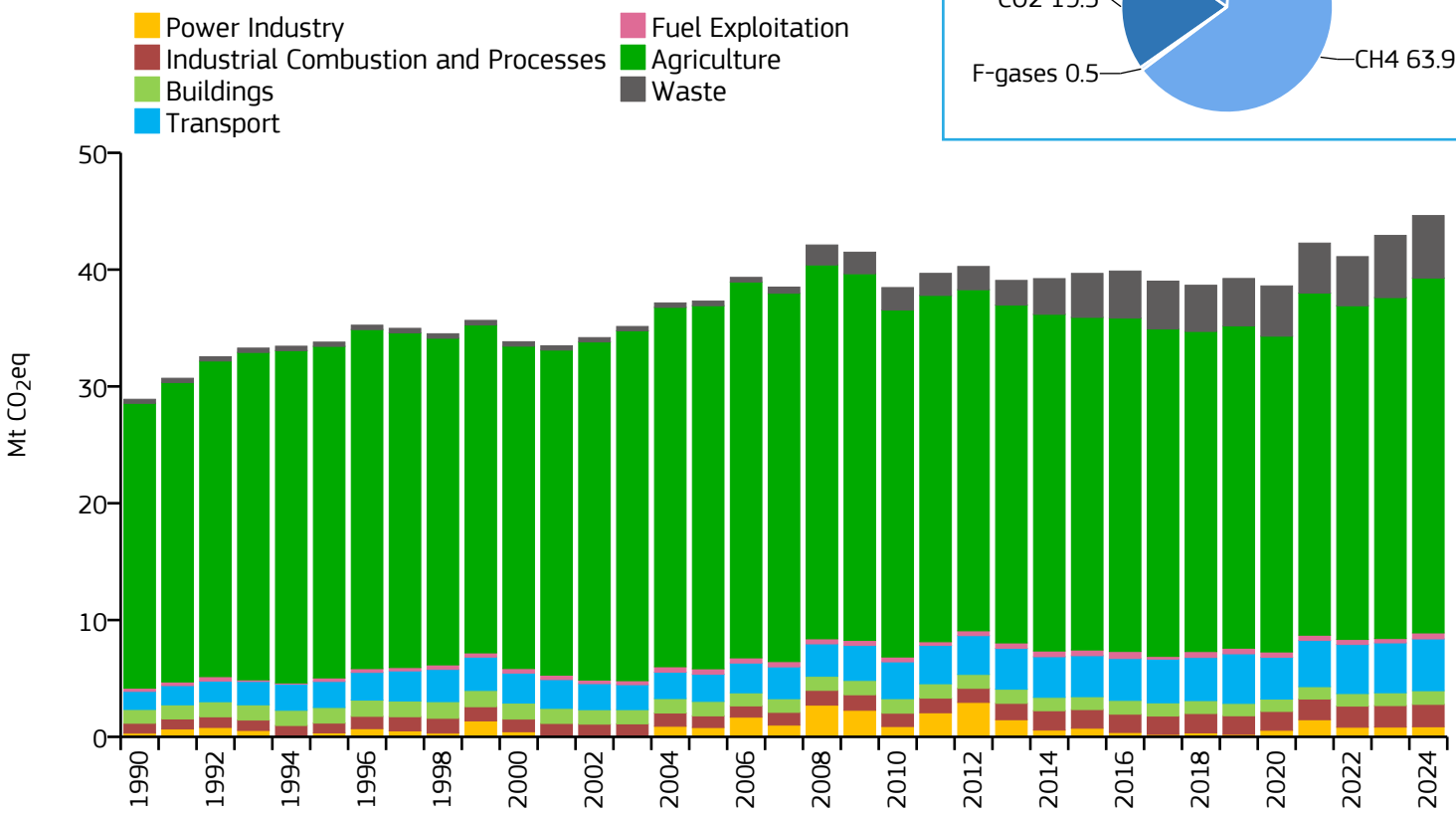
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	5912.618	17.344	0.230	340.895M
2015	6364.004	19.892	0.307	319.929M
2005	7160.639	24.263	0.407	295.130M
1990	6216.327	24.616	0.561	252.530M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-22%	-41%	0%
Industrial Combustion and Processes	-9%	-3%	+1%
Buildings	-9%	-11%	+1%
Transport	+17%	-8%	0%
Fuel Exploitation	+7%	+7%	+1%
Agriculture	+11%	+4%	0%
Waste	-32%	-13%	0%
All sectors	-5%	-17%	0%

Uruguay



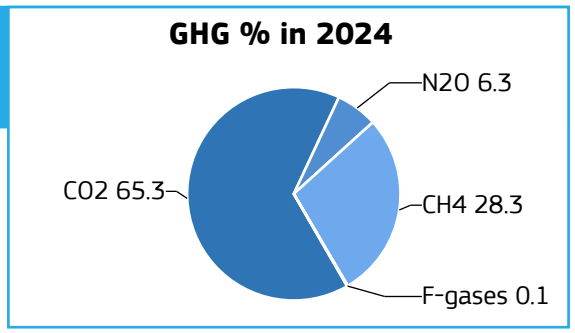
GHG emissions by sector



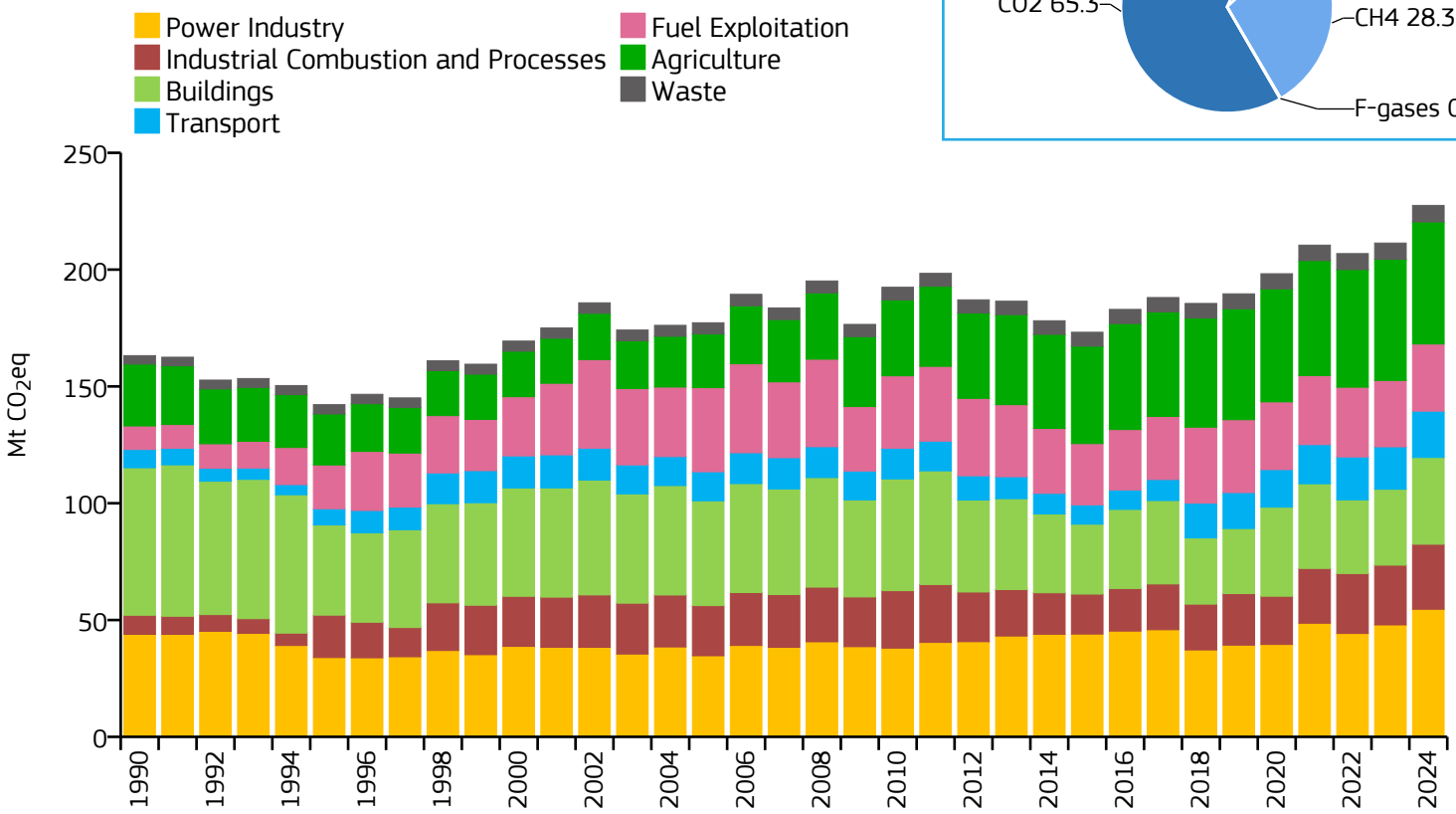
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	44.627	12.610	0.411	3.539M
2015	39.673	11.561	0.407	3.432M
2005	37.303	11.217	0.604	3.326M
1990	28.901	9.293	0.662	3.110M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ +171%	↗ +8%	→ +4%
Industrial Combustion and Processes	↗ +127%	↗ +91%	→ +4%
Buildings	→ -1%	→ -5%	↗ +7%
Transport	↗ +187%	↗ +91%	→ +4%
Fuel Exploitation	↗ +84%	↗ +8%	↗ +38%
Agriculture	↗ +25%	→ -2%	→ +4%
Waste	↗ > +300%	↗ > +300%	→ 0%
All sectors	↗ +54%	↗ +20%	→ +4%

Uzbekistan



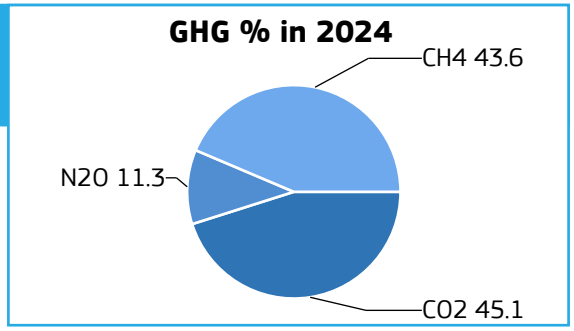
GHG emissions by sector



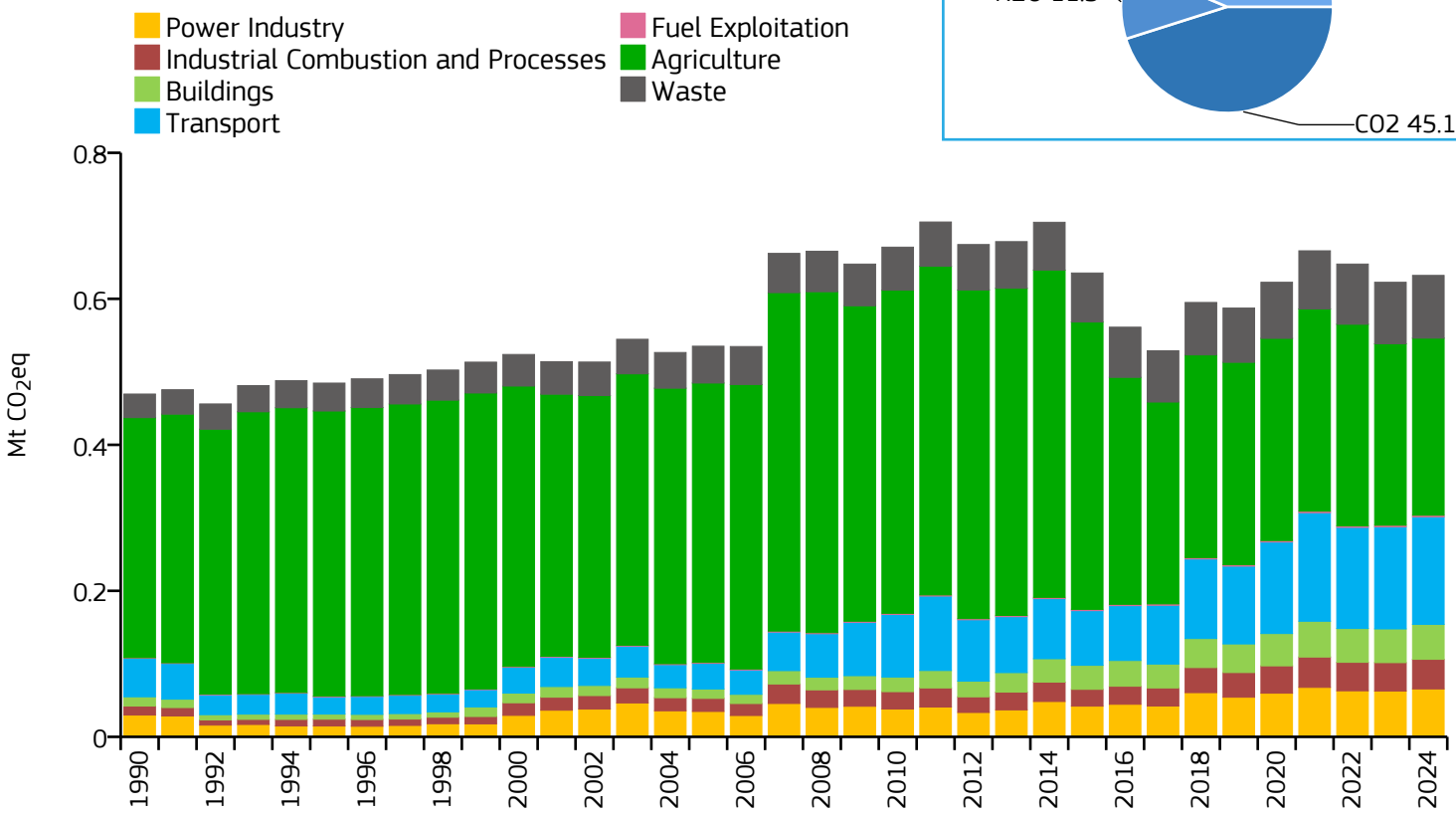
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	227.488	6.538	0.598	34.794M
2015	173.185	5.591	0.748	30.976M
2005	177.252	6.686	1.616	26.512M
1990	163.181	7.975	1.892	20.462M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+24%	+57%	+14%
Industrial Combustion and Processes	+241%	+30%	+9%
Buildings	-41%	-17%	+14%
Transport	+154%	+60%	+9%
Fuel Exploitation	+185%	-20%	+1%
Agriculture	+97%	+127%	+1%
Waste	+96%	+48%	+2%
All sectors	+39%	+28%	+8%

Vanuatu



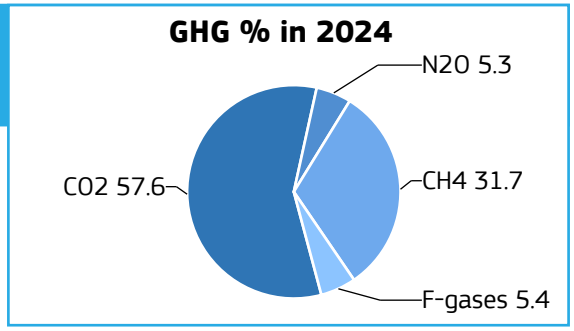
GHG emissions by sector



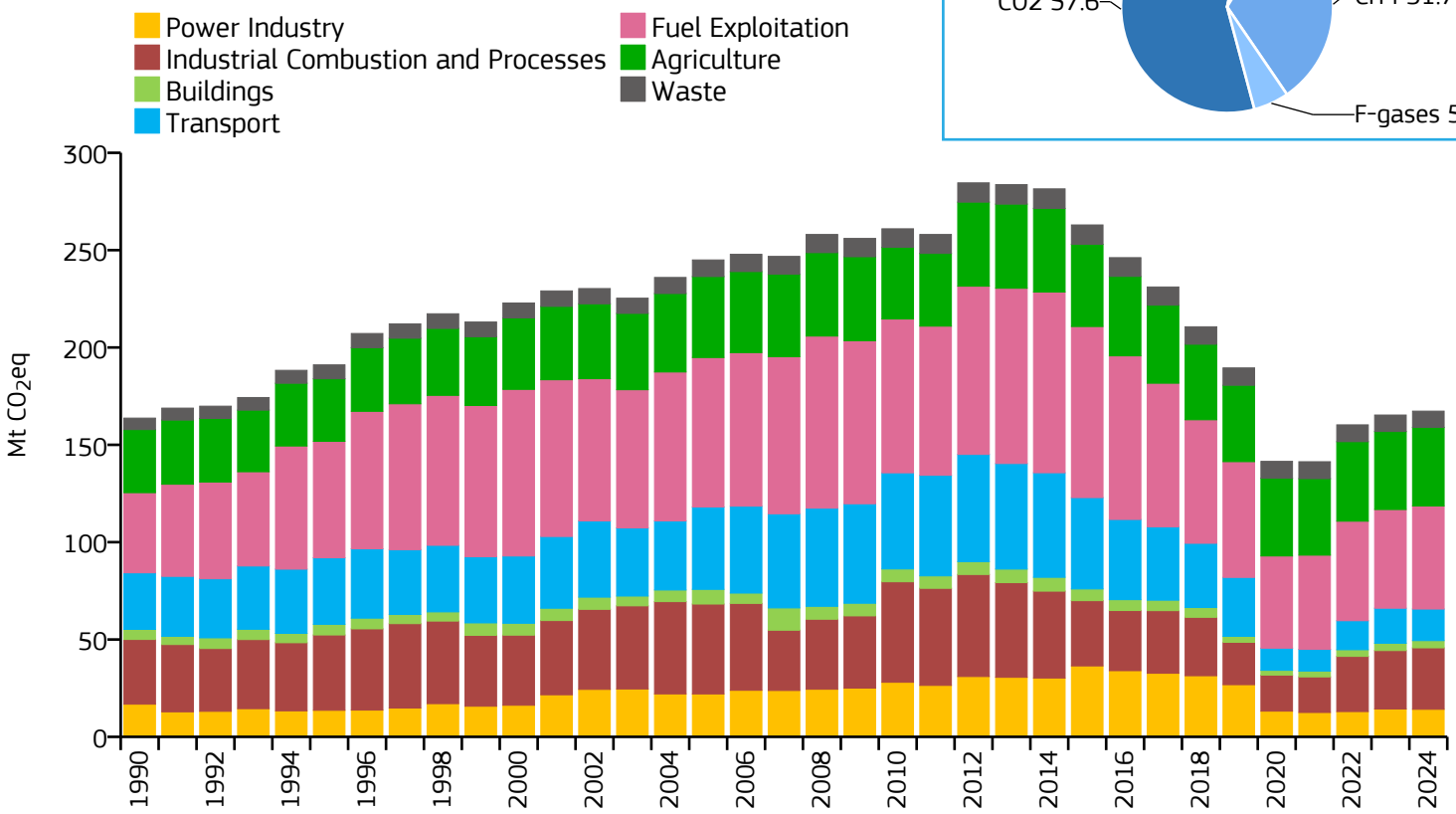
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.632	1.988	0.627	318.000k
2015	0.635	2.401	0.711	264.603k
2005	0.535	2.556	0.822	209.370k
1990	0.470	3.202	1.022	146.634k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+120%	+89%	+5%
Industrial Combustion and Processes	+229%	+127%	+4%
Buildings	+277%	+271%	+4%
Transport	+179%	> +300%	+5%
Fuel Exploitation	+162%	+66%	0%
Agriculture	-26%	-37%	-2%
Waste	+166%	+70%	+2%
All sectors	+35%	+18%	+2%

Venezuela



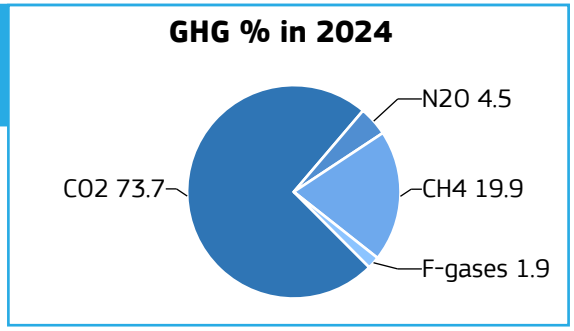
GHG emissions by sector



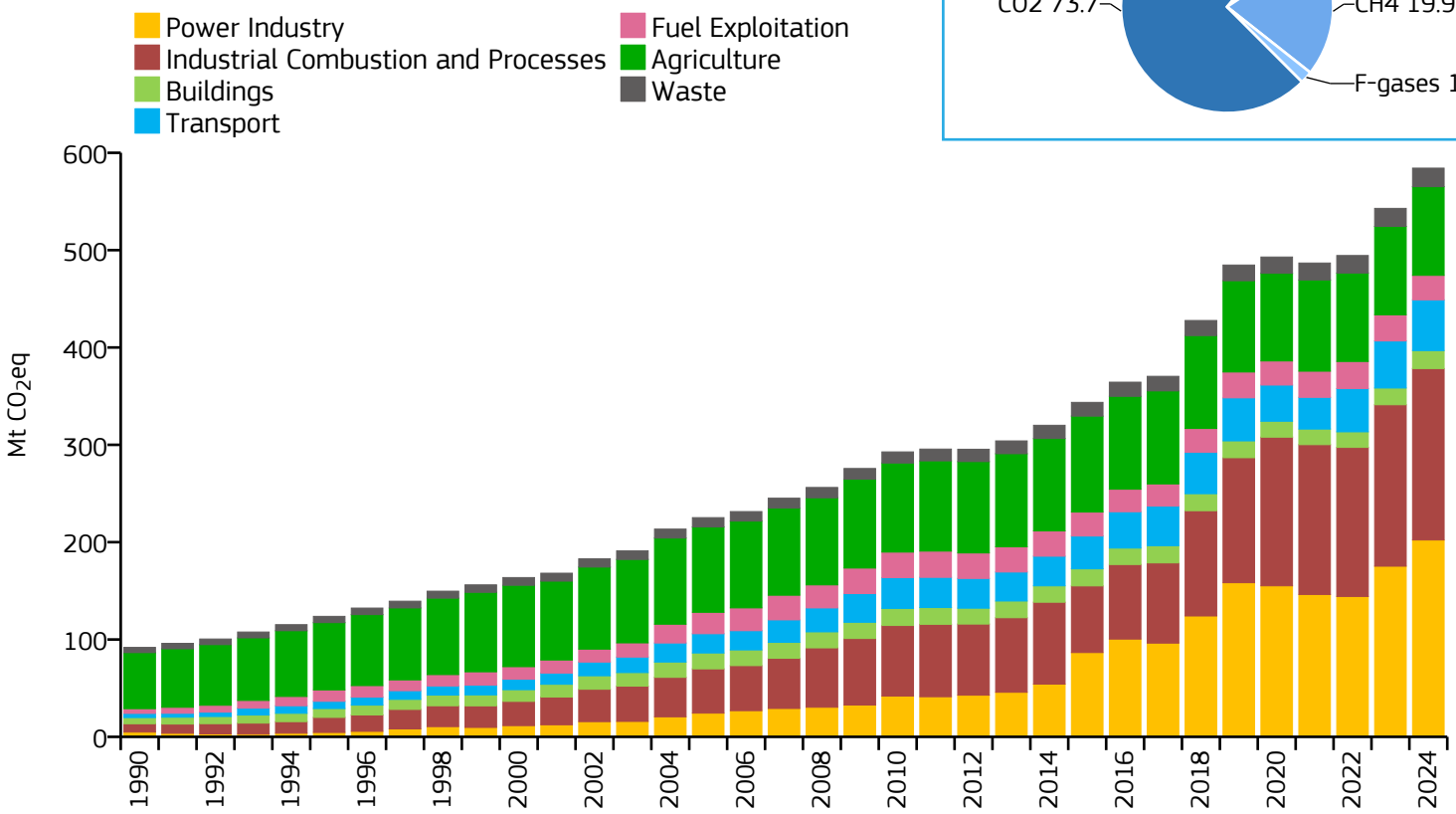
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	167.318	4.825	0.837	34.678M
2015	262.949	8.440	0.447	31.155M
2005	244.970	9.146	0.502	26.784M
1990	163.731	8.243	0.468	19.862M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-16%	-36%	-1%
Industrial Combustion and Processes	-5%	-32%	+5%
Buildings	-28%	-51%	-1%
Transport	-44%	-62%	-10%
Fuel Exploitation	+29%	-31%	+4%
Agriculture	+25%	-3%	+1%
Waste	+41%	-2%	-1%
All sectors	+2%	-32%	+1%

Viet Nam



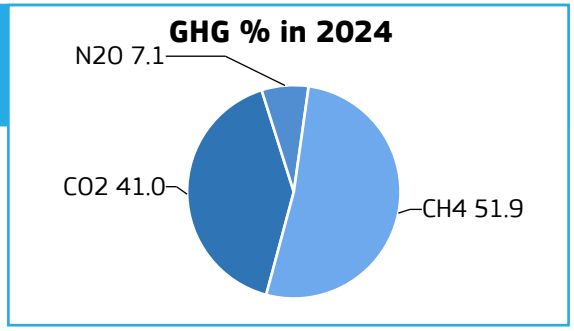
GHG emissions by sector



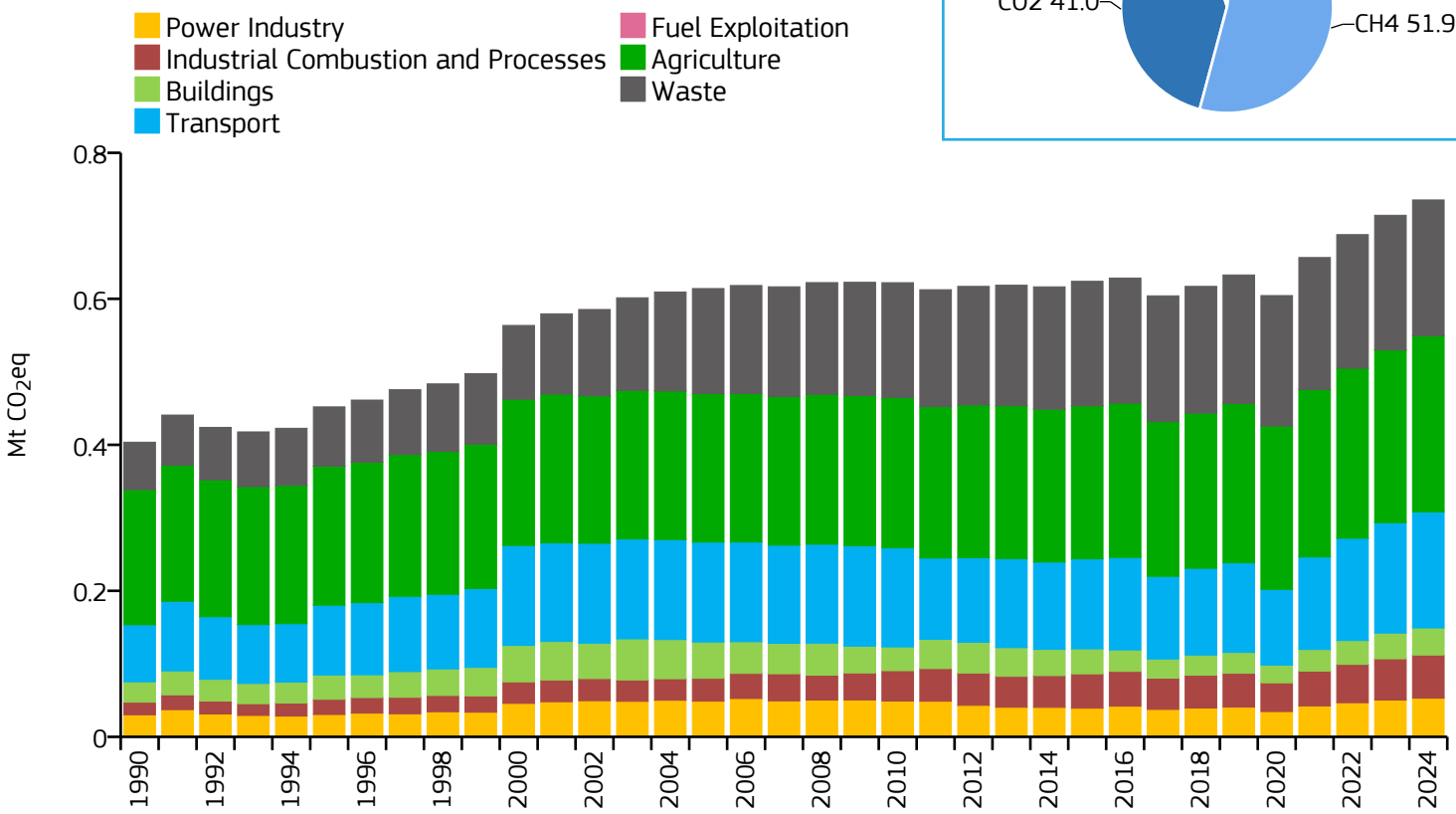
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	584.258	5.731	0.401	101.943M
2015	343.626	3.672	0.400	93.572M
2005	225.205	2.671	0.481	84.309M
1990	91.895	1.347	0.568	68.210M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	↗ > +300%	↗ > +300%	↗ +15%
Industrial Combustion and Processes	↗ > +300%	↗ +287%	↗ +6%
Buildings	↗ +191%	↗ +13%	↗ +7%
Transport	↗ > +300%	↗ +164%	↗ +8%
Fuel Exploitation	↗ > +300%	↗ +14%	↘ -7%
Agriculture	↗ +58%	→ +4%	→ 0%
Waste	↗ +255%	↗ +99%	→ +3%
All sectors	↗ > +300%	↗ +159%	↗ +8%

Western Sahara



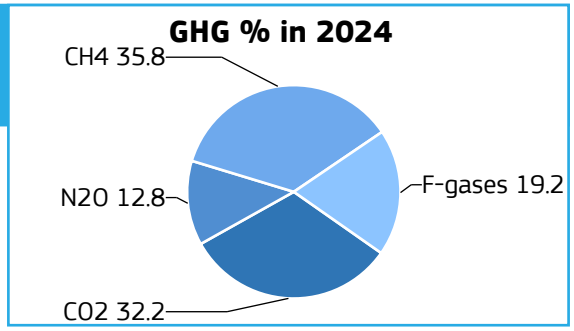
GHG emissions by sector



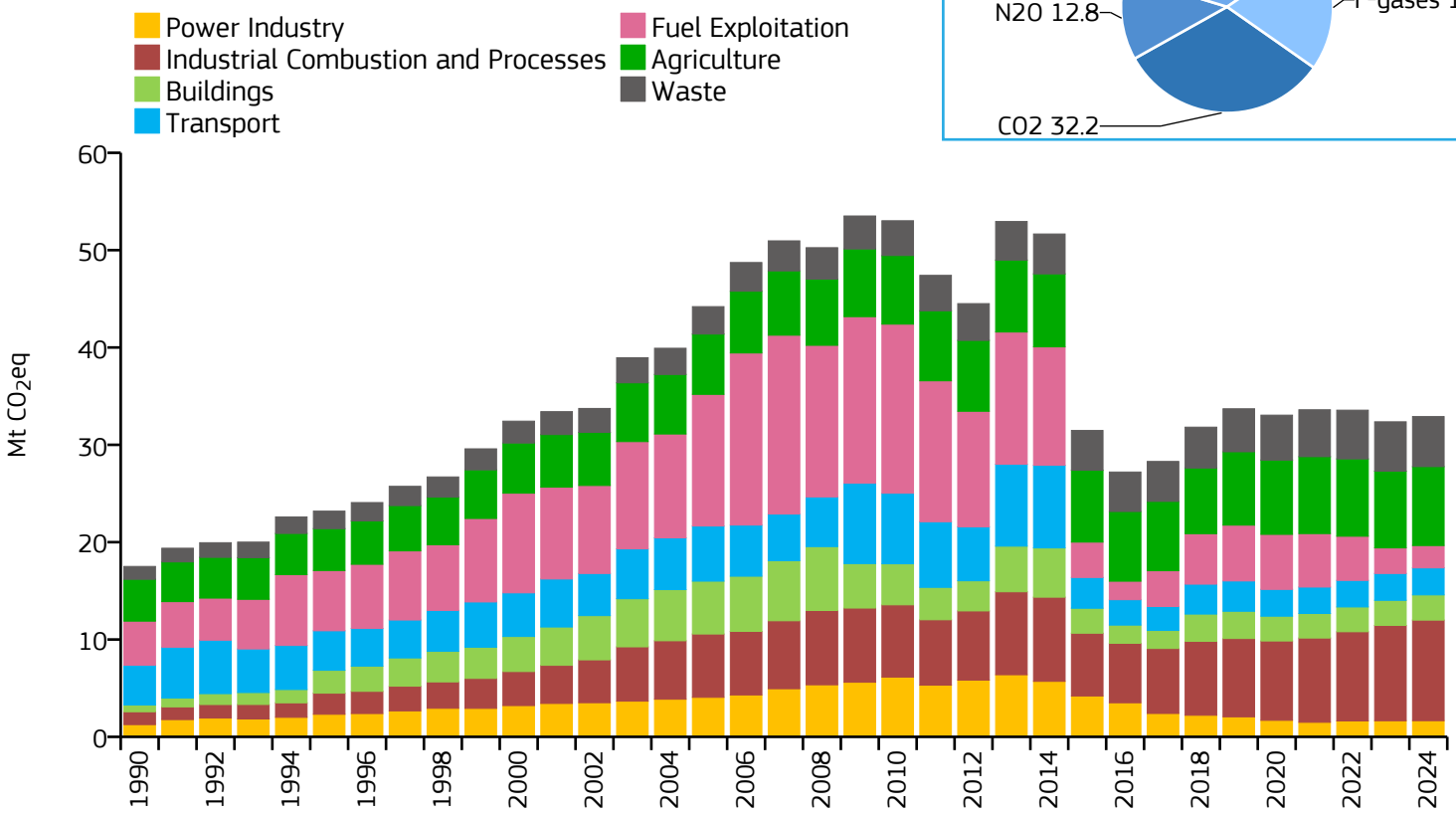
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	0.735	1.124	n/a	654.000k
2015	0.624	1.186	n/a	526.216k
2005	0.614	1.403	n/a	437.515k
1990	0.404	1.858	n/a	217.258k

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+75%	+8%	+5%
Industrial Combustion and Processes	+243%	+89%	+5%
Buildings	+33%	-25%	+5%
Transport	+103%	+16%	+5%
Fuel Exploitation	n/a	n/a	n/a
Agriculture	+30%	+19%	+2%
Waste	+186%	+29%	+1%
All sectors	+82%	+20%	+3%

Yemen



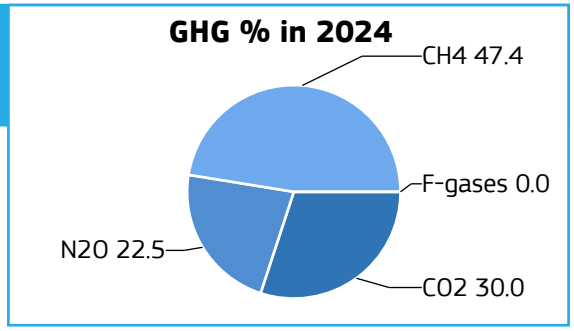
GHG emissions by sector



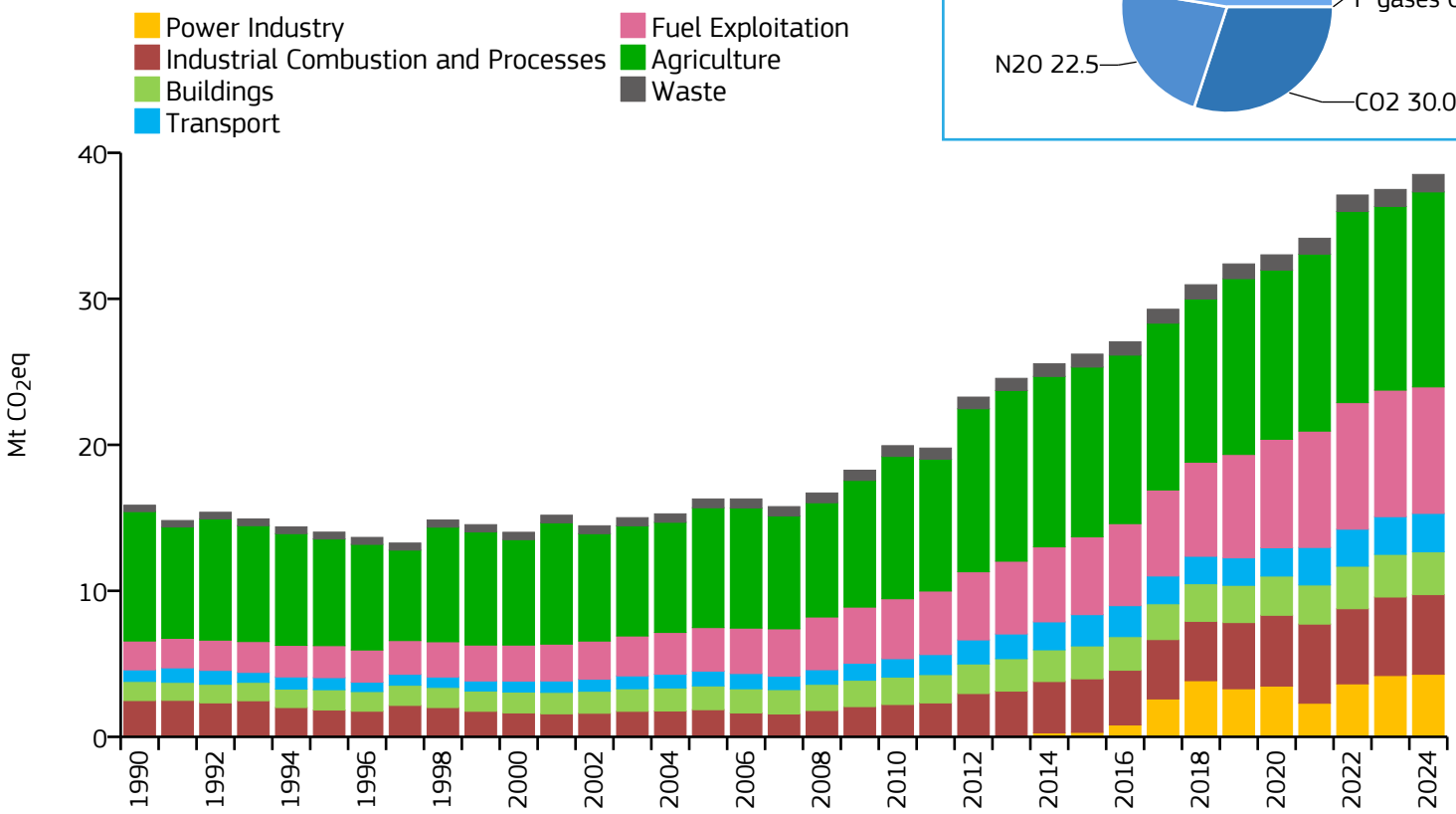
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	32.903	1.000	0.541	32.901M
2015	31.475	1.169	0.406	26.916M
2005	44.197	2.147	0.475	20.583M
1990	17.507	1.452	0.401	12.057M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	+32%	-59%	0%
Industrial Combustion and Processes	> +300%	+59%	+6%
Buildings	+271%	-52%	+1%
Transport	-32%	-51%	+1%
Fuel Exploitation	-49%	-83%	-13%
Agriculture	+89%	+31%	+3%
Waste	+289%	+82%	+1%
All sectors	+88%	-26%	+2%

Zambia



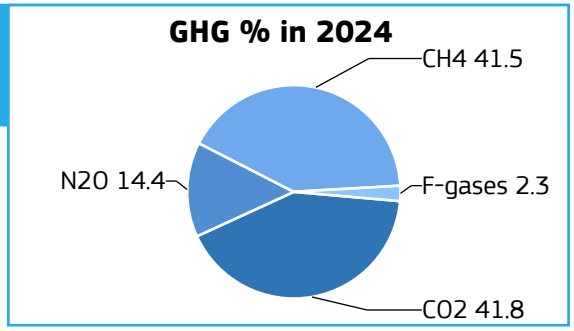
GHG emissions by sector



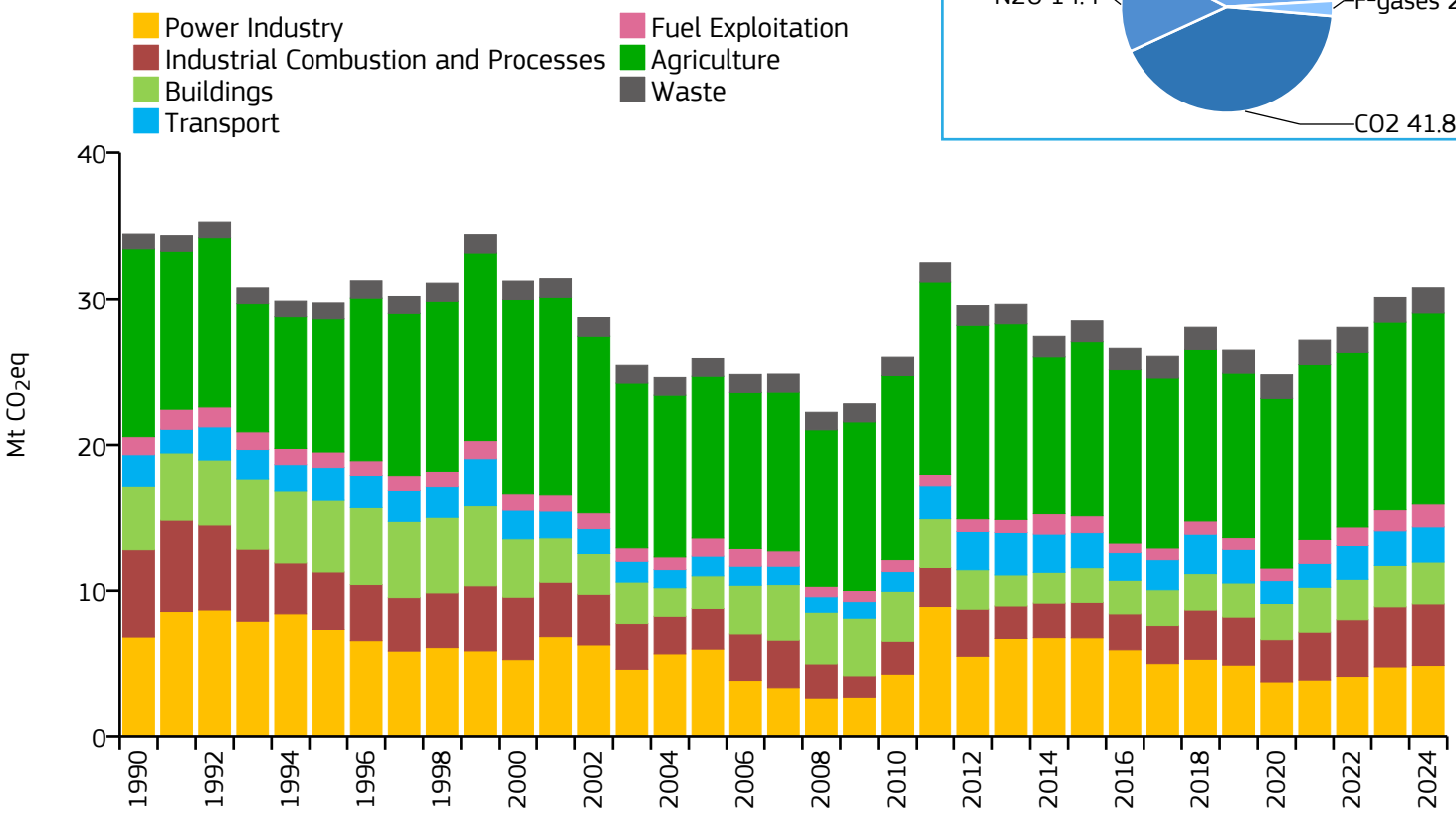
Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	38.519	1.836	0.486	20.983M
2015	26.211	1.628	0.447	16.100M
2005	16.294	1.352	0.542	12.053M
1990	15.864	1.976	0.840	8.027M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	> +300%	> +300%	+2%
Industrial Combustion and Processes	+128%	+203%	+1%
Buildings	+124%	+80%	0%
Transport	+231%	+159%	+2%
Fuel Exploitation	> +300%	+191%	0%
Agriculture	+51%	+63%	+6%
Waste	+173%	+99%	+3%
All sectors	+143%	+136%	+3%

Zimbabwe



GHG emissions by sector



Year	GHG emissions Mt CO_2eq/yr	GHG emissions per capita t CO_2eq/cap/yr	GHG emissions per unit of GDP PPP t CO_2eq/kUSD/yr	Population
2024	30.784	1.604	0.536	19.190M
2015	28.469	1.804	0.587	15.777M
2005	25.898	2.001	0.785	12.940M
1990	34.444	3.382	0.847	10.183M

	2024 vs 1990	2024 vs 2005	2024 vs 2023
Power Industry	-28%	-19%	+2%
Industrial Combustion and Processes	-30%	+51%	+2%
Buildings	-35%	+29%	+1%
Transport	+12%	+78%	+2%
Fuel Exploitation	+32%	+32%	+13%
Agriculture	+1%	+17%	+1%
Waste	+77%	+48%	+2%
All sectors	-11%	+19%	+2%

Annex 7. GHG emissions and removals from LULUCF sector by macro-regions

The following ten macro-regions[42] are presented:

Africa; Australia, Japan, and New Zealand; Eastern Asia; Eastern Europe and West-Central Asia; Europe; Latin America and Caribbean; Middle East; North America; South-East Asia and Pacific; Southern Asia.

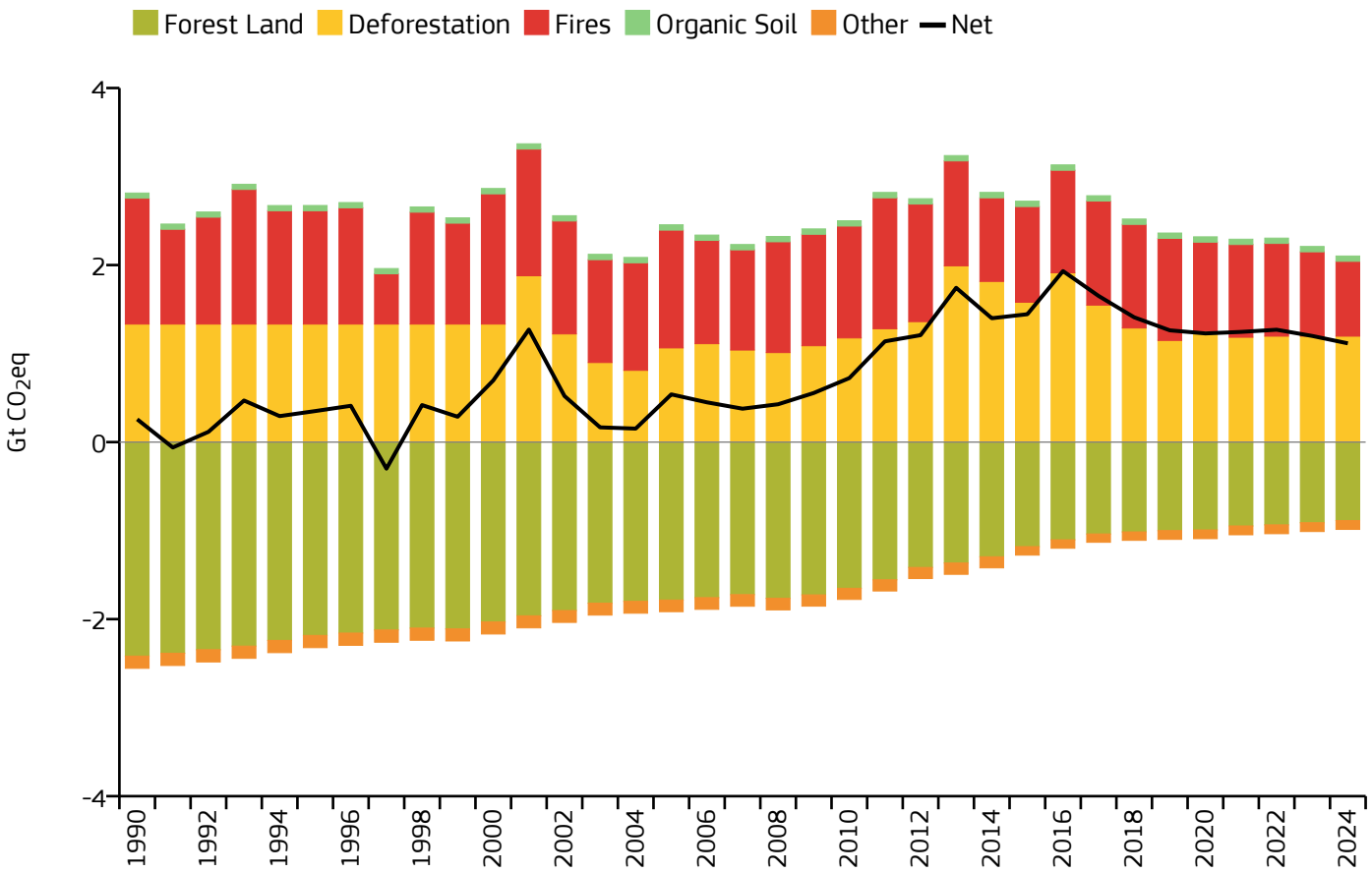
For the following LULUCF sectors:

Forest Land, Deforestation, Fires, Organic Soil, Other and Net.

([42]) Macro regions classification follows the definition used in the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6).

Africa

GHG emissions and removals from LULUCF sector

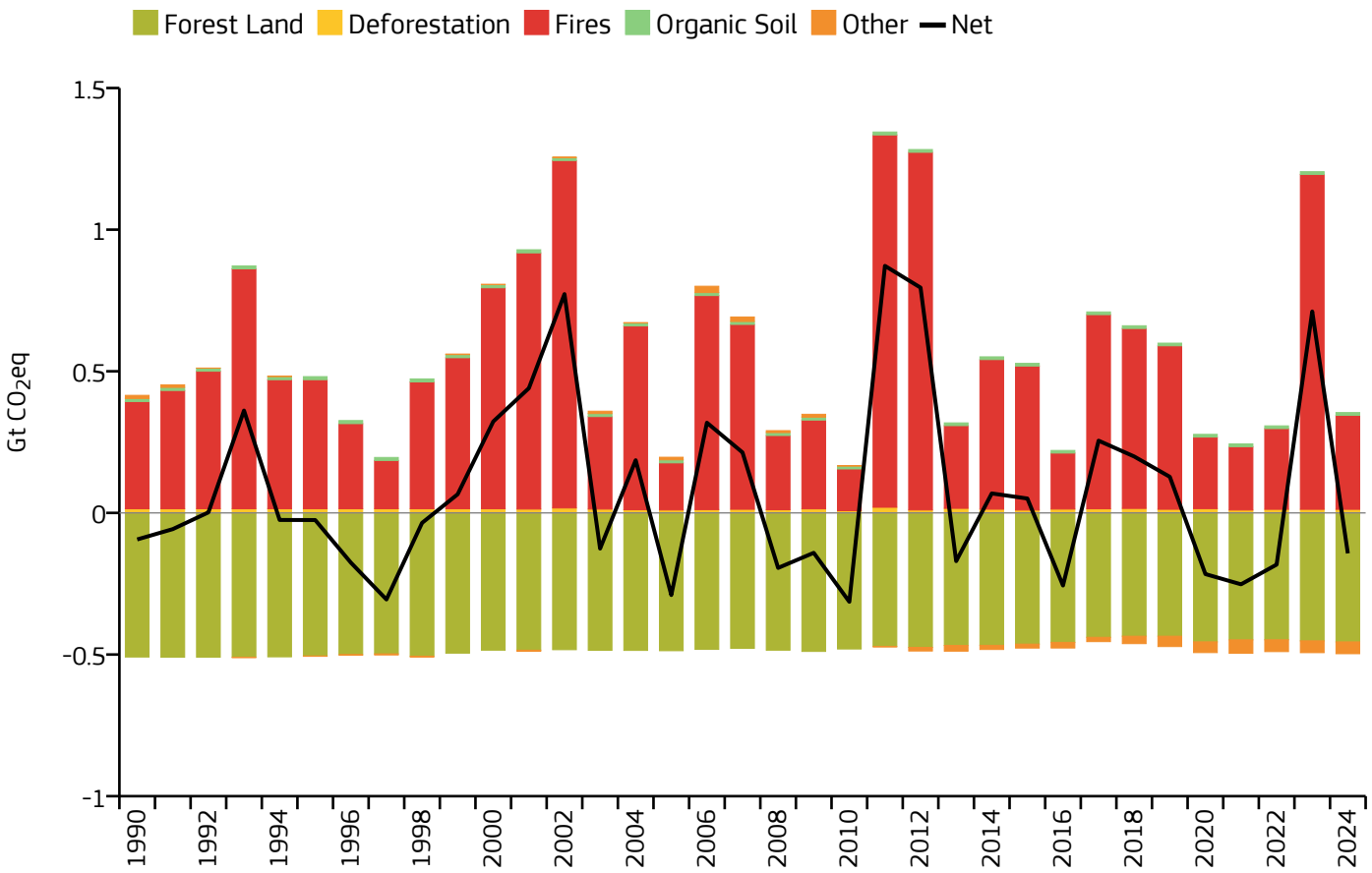


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	0.258	0.697	1.445	1.116

Countries included in Africa:
Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cabo Verde; Cameroon; Central African Republic; Chad; Comoros; Congo; Côte d'Ivoire; Democratic Republic of the Congo; Djibouti; Egypt; Equatorial Guinea; Eritrea; Eswatini; Ethiopia; Gabon; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Rwanda; Réunion; Saint Helena, Ascension and Tristan da Cunha; Senegal; Seychelles; Sierra Leone; Somalia; South Africa; Sudan and South Sudan; São Tomé and Príncipe; Tanzania; The Gambia; Togo; Tunisia; Uganda; Western Sahara; Zambia; Zimbabwe.

Australia, Japan, and New Zealand

GHG emissions and removals from LULUCF sector

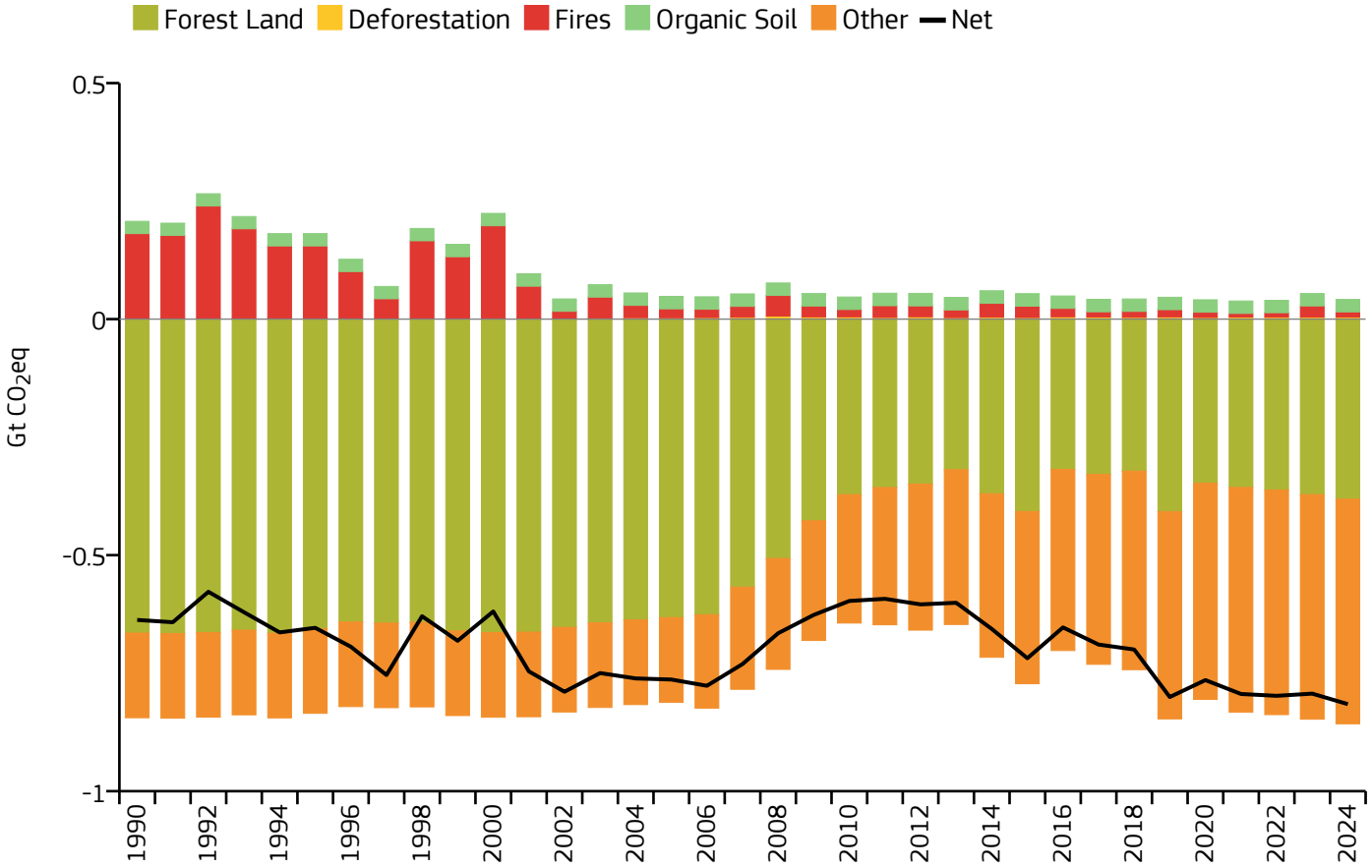


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	-0.094	0.323	0.051	-0.143

Countries included in Australia, Japan, and New Zealand:
Australia; Japan; New Zealand.

Eastern Asia

GHG emissions and removals from LULUCF sector

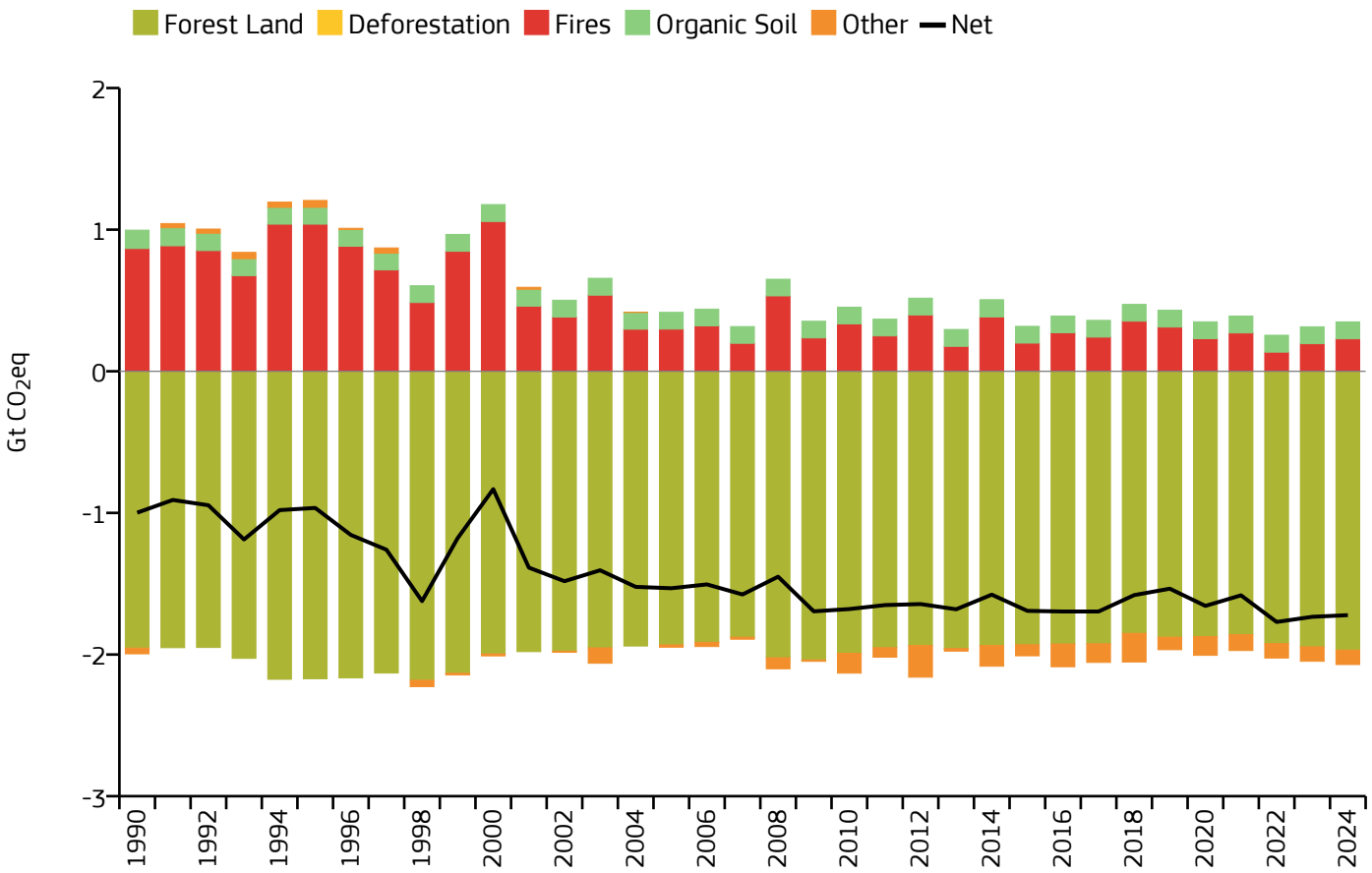


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	-0.637	-0.619	-0.718	-0.816

Countries included in Eastern Asia:
China; Hong Kong; Macao; Mongolia; North Korea; South Korea; Taiwan.

Eastern Europe and West-Central Asia

GHG emissions and removals from LULUCF sector

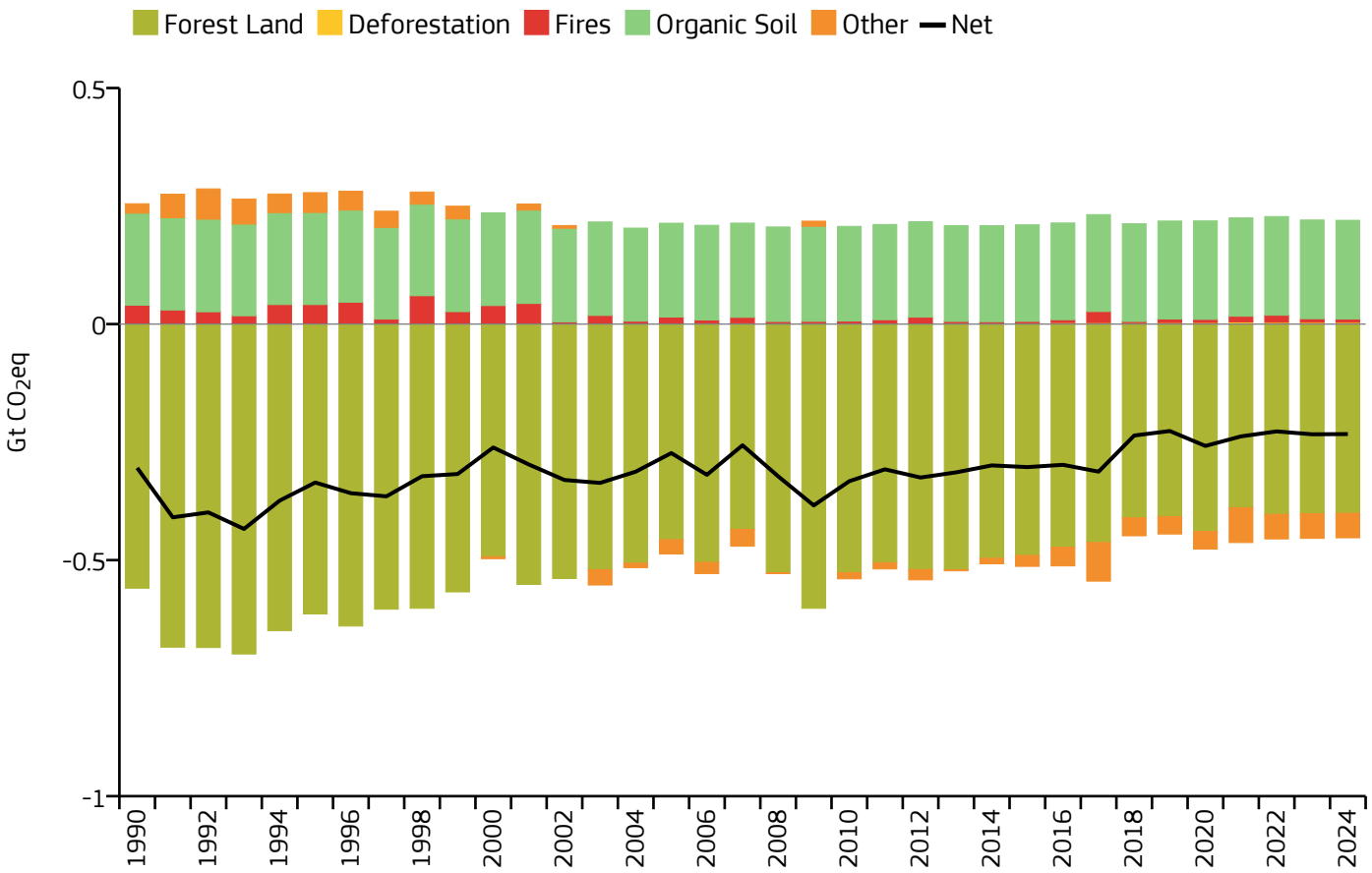


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	-0.998	-0.832	-1.692	-1.722

Countries included in Eastern Europe and West-Central Asia:
Armenia; Azerbaijan; Belarus; Georgia; Kazakhstan; Kyrgyzstan; Moldova; Russia; Tajikistan; Turkmenistan; Ukraine; Uzbekistan.

Europe

GHG emissions and removals from LULUCF sector

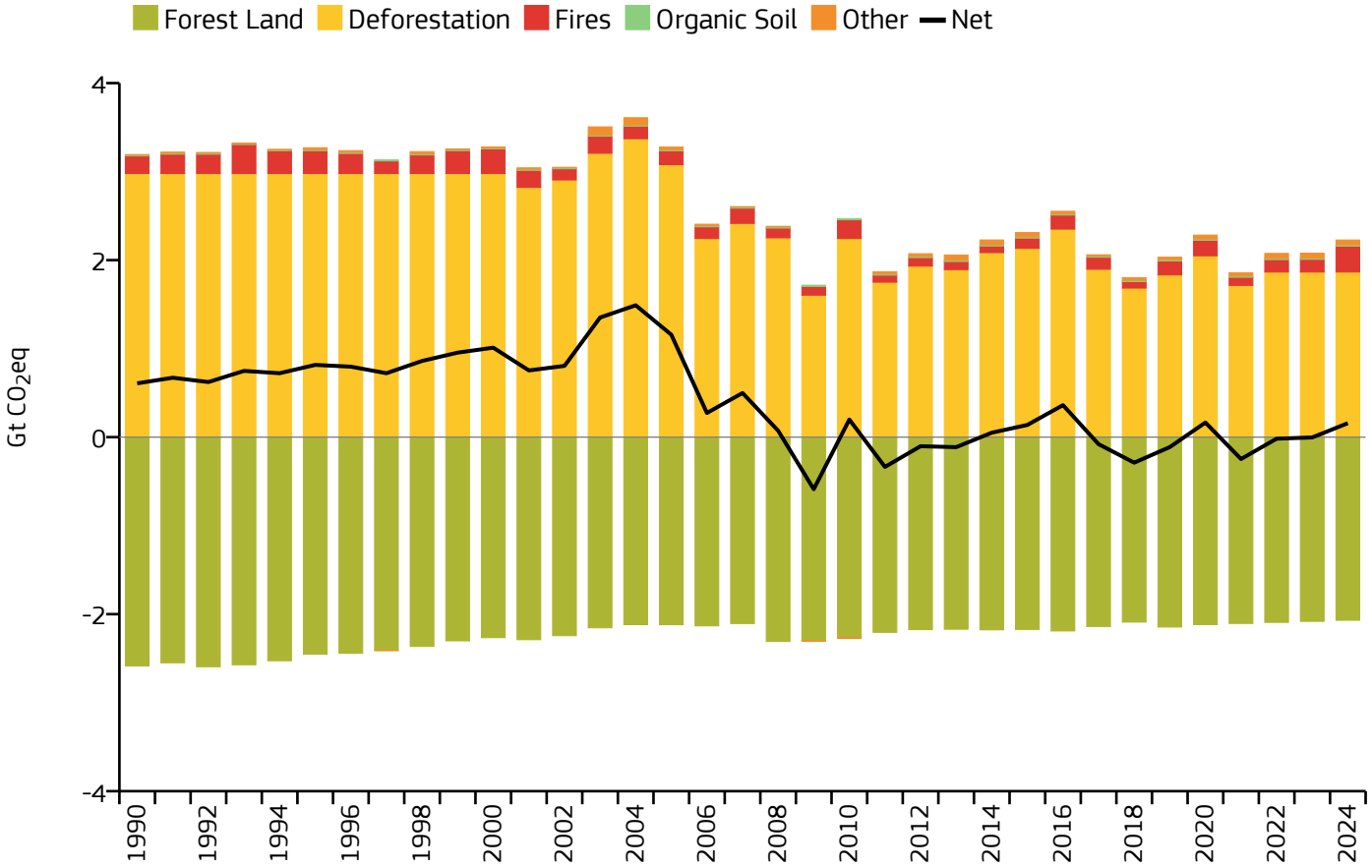


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	-0.305	-0.261	-0.303	-0.233

Countries included in Europe:
Albania; Austria; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus; Czechia; Denmark; Estonia; Faroes; Finland; France and Monaco; Germany; Gibraltar; Greece; Greenland; Hungary; Iceland; Ireland; Italy, San Marino and the Holy See; Latvia; Lithuania; Luxembourg; Malta; Netherlands; North Macedonia; Norway; Poland; Portugal; Romania; Serbia and Montenegro; Slovakia; Slovenia; Spain and Andorra; Sweden; Switzerland and Liechtenstein; Türkiye; United Kingdom.

Latin America and Caribbean

GHG emissions and removals from LULUCF sector

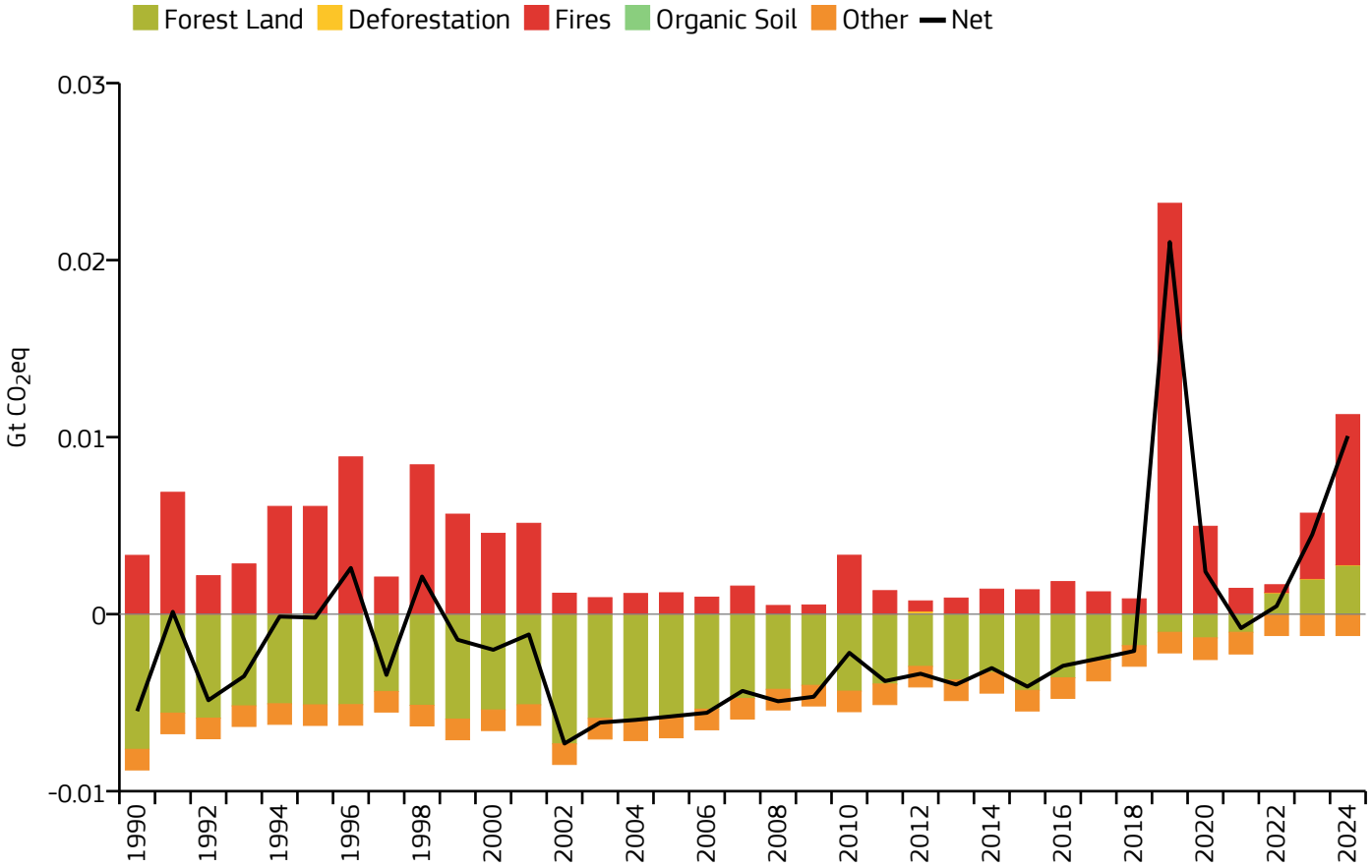


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	0.608	1.011	0.138	0.158

Countries included in Latin America and Caribbean:
Anguilla; Antigua and Barbuda; Argentina; Aruba; Bahamas; Barbados; Belize; Bermuda; Bolivia; Brazil; British Virgin Islands; Cayman Islands; Chile; Colombia; Costa Rica; Cuba; Curaçao; Dominica; Dominican Republic; Ecuador; El Salvador; Falkland Islands; French Guiana; Grenada; Guadeloupe; Guatemala; Guyana; Haiti; Honduras; Jamaica; Martinique; Mexico; Nicaragua; Panama; Paraguay; Peru; Puerto Rico; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago; Turks and Caicos Islands; Uruguay; Venezuela.

Middle East

GHG emissions and removals from LULUCF sector

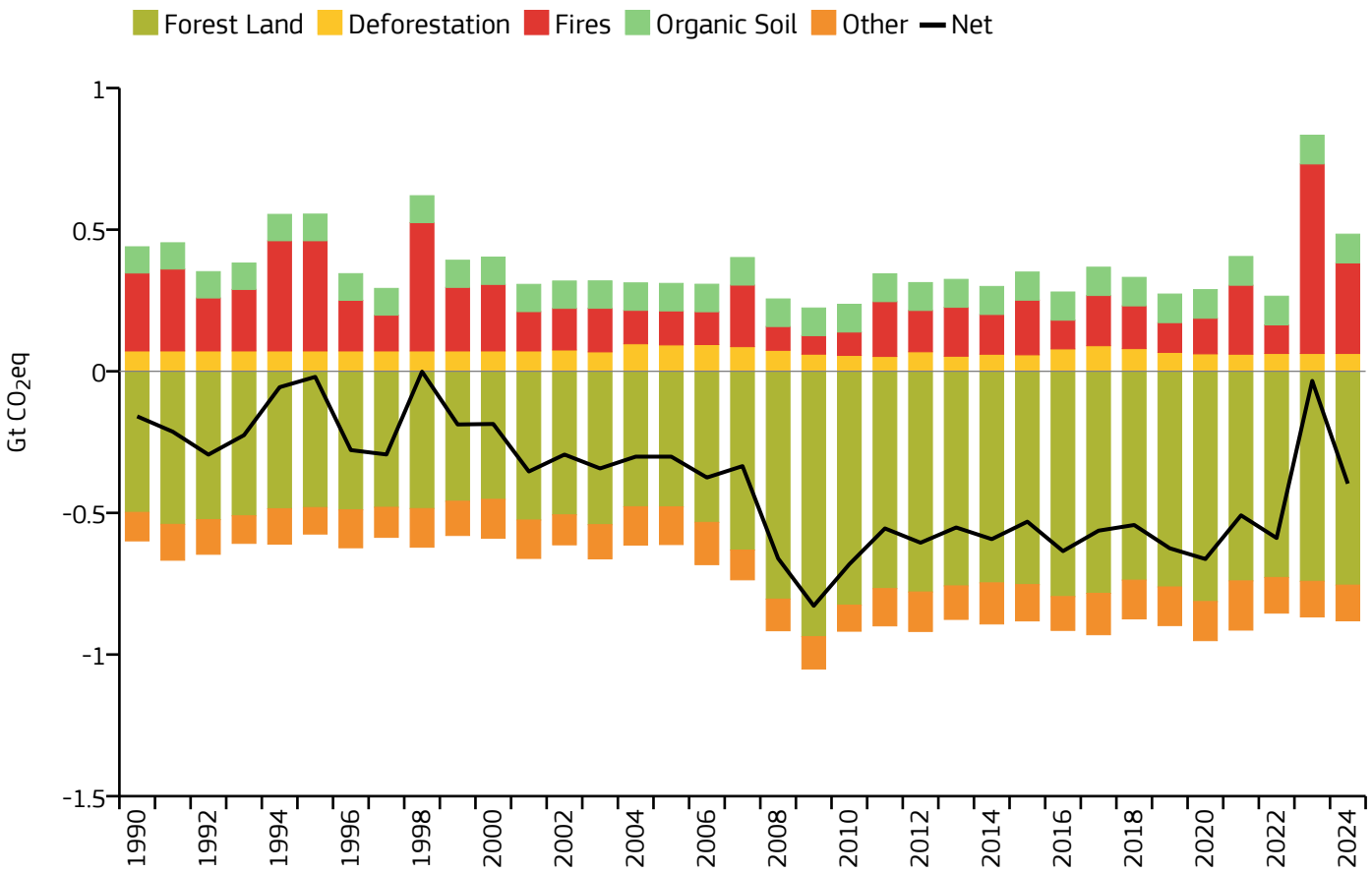


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	-0.005	-0.002	-0.004	0.010

Countries included in Middle East:
Bahrain; Iran; Iraq; Israel and Palestine, State of; Jordan; Kuwait; Lebanon; Oman; Qatar; Saudi Arabia; Syria; United Arab Emirates; Yemen.

North America

GHG emissions and removals from LULUCF sector

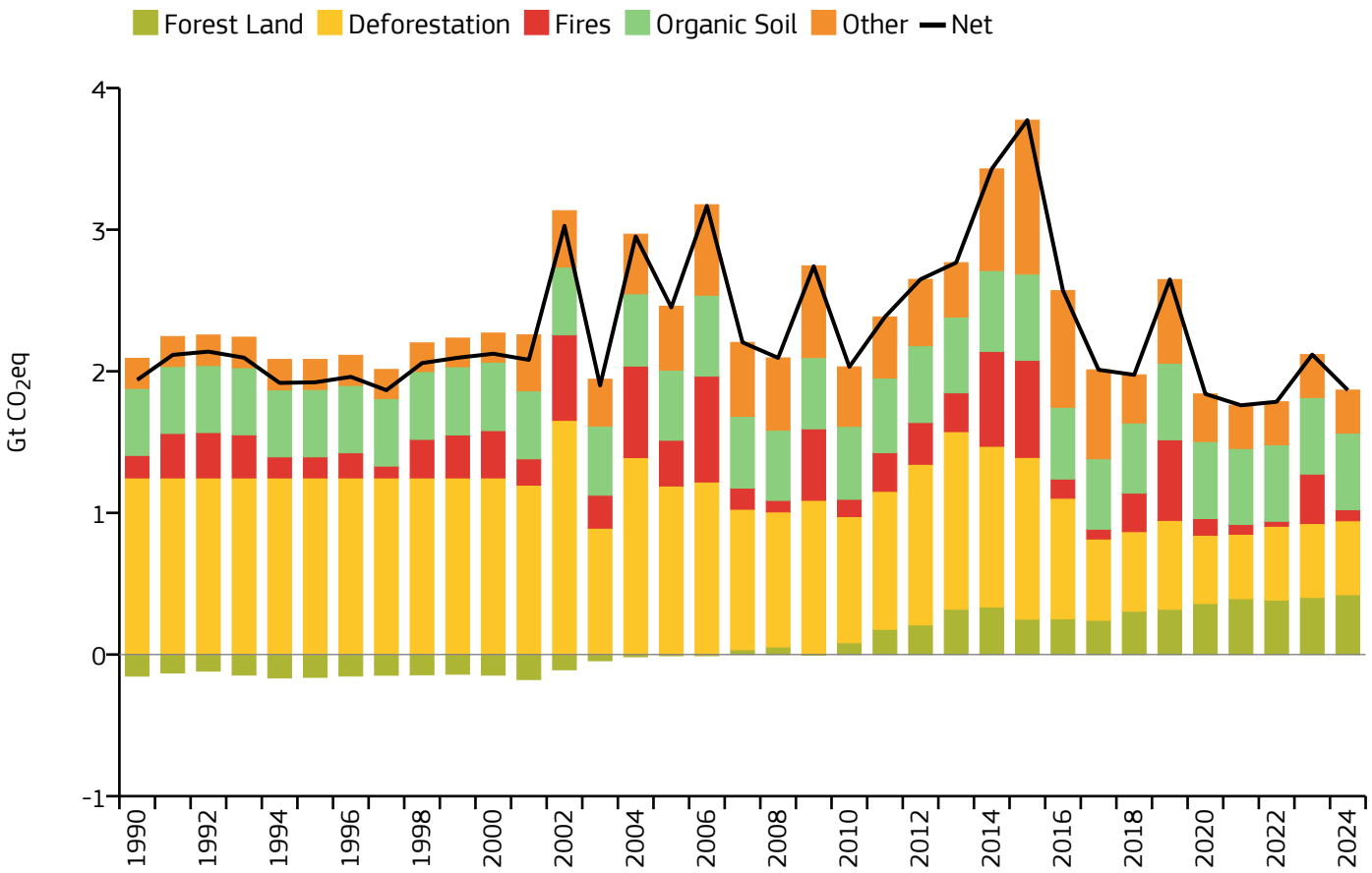


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	-0.159	-0.186	-0.531	-0.397

Countries included in North America:
Canada; Saint Pierre and Miquelon; United States.

South-East Asia and Pacific

GHG emissions and removals from LULUCF sector

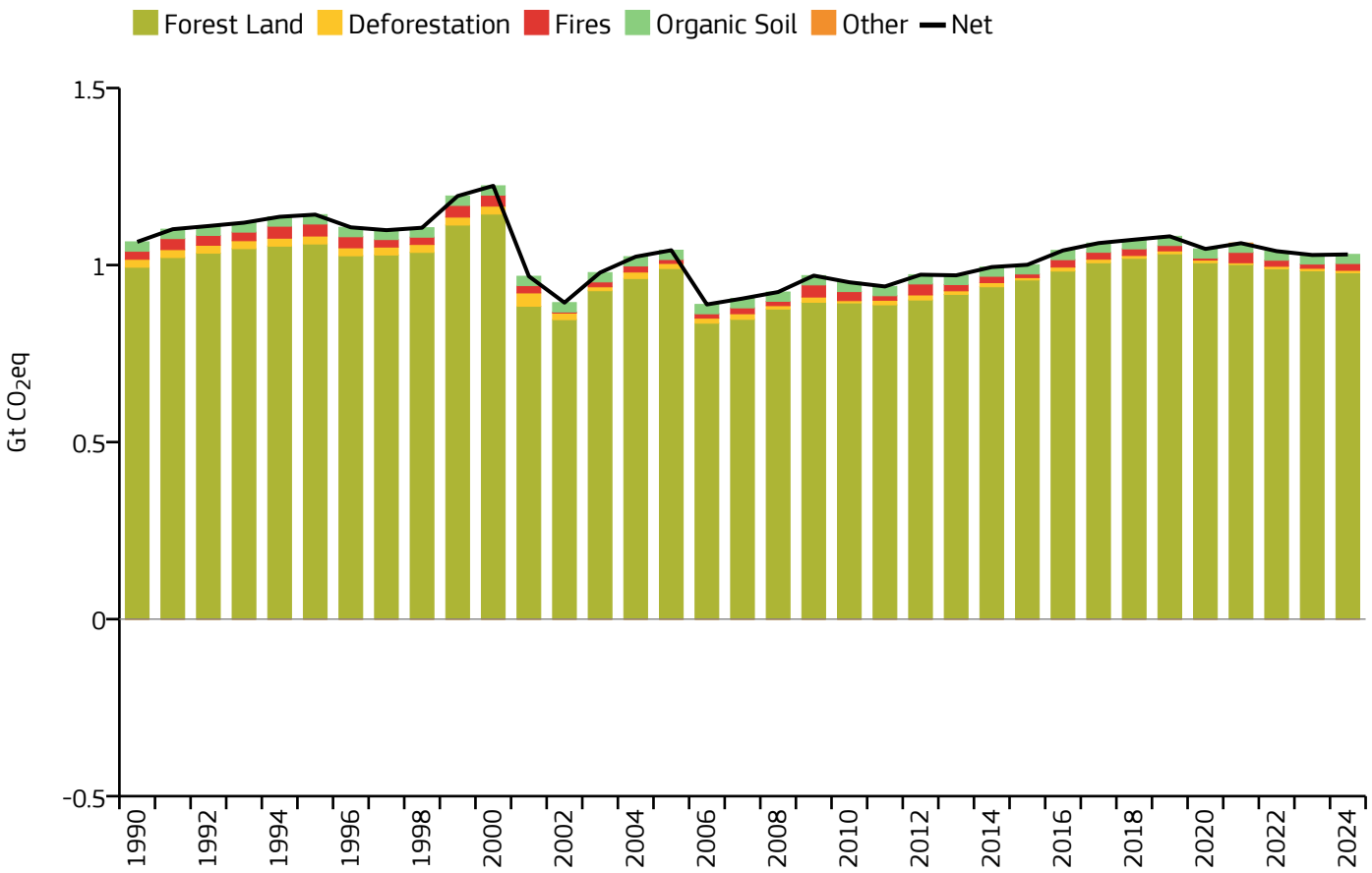


Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	1.939	2.124	3.773	1.867

Countries included in South-East Asia and Pacific:
Brunei; Cambodia; Cook Islands; Fiji; French Polynesia; Indonesia; Kiribati; Laos; Malaysia; Myanmar/Burma; New Caledonia; Palau; Papua New Guinea; Philippines; Samoa; Singapore; Solomon Islands; Thailand; Timor-Leste; Tonga; Vanuatu; Viet Nam.

Southern Asia

GHG emissions and removals from LULUCF sector



Year	1990	2000	2015	2024
Net flux (Gt CO_2eq /yr)	1.066	1.224	1.001	1.030

Countries included in Southern Asia:
Afghanistan; Bangladesh; Bhutan; India; Maldives; Nepal; Pakistan; Sri Lanka.

Disclaimer

This publication presents GHG emissions from all countries, while GHG emissions from LULUCF are presented for the EU27 and by macro-regions.

Throughout this report, the term ‘country’ or ‘countries’ is used to refer to entities that include countries and/or territories in accordance with the list available at the Interinstitutional Style Guide of the European Union and the “Short name” definition listed in the "List of countries, territories and currencies" table at https://style-guide.europa.eu/en/content/-/isg/topic?identifier=annex-a5-list-countries-territories-currencies has been used (updated on 30/06/2025). This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.

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