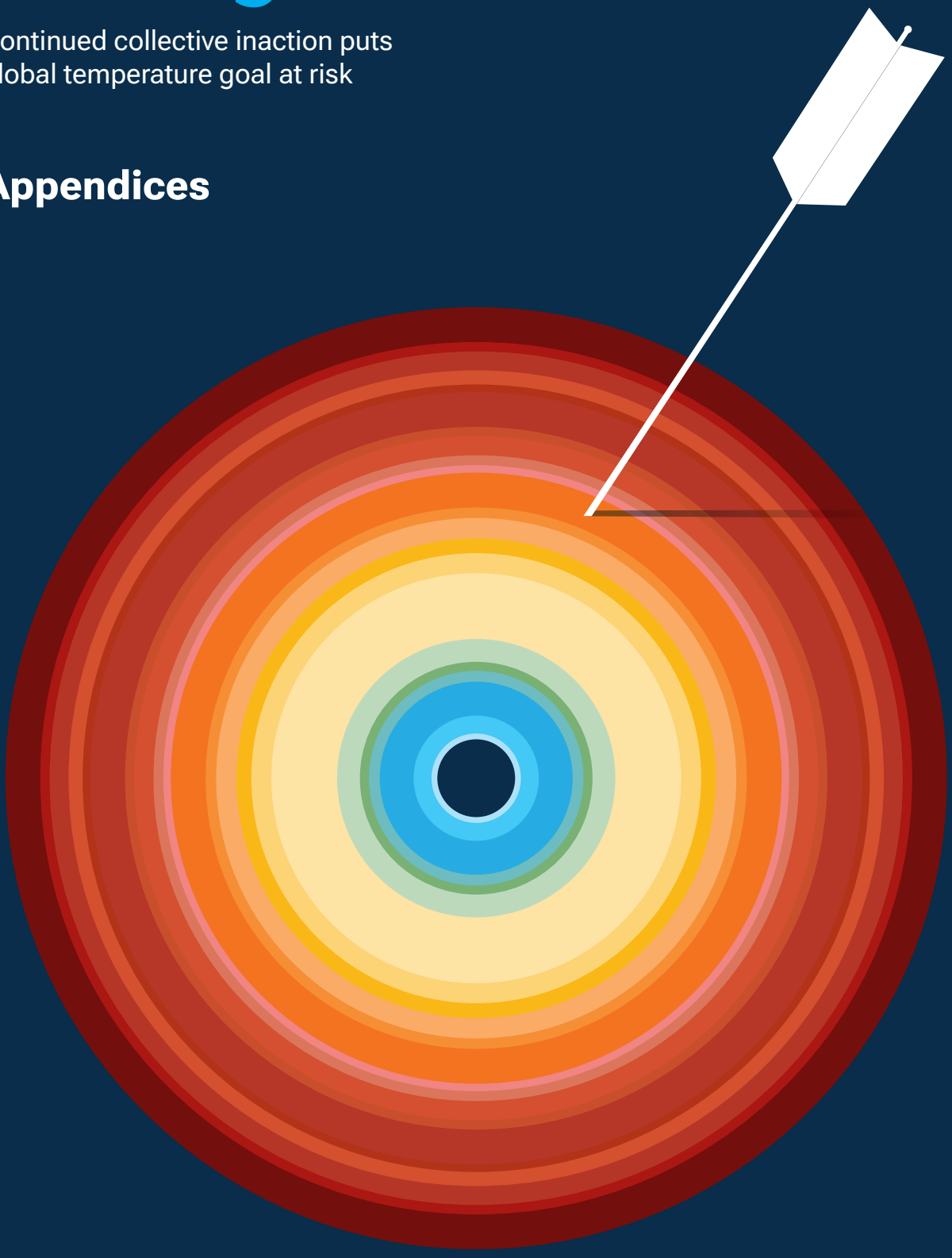
UN environment programme

Off target

Continued collective inaction puts global temperature goal at risk

Appendices



Emissions Gap Report 2025

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Appendices

Emissions Gap Report 2025

Appendix A.
Supplementary material for chapter 2 – Global emissions trends

A.1 Uncertainties and methodological choices

Uncertainties in emissions estimates are reported following the Intergovernmental Panel on Climate Change Working Group III Sixth Assessment Report (IPCC WGIII AR6) (Dhakal *et al.* 2022; Minx *et al.* 2021), corresponding to a 90 per cent confidence interval: ±8 per cent for fossil carbon dioxide (CO_2), ±70 per cent for land use, land-use change and forestry (LULUCF) CO_2, ±30 per cent for methane (CH_4) and F-gases, and ±60 per cent for nitrous oxide (N_2O). Reflecting these uncertainties, global emissions estimates are rounded to the first decimal place of billions of tons of CO_2 equivalent, while current national emissions estimates are reported to three significant figures in millions of tons of CO_2 equivalent. Rates of change are reported to the first decimal place and fractions are rounded to the nearest 1. Chapter 2 follows a territorial-based accounting of emissions (i.e. emissions are allocated to the sectors and nations where they occur) unless otherwise noted. The latest years of emissions data should be treated as preliminary – particularly in the case of LULUCF CO_2 and non-CO_2 greenhouse gas (GHG) emissions – due to the use of provisional methodologies based on available activity data. Emissions are generally reported up to 2024. However, due to data limitations, this is not possible for inventory-based LULUCF CO_2. Growth rates are adjusted for leap years, as in Al Khourdajie *et al.* (2023).

A.2 Comparison of estimates to previous Emissions Gap Reports

The EDGAR and the Global Carbon Budget datasets are updated on a yearly basis using the latest available statistical information on activities and emissions factors. These updates not only add additional years of data as they becomes available, but they also apply revisions to previously published data. This implies changes compared to prior reporting in the Emissions Gap Report, as summarized in table 2 for the year 2019. While differences can be substantial, particularly for non-fossil CO_2 emissions, they all lie within the standard uncertainty ranges used by chapter 2.

Table A.1 Emissions in 2019 as reported in previous Emissions Gap Reports

$GtCO_2e$	**Emissions Gap Report 2022**	**Emissions Gap Report 2023**	**Emissions Gap Report 2024**	**Emissions Gap Report 2025**
GHG	56.4±5.4	56.9±5.6	55.9±5.5	54.6±5.1
Fossil CO_2	38±3	37.8±3	38.1±3	38±3
LULUCF CO_2 (Bookkeeping)	3.8±2.7	4.6±3.2	4.6±3.2	3.79±2.7
LULUCF CO_2 (Inventory)	-1.9±-1.3	-2.4±-1.7	-2.8±-2	-3.55±-2.5
CH_4	10.6±3.2	10.5±3.2	9.3±2.8	8.95±2.7
N_2O	2.6±1.6	2.6±1.5	2.5±1.5	2.49±1.5
F-gases	1.4±0.42	1.4±0.42	1.4±0.42	1.41±0.4

A.3 On the use of national inventories versus third-party emissions data

Chapter 2 of the Emissions Gap Report provides estimates of GHGs up to one year prior to publication (for this year, up to 2024). One of the challenges in providing this timely update is that national emissions inventories (hereafter 'inventories') are not usually available for the prior year at the time of publication. The National Inventory Reports, published by developed country Parties, and the Biennial Transparency Reports (BTRs), published by all countries, typically include emissions up to two years prior. In addition, submitted BTRs do not always cover all gases, sectors and years, or are simply not available for all countries (see box 2.4 in chapter 2).

As a result, the analysis in chapter 2 relies on third-party data to track global, national and sectoral emissions. Table 2 describes a selection of third-party datasets. The choice of the Emissions Database for Global Atmospheric Research (EDGAR) as the primary dataset for GHG emissions in chapter 2 reflects its comprehensive coverage of gases and timely update schedule, which can provide estimates for the prior year at the time of publication.

Besides the timing of inventories and third-party data releases, a key consideration is data quality. It can be argued that compared to third-party data, inventories often use more detailed methodologies and can apply country-specific emissions factors, reflecting considerable national investments in data gathering and analysis. This may especially be the case for developed country Parties, which have accumulated significant experience in reporting inventories. It should be noted that the EDGAR database used in this chapter is predominantly based on Tier 1 emission factors, whereas inventories often use more detailed Tier 2 or Tier 3 emission factors (Banja *et al.* 2025). On the other hand, a number of studies have found that inventories tend to diverge from top-down atmospheric inversions of CH_4 emissions, indicating that further improvements are needed in specific sectors such as agriculture, waste and fossil fuel production (Deng *et al*. 2022; Janardanan *et al.* 2024; Scarpelli *et al.* 2022; Tibrewal *et al.* 2024). As described in box 2.3 in chapter 2 (Transparency in national greenhouse gas emissions reporting), inventory reporting remains instrumental to the Paris Agreement and the tracking of progress towards national pledges.

Table A.2 Overview of selected global datasets of GHG emissions

Dataset name	Version	Gases	Time period	Link
Emissions Database for Global Atmospheric Research (EDGAR)	10	CO_2-FFI, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3	1970–2024	https://edgar.jrc.ec.europa.eu/report_2025
Potsdam Real-time Integrated Model for probabilistic Assessment of emissions Paths (PRIMAP)	2.6.1	CO_2-FFI, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3	1750–2023	https://zenodo.org/records/15016289
Community Emissions Data System (CEDS)	2025.03.18	CO_2-FFI, CH_4, N_2O	1970–2023	https://zenodo.org/records/15059443
Global Carbon Budget (GCB)	2024	CO_2-FFI, CO_2-LULUCF	1850–2023 (national); 1850–2024 (global)	https://globalcarbonbudget.org/

Note: Details are subject to change, as these datasets are in continuous development.

A.4 Implications of different definitions of anthropogenic land use emissions

Land use is essential in the path towards net zero. For example, recent studies have shown the LULUCF sector accounts for up to one quarter of pledged mitigation effort in the nationally determined contributions (NDCs) (Roman-Cuesta *et al.* 2025). However, the mismatch between global bookkeeping and national inventory-based LULUCF estimates due to different definitions of what to count towards anthropogenic land-use fluxes complicates the assessment of the role of land use, and in addition has important implications for evaluating collective climate progress (Allen *et al.* 2025; Gidden *et al.* 2023; Grassi *et al.* 2018; Grassi *et al.* 2021).

A recent IPCC Expert Meeting (IPCC 2024) brought together key experts from global models, Earth observation and national GHG inventories to foster a common understanding, promote collaboration and translate between different estimation approaches. An important question concerns the direction of this translation. While the direct observations typically used in national GHG inventories cannot accommodate the global model approach, global models are more flexible and can, in principle, be adapted to approximate inventory-based methods. This understanding and the need to ensure consistency between definitions is reflected in the approved outlines for the IPCC AR7 (IPCC 2025).

Furthermore, the implications of this alignment for emission pathways at both global and national levels must be clearly communicated (Grassi *et al.* 2025), including the fact that under the national inventory definition, the carbon budget is smaller and that achieving net-zero CO_2 alone is insufficient to halt global warming (Allen *et al.* 2025).

The ultimate goal is to achieve more credible and comparable LULUCF estimates across communities, enabling a more consistent and confident assessment of collective climate progress. This will require efforts from both the GHG inventory community – by enhancing transparency and the quality of estimates – and the global modelling community, which should improve translation methodologies and implement them at the country level. At the same time, policymakers need to understand the implications and scale up their climate targets accordingly (Allen *et al.* 2025; Grassi *et al.* 2025). This is particularly important for forest-rich countries, where the contribution of 'natural' sinks to climate targets can be significant.

A.5 Data and code availability

The code and data used to produce all emissions estimates in this chapter are available here: https://github.com/lambwf/UNEP-Gap-Report-2025-Chapter-2.

A.6 Additional figures

Figure A.1 Total net GHG emissions by source

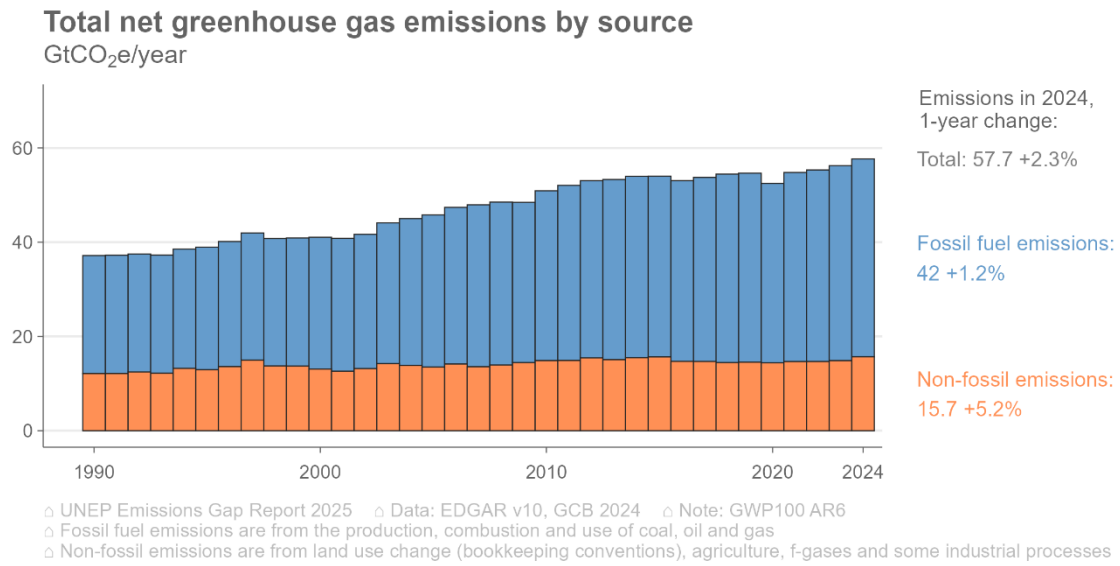


Figure A.2 Differences in net land use change (LULUCF) estimates

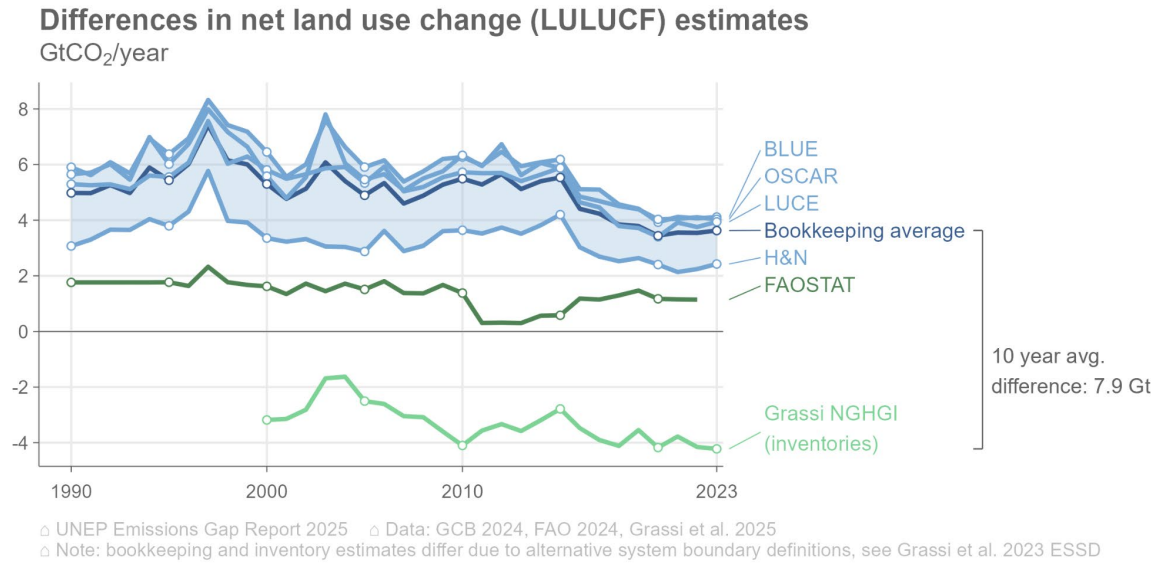


Figure A.3 Total net GHG emissions and their uncertainties

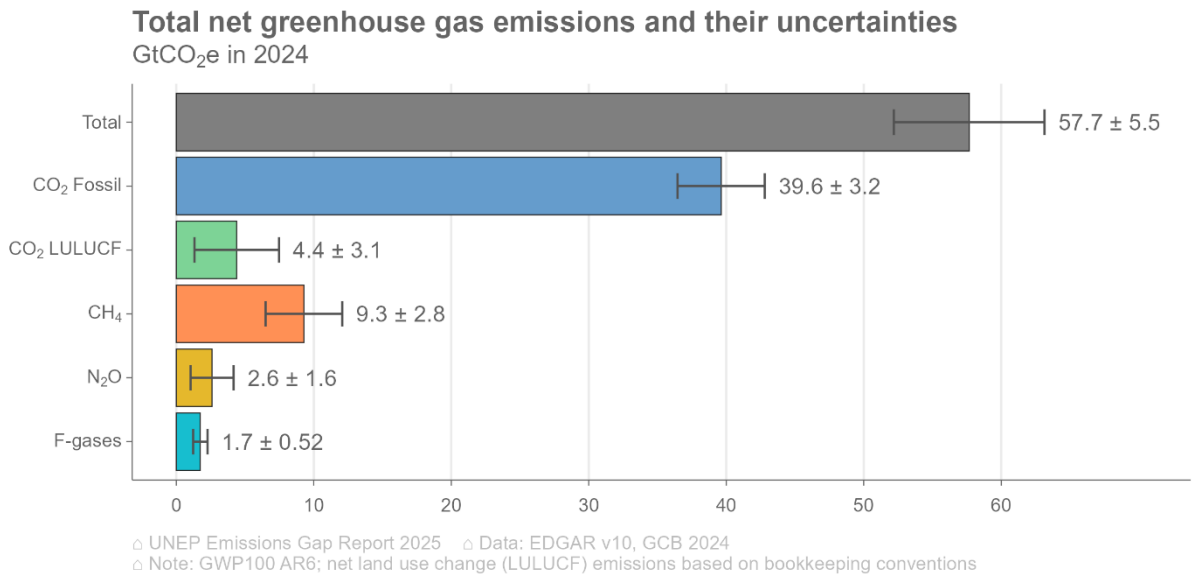


Figure A.4 Total net GHG emissions by sector

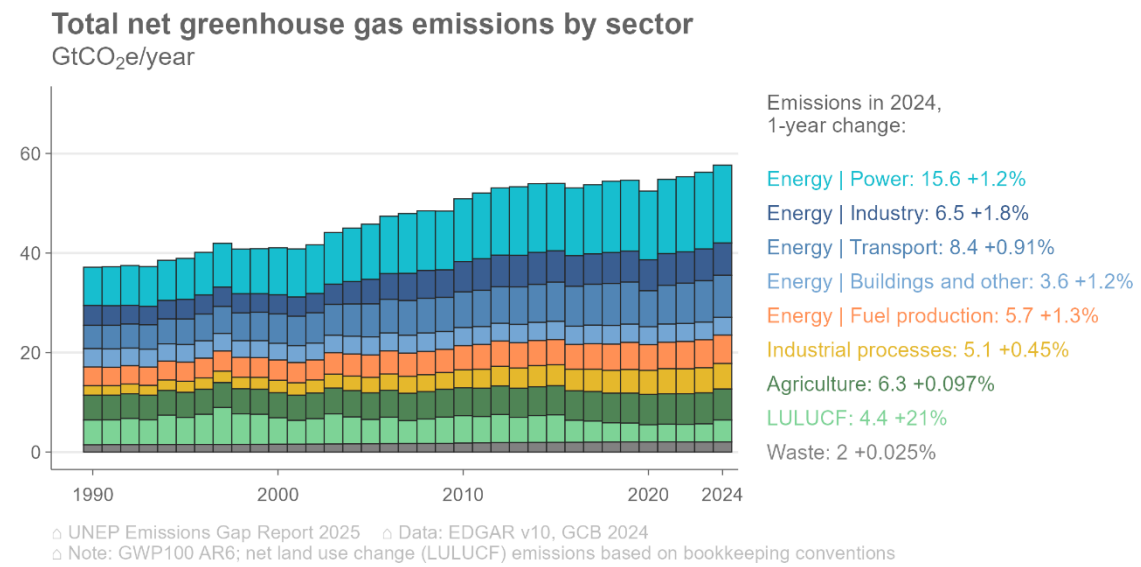


Figure A.5 Share of total GHG emissions by major emitters, excluding LULUCF

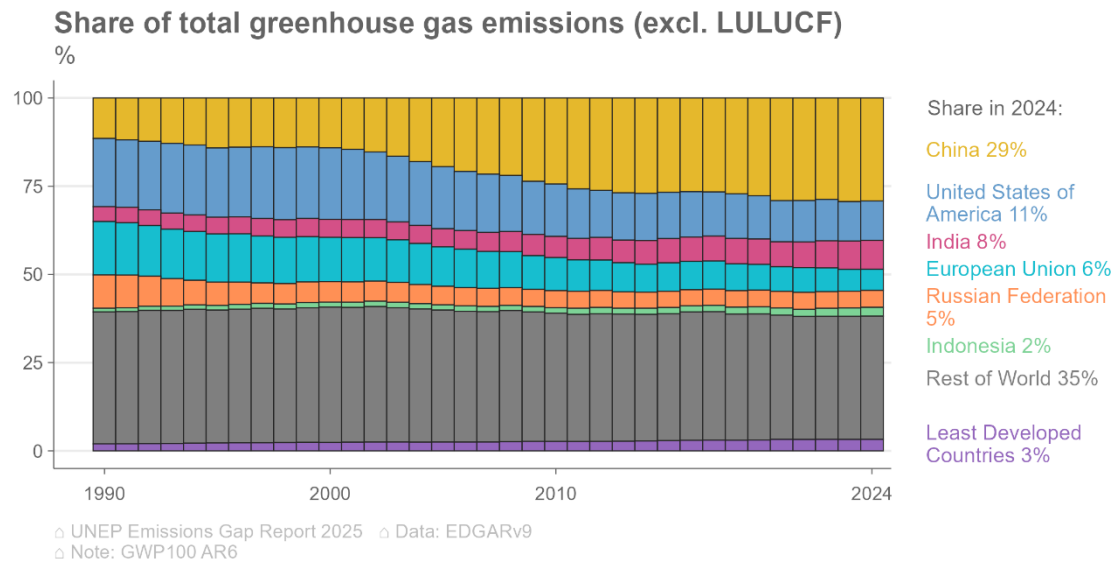


Figure A.6 Share of total GHG emissions by major emitters, including LULUCF

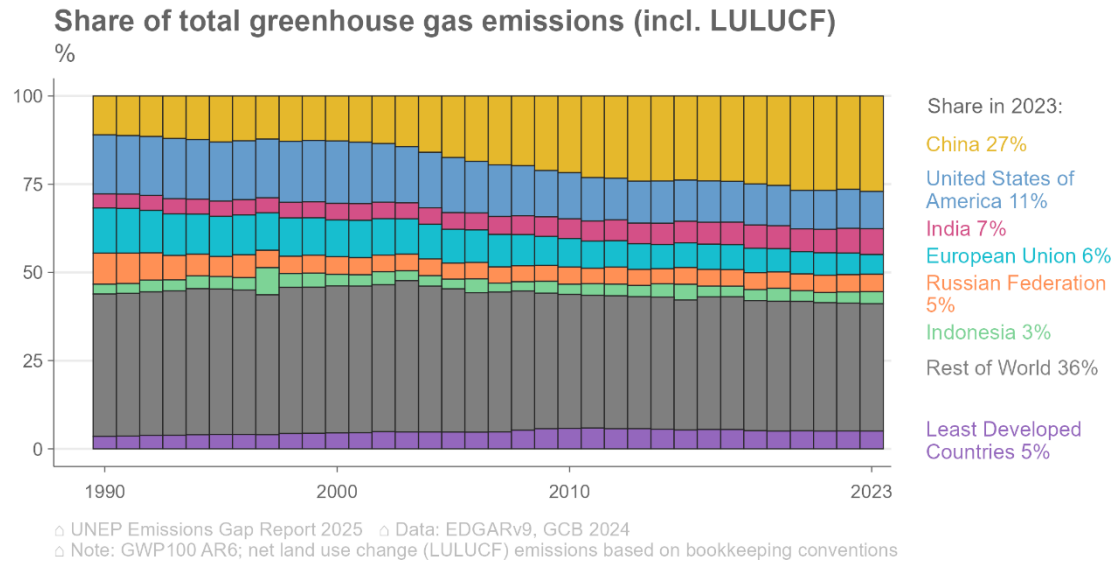


Figure A.7 Share of total GHG emissions by country category, excluding LULUCF

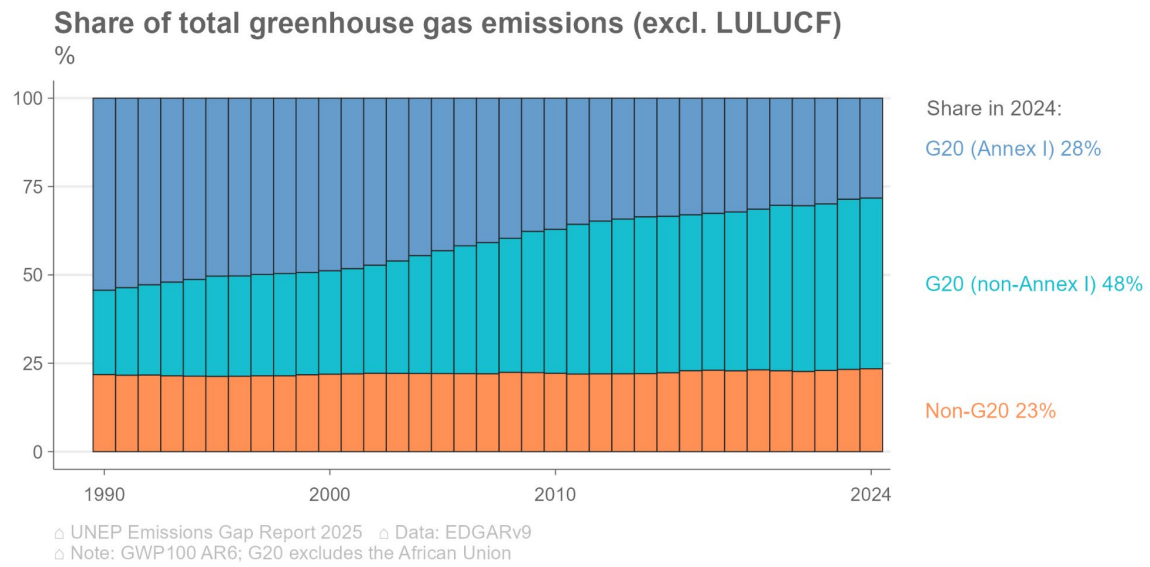


Figure A.8 Share of total GHG emissions by country category, including LULUCF

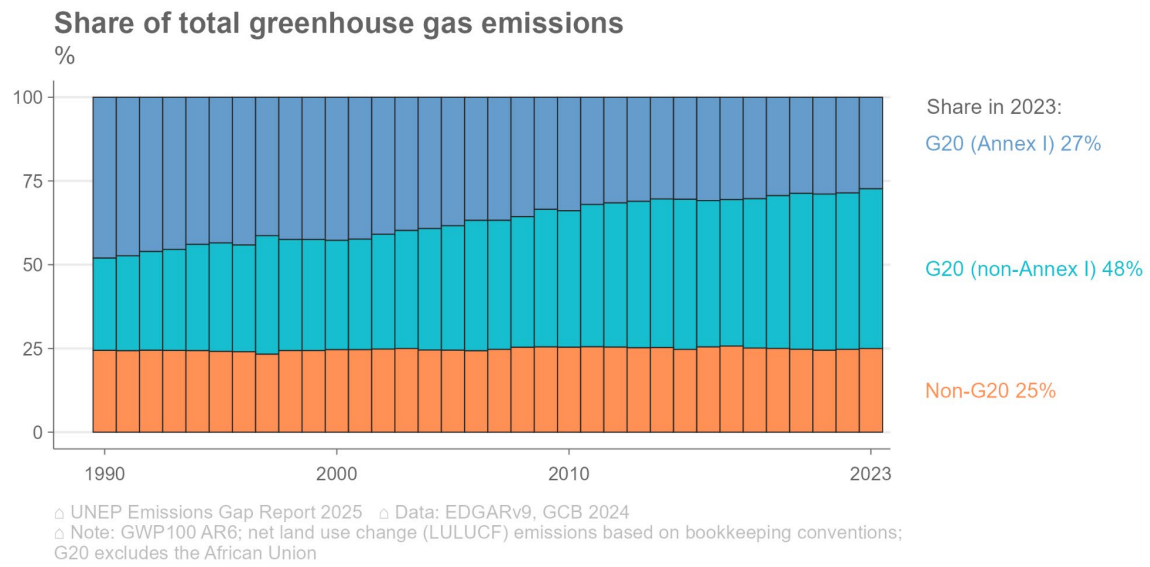
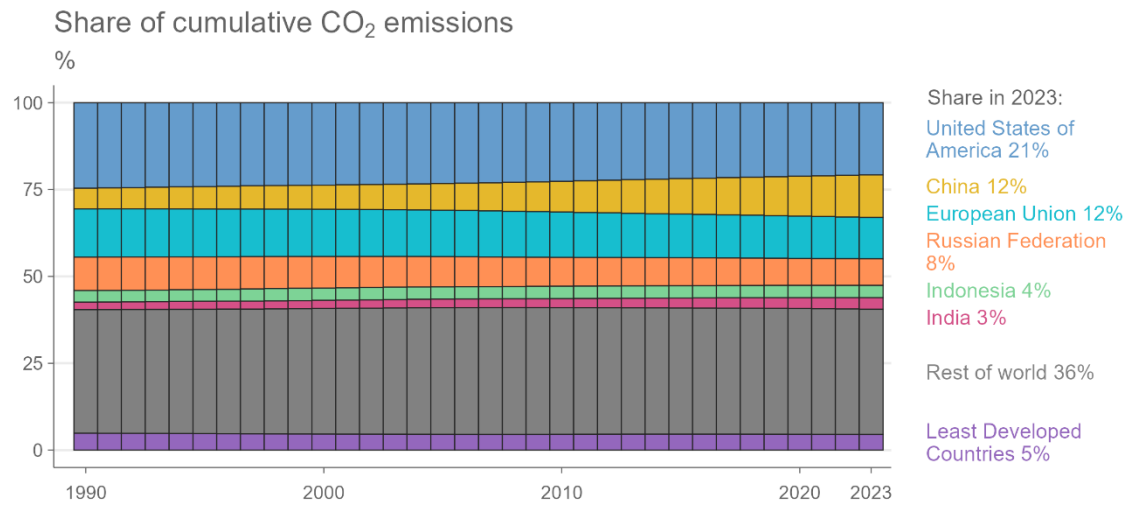
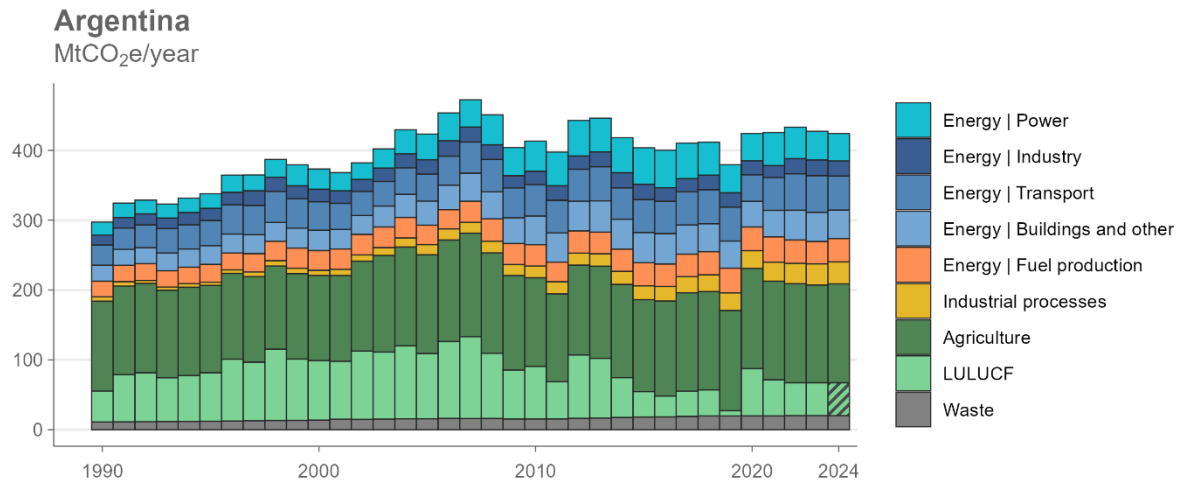


Figure A.9 Share of cumulative CO_2 emissions from 1990 by high emitter, including LULUCF



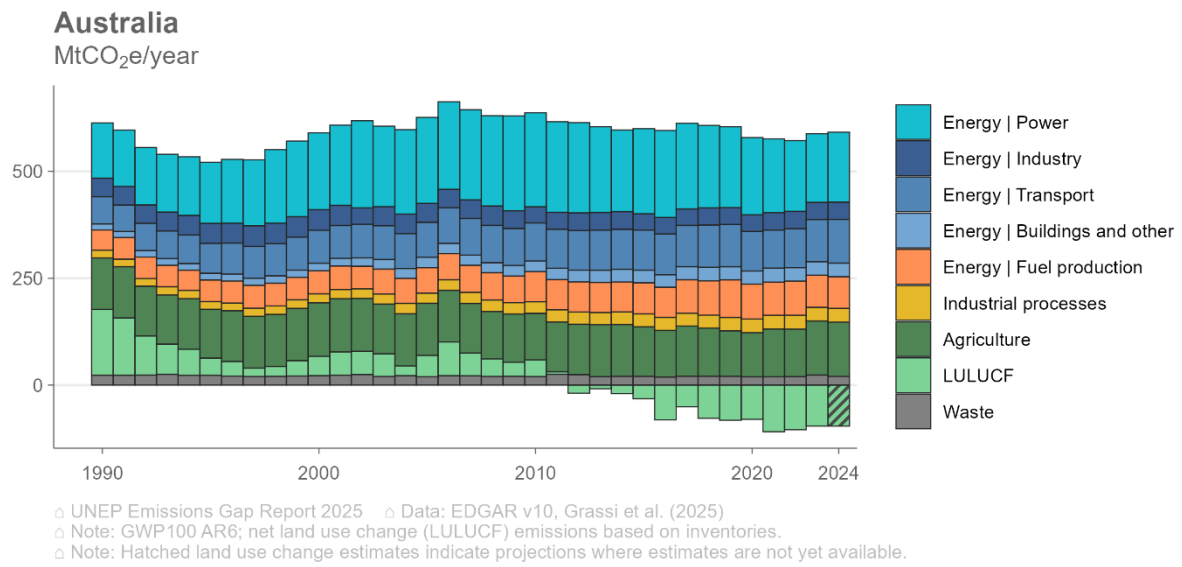
⌂ UNEP Emissions Gap Report 2025 ⌂ Data: GCB 2024
⌂ Note: Includes fossil and net land use change (LULUCF) emissions, with the latter based on bookkeeping conventions

Figure A.10 GHG emissions of Argentina



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.11 GHG emissions of Australia



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
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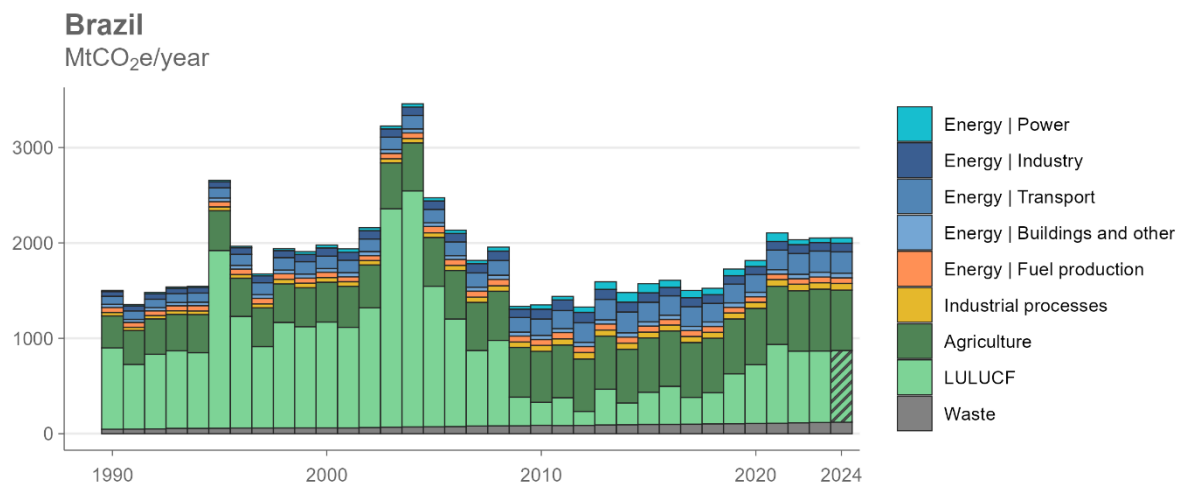
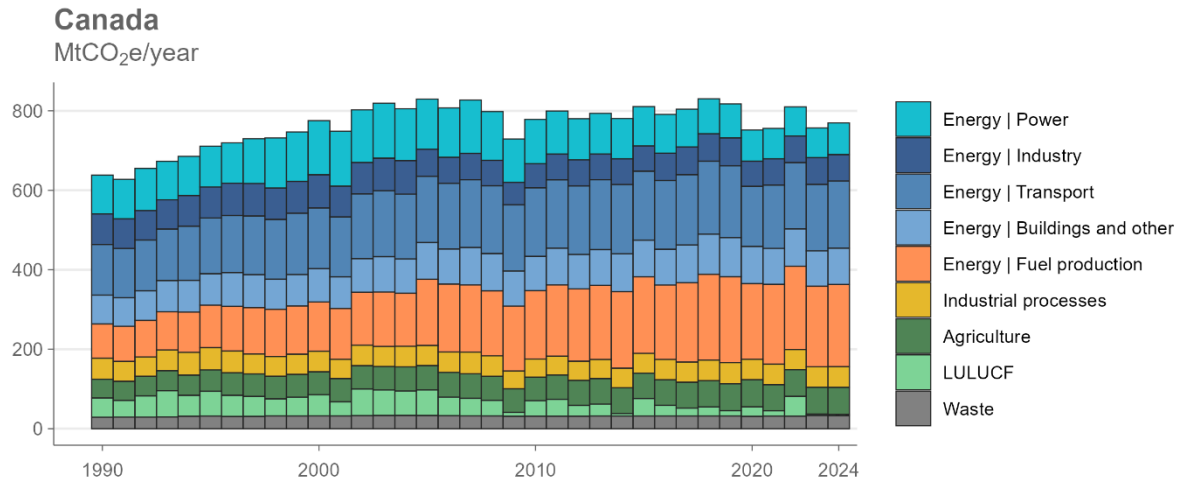
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.12 GHG emissions of Brazil



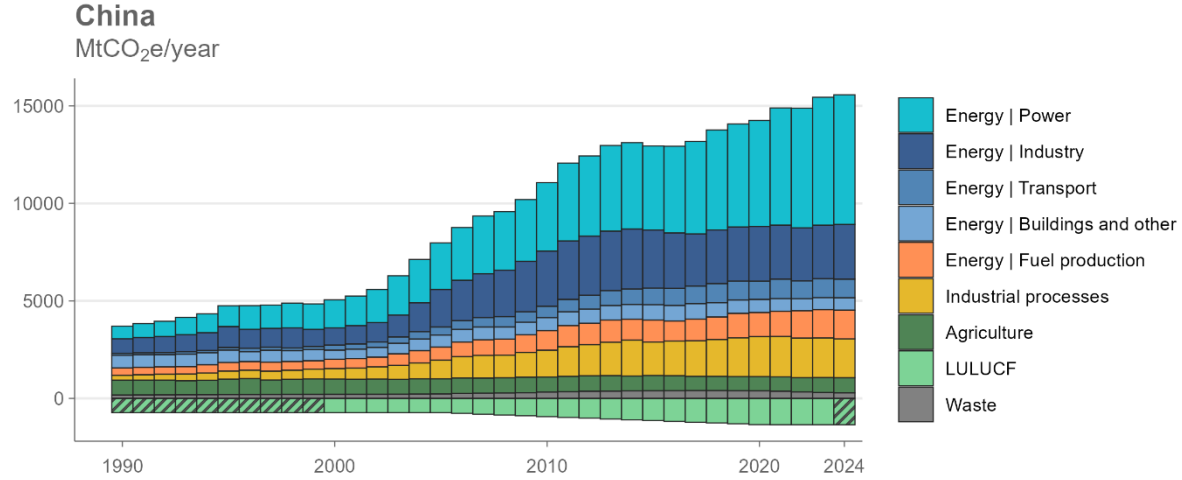
⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.13 GHG emissions of Canada



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.14 GHG emissions of China



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.15 GHG emissions of European Union

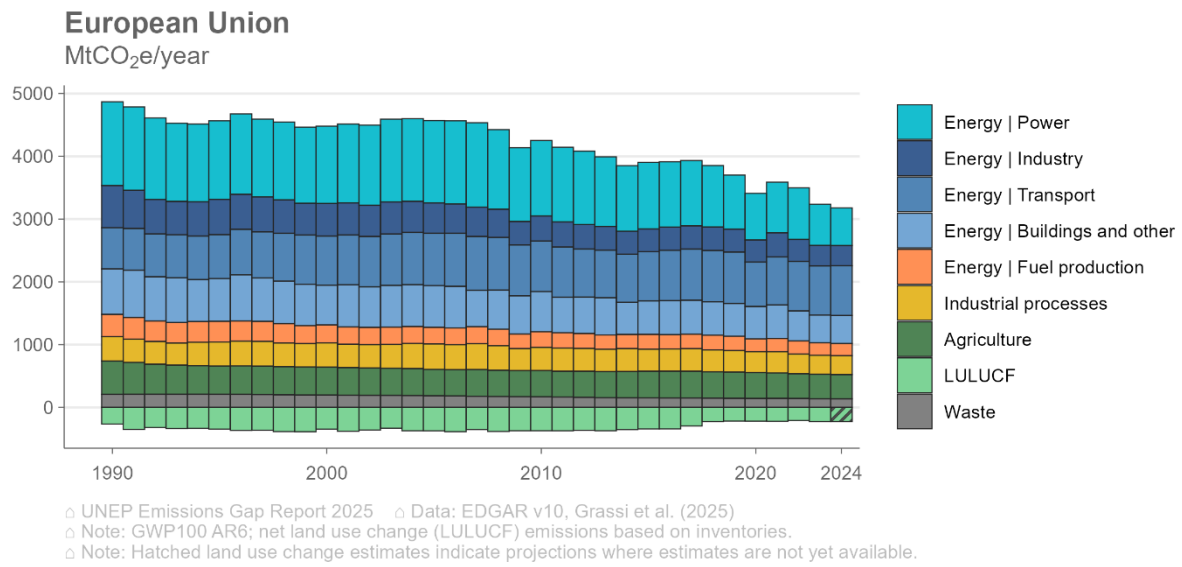


Figure A.16 GHG emissions of France

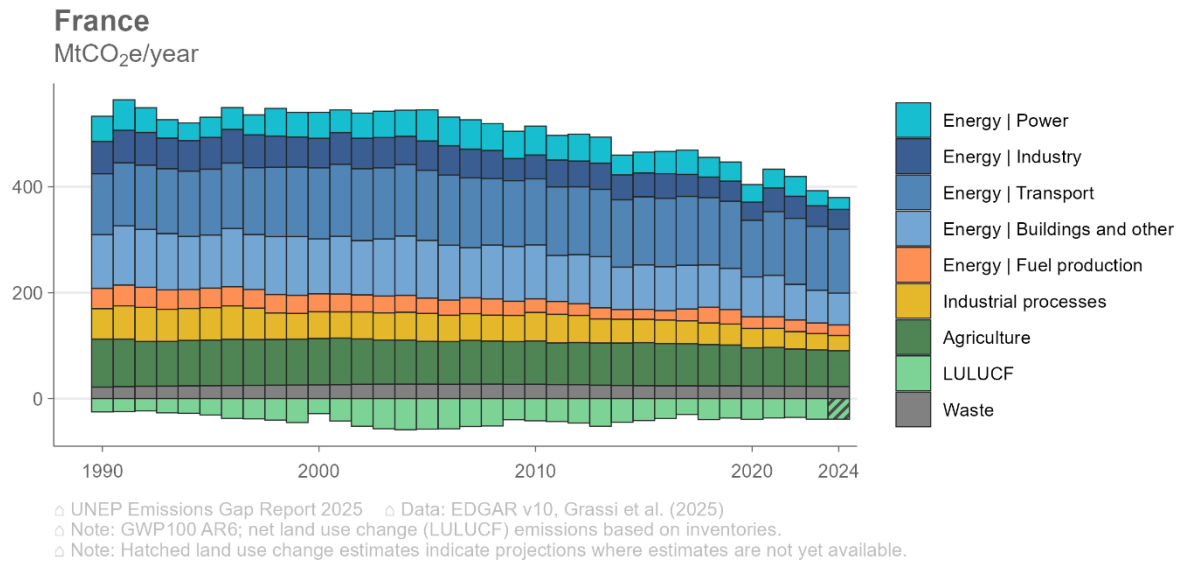
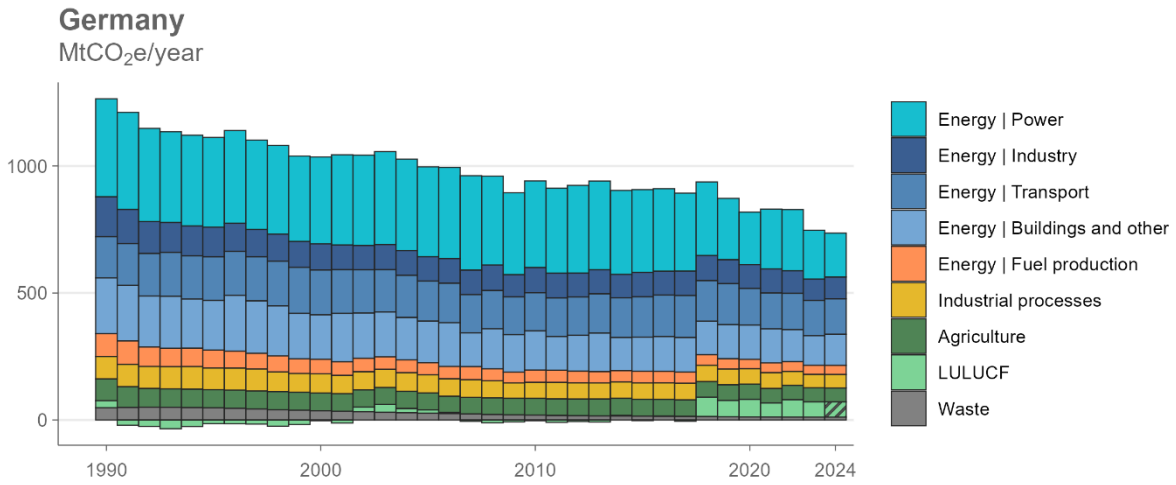
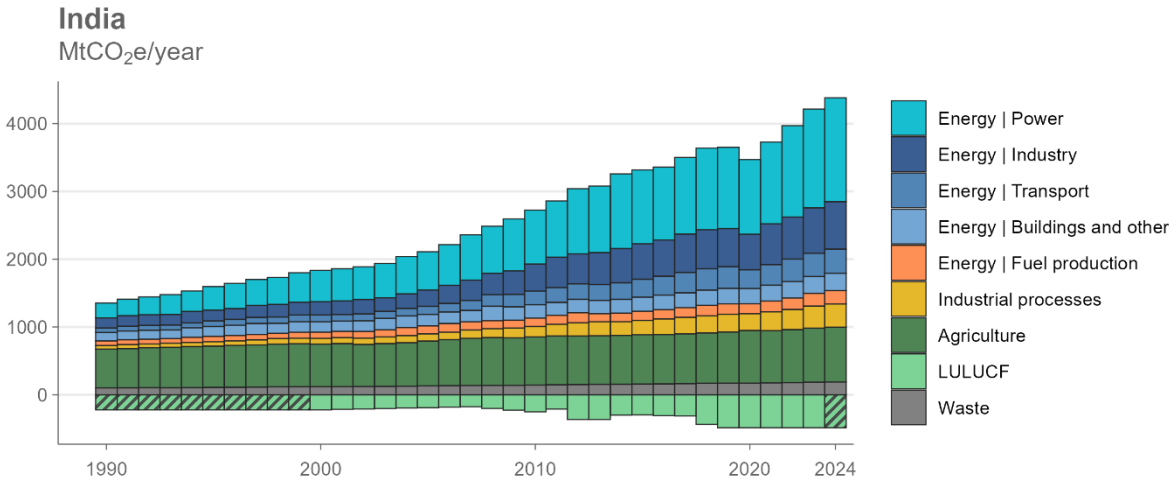


Figure A.17 GHG emissions of Germany



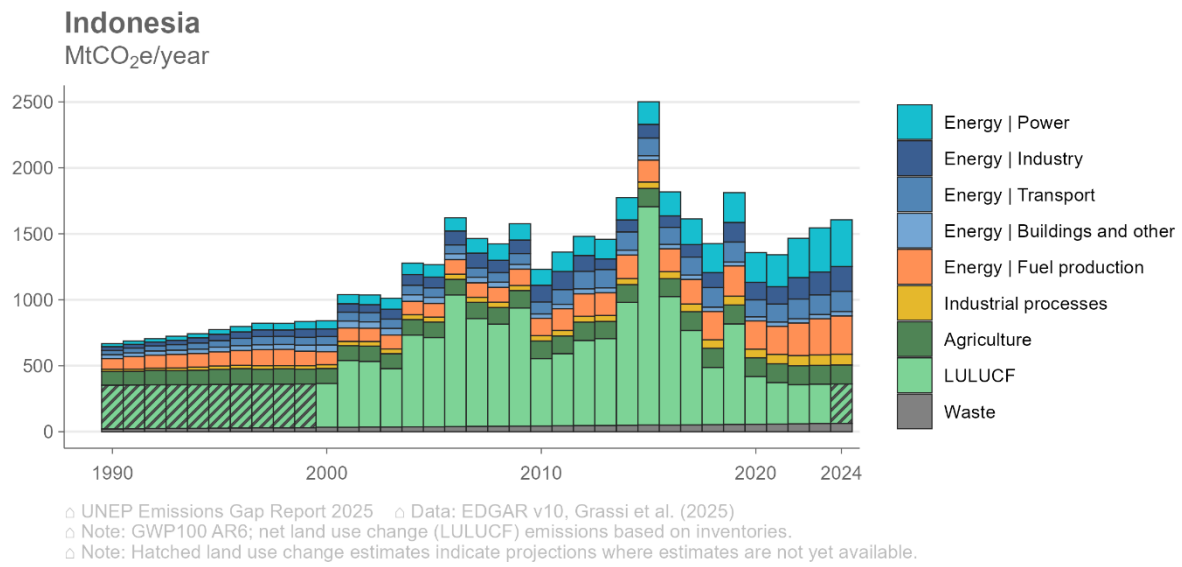
⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.18 GHG emissions of India



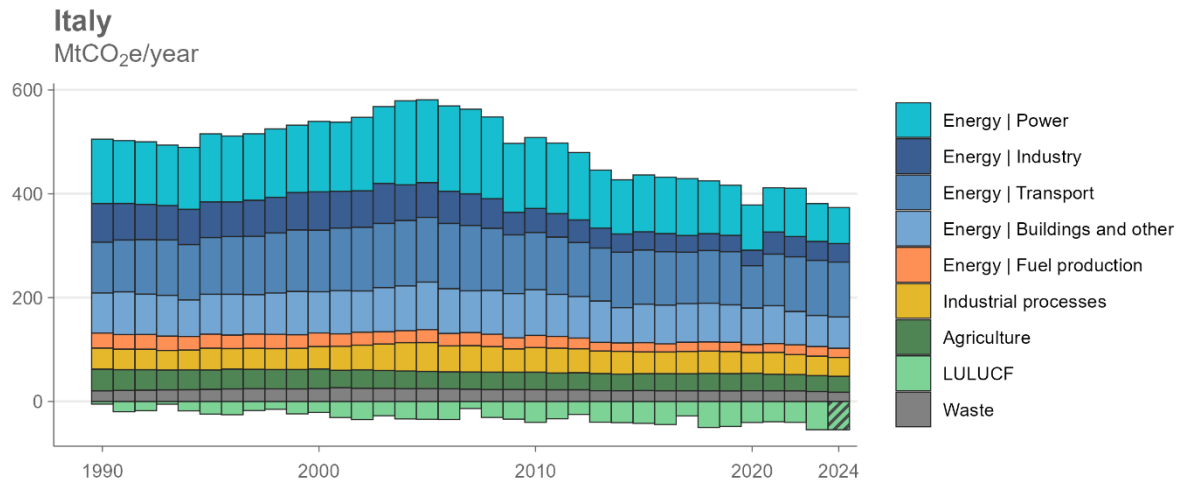
⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.19 GHG emissions of Indonesia



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.20 GHG emissions of Italy



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.21 GHG emissions of Japan

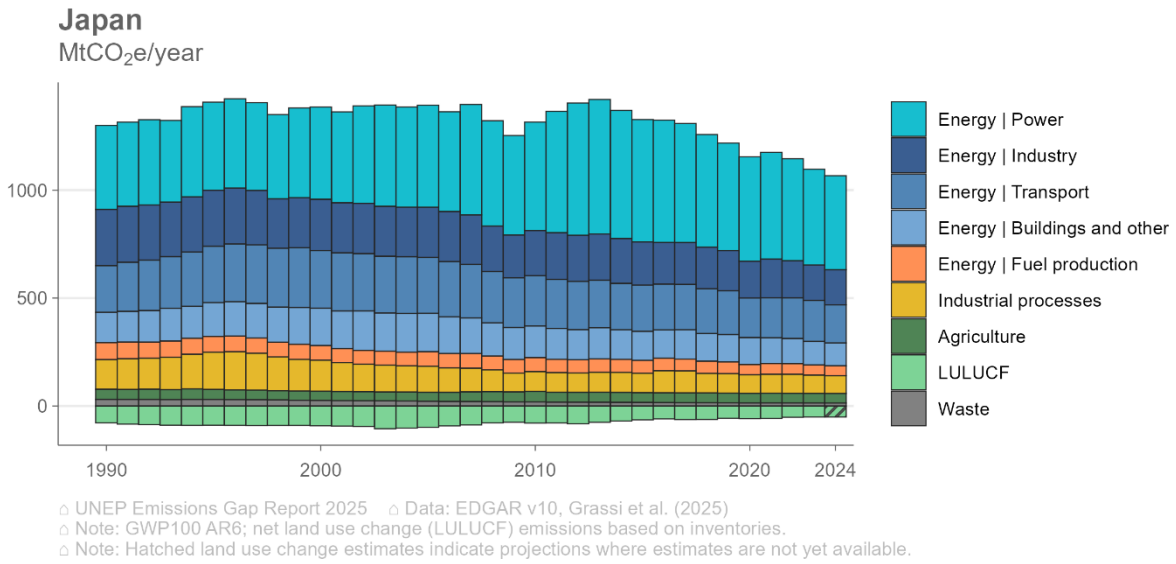


Figure A.22 GHG emissions of Mexico

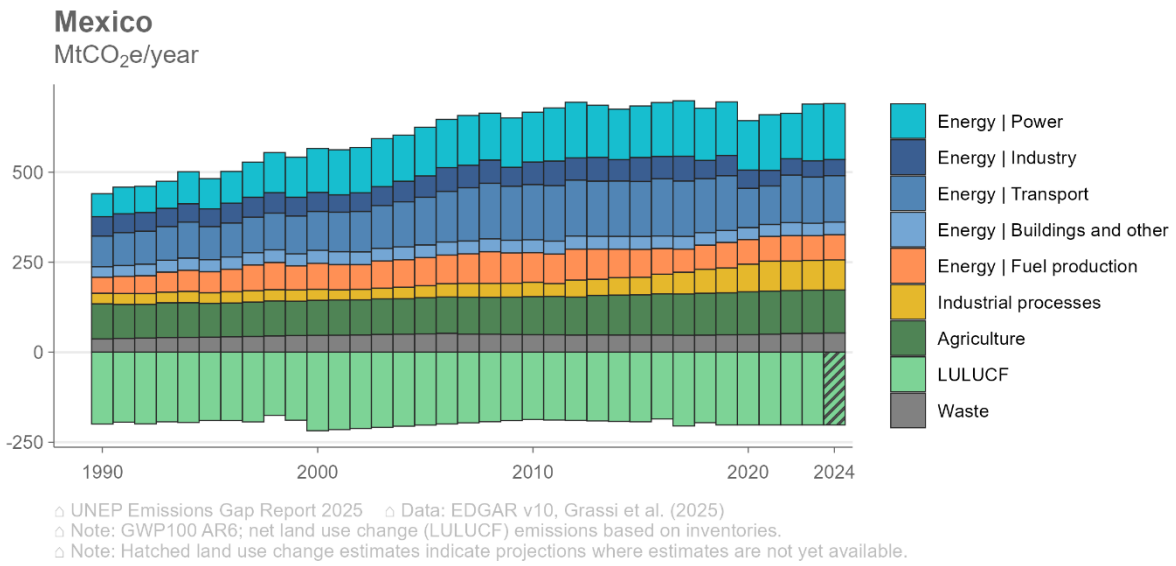
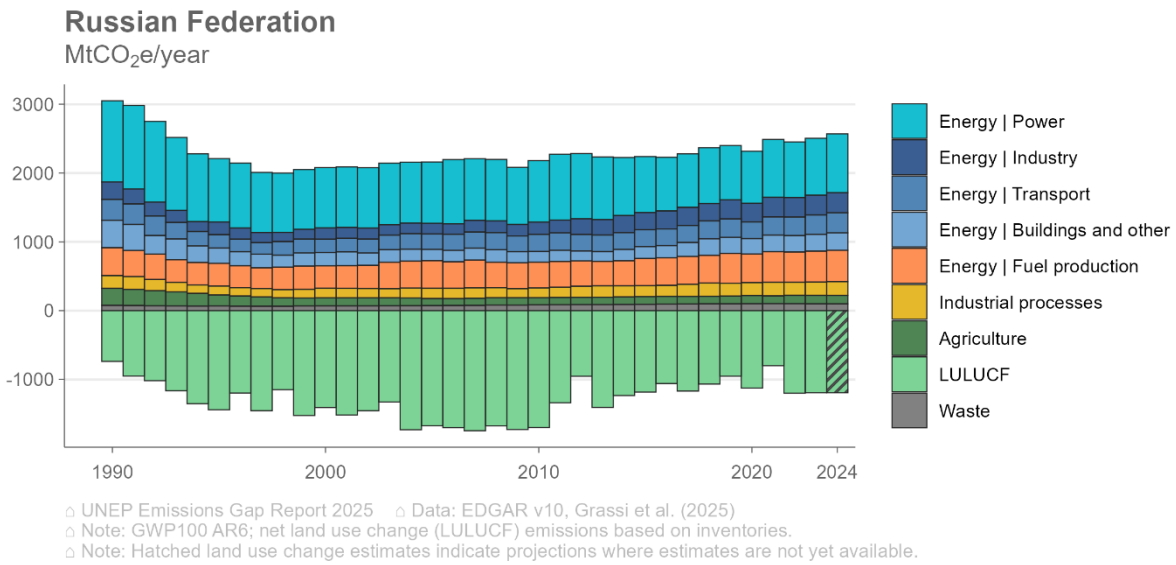
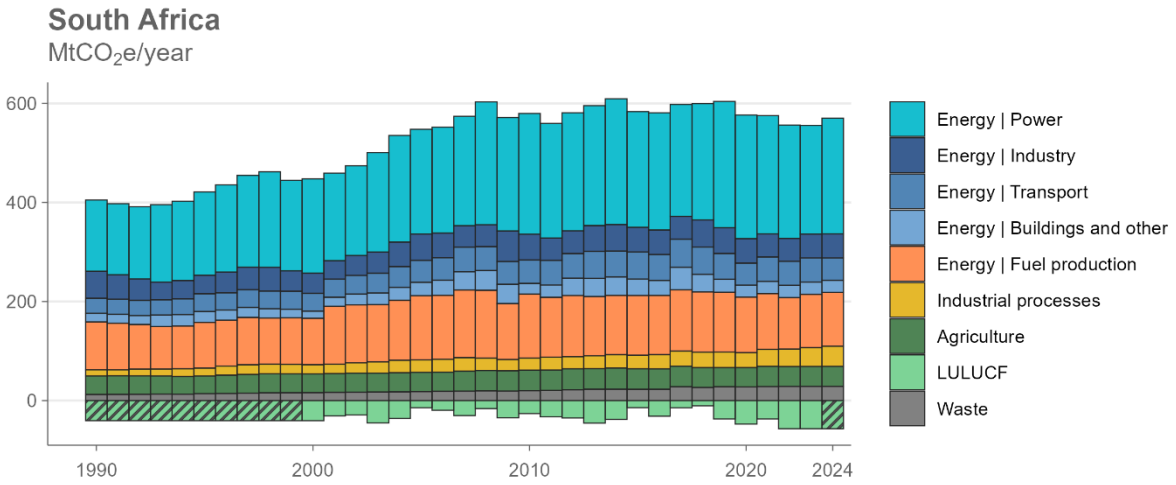


Figure A.23 GHG emissions of the Russian Federation



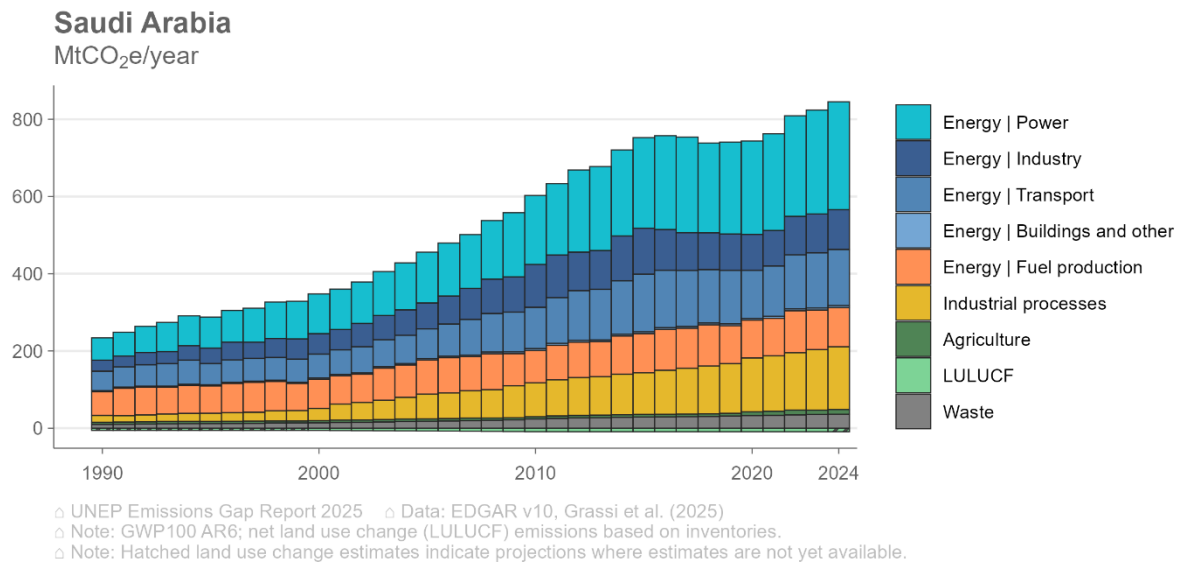
⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.24 GHG emissions of South Africa



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.25 GHG emissions of Saudi Arabia



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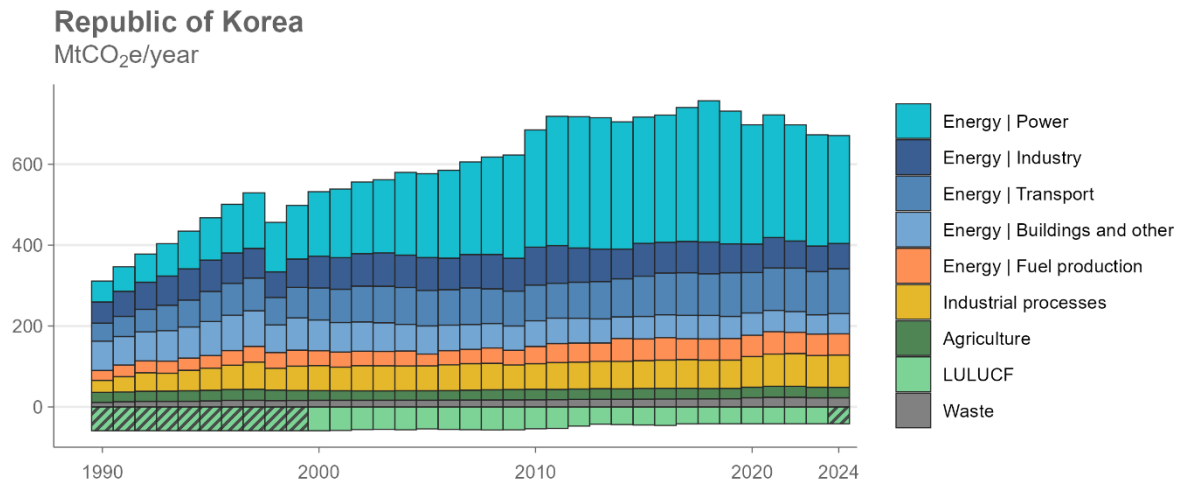
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.26 GHG emissions of the Republic of Korea



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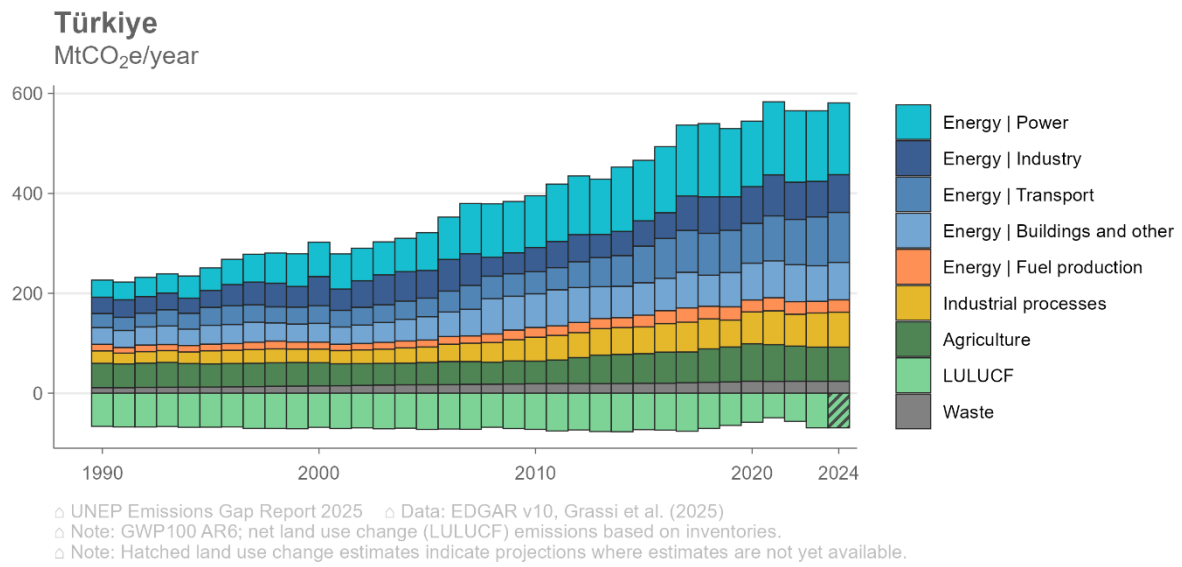
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.27 GHG emissions of Türkiye



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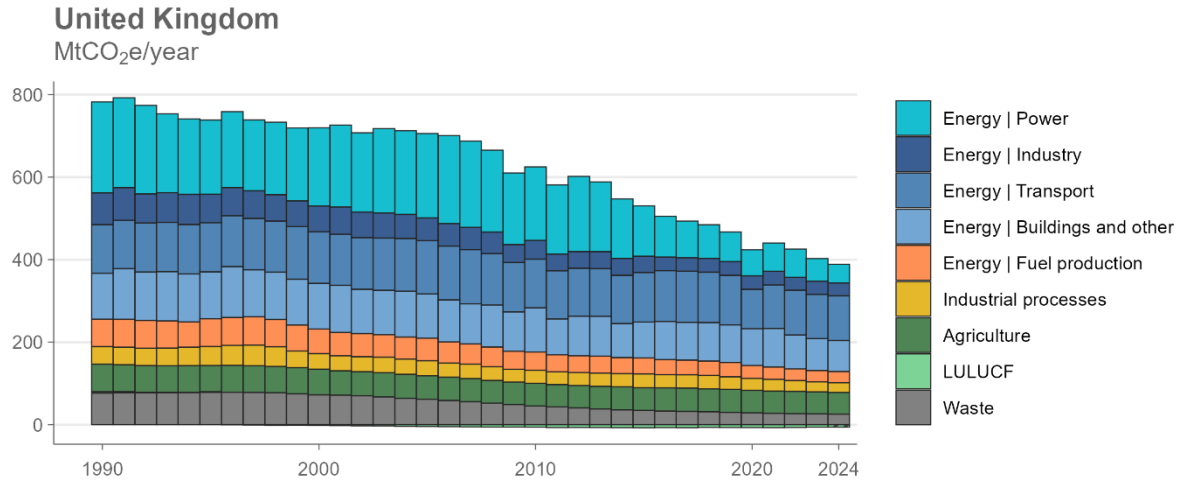
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.28 GHG emissions of the United Kingdom



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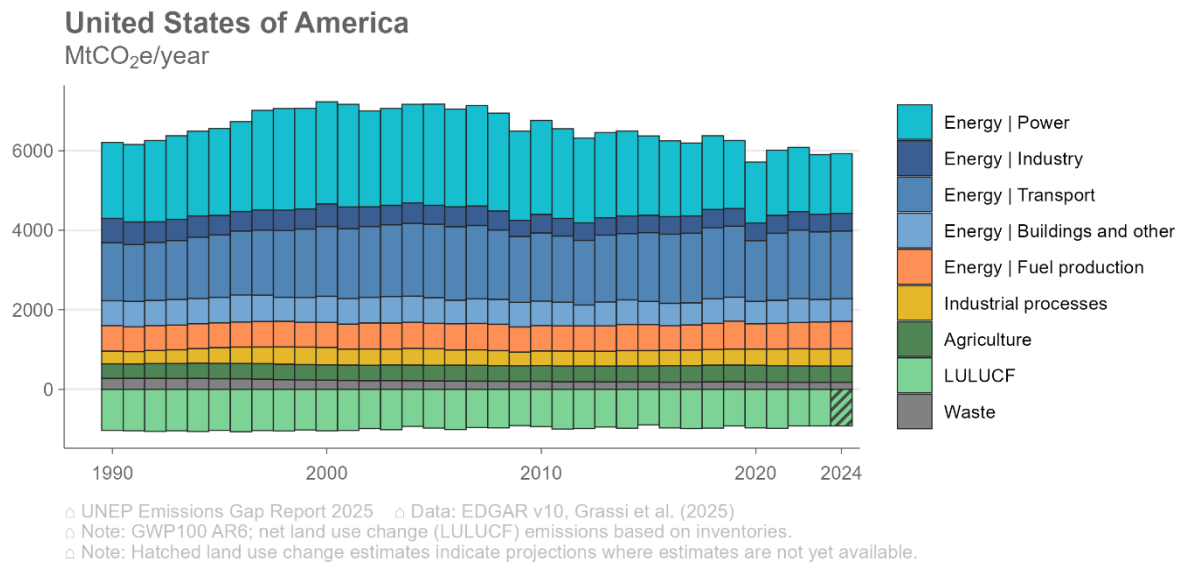
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

Figure A.29 GHG emissions of the United States of America



⌂ UNEP Emissions Gap Report 2025 ⌂ Data: EDGAR v10, Grassi et al. (2025)
⌂ Note: GWP100 AR6; net land use change (LULUCF) emissions based on inventories.
⌂ Note: Hatched land use change estimates indicate projections where estimates are not yet available.

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Appendix B
Supplementary material for chapter 3 – Nationally determined contributions and long-term pledges: The global landscape and G20 member progress

B.1 Indicators for assessing investment signals in NDCs

In order to measure progress and inform the development of more investable NDCs, Climate Policy Initiative has developed a framework for assessing the quality of the finance components of NDCs across seven key indictors, described in table B.1 (Alberti, Alanah and Sawant, 2025).

Table B.1 Key indicators for assessing investment signals in NDCs

Indicator		Description	Relevance
KEY INDICATORS			
1	Needs Scope	The inclusion of climate finance needs for implementing the NDC, and the extent to which they are quantified (e.g. no needs included versus fully or partially costed needs)	Clearly defined finance needs in NDCs: • enable effective resource mobilization and allocation planning • demonstrate financial planning maturity to potential investors • provide clarity on investment scale required for implementation
2	Needs granularity	The level of detail in cost estimates, ranging from high-level aggregate figures to detailed breakdowns by project, programme, policy measure or specific intervention	The availability of more granular climate finance needs estimates enables climate investment by: • identifying specific and implementable investment opportunities • facilitating more accurate budgeting and resources allocation • increasing investor confidence by demonstrating more advanced financial planning
3	Time frame	The temporal scope of the NDC targets and associated finance needs, including short-, medium- and long-term horizons where applicable	More forward looking NDCs with long-term targets enable strategic long-term investment planning and help identify financing needs and gaps across different time periods
4	Conditionality	The distinction between unconditional commitments (financed through domestic resources) and conditional commitments (requiring international support) for quantified climate finance needs	Defining conditional finance targets clarifies expectations for international support and helps international investors to target support more effectively. In addition, inclusion of unconditional finance needs can demonstrate national commitment to achieving NDC targets, and supports accountability for domestic and international investors.

Indicator		Description	Relevance
5	Implement-ability	The inclusion of clear implementation mechanisms, responsible entities, existing funding commitments, implementation timelines and specific actions required to mobilize the identified finance needs	Inclusion of implementation plans and mechanisms in the NDCs demonstrates readiness to deploy resources effectively and supports coordination between implementing partners
6	Private sector mobilization strategy	The inclusion of explicit strategies for engaging and mobilizing private sector finance, including identification of specific financial instruments, risk-sharing mechanisms and public-private partnership opportunities that will be used to attract private investment for NDC implementation	Inclusion of private sector mobilization strategies signals to private investors that there are concrete pathways for their participation in climate finance, and demonstrates understanding of private sector investment requirements and constraints
7	Alignment with national and sectoral plans	The degree to which climate finance needs link to or integrate with national development strategies, sectoral policies, existing climate investment plans and concrete project pipelines	Alignment with national and sectoral plans: • leverages existing institutional arrangements and processes and reduces coordination costs and policy fragmentation • ensures climate finance contributes to broader development goals

Table B.2 Parties and documents included in assessment in chapter 3, box 3.1

Party	NDC 3.0 (or updated submission)		Previous NDC submission	
	Link	Submission date	Link	Submission date
Andorra	NDC 3.0	05/02/2025	NDC 2.0	08/11/2022
Botswana	NDC 2.0	24/12/2024	NDC 1.0	11/11/2016
Brazil	NDC 2.0	13/11/2024	NDC 1.0	03/11/2023
Cuba	NDC 3.0	27/02/2025	NDC 1.0	17/09/2020
Ecuador	NDC 2.0	06/02/2025	NDC 1.0	29/03/2019
Kenya	NDC 2.0	30/04/2025	NDC 1.0	28/12/2020
Lesotho	NDC 2.0	27/02/2025	NDC 1.0	01/12/2017
Maldives	NDC 3.0	10/02/2025	NDC 1.0	28/12/2020
Marshall Islands	NDC 3.0	06/05/2025	NDC 2.0	31/12/2020
Moldova	NDC 3.0	21/02/2025	NDC 1.0	04/03/2020
Montenegro	NDC 3.0	06/02/2025	NDC 1.0	15/06/2021
Nepal	NDC 3.0	19/05/2025	NDC 2.0	08/12/2020
Saint Lucia	NDC 3.0	10/02/2025	NDC 1.0	27/01/2021
Singapore	NDC 3.0	14/11/2024	NDC 1.0	04/11/2022
United Arab Emirates	NDC 3.0	06/11/2024	NDC 2.0	23/06/2023
Uruguay	NDC 3.0	30/12/2024	NDC 2.0	30/12/2022
Zambia	NDC 3.0	10/03/2025	NDC 1.0	30/07/2021
Zimbabwe	NDC 3.0	10/02/2025	NDC 1.0	24/09/2021

B.2 G20 member progress assessment methods

Overview

The updated assessment of progress towards 2030 targets is based on a synthesis of emissions projection studies by independent research groups. The studies considered in the assessment are mostly published in 2024 or later; older studies were removed from the data set. A list of the studies as well as the criteria for their inclusion is available in the following subsections. In line with previous Emissions Gap Reports, the assessment follows the methodology of den Elzen *et al*. (2019). Nationally determined contributions (NDC) targets are compared to emission projections under a current policies scenario, which reflects all policies adopted and implemented up to specific cut-off dates, and which for this report are defined as legislative decisions, executive orders or their equivalent. This implies that officially announced plans or strategies alone would not qualify, while individual executive orders to implement such plans or strategies would qualify. Policies that are adopted most recently, some of which are presented in section 3.3.3, may not be considered in the scenario studies reviewed as they were prepared before their adoption.

To evaluate the conditionality of NDCs, the categorization of World Resources Institute was adapted (Climate Watch, 2025): India, Indonesia and Mexico have both unconditional and conditional NDCs, while South Africa has only a conditional NDC. For the G20 aggregate of unconditional NDCs, the conditional NDC for South Africa was used.

The assessment based on independent studies is also compared to official projections published by national governments. Many of the "With existing measures" scenario projections in the latest UNFCCC submissions are considered as current policies scenario projections. Methodological limitations of the assessment are similar to those described in previous Emissions Gap Reports. The assessment is based on 'point in time' emissions projections for the NDC target year.[1] European Union Member States are not assessed individually. The assessment is based on emissions including land use, land-use change and forestry (LULUCF).

All emission values in the report are provided based on the 100-year global warming potentials (GWP100) of the Intergovernmental Panel on Climate Change (IPCC)'s Sixth Assessment Report (AR6). All data used in the assessment that are expressed in GWPs of previous IPCC Assessment Reports are converted by using the conversion factors from IPCC AR6 (Lecocq *et al.*, 2022).

Projections assessed

Official and independent sources for emissions data in 2030 and 2035 under the NDCs and current policies scenarios for G20 members are presented in table B.3.

Four main considerations informed the selection of studies projecting 2030 emissions: they had to take into account of the most recent societal, economic and policy developments; include peer-reviewed studies to the extent possible; include studies published by national experts; and cover all greenhouse gases (GHGs) and sectors. On the first point, taking account of the most recent emission trends, the potential impact of recently implemented

[1] Some countries also set an emissions budget for a multiyear period; an assessment of these targets may lead to different conclusions.

policies, and other global social and economic circumstances, studies that were published in 2024 or later were considered. Exceptions were made when external reviewers suggested national studies published in 2023 or earlier, the emission projections of which are relevant for this assessment.

Selection of IAM scenarios

In this year's assessment, besides the annually updated studies (Nascimento *et al.*, 2024; Climate Action Tracker, 2025; Keramidas *et al.*, 2025), two additional studies were included, published by the consortium of integrated assessment models (IAMs) (Schmidt Tagomori, den Elzen *et al.*, 2023; Richters *et al.*, 2024).

Scenarios were selected based on several criteria. First, only one projection per scenario per model was included to avoid overrepresentation of projections from any single model. Second, the projection from the most recently published study for each model was selected. For example, the projections of PBL Netherlands Environmental Assessment Agency's Integrated Model to Assess the Global Environment (IMAGE) model are taken from Nascimento *et al*. (2024) and not from Schmidt Tagomori, den Elzen *et al*. (2023), because the former is the most recent. For the Network for Greening the Financial System (NGFS) study (Richters *et al.*, 2024), only the Regional Model of Investment and Development (REMIND) model projections without integrated physical damages were considered (due to the issues raised on the underlying study [Kotz, Levermann and Wenz, 2024]), along with the Global Change Assessment Model (GCAM) and Model for Energy Supply Strategy Alternatives and their General Environmental Impact (MESSAGE) models. Third, projections that are not consistent with the observed emission trends since 2015 were excluded.

On land-use emissions

Historical LULUCF emissions data from the National Historical Geographic Information Systems (NGHGIs) for the period 2000–2023 were taken from the EU Observatory on Deforestation and Forest Degradation (2025). The data set v3.0 based on the 2025 NGHGI was used for most G20 members. The exception is the Russian Federation, for which the data set v1.0 based on the 2023 NGHGI was used. Although the LULUCF sink estimates have considerably changed since the 2024 NGHGI, in this report, the 2023 NGHGI-based data set continues to be used because it is more consistent with the NGHGI at the time the latest 2030 NDC was set. In addition, the LULUCF estimates in the studies reviewed in this year's assessment are also consistent with the 2023 NGHGI.

The assumptions on LULUCF emissions in 2030 and 2035 for studies that only provided projections excluding are presented in table B.4.

The alignment of land-use emission estimates from modelling studies with national GHG inventories was also enhanced. For studies with land-use emissions that are not based on NGHGIs, their entire land-use emission projections ("Agriculture, forestry and other land uses [AFOLU] CO2 emissions" in case of IAMs) was offset with the difference in emission levels in 2020 ("offset harmonization methodology"; Rogelj *et al*., 2011). For most countries, the model emission estimates for 2020 were harmonized to 2020 NGHGI-based data; for Brazil and Indonesia, the harmonization was done on the average of 2014–2023 NGHGI-based data.

Table B.3 Official and independent sources for emission projections data in 2030 under the NDC and current policies scenarios for the assessment of G20 members

Country	**Emission estimates on 2030 NDCs: official data sources (cut-off date: 30 September 2025)**	**Current policies scenario and NDC scenario: Independent sources ([a] global models and [b] national models)**
Argentina	United Nations Framework Convention on Climate Change (UNFCCC) (2025)	(a) 1. Climate Action Tracker (2025) (incl. LULUCF, as reported in Nascimento *et al.* (2024) 2. JRC (Keramidas *et al.*, 2025) 3. Climate Resource (2025) (NDC only) 4. NGFS: GCAM (Richters *et al.*, 2024)
Australia	Australia, Department of Climate Change, Energy, the Environment and Water (2024)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024)
Brazil	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) (incl. LULUCF, as reported in Nascimento *et al*.2024) 2. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 3. Climate Resource (2025) (NDC only) 4. NGFS: GCAM (Richters *et al.*, 2024)
Canada	Canada, Environment and Climate Change Canada (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Climate Resource (2025) (NDC only) (b) Canadian Climate Institute (Griffin *et al.*, 2024)
China	N/A	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Exploring National and Global Actions to reduce Greenhouse gas Emissions (ENGAGE): World Induced Technical Change Hybrid (WITCH) (Schmidt Tagomori, Dafnomilis *et al.*, 2023; Schmidt Tagomori, den Elzen *et al.*, 2023) 5. Climate Resource (2025) (NDC only) 6. NGFS: GCAM, MESSAGE and REMIND (Richters *et al.*, 2024)
European Union	European Environment Agency (2024)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Climate Resource (2025) (NDC only)
India	N/A	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. ENGAGE: WITCH (Schmidt Tagomori, Dafnomilis *et al.*, 2023; Schmidt Tagomori, den Elzen *et al.*, 2023) 5. Climate Resource (2025) (NDC only) 6. NGFS: GCAM (Richters *et al.*, 2024)
Indonesia	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) (incl. LULUCF, as reported in Nascimento *et al*. 2024) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024)
Japan	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024)

Country	Emission estimates on 2030 NDCs: official data sources (cut-off date: 30 September 2025)	Current policies scenario and NDC scenario: Independent sources ([a] global models and [b] national models)
		4. Climate Resource (2025) (NDC only) 5. NGFS: GCAM (Richters *et al.*, 2024)
Mexico	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. Climate Resource (2025) (NDC only) 4. NGFS: GCAM (Richters *et al.*, 2024)
Republic of Korea	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Climate Resource (2025) (NDC only)[6] 5. NGFS: GCAM (Richters *et al.*, 2024)
Russian Federation	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) (incl. LULUCF, as reported in Nascimento *et al*. 2024) 2. JRC (Keramidas *et al.*, 2025) (current policies scenario only) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Climate Resource (2025) (NDC only)
Saudi Arabia	N/A	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. Climate Resource (2025) (NDC only) (b) 4. KAPSARC (Kamboj *et al.*, 2024)
South Africa	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Climate Resource (2025) (NDC only) 5. NGFS: GCAM (Richters *et al.*, 2024)
Türkiye	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. PBL (den Elzen *et al.*, 2022; Nascimento *et al.*, 2024) 4. Climate Resource (2025) (NDC only)
United Kingdom	UNFCCC (2025)	(a) 1. Climate Action Tracker (2025) 2. JRC (Keramidas *et al.*, 2025) 3. Climate Resource (2025) (NDC only)
United States of America	UNFCCC (2025)	(b) 1. Rhodium Group (King *et al.*, 2025) 2. Princeton REPEAT project (Jenkins, Farbes and Haley, 2025)

[1] References provided only when the NDC emission levels are available in absolute terms.

Table B.4 Harmonization of GHG emission projections related to land-use emissions

Country	LULUCF assumptions in case of studies only reporting projections excluding LULUCF
Argentina	LULUCF projections by International Institute for Applied Systems Analysis (IIASA) (harmonized to NGHGI data) for Climate Action Tracker, as reported in Nascimento *et al*. (2024); constant levels after 2030
Australia	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
Brazil	LULUCF projections by IIASA (harmonized to NGHGI data) for Climate Action Tracker, as reported in Nascimento *et al*. (2024); constant levels after 2030
Canada	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)

Country	LULUCF assumptions in case of studies only reporting projections excluding LULUCF
China	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
European Union	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
India	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
Indonesia	LULUCF projections by IIASA (harmonized to NGHGI data) for Climate Action Tracker, as reported in Nascimento *et al*. (2024).
Japan	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
Mexico	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
Russian Federation	LULUCF projections by IIASA (harmonized to 2023 NGHGI data) for Climate Action Tracker, as reported in Nascimento *et al*. (2024)
Saudi Arabia	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
South Africa	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
Republic of Korea	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
Türkiye	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
United Kingdom	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)
United States of America	Extension of historical trends 2010–2023 of EU Observatory on Deforestation and Forest Degradation (2025)

Quantification of 2035 NDCs submitted by G20 member countries

Table B.5 Quantification of 2035 NDCs submitted by G20 member countries

G20 member	2035 NDC or mitigation pledge	Quantification
Australia	Reduce GHG emissions by 62–70 per cent from 2005 levels by 2035	2005 emissions including LULUCF as reported in Australia, Department of Climate Change, Energy, the Environment and Water (2024), multiplied by the reduction rates, converted to AR6 GWPs
Brazil	Reduction in the net range of 59 to 67 per cent compared to 2005 emissions	The absolute emission levels as reported in the NDC 3.0, converted to AR6 GWPs
Canada	Reduce GHG emissions by 45–50 per cent from 2005 levels by 2035	2005 emissions including LULUCF as reported in Canada, Environment and Climate Change Canada (2025) multiplied by the reduction rates, converted to AR6 GWPs
China	Announced mitigation pledge for 2035: • by 2035, reduce economy-wide net greenhouse gas emissions by 7–10 per cent from peak levels, striving to do better	2035 emission levels were estimated based on the peak emission levels from the seven current policies scenarios reviewed (see table B.3), multiplied by the reduction rates

G20 member	2035 NDC or mitigation pledge	Quantification
	• increase the share of non-fossil fuels in total energy consumption to over 30 per cent • expand the installed capacity of wind and solar power to over six times the 2020 levels, striving to bring the total to 3,600 gigawatts • scale up the total forest stock volume to over 24 billion m^3	
European Union	Announced mitigation pledge for 2035: Reduce net GHG emissions by 66–72 per cent from 1990 levels by 2030	1990 emissions including LULUCF as reported in NGHGI (Nascimento *et al.*, 2024; Gütschow, Busch and Pflüger, 2025) multipled by the reduction rates, converted to AR6 GWPs
Japan	Reduce GHG emissions by 60 per cent from 2013 levels by 2035	2013 emissions excluding LULUCF as reported in the NDC 3.0 multiplied by the reduction rates, converted to AR6 GWPs
Russian Federation	Reduce GHG emissions to 65–67 per cent of 1990 levels by 2035	1990 emissions including LULUCF as reported in 2023 NGHGI (Nascimento *et al.*, 2024; Gütschow, Busch and Pflüger, 2025) multipled by the reduction rates, converted to AR6 GWPs
Türkiye	Announced mitigation pledge for 2035: Reduce GHG emissions to 643 $MtCO_2e$ by 2035	The absolute emission levels as reported in the NDC 3.0, converted to AR6 GWPs
United Kingdom	Reduce GHG emissions by at least 81 per cent from 1990 levels by 2035	1990 emissions including LULUCF as reported in the NDC 3.0 multiplied by the reduction rates, converted to AR6 GWPs
United States of America	Reduce GHG emissions by 61–66 per cent from 2005 levels by 2035	2005 emissions including LULUCF as reported in the NDC 3.0 multiplied by the reduction rates, converted to AR6 GWPs

B.3 Global developments in net-zero targets and long-term pledges

As at 30 September 2025, and per Climate Watch (2025) data, 107 parties[1] representing 108 countries and covering approximately 82 per cent of global GHG emissions had adopted net-zero pledges either in law (29 parties), in a policy document such as an NDC or a long-term strategy (61 parties), or in an announcement by a high-level government official (17 parties).[2] Since the Emissions Gap Report 2024, six new parties – including Mexico, the last G20 country to come forward – communicated a new net-zero target. An additional 12 parties covering an additional 2 per cent of global GHG emissions have communicated another (non-net-zero) GHG mitigation target as part of their long-term strategy. A total of 36 per cent of 2022 global GHG emissions are covered by net-zero targets for 2050 or earlier, while 46 per cent of global emissions are covered by net-zero pledges for years later than 2050. Six parties, representing 0.1 per cent of global emissions in 2022, report they have already achieved net-zero emissions and have explicitly committed to maintaining this status.

Net-zero targets vary in their scope, with some applying to all GHGs and sectors of the economy, and others applying to a subset of sectors and gases. A total of 81 net-zero targets

cover all sectors, one net-zero target (that of the Kingdom of the Netherlands) explicitly mentions that it only covers a subset of sectors, and the remainder do not specify sectoral coverage. A total of 59 cover all gases, 15 cover fewer than all gases, and the remainder do not specify. The vast majority of countries with net-zero targets fail to specify whether their targets cover international shipping and aviation, and whether they permit the use of international offsets. Six parties set separate targets for gross emission reductions and carbon removal, explicitly acknowledging the projected role that both reductions and removals will play in delivering their net-zero target.

B.4 Methods underlying the G20 net-zero pledges assessment

The assessment of G20 members' net-zero pledges relies on a meta-analysis of data from three independent net-zero target trackers: Climate Action Tracker, Climate Watch and Net Zero Tracker.

The indicators and criteria by which G20 net-zero pledges are assessed are as follows:

- Source: Refers to whether the net-zero target is established in law, in a policy document (including an NDC or a long-term strategy), or via a political announcement or pledge, such as those made at the 2020 Climate Ambition Summit.
- Target year: Refers to the year by which the source indicates net-zero emissions will be achieved.
- Covers all sectors and gases: Receives green checkmark if the source specifies that the target applies to all economic sectors (as opposed to, for example, the energy sector only) as well as all Kyoto GHGs. Receives yellow checkmark if full coverage is met for one of the two indicators (i.e. gases or sectors) tracked in this column, but not both.
- Transparent information on carbon removal: Receives green checkmark if the source contains transparent assumptions for both domestic LULUCF and domestic removals and storage; receives yellow checkmark if source contains transparent assumptions for either domestic LULUCF or domestic removals and storage.
- Comprehensive published plan: Receives green checkmark if source meets all Climate Action Tracker and Net Zero Tracker criteria for information on anticipated pathway or measures for achieving net-zero target, and a yellow checkmark if source meets some, but not all, criteria.
- Review process: Receives a green checkmark if source establishes a legally binding process to review progress against the target at regular intervals; receives a yellow checkmark if the process is not legally binding, is still being established, or lacks detail or tracking of progress.
- Annual reporting: Receives a green checkmark if source establishes a process to report at least annually on progress towards the target.

All indicators receive an 'X' if the criteria for either a green or yellow checkmark are not met, a question mark where not enough information is available, an 'inconclusive' if the data sources reach differing conclusions regarding the indicator and a 'not evaluated' if none of the data sources track the indicator for the G20 member. The European Union is evaluated according to its long-term strategy, while individual European Union Member States are evaluated according to the laws, policies and plans specific to the respective States. Further detail on the methods underlying each indicator can be found at Climate Action Tracker, Climate Watch and Net Zero Tracker.

Data for each indicator are compiled and reconciled from the three independent sources assessed as follows:

Source and target year

Data for the source and target year columns are derived from Climate Watch, Net Zero Tracker and Climate Action Tracker. In cases of discrepancies between the trackers, the source that is most binding and its corresponding target year are reported, with a law more binding than a policy document, and a policy document more binding than a government announcement. It is important to note here, however, that the durability and credibility of targets communicated in a law, policy document or government announcement may vary depending on the governance structure of particular countries.

Sector and gas coverage

Data for sectoral coverage are derived from Climate Watch ("coverage of domestic sectors" indicator), while data for gas coverage are derived from Climate Watch ("coverage of GHGs" indicator), the Net Zero Tracker ("greenhouse gases" indicator) and Climate Action Tracker ("emissions coverage" indicator). In cases of discrepancies between the three trackers which provide data for gas coverage, consensus is reported if two out of the three trackers agree.

Transparent information on carbon dioxide removal

Data for the transparent information on carbon dioxide removal column are derived from the Climate Action Tracker ("carbon dioxide removal" indicator).

Comprehensive published plan

Data for the published plan column are derived from the Net Zero Tracker ("detailed plan" indicator) and Climate Action Tracker ("comprehensive planning" indicator) and are reconciled according to the scheme described in the figure key (a country receives a green checkmark if source meets all Climate Action Tracker and Net Zero Tracker criteria for information on anticipated pathway or measures for achieving net-zero target, and a yellow checkmark if source meets some, but not all, criteria.) If the two trackers agree that a plan contains some relevant information, but disagree on whether that information is fully or partially comprehensive, the more conservative rating is applied.

Review process

Data for the review process column are derived from the Climate Action Tracker ("review process" indicator).

Annual reporting

Data for the annual reporting column are derived from the Net Zero Tracker ("annual reporting mechanism" indicator).

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Appendix C.
Supplementary material for chapter 4 – The emissions gap in 2030 and 2035

Table C.1 Global warming projections under the policy scenarios assessed in chapter 4 for maximum (peak) warming over the twenty-first century

	Maximum warming over 21st century (peak) (°C)		
Scenario	**66% likelihood**	**50% likelihood**	**90% likelihood**
Current policies continuing	2.8 (2.1–3.9)	2.6 (1.9–3.6)	3.3 (2.5–4.6)
Unconditional NDCs continuing	2.5 (1.9–3.3)	2.3 (1.8–3.1)	2.9 (2.3–4.0)
Unconditional NDCs, all LTS	1.9 (1.8–2.3)	1.7 (1.7–2.1)	2.3 (2.1–2.8)
Unconditional NDCs, LTS without USA	2.0 (1.8–2.4)	1.8 (1.7–2.2)	2.4 (2.1–2.9)
Unconditional NDCs without USA continuing	2.6 (2.0–3.4)	2.4 (1.8–3.2)	3.1 (2.3–4.1)
Unconditional NDCs without USA, all LTS	2.0 (1.8–2.4)	1.8 (1.7–2.2)	2.4 (2.1–2.9)
Unconditional NDCs without USA, LTS without USA	2.1 (1.8–2.5)	1.9 (1.7–2.3)	2.5 (2.1–3.0)
Conditional NDCs continuing	2.3 (1.9–3.3)	2.1 (1.8–3.0)	2.8 (2.2–3.9)
Conditional NDCs, all LTS	1.8 (1.8–2.2)	1.7 (1.7–2.0)	2.2 (2.1–2.7)
Conditional NDCs, LTS without USA	1.9 (1.8–2.3)	1.7 (1.7–2.2)	2.2 (2.1–2.8)
Conditional NDCs without USA continuing	2.4 (1.9–3.4)	2.2 (1.8–3.1)	2.9 (2.3–4.0)
Conditional NDCs without USA, all LTS	1.9 (1.8–2.3)	1.7 (1.7–2.1)	2.2 (2.1–2.8)
Conditional NDCs without USA, LTS without USA	1.9 (1.8–2.4)	1.8 (1.7–2.2)	2.3 (2.1–2.9)

Central estimates are reported together with a range based on uncertainties in the assessment of 2030 and 2035 emissions implied by policies or NDCs and uncertainties related to their extension to the end of the century.

Table C.2 Global warming projections under the policy scenarios assessed in chapter 4 for year-2050 warming

	Year 2050 warming (°C)		
Scenario	**66% likelihood**	**50% likelihood**	**90% likelihood**
Current policies continuing	2.0 (1.9–2.2)	1.9 (1.8–2.1)	2.4 (2.3–2.8)
Unconditional NDCs continuing	1.9 (1.9–2.1)	1.8 (1.7–2.0)	2.3 (2.2–2.6)
Unconditional NDCs, all LTS	1.9 (1.8–2.0)	1.7 (1.7–1.9)	2.2 (2.1–2.4)
Unconditional NDCs, LTS without USA	1.9 (1.8–2.0)	1.7 (1.7–1.9)	2.2 (2.1–2.4)
Unconditional NDCs without USA continuing	1.9 (1.9–2.1)	1.8 (1.8–2.0)	2.3 (2.2–2.6)
Unconditional NDCs without USA, all LTS	1.9 (1.8–2.0)	1.8 (1.7–1.9)	2.2 (2.1–2.4)
Unconditional NDCs without USA, LTS without USA	1.9 (1.8–2.0)	1.8 (1.7–1.9)	2.2 (2.1–2.5)
Conditional NDCs continuing	1.9 (1.8–2.0)	1.8 (1.7–2.0)	2.2 (2.2–2.5)
Conditional NDCs, all LTS	1.8 (1.8–2.0)	1.7 (1.6–1.8)	2.2 (2.1–2.3)
Conditional NDCs, LTS without USA	1.8 (1.8–2.0)	1.7 (1.7–1.9)	2.2 (2.1–2.4)
Conditional NDCs without USA continuing	1.9 (1.9–2.1)	1.8 (1.8–2.0)	2.3 (2.2–2.6)
Conditional NDCs without USA, all LTS	1.9 (1.8–2.0)	1.7 (1.7–1.9)	2.2 (2.1–2.4)
Conditional NDCs without USA, LTS without USA	1.9 (1.8–2.0)	1.7 (1.7–1.9)	2.2 (2.1–2.4)

Central estimates are reported together with a range based on uncertainties in the assessment of 2030 and 2035 emissions implied by policies or NDCs and uncertainties related to their extension to the end of the century.

Table C.3 Global warming projections under the policy scenarios assessed in chapter 4 for year-2100 warming

	Year 2100 warming (°C)		
Scenario	**66% likelihood**	**50% likelihood**	**90% likelihood**
Current policies continuing	2.8 (2.1–3.9)	2.6 (1.9–3.6)	3.3 (2.5–4.6)
Unconditional NDCs continuing	2.5 (1.8–3.3)	2.3 (1.6–3.1)	2.9 (2.1–4.0)
Unconditional NDCs, all LTS	1.9 (1.6–2.3)	1.7 (1.4–2.1)	2.3 (1.9–2.8)
Unconditional NDCs, LTS without USA	2.0 (1.6–2.4)	1.8 (1.5–2.2)	2.4 (1.9–2.9)
Unconditional NDCs without USA continuing	2.6 (1.9–3.4)	2.4 (1.7–3.2)	3.1 (2.2–4.1)
Unconditional NDCs without USA, all LTS	2.0 (1.6–2.4)	1.8 (1.5–2.2)	2.4 (2.0–2.9)
Unconditional NDCs without USA, LTS without USA	2.1 (1.7–2.5)	1.9 (1.5–2.3)	2.5 (2.0–3.0)
Conditional NDCs continuing	2.3 (1.7–3.3)	2.1 (1.6–3.0)	2.8 (2.1–3.9)
Conditional NDCs, all LTS	1.8 (1.5–2.2)	1.7 (1.4–2.0)	2.2 (1.8–2.7)
Conditional NDCs, LTS without USA	1.9 (1.5–2.3)	1.7 (1.4–2.2)	2.2 (1.9–2.8)
Conditional NDCs without USA continuing	2.4 (1.8–3.4)	2.2 (1.7–3.1)	2.9 (2.2–4.0)
Conditional NDCs without USA, all LTS	1.9 (1.6–2.3)	1.7 (1.5–2.1)	2.2 (1.9–2.8)
Conditional NDCs without USA, LTS without USA	1.9 (1.6–2.4)	1.8 (1.5–2.2)	2.3 (2.0–2.9)

Central estimates are reported together with a range based on uncertainties in the assessment of 2030 and 2035 emissions implied by policies or NDCs and uncertainties related to their extension to the end of the century.

Table C.4 Probability of limiting warming below specific temperature limits over the course of the twenty-first century under the policy scenarios assessed in chapter 4

	Probability of staying below limit over the course of the 21st century				
Scenario	**1.5°C**	**2°C**	**2.5°C**	**3°C**	**4°C**
Current policies continuing	0 (7–0)	8 (56–0)	45 (90–2)	80 (99–16)	99 (100–73)
Unconditional NDCs continuing	1 (16–0)	25 (74–0)	70 (96–12)	92 (100–44)	100 (100–91)
Unconditional NDCs, all LTS	18 (26–3)	76 (85–38)	96 (99–79)	99 (100–95)	100 (100–100)
Unconditional NDCs, LTS without USA	15 (25–1)	70 (84–29)	94 (99–71)	99 (100–92)	100 (100–100)
Unconditional NDCs without USA continuing	0 (12–0)	17 (69–0)	60 (94–8)	88 (99–38)	99 (100–88)
Unconditional NDCs without USA, all LTS	15 (23–2)	69 (83–32)	94 (98–74)	99 (100–93)	100 (100–100)
Unconditional NDCs without USA, LTS without USA	9 (22–1)	61 (82–23)	91 (98–66)	99 (100–89)	100 (100–99)
Conditional NDCs continuing	3 (18–0)	37 (77–1)	80 (97–15)	95 (100–50)	100 (100–92)
Conditional NDCs, all LTS	21 (28–5)	81 (86–47)	98 (99–84)	100 (100–96)	100 (100–100)
Conditional NDCs, LTS without USA	21 (27–2)	78 (85–36)	96 (99–77)	100 (100–94)	100 (100–100)
Conditional NDCs without USA continuing	1 (14–0)	28 (72–0)	72 (95–11)	93 (99–43)	100 (100–90)
Conditional NDCs without USA, all LTS	19 (25–3)	79 (84–39)	96 (99–79)	100 (100–95)	100 (100–100)
Conditional NDCs without USA, LTS without USA	18 (24–1)	72 (83–29)	95 (98–72)	99 (100–92)	100 (100–100)

Central estimates are reported together with a range based on uncertainties in the assessment of 2030 and 2035 emissions implied by policies or NDCs and uncertainties related to their extension to the end of the century.

Table C.5 Probability of limiting warming below specific temperature limits in the year 2050 under the policy scenarios assessed in chapter 4

	Probability of staying below limit in the year 2050				
Scenario	**1.5°C**	**2°C**	**2.5°C**	**3°C**	**4°C**
Current policies continuing	8 (13–2)	67 (76–43)	96 (98–89)	100 (100–99)	100 (100–100)
Unconditional NDCs continuing	14 (20–5)	77 (81–58)	98 (99–94)	100 (100–100)	100 (100–100)
Unconditional NDCs, all LTS	19 (27–10)	80 (85–68)	98 (99–95)	100 (100–100)	100 (100–100)
Unconditional NDCs, LTS w/o USA	18 (25–9)	79 (84–66)	98 (99–95)	100 (100–100)	100 (100–100)
Unconditional NDCs without USA continuing	12 (16–5)	74 (78–55)	98 (98–93)	100 (100–100)	100 (100–100)
Unconditional NDCs without USA, all LTS	16 (23–9)	78 (83–64)	98 (99–95)	100 (100–100)	100 (100–100)
Unconditional NDCs without USA, LTS without USA	15 (22–8)	77 (82–62)	98 (99–94)	100 (100–100)	100 (100–100)
Conditional NDCs continuing	17 (22–6)	79 (82–61)	98 (99–95)	100 (100–100)	100 (100–100)
Conditional NDCs, all LTS	22 (29–11)	83 (86–70)	99 (99–96)	100 (100–100)	100 (100–100)
Conditional NDCs, LTS without USA	21 (27–11)	82 (86–69)	99 (99–96)	100 (100–100)	100 (100–100)
Conditional NDCs without USA continuing	15 (19–5)	78 (80–58)	98 (98–94)	100 (100–100)	100 (100–100)
Conditional NDCs without USA, all LTS	20 (25–10)	81 (84–68)	98 (99–95)	100 (100–100)	100 (100–100)
Conditional NDCs without USA, LTS without USA	19 (24–9)	80 (84–66)	98 (99–95)	100 (100–100)	100 (100–100)

Central estimates are reported together with a range based on uncertainties in the assessment of 2030 and 2035 emissions implied by policies or NDCs and uncertainties related to their extension to the end of the century.

Table C.6 Probability of limiting warming below specific temperature limits in the year 2100 under the policy scenarios assessed in chapter 4

	Probability of staying below limit in the year 2100				
Scenario	**1.5°C**	**2°C**	**2.5°C**	**3°C**	**4°C**
Current policies continuing	0 (11–0)	8 (61–0)	45 (91–2)	80 (99–16)	99 (100–73)
Unconditional NDCs continuing	1 (34–0)	25 (83–0)	70 (98–12)	92 (100–44)	100 (100–91)
Unconditional NDCs, all LTS	22 (59–3)	76 (94–38)	96 (99–79)	99 (100–95)	100 (100–100)
Unconditional NDCs, LTS without USA	15 (55–1)	70 (93–29)	94 (99–71)	99 (100–92)	100 (100–100)
Unconditional NDCs without USA continuing	0 (24–0)	17 (78–0)	60 (96–8)	88 (99–38)	99 (100–88)
Unconditional NDCs without USA, all LTS	15 (50–2)	69 (92–32)	94 (99–74)	99 (100–93)	100 (100–100)
Unconditional NDCs without USA, LTS without USA	9 (46–1)	61 (90–23)	91 (99–66)	99 (100–89)	100 (100–99)
Conditional NDCs continuing	3 (40–0)	37 (86–1)	80 (98–15)	95 (100–50)	100 (100–92)
Conditional NDCs, all LTS	31 (63–5)	83 (95–47)	98 (100–84)	100 (100–96)	100 (100–100)
Conditional NDCs, LTS without USA	23 (61–2)	78 (94–36)	96 (99–77)	100 (100–94)	100 (100–100)
Conditional NDCs without USA continuing	1 (30–0)	28 (81–0)	72 (97–11)	93 (100–43)	100 (100–90)
Conditional NDCs without USA, all LTS	24 (55–3)	79 (93–39)	96 (99–79)	100 (100–95)	100 (100–100)
Conditional NDCs without USA, LTS without USA	18 (51–1)	72 (92–29)	95 (99–72)	99 (100–92)	100 (100–100)

Central estimates are reported together with a range based on uncertainties in the assessment of 2030 and 2035 emissions implied by policies or NDCs and uncertainties related to their extension to the end of the century.

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