Joint technical note by United Nations Environment Programme (UNEP) and the United Nations Framework Convention on Climate Change (UNFCCC)

A comparison of the findings of the UNEP Emissions Gap Report 2026 and the UNFCCC Nationally Determined Contribution (NDC) Synthesis Report 2026

Summary

This note provides an overview and comparison of the projections of global greenhouse gas (GHG) emissions and global warming reported in the 2026 editions of the UNEP Emissions Gap Report and the UNFCCC Nationally Determined Contribution (NDC) Synthesis Report. As for the 2024 and 2025 editions, the two reports present consistent messages strengthened by relying on different approaches and modelling choices. A key difference between the two reports is that the UNEP Report is based on a consideration of recent scientific studies and modelling results focused on updates from key countries, whereas the UNFCCC report presents an analysis covering all countries (but without providing country-by-country detail). Most apparent differences between their numbers follow from a few assumptions: the Emissions Gap Report caps NDC levels at current-policy projections, uses for the global emissions projections the historical emissions from the Emissions Database for Global Atmospheric Research (EDGAR) with land use from global bookkeeping models, which give higher totals in recent years, uses for national emissions projections the country-reported historical emissions and uses benchmark pathways that start reducing emissions in 2025 and represent an update of the evidence presented in the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC); the NDC Synthesis Report uses NDC levels as stated, country-reported historical emissions and the scenario categories of the IPCC AR6.

The key focus of both reports is to assess implications of the latest NDC submissions for the emissions gap, and for global warming projections (cut-off dates: 31 August 2026 for the NDC Synthesis Report, including three submissions received shortly after the cutoff date; 1 September 2026 for the Emissions Gap Report, whose modelling studies have cut-off dates for new NDC submissions between January and April 2026). Both reports' estimates for 2035 are higher than a year ago: Emissions Gap Report states the reason as it now represents the United States by its current policies and because of higher historical emissions.

Both reports confirm that there continues to be a large gap in 2035 between the emissions resulting from full implementation of current country pledges and what scientific evidence tells us is required to limit warming to well below 2°C and 1.5°C. Both reports are also consistent in clearly indicating that currently the world is far from a path that would limit global warming to well below 2°C or 1.5°C over the course of this century. At the same probability, the warming estimates of the Emissions Gap Report and the NDC Synthesis Report cover similar ranges. Both reports restate or imply the recent finding that the opportunity to limit warming to 1.5°C with no or limited overshoot has been lost. Full implementation and strengthening of the new NDCs present an opportunity to bridge the emissions gap and put the world on track to net-zero emissions – limiting overshoot of 1.5°C as much as possible. Further details are provided in the summary table.

Comparison of global greenhouse gas (GHG) emission levels and projections

Estimates of historical global GHG emissions are closely aligned across the two reports. The Emissions Gap Report estimates of total global GHG emissions in 2023 are 53.1 GtCO2eq (excluding emissions and removals from land use, land-use change and forestry (LULUCF)) and 57.8 GtCO2eq (including LULUCF emissions). The NDC Synthesis Report estimates 54.6*[1] and 56.9 $GtCO_2eq$, respectively. Both reports estimate 56.1 $GtCO_2eq$ including LULUCF for 2019; after 2019, the total of the Emissions Gap Report grows faster, as its land-use emissions fall less and its EDGAR-based emissions excluding LULUCF grow faster than the country-reported emissions of the NDC Synthesis Report.

There are only slight differences between the two reports in projected trajectories of global GHG emissions, assuming the full implementation of the latest NDCs of all Parties to the Paris Agreement. The central estimates differ by up to 0.6 $GtCO_2eq$ in 2030 and up to 2.6 $GtCO_2eq$ in 2035, and those of the NDC Synthesis Report lie within the wider ranges of the Emissions Gap Report. The NDC Synthesis Report projects 54.3* (52.3–56.1)* $GtCO_2eq$ in 2030 and 52.8* (49.6–55.9) $GtCO_2eq$ in 2035, including LULUCF. Table 1 shows how the central estimates of the two reports relate.

Overall, slight differences between the reports arise due to differences in emissions data, NDC assessments and methodological choices underlying the respective reports. An important methodological difference is that the NDC Synthesis Report uses NDC levels as stated, whereas the Emissions Gap Report caps them at current-policy projections where these are lower. Without capping, the UNEP Emissions Gap Report central emission estimates would be 3.0 $GtCO_2eq$ higher in 2030 (4 $GtCO_2eq$ in the unconditional and 2 $GtCO_2eq$ in the conditional scenarios) and 3.5 $GtCO_2eq$ higher in 2035 (4.5 $GtCO_2eq$ in the unconditional and 2.5 $GtCO_2eq$ in the conditional scenario), on average[2]. Its historical emissions including LULUCF for 2023, to which it harmonizes its projections, are also 1.0 $GtCO_2eq$ higher than those of the NDC Synthesis Report. With both accounted for, the central estimate of the NDC Synthesis Report is 2.3 $GtCO_2eq$ lower than that of the Emissions Gap Report in 2030 and 0.4 $GtCO_2eq$ lower in 2035 (table 1). The published estimates for 2030 are close because capping lowers the estimate of the Emissions Gap Report, while other differences in quantifying the NDCs, including differences in projected land use, lower that of the NDC Synthesis Report.

Table 1. From the Emissions Gap Report to the NDC Synthesis Report: global GHG emissions including LULUCF under full implementation of the NDCs ($GtCO_2eq$; central estimates, mean of unconditional and conditional NDCs)

	2030	2035
Emissions Gap Report, NDC levels capped at current-policy projections (chapter 3, table 3.2)	54.5	50.6
NDC levels above current-policy projections kept as stated (section 3.3.1)	+3.0	+3.5
= Emissions Gap Report, NDC levels as stated	57.5	54.1
Historical emissions of the NDC Synthesis Report instead of those of the Emissions Gap Report (2023)	−1.0	−1.0
Other differences in quantifying the NDCs (remainder)	−2.3	−0.4
= NDC Synthesis Report, NDC levels as stated (mean of its four cases)	54.3*	52.8*

[1] Values marked * are computed for this note and are not stated in the NDC Synthesis Report.
[2] See section 3.3.1 in the UNEP Emissions Gap Report.

Note: The first row of values and the rows starting with '=' are levels; the other rows are changes, the last of which is what remains. The values of the Emissions Gap Report are the medians of its chapter 3, table 3.2; for 2030, its table 3.1 gives 55 and 53 $GtCO_2eq$, the values shown in the summary table. The values with NDC levels as stated add the adjustments of its section 3.3.1: 4 and 2 $GtCO_2eq$ for unconditional and conditional NDCs in 2030, 4.5 and 2.5 $GtCO_2eq$ in 2035. The Emissions Gap Report adds each study's modelled change after 2023 to its own historical emissions for that year (chapter 3), so a different historical level carries over one for one. Other differences include the NDCs covered (the modelling studies of the Emissions Gap Report have cut-off dates for new NDC submissions between January and April 2026), how each report quantifies the NDC targets, projected land-use emissions and, for 2035, the long-term targets that the NDC Synthesis Report applies to Parties without a 2035 target. Values may not add up because of rounding.

Both reports' estimates for 2035 are higher than a year ago: by 3–4 $GtCO_2eq$ in the Emissions Gap Report and by 3.6* $GtCO_2eq$ in the NDC Synthesis Report. In the Emissions Gap Report, the largest stated factor is the United States of America, which it now represents by its current policies instead of its former NDC, adding 2.2 $GtCO_2eq$; it also harmonizes with higher historical emissions than in its 2025 edition, adding 1.3–1.4 $GtCO_2eq$, while the new NDCs only result in minor change to the035 emissions projections.

The two reports compare projected emissions with different benchmark pathways. The Emissions Gap Report uses recent pathways that start reducing emissions in 2025: a lowest 1.5°C overshoot scenario, with 33 $GtCO_2eq$ in 2035, and a below-2°C scenario, with 45 $GtCO_2eq$. The NDC Synthesis Report uses IPCC AR6 scenario sets, whose median levels in 2035 in the AR6 database are 22.3 $GtCO_2eq$ for 1.5°C with no or limited overshoot (C1), 34.5 $GtCO_2eq$ for likely below 2°C with immediate action (C3a) and 37.8 $GtCO_2eq$ for 1.5°C after a high overshoot, with action delayed to 2030 (C2–P3b). The pathways in C1 and C3a start reducing emissions in 2020, so the gaps to them in 2035 are larger: 30.2 $GtCO_2eq$ to C1 and 18.1 $GtCO_2eq$ to C3a, against 16–19 and 5–7 $GtCO_2eq$ in the Emissions Gap Report (conditional to unconditional NDCs). The gap to C2–P3b, 15.2 $GtCO_2eq$, is close to the Emissions Gap Report's gap to its lowest overshoot scenario.

Comparison of global warming projections

A key difference between the two reports is that the Emissions Gap Report reports global warming levels that are avoided with a 66 per cent probability over the course of the twenty-first century for the best emissions projection estimate of each of their cases, along with a 10-90% uncertainty range of global warming implications of these emissions and broader ranges that consider a combination of emission projection and climate response uncertainties, whereas the NDC Synthesis Report gives warming in 2100 as the range of median (50 per cent probability) estimates across 16 emission cases, with a 10th–90th percentile range; for this note, the peak warming of the NDC Synthesis Report cases was also computed at 50 per cent and 66 per cent probability. The global warming projection data of the Emissions Gap Report is computed for 2050, 2100 and at the time of peak warming at the 50th, 66th, and 90th percentile for the central emissions extension and the minimum-maximum range of emissions extensions. Global warming projections with a 50 per cent probability are always lower than projections with 66 per cent probability for similar scenarios. To enable like-with-like comparisons, the Emissions Gap Report also shows the range of the climate response around its central estimates (figure 4.3) and the likelihood of limiting warming to below specific temperature limits (figure 4.4). At the same probability, the central estimates of the Emissions Gap Report lie within the ranges of the NDC Synthesis Report (see the summary table).

The global warming projection approaches of the two reports differ markedly. The Emissions Gap Report explores uncertainties in the emission projections and in their extension to 2100 more systematically than the NDC Synthesis Report, and its ranges at a given probability are wider than those of the NDC Synthesis Report across emission cases (summary table). There are several other differences in the approaches between the two reports, including:

a. Different extension methods beyond the target years: after 2035, the NDC Synthesis Report continues the global 2023–2035 trend and then follows the IPCC AR6 scenario database or, in its cases with long-term targets, those targets. The central projections of the Emissions Gap Report assume that the stringency of climate policy continues to increase broadly in line with economic growth.
b. Different climate emulators: the Emissions Gap Report uses FaiR, while the NDC Synthesis Report uses MAGICC. All other things assumed equal, using FaIR would result in slightly lower median warming projections compared with MAGICC. Both emulators are accurately calibrated to the IPCC AR6 WG1 physical science assessment with future warming projections differing by about 0.1°C (see Box 7.1 Cross-Chapter Box 7.1 in IPCC AR6 WG1).
c. Different treatment of NDC levels above current-policy projections: in its emission estimates, the NDC Synthesis Report does not cap NDC levels at 'current policy' estimates; its warming ranges, however, include cases with NDC levels capped at illustrative current-policy projections (half of its 16 cases). In these cases, emissions of the NDC Synthesis report tend to be lowered in a way that places the effect of capping towards the lower end of estimates across the Emissions Gap Report underlying studies in 2030 and 2035, so capped estimates of the two reports are not directly comparable.

Summary table: Comparison of key estimates in the 2026 editions of the UNEP Emissions Gap Report and the UNFCCC NDC Synthesis Report

	UNFCCC NDC Synthesis Report 2026	UNEP Emissions Gap Report 2026	Reasons for differences
Historical GHG emissions, excl. LULUCF	54.6* $GtCO_2eq$ in 2023; 55.0 $GtCO_2eq$ in 2024	53.1 GtCO2eq in 2023; 53.9 $GtCO_2eq$ in 2024	**Small difference**: the NDC Synthesis Report is 1.5 $GtCO_2eq$ higher. It is harmonized to the historical emissions of the IPCC AR6 scenario database for 2015, which are 2.3 $GtCO_2eq$ above the EDGAR-based estimate, and its emissions grow more slowly after 2015.
Historical GHG emissions, incl. LULUCF	GtCO2eq56.1, 56.9 and 57.3 $GtCO_2eq$ in 2019, 2023 and 2024	56.1, 57.8 and 58.5 $GtCO_2eq$ in 2019, 2023 and 2024	**Same in 2019**; the Emissions Gap Report is 1.0 $GtCO_2eq$ higher in 2023 and 1.2 $GtCO_2eq$ higher in 2024, as its emissions excluding LULUCF grow faster after 2019 and its land-use emissions fall less (see text).
Aggregate impact on global GHG emissions in 2030 of new and updated NDCs	1.0* $GtCO_2eq$ (total change since the assessment of NDCs as at 12 November 2025)	0–0.5 $GtCO_2eq$	**Different measures**. The Emissions Gap Report indicates minimal changes due to updated NDCs. Its values leave out the United States of America, which it now represents by its current policies instead of its former NDC (1.7 $GtCO_2eq$).
Reduction of global GHG emissions from 2030 to 2035 under the NDCs (2035 levels compared with 2030 levels)	1.1* $GtCO_2eq$ (unconditional) and 1.8* $GtCO_2eq$ (conditional NDCs)	3.5–4 $GtCO_2eq$ (unconditional and conditional NDCs)	The fall from 2030 to 2035 is smaller in the NDC Synthesis Report: once capping and historical data are aligned, its 2030 levels are lower than those of the Emissions Gap Report, while its 2035 levels are close (table 1).
The implementation gap, i.e. the difference between emissions under current policies and NDC scenarios	Not quantified. The report does not estimate emissions under current policies. It uses illustrative current-policy projections to continue each Party's emissions after its last target year and to cap NDC levels in a	2 (0–5) $GtCO_2eq$ in 2030 and 3 (2–6) $GtCO_2eq$ in 2035 for unconditional NDCs; 4 (2–7) and 6 (5–8) $GtCO_2eq$ for conditional NDCs.	Indicates how close countries are collectively to achieving their NDC targets.

	UNFCCC NDC Synthesis Report 2026	UNEP Emissions Gap Report 2026	Reasons for differences
	variant.		
Unconditional NDCs in 2030	Total incl. LULUCF: 55.6* $GtCO_2eq$ (range: 55.1–56.1)* Total excl. LULUCF: 55.4* $GtCO_2eq$ (range: 55.1–55.7)*	Total incl. LULUCF: 55 (51−59) $GtCO_2eq$ (capped at current-policy projections; median 55.5 $GtCO_2e$ in chapter 3, table 3.2, and 59.5 $GtCO_2eq$ with NDC levels as stated, adding the 4 $GtCO_2eq$ of section 3.3.1)	**Very similar published central estimates**, because differences offset each other: capping lowers the estimate of the Emissions Gap Report by 4 $GtCO_2eq$, and once capping and its 1.0 $GtCO_2eq$ higher historical emissions are aligned, the NDC Synthesis Report is 2.9 $GtCO_2eq$ lower (table 1 shows the mean of unconditional and conditional NDCs).
Conditional NDCs in 2030	Total incl. LULUCF: 52.9* $GtCO_2eq$ (range: 52.3–53.5)* Total excl. LULUCF: 52.7* $GtCO_2eq$ (range: 52.2–53.1)*	Total incl. LULUCF: 53 (50–56) $GtCO_2eq$ (capped at current-policy projections; median 53.5 $GtCO_2eq$ in chapter 3, table 3.2, and 55.5 $GtCO_2eq$ with NDC levels as stated, adding the 2 $GtCO_2eq$ of section 3.3.1)	**Very similar central estimates**, for the reasons in the row above (capping: 2 $GtCO_2eq$; with both aligned, the NDC Synthesis Report is 1.6 $GtCO_2eq$ lower).
Unconditional NDCs in 2035	Total incl. LULUCF: 54.5* $GtCO_2eq$ (range: 53.1–55.9) Total excl. LULUCF: 55.2* $GtCO_2eq$ (range: 54.1–56.3)*	Total incl. LULUCF: 52 (49–55) $GtCO_2eq$ (capped at current-policy projections; median 51.9 $GtCO_2eq$ in chapter 3, table 3.2, and 56.4 $GtCO_2eq$ with NDC levels as stated, adding the 4.5 $GtCO_2eq$ of section 3.3.1)	**Higher in the NDC Synthesis Report**, because the Emissions Gap Report caps NDC levels at current-policy projections (4.5 $GtCO_2eq$ below its estimate with NDC levels as stated), partly offset by its 1.0 $GtCO_2eq$ higher historical emissions. With both aligned, the NDC Synthesis Report is 0.9 $GtCO_2eq$ lower.
Conditional NDCs in 2035	Total incl. LULUCF: 51.1* $GtCO_2eq$ (range: 49.6–52.6) Total excl. LULUCF: 51.7* $GtCO_2eq$ (range: 50.6–52.9)*	Total incl. LULUCF: 49 (47–52) $GtCO_2eq$ (capped at current-policy projections; median 49.3 $GtCO_2eq$ in chapter 3, table 3.2, and 51.8 $GtCO_2eq$ with NDC levels as stated,	**Higher in the NDC Synthesis Report**, for the reasons in the row above (capping: 2.5 $GtCO_2eq$; with both aligned, the NDC Synthesis Report is 0.2 $GtCO_2eq$ higher).

	UNFCCC NDC Synthesis Report 2026	**UNEP Emissions Gap Report 2026**	**Reasons for differences**
		adding the 2.5 $GtCO_2eq$ of section 3.3.1)	
Emissions gap to 1.5°C and below-2°C pathways ($GtCO_2eq$)	IPCC AR6 categories, median (interquartile range): 1.5°C, no or limited overshoot (C1): 23.4 (20.3–28.5)* in 2030 and 30.2 (26.8–34.1)* in 2035 1.5°C after high overshoot, action delayed to 2030 (C2–P3b): 0.8 (−1.0 to 2.5)* in 2030 and 15.2 (11.7–19.2)* in 2035 Likely below 2°C, immediate action (C3a): 14.0 (10.1–17.6)* in 2030 and 18.1 (14.4–22.2)* in 2035	Lowest 1.5°C overshoot scenario, median (range): 7 (3–11) and 5 (2–7) in 2030, 19 (15–22) and 16 (14–19) in 2035 (unconditional and conditional NDCs) Below 2°C: 3 (−1 to 7) and 1 (−2 to 3) in 2030, 7 (4–11) and 5 (3–7) in 2035	**Different benchmarks**. The pathways of the Emissions Gap Report start reducing emissions in 2025, those of AR6 C1 and C3a in 2020. Levels in 2035: the Emissions Gap Report's lowest overshoot 33 and below 2°C 45 $GtCO_2eq$, against C1 22.3, C2–P3b 37.8 and C3a 34.5 $GtCO_2eq$ (medians). The gap to C2–P3b, the delayed-action part of class C2, is close to the Emissions Gap Report's gap to its lowest overshoot scenario, which it finds similar to the lower part of C2: C2–P3b has higher emissions in 2035, which the higher NDC levels of the NDC Synthesis Report partly offset.
Reduction of these gaps if conditional NDCs are also fully implemented	2.7* (2.6–2.8)* $GtCO_2eq$ in 2030; 3.5 (3.3–3.6) $GtCO_2eq$ in 2035	2 $GtCO_2eq$ in 2030; 2–3 $GtCO_2eq$ in 2035	**Very similar.** Slightly stronger reduction in the UNFCCC report due to inclusion of higher emissions in unconditional cases (as emissions are not capped by 'current policy' scenarios). Capping narrows this difference in the Emissions Gap Report: its central estimates for unconditional and conditional NDCs differ by 2 and 2.6 $GtCO_2eq$ when capped and by 4 and 4.6 $GtCO_2eq$ with NDC levels as stated (2030 and 2035); the NDC Synthesis Report lies between.
Peak warming over the twenty-first century (66% probability), unconditional NDCs	2.4–3.5°C* across emission cases: 2.4–2.6°C* with NDC levels capped at illustrative current-policy projections, 3.2–3.5°C* with NDC levels as stated. Report: 1.5–4.3°C in 2100	2.7°C (range: 2.0–3.4°C) Central estimate; the range is the minimum–maximum across the 2035 NDC	**Similar**: the central estimate of the Emissions Gap Report lies within the range of the NDC Synthesis Report, between its cases with NDC levels capped at illustrative current-policy projections (as the Emissions

	UNFCCC NDC Synthesis Report 2026	**UNEP Emissions Gap Report 2026**	**Reasons for differences**
	(10th–90th percentile range, all NDC cases).	emission estimates and their extension to 2100 under different assumptions about continued policy stringency and accounting for structural emission projection model uncertainties.	Gap Report does, but with lower current-policy projections) and those with NDC levels as stated. It is slightly above the capped cases, whose emissions are lower than the Emissions Gap Report's (see the item on capping in the warming section), although FaIR projects slightly less warming than MAGICC. Methods differ more in the tails of the distribution than for the central estimate.
Peak warming over the twenty-first century (66% probability), conditional NDCs	2.3–3.2°C* across emission cases: 2.3–2.5°C* with NDC levels capped at illustrative current-policy projections, 2.7–3.2°C* with NDC levels as stated. Report: as in the row above.	2.6°C (range: 1.9–3.3°C) Central estimate; range as above.	**Similar**, as in the row above; capping NDC levels matters less under the stronger conditional targets (2.3–2.5°C* capped against 2.7–3.2°C* as stated).
Peak warming over the twenty-first century (50% probability), unconditional NDCs	2.2–3.2°C* across emission cases: 2.2–2.4°C* with NDC levels capped at illustrative current-policy projections, 2.9–3.2°C* with NDC levels as stated. Report: 2.1–3.2°C in 2100 (medians across all NDC cases).	2.5°C (range: 1.8–3.2°C) Central estimate; range as above.	**Very similar**, for the reasons given for the 66 per cent probability.
Peak warming over the twenty-first century (50% probability), conditional NDCs	2.1–2.9°C* across emission cases: 2.1–2.3°C* with NDC levels capped at illustrative current-policy projections, 2.5–2.9°C* with NDC levels as stated. Report: 2.1–3.2°C in 2100 (medians across all NDC cases).	2.4°C (range: 1.8–3.1°C)	**Similar**, for the reasons given for the 66 per cent probability.
Peak warming over the twenty-first century (50% probability), conditional NDCs and long-term	1.9–2.1°C* across the conditional cases. Report: 1.7–2.3°C in 2100 (medians across all cases).	1.9°C (range: 1.7–2.2°C), long-term targets without the United States	**Similar**. Both reports leave out the former net-zero target of the United States.

	UNFCCC NDC Synthesis Report 2026	UNEP Emissions Gap Report 2026	Reasons for differences
targets (LT-LEDS)			

*Notes: $GtCO_2eq$ per year; °C above 1850–1900. UNFCCC: NDCs as at 31 August 2026; AR6 GWP100; emissions are the mean (range) across NDC cases, with NDC levels as stated; for 2035, Parties without a 2035 target move towards their long-term targets where they communicated one, and otherwise follow current-policy growth rates; gaps are the median (interquartile range, the middle half) across pairs of NDC cases and AR6 pathways, and their reduction from conditional NDCs is the difference in emissions between unconditional and conditional cases, mean (range); warming ranges span the eight emission cases of each row (two ambition levels, NDC levels capped or as stated, two continuations after the last target year), while the report's own ranges span all 16 cases; * computed for this note, not stated in the report (a * after a range marks the range). UNEP: emissions are the median (range) across studies, with NDC levels capped at current-policy projections; the capping amounts and the values with NDC levels as stated are from the medians of chapter 3, table 3.2, and its section 3.3.1; warming is the central estimate (range), and the values at 50 per cent probability are values of the chapter 4 authors that the published report does not print. Values may not add up because of rounding.*

References

United Nations Environment Programme (2026). Emissions Gap Report 2026: The point of return – Urgent emissions cuts needed to come back from overshoot of 1.5°C. Nairobi. https://doi.org/10.59117/20.500.11822/50038.

United Nations Framework Convention on Climate Change (2026). Nationally determined contributions under the Paris Agreement. Synthesis report by the secretariat. FCCC/PA/CMA/2026/9.

Byers, E., Krey, V., Kriegler, E., Riahi, K., Schaeffer, R., Kikstra, J., and others (2022). AR6 Scenarios Database hosted by IIASA. Integrated Assessment Modeling Consortium and International Institute for Applied Systems Analysis. https://doi.org/10.5281/zenodo.7197970.