

Center for Global Sustainability

2035 NDC Assessment: Pakistan

JUNE 2026

This analysis is part of the Center for **Global Sustainability (CGS): Country Climate Ambition Project**, which presents a set of detailed, country-specific analyses in a consistent, robust, and integrated approach with the goal of informing individual country ambition and supporting the Paris Agreement's NDC process. With in-depth assessments of key emitting countries, the Country Climate Ambition project provides the latest summary—with regular updates—of analyses on plausible, High Ambition country pathways that are based on CGS's field-leading modeling, data-driven empirical analyses, deep country knowledge, international research collaboration, and strategic policy engagements. For additional analysis and information, please see our website: https://country-ambition.cgs.umd.edu/.

Summary

This assessment shows that Pakistan's 2035 Nationally Determined Contribution (NDC) reflects a limited level of ambition, as it allows for significant increases in emissions relative to current levels, and is less ambitious than the 2030 NDC. Pakistan's 2035 NDC commits to reducing total greenhouse gas (GHG) emissions by 50% below business-as-usual (BAU) levels (17% unconditional and the remaining 33% conditional), which corresponds to a 147% increase in emissions from 2023 levels under the conditional target and a 310% increase under the unconditional target. In contrast, under the CGS *High Ambition* pathway, Pakistan's total GHG emissions decline by 20-24% from 2023 levels by 2035.

In September 2025, Pakistan released its 2035 NDC, which commits to reducing GHG emissions (including Land Use, Land Use Change, and Forestry (LULUCF)) by 50% from BAU levels (17% unconditional and the remaining 33% conditional), reaching 1,280 $MtCO_2e$ by 2035.[1] Additional targets in the NDC include increasing the share of renewables in total installed capacity to 62-69% by 2035, increasing the share of clean technology vehicles in new sales to 30%, and restoring 30% of degraded habitats by 2030.[1] The country has not yet committed to a long-term net-zero target.[2]

Estimates of Pakistan's historical emissions vary across inventories, suggesting that emissions may have peaked in 2021 or could still be increasing. According to Pakistan's 2024 Biennial Transparency Report and its 2035 NDC,[3,1] total GHG emissions increased from 521 $MtCO_2e$ in 2021 to 585 $MtCO_2e$ in 2024 (including LULUCF, using the IPCC AR5 GWP-100). In 2021, the Agriculture, Forestry, and Land use (AFOLU) sector accounted for 47% of total emissions, followed by the energy sector (41%), while Industrial Processes and Product Use (IPPU) and waste each contributed 6%.[3] Global inventories show divergent trends for non-LULUCF emissions. PRIMAP-hist data indicate that non-land emissions peaked in 2021 and have since declined by an average of 2% per year,[4] while CEDS data show continued growth broadly consistent with the national inventory.[5]

The most recent power sector emissions data show a declining trend,[6] suggesting emissions may have or may soon reach their peak. In 2024, electricity was mainly generated from gas (25%), followed by hydro (19%), oil (15%), and coal and nuclear (14% each).[6] Wind and solar together accounted for 13% of total generation in 2024, up from 3% in 2020,[6] due to rapidly increasing imports of Chinese solar modules.[7] Imports of batteries, grid technology, and demand for electric vehicles have also been increasing since January 2024.[7,8]

According to our analysis, **Pakistan's 2035 NDC target allows for significant increases in emissions from current levels. Based on PRIMAP-hist data,**[4] the conditional target of a 50% reduction from BAU translates into a **147% increase by 2035 from 2023 levels**, while the unconditional target translates into a **310% increase relative to 2023 levels**. When evaluated against the national inventory,[3] the conditional target implies a 145% increase from 2021 levels, or a 119% increase from 2024 levels. Similarly, the unconditional target implies emissions increases of 307% and 263% from 2021 and 2024 levels, respectively. Given that the country may already have reached peak emissions, based on recent power sector trends, a target that allows such large increases in emissions reflects a lack of ambition.

In comparison, **the CGS *High Ambition* pathway for Pakistan shows declining emissions by 2035**. Total GHG emissions (including LULUCF) peak in 2021 and decline by 20-24% from 2023 levels in the PRIMAP-hist dataset, reaching 394-415 $MtCO_2e$ by 2035 (Figure 1). The 2035 emissions under the *High Ambition* pathway decline by 24% from 2021 and by 32% from 2024 with the national inventory values.

The 2035 targets also reflect a decline of ambition compared to the previous 2030 NDC, as they allow for faster emissions growth. Under its 2030 NDC, Pakistan committed to reducing projected 2030 emissions (including LULUCF) by 50% from BAU, with 15% achieved through domestic resources and the remaining 35% conditional on international financial support. This corresponds to emissions increases of 55-163% from 2023 levels by 2030. Under the 2030 NDC, the conditional target implies emissions of 802 $MtCO_2e$ in 2030, whereas the new conditional target under the 2035 NDC implies emissions of 1,280 $MtCO_2e$ by 2035. This represents an increase of

approximately 60% between 2030 and 2035, which is larger than the 54% rise projected over the seven-year period from 2023 to 2030 under the previous 2030 NDC.

Further, **the 2035 NDC does not provide detailed information, such as the breakdown by gas or sector, which limits deeper analysis.** Additionally, the BAU scenario used in the NDC appears to be overestimated and inconsistent with projections of key variables, such as GDP growth and population. For example, under the SSP2 scenario, population is projected to increase by 2% per year from 2025 to 2035, while GDP grows 5% per year over the same period, resulting in roughly 20% population and 56% GDP growth over the decade.[1] In addition, current trends in imports of low-carbon technologies, such as solar modules and electric vehicles, provide evidence that population and economic growth can be achieved without implying further emissions growth.

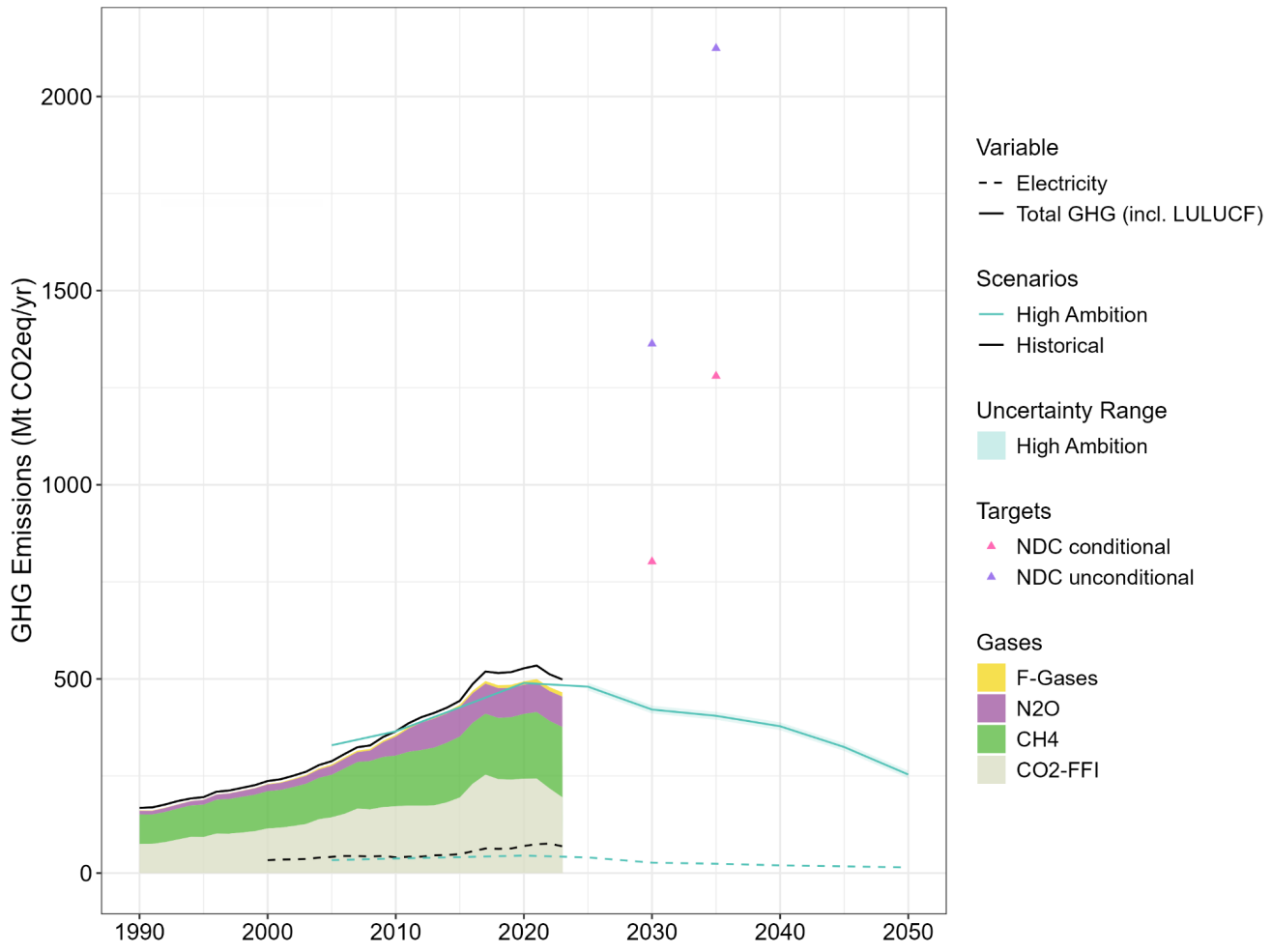


Figure 1. Pakistan's GHG emission pathway (including LULUCF). Historical data is from PRIMAP-hist[4] (solid black line for total GHG, including LULUCF), Ember[6] (dashed black line for electricity GHG), and CEDS[5] colored breakdown of historic GHG emissions, with F-Gases from PRIMAP-hist). CO_2 FFI refers to CO_2 from fossil fuel combustion and industrial processes. Pink triangles represent the conditional 2030 and 2035 NDC targets, purple triangles represent the unconditional 2030 and 2035 NDC targets. Future pathways include LULUCF emissions and are based on the GCAM IAM for the NGFS Phase V.[9] The shaded area represents +/- 2% of NDC base year emissions.

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