



MINISTRY OF ENVIRONMENT

Jordan's National Inventory Report (NIR)
to the United Nations Framework Convention
on Climate Change (UNFCCC)

20 Oct. 2025

Overview of Jordan's net GHG emissions over the 10-years period (2012-2023)

Total emissions from all sectors as generated by IPCC Software and imported as Jason file to the ETF UNFCCC Reporting Tool.

The time series is a central component of the greenhouse gas inventory because it provides information on historical emissions trends and tracks the effects of strategies to reduce emissions at the national level. As is the case with estimates for individual years, emission trends should be neither over nor underestimated as far as can be judged.

All emissions in a time series should be estimated consistently, which means that as far as possible, the time series should be calculated using the same method and data sources in all years. Using different methods and data in a time series could introduce bias because the estimated emission trend will reflect not only real changes in emissions or removals but also the pattern of methodological refinements. Chapter five, volume one of the 2006 IPCC Guidelines was consulted in terms of good practices ensuring time series consistency.

The time series analysis of Jordan's total greenhouse gas (GHG) emissions from 2012 to 2023 demonstrates a general upward trend, reflecting both economic growth and increased energy demand, coupled with gradual progress in mitigation actions. Total emissions rose from approximately 26,700 kt CO₂-eq in 2012 to over 31,000 kt CO₂-eq in 2023, marking an overall increase of about 16% across the period.

The CO₂ component consistently dominates national emissions, representing more than 80% of total CO₂-equivalents, primarily driven by the energy and transport sectors. Over time, CO₂ emissions increased steadily, from around 23,400 kt in 2012 to 25,177 kt in 2023, due to rising fossil fuel consumption in electricity generation and transport, despite parallel renewable energy expansion.

Methane (CH₄) emissions showed moderate fluctuations—rising from 2,383 kt in 2012 to 3,721 kt in 2023—mainly linked to the waste and agriculture sectors. The gradual increase correlates with higher solid waste generation and wastewater treatment outputs associated with population growth.

Nitrous oxide (N₂O) emissions remained comparatively minor but stable, ranging between 370–500 kt CO₂-eq, largely originating from agricultural activities and fertilizer application.

Overall, while emissions continue to grow moderately, the rate of increase has slowed in recent years, reflecting early results of renewable energy integration, improved energy efficiency, and waste management initiatives. These trends indicate the importance of sustained implementation of mitigation measures under Jordan’s NDC commitments to reverse the growth trajectory in the coming decade.

YEARS	GREENHOUSE GAS SOURCE AND SINKS			
	CO ₂ equivalents ¹ (kt)			
	CO ₂	CH ₄	N ₂ O	Total
2,023 ²	25,177.36	3,721.57	467.25	31,039.35
2,022	24,387.68	3,658.00	503.51	30,250.86
2,021	22,247.65	3,538.20	484.19	27,979.98
2,020	20,976.45	3,445.23	500.04	26,462.01
2,019	22,582.45	3,370.84	463.33	27,858.61
2,018	24,453.67	3,481.04	478.36	29,780.81
2,017	27,629.74	3,509.28	506.12	32,938.02
2,016	25,846.43	3,450.21	469.20	30,824.71
2,015	26,218.77	2,928.72	474.43	30,528.71
2,014	26,556.01	2,517.98	434.68	30,307.69
2,013	24,765.10	2,450.09	369.71	28,301.89
2,012	23,387.44	2,383.27	372.08	26,712.72

¹ GWP -USING AR5

² 2023 total emissions calculated with LULUCF, YEARS 2012-2022- without LULUCF