# Is Australia on Track with Emissions?

Imagine a future where bushfires burn hotter, floods strike harder, and the Great Barrier Reef fades into memory. That future is not far — unless we act now. Climate change is no longer a distant threat; it is today’s challenge.

Since 1850, global temperatures have steadily risen—closely mirroring the sharp increase in CO₂ and greenhouse gas emissions from industrialization. This chart reveals a clear pattern: as emissions surge, so does the planet’s heat. It's a stark reminder that human activity is driving climate change—and urgent action is needed to reduce emissions and limit global warming.

The 2015 Paris Agreement aims to limit global temperature rise to well below 2°C, with efforts to cap it at 1.5°C above pre-industrial levels. It also seeks to boost climate resilience, support developing nations with climate finance, and encourage global cooperation for low-carbon growth and sustainable development.

Australia makes up just 0.3% of the global population, yet it ranks among the highest in per-capita carbon emissions. As a global leader in economy and innovation, its climate actions carry weight far beyond its size.

Are we on track to meet our Paris targets?

Australia aims to cut greenhouse gas emissions by 43% from 2005 levels by 2030 and reach 82% renewable electricity. By 2050, the country targets net zero emissions—aligning with the global push to combat climate change.

Net emissions equal gross emissions minus removals like offsets, afforestation, and carbon capture methods.

While our GDP has risen significantly since 2005, Australia's National Greenhouse Accounts data by the Department of Climate Change, Energy, the Environment and Water shows Australia's CO2 emissions have decreased steadily during the same period, demonstrating a decoupling of economic activity from emissions intensity.

However, a critical gap still remains: our current trajectory falls short of the 2030 Paris Agreement target of a 43% reduction. This underscores the urgent need for more impactful policy and behavioral changes to achieve our climate commitments.

Data from the Australian Energy Statistics – Table O, by the Department of Climate Change, Energy, the Environment and Water shows that Australia has progress considerably in renewable energy and grid emission intensity. We've seen consistent growth in renewable sources like solar, hydro, and wind, leading to a welcome decline in greenhouse gas emissions per gigawatt-hour.

While positive, our current trajectory still falls short of the 2030 target of 82% renewable energy.

Emissions inventories data from the Australian Energy Statistics for the financial years 2014-15 to 2022-23 shows how different industry-sectors consumption renewable and nonrenewable energy. We see Transport as the largest energy consumer, predominantly reliant on non-renewable fossil fuels. Primary industries, agriculture, mining, and construction also heavily depend on non-renewable sources, while manufacturing and residential sectors show promising adoption of renewables.

This choropleth map illustrates Australia's state-wise renewable power generation from 2008-09 to 2022-23. While Australia targets 82% renewable energy by 2030, most states lag significantly. However, states like South Australia and Tasmania demonstrate impressive leadership, nearing or exceeding targets.

If we compare the recent historical data of Australia's CO2 emissions per capita against that of US, EU, and China we may observe, while Australia shows a consistent per capita reduction, we still remain significantly higher than China, whose emissions are steadily increasing, and the EU, which continues its decline from already lower levels. The US trajectory closely mirrors Australia's.

Australia's 2024 Climate Action Tracker ratings, highlights a stark reality. Our overall rating is "Insufficient," indicating current policies are likely to lead to over 3°C of global warming. This "Insufficient" rating extends across policies, 2030 targets vs domestic pathways and fair share contributions, and “Critically Insufficient” in climate finance.

Australia's Clean Energy Regulator data offers some hope. Individuals in Australia are driving a huge change, with over four million rooftop PV Solar installations reaching a cumulative 25.5 GW capacity by November 2024. Australia leads the world in per capita solar electricity generation, producing 1,774 kWh per person in 2023, surpassing the UAE and the Netherlands. Notably, over one-third of South Australian homes now feature rooftop solar, showcasing significant individual contributions.

If we look at the remarkable growth of rooftop solar in Australia from 2014 to 2024. We see a consistent rise in both number of installations and cumulative PV capacity. This sustained upward trend highlights the strong public adoption of solar technology and its significant contribution to Australia's renewable energy landscape, reinforcing the potential for individual actions to drive meaningful change.

As a nation, Australia has made strides in decoupling economic growth from emissions and boosting renewables, particularly rooftop solar. However, a significant gap remains in meeting our Paris Agreement targets, especially for 2030, and our international climate action ratings are "Insufficient." While individual efforts offer hope, urgent and ambitious policy changes are critical for Australia to accelerate progress and fulfill its global climate responsibilities.