Explainer: Emissions budgets are key to climate targets

Justice and Equity Centre

Energy sector decision makers must focus on reducing emissions now, not just aim for net zero by 2050.

Why emissions budgets are critical

Australia's emissions reduction commitments include both a net zero by 2050 target *and* associated emissions budgets. An emissions budget is the maximum amount of greenhouse gases that can be emitted while keeping global warming below a specific temperature limit. Like net zero by 2050, our emissions budgets aim to keep global warming below 1.5C.

If we exceed emissions budgets between now and 2030, we will need to drastically increase our future emission reductions – if we can – or try to 'reverse' emissions to undo climate damage. These are both more expensive and riskier than reducing emissions before we blow the budget.

All energy decisions are important for emissions reduction

Electricity generation accounts for 31.8% of Australia's overall emissions. That makes rapid decarbonisation of the National Electricity Market (NEM) critical to reaching our targets and staying within our emissions budgets.

The Government has set a target of 82% renewables in the NEM by 2030. But more renewables in the NEM doesn't automatically translate to rapid emissions reduction and staying within the emissions budget. Every decision in the energy sector can have an impact on emissions, so every decision needs to consider and optimise emissions reduction.

Emissions in the NEM aren't dropping fast enough

Emissions have remained mostly stable in the NEM at just over 120 MtCO2e[1] per year, dropping 3.8% over the year to December 2025. This doesn't align with the budget.

The Australian Energy Market Operator (AEMO) calculated emissions budgets for the NEM. These budgets outline various approaches to reducing emissions and show we're falling alarmingly behind.

The middle or 'Step Change' scenario has a total emissions budget of 583 Mt CO2e from 2026 to 2050. If current emission rates continue, the NEM carbon budget to 2050 will be exceeded by 2031. This puts the entire goal and the possibility of keeping global warming below 1.5C at risk. Decision makers must refocus on emissions budgets now.

Our work for rapid, efficient emission reduction

Through the JEC's SAFE project, we are drawing on expert policy and legal perspectives to push for more significant emissions cuts in energy and advocating for more robust consideration of emissions budgets across all energy sector decisions and processes. This work aims to most efficiently accelerate emissions reduction and keep the possibility of Australia's commitment to 1.5C alive.

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[1] See Figure 2, 2025 IASR p.50.