

AUSTRALIA'S 2020 AND 2030 GOALS



The Authority considers that a 5 per cent target for 2020 is not a credible contribution to the global goal of keeping warming below 2 degrees. A 5 per cent target would leave an improbably large emissions reduction task to later; rapid reductions would be needed after 2020 to stay within the recommended long-term budget.

The Authority recommends a minimum 2020 target of 15 per cent below 2000 levels. It considers this to be the minimum consistent with the science. The Authority also recommends that Australia's carryover from the first commitment period of the Kyoto Protocol be used to strengthen Australia's target by 4 percentage points, to 19 per cent below 2000 levels. This target is challenging but achievable. It is a fair contribution to the global task, is consistent with the targets of many comparable countries, and can be achieved at manageable cost.

To 2030, the Authority recommends a trajectory range of 40 to 60 per cent below 2000 levels. This range allows Australia to step up efforts if stronger global action emerges or to moderate them if weaker global action makes more than 2 degrees of warming likely. It also maintains flexibility to respond to new information about climate science and economic developments.

In Chapter 9, the Authority recommends emissions reduction goals to 2020 and 2030 consistent with its recommended budget to 2050 (Chapter 8). It covers:

- the risks and opportunities for Australia within an increasingly emissions-constrained global economy
- the key lines of evidence from this Review to conclude that a 2020 emissions reduction target of 5 per cent is inadequate
- an emissions reduction pathway for the short and medium term (including a 2020 target and 2030 trajectory range).

The Authority makes these recommendations following analysis of the best available evidence and consultation with experts and submissions from over 12,000 members of the public. While different goals were canvassed and assessed, the Authority believes these recommendations provide a credible set of goals for Australia.

9.1 THE LONG-TERM BUDGET HAS IMPLICATIONS FOR SHORT-TERM ACTIONS

In this report, the Authority adopts a budget approach to emissions reduction goals for the short, medium and long term (Chapter 7). Setting a budget for emissions through to 2050 highlights the trade-offs between actions taken now and those made necessary later. The balance of effort over time has implications for the costs of reducing emissions and the risks and opportunities Australians face. Stronger action now can help:

- reduce costs and smooth Australia's transition to a low-emissions future
- preserve options and leave a manageable task for the next generation.

9.1.1 ACTING EARLY CAN REDUCE COSTS AND MINIMISE DISRUPTION

Early action to reduce global emissions improves the chance of staying below 2 degrees and limits the future costs of climate change (Chapter 3). Early action can also reduce the cost of mitigation efforts, both at the global and national level. While innovation is expected to drive down the costs of low-emissions technologies and open up new opportunities over time, studies of the costs and benefits of mitigation action conclude emissions reduction efforts should not be delayed.

For example, Treasury modelling (2008) suggests strong coordinated global action accelerates cost-reduction in low-emissions technologies, and helps prevent lock-in of more emissions-intensive industry and infrastructure. Delaying global action could increase the cost of achieving climate goals. In the current global context, where action is less coordinated but is gradually broadening and strengthening, the analysis suggests countries that act early could gain an advantage. Those that defer action could face higher long-term costs, as more emissions-intensive infrastructure is locked in place and investment is redirected to early movers. Creating new market opportunities for low-emissions technologies and infrastructure is already an explicit objective of policies in Europe, China and the Republic of Korea (Fankhauser et al. 2012).

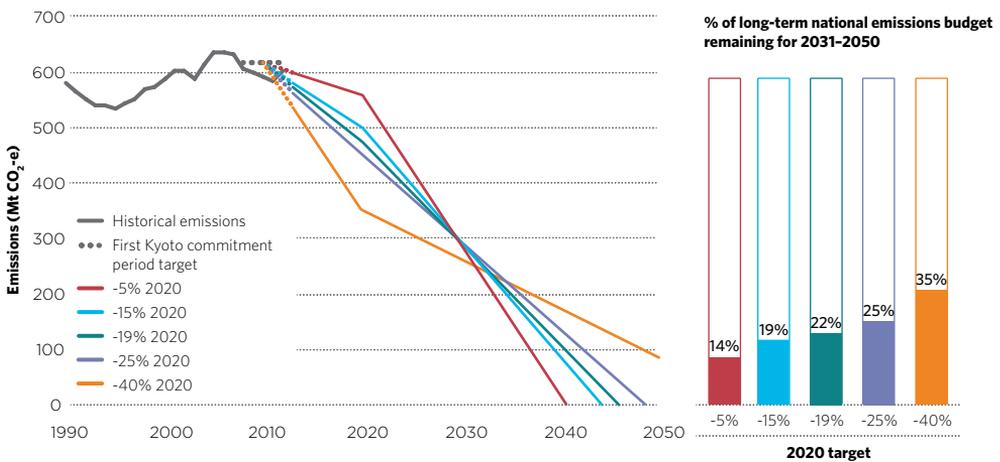
In addition to driving the domestic transition to a low-emissions economy, stronger early action can take advantage of the opportunities in international carbon markets. As discussed in Chapter 10, international emissions reductions are currently available at very low prices. If Australia used more of these low-cost international reductions to meet a stronger target now, it could save more of its emissions budget for later, when prices are likely to be much higher.

Leaving too much of the required effort until later would involve rapid cuts to stay within the recommended national emissions budget to 2050. Rapid cuts could be costly, requiring premature retirement of high-emissions assets, and involve disruptive shifts in regional economies and employment. Responsible use of the emissions budget would help Australia balance its efforts over time and minimise economic and social disruption. Long-term goals, paired with consistent short-term action, can help Australian workers, regions and industries in this transition.

Figure 9.1 shows the trade-offs between early and late action within the recommended budget to 2050. The different trajectories show that stronger action to 2020 leaves more flexibility and options in later years, while weaker short-term targets would require steep trajectories after 2020 and exhaust the budget well before 2050.

- With a 2020 reduction target of 5 per cent, Australia would need to almost halve its emissions in the decade to 2030, and have only 14 per cent of the budget left for the next two decades. A 10 per cent target implies a similarly rapid acceleration of effort beyond 2020.
- A 15 per cent target would still require an acceleration of effort beyond 2020, but with carryover used to strengthen the target to 19 per cent, this option retains 22 per cent of the national budget for the two decades after 2030.
- A 25 per cent target would retain more of the budget for later, but represents a steeper jump from Australia’s current position.

FIGURE 9.1: RELATIONSHIPS BETWEEN 2020 TARGETS, 2030 TRAJECTORIES AND NATIONAL EMISSIONS BUDGETS



Source: Climate Change Authority; historical emissions from Treasury and DIICCSRTE 2013

Stronger early action also preserves Australia’s options and flexibility to respond to new information. For example, if new climate science indicates the impacts of climate change are worse than currently understood, it may be appropriate to tighten Australia’s emissions budget. Using too much of the budget early closes off this possibility. In contrast, if new science indicates the budget can be relaxed, using less of the budget now does not foreclose options to moderate efforts later. This is also true at the global level—delaying action too far into the future could make it impossible to avoid the worst impacts of climate change, as some impacts become irreversible beyond certain warming thresholds (Rogelj et al. 2013, p. 81).

9.2 WHY 5 PER CENT BY 2020 IS NOT ENOUGH

Australia should adopt a stronger 2020 target than 5 per cent. This conclusion is based on all of the evidence considered in this Review.

First, **a 5 per cent target is inconsistent with Australia’s fair contribution to the long-term global goal to limit warming to below 2 degrees.** A 5 per cent target would result in Australia using almost all of the recommended national emissions budget in fewer than half of the years it is intended to cover. It would leave an improbably large task for future Australians to make a fair contribution to keeping warming below 2 degrees.

Second, **a 5 per cent target does not keep pace with actions taken by many other countries.**

A 5 per cent target compares poorly with the targets of the United States and many other neighbours and trading partners. Of the countries examined (Chapter 4), some have targets less ambitious than Australia's 5 per cent, but they are much poorer than Australia, with lower levels of development and less governance capacity. The Authority considers that Australia's high level of development and high per person emissions justify stronger action.

Third, while Australia's emissions reduction task remains challenging, **adopting stronger targets is easier than previously thought.** Official projections in 2012 suggested Australia would need to cut its emissions by 155 Mt in 2020 and 754 Mt over the period 2013 to 2020 to achieve the unconditional 5 per cent target (DCCEE 2012). The latest projections suggest 131 Mt of emissions reductions in 2020 and 593 Mt over the period 2013 to 2020 are required (Chapter 10). If Australia was to reduce emissions by 754 Mt over the period to 2020, it would now reach an 11 per cent target.

In addition, Australia has an estimated 116 Mt of emissions rights to carry forward from the first commitment period of the Kyoto Protocol. This carryover is sufficient to strengthen Australia's 2020 target by 4 percentage points (Chapter 7). If this carryover was instead used to meet the minimum 5 per cent target, Australia would effectively only have to reduce emissions to 1 per cent below 2000 levels by 2020.

The Authority has also examined the government's target conditions for moving beyond 5 per cent and concludes they have been met (Chapter 4). There has been significant international action since the conditions were set, with commitments by all major emitting economies to emissions reduction goals. The government conditions focus on action and do not require a binding international agreement.

Overall, a 2020 emissions reduction target stronger than 5 per cent is responsible and feasible. A stronger 2020 target would preserve Australia's options and make a fair contribution to global action to limit warming to 2 degrees or less.

9.3 RECOMMENDED 2020 GOALS

9.3.1 NATIONAL EMISSIONS REDUCTION TARGET

The Authority **recommends a minimum emissions reduction target for 2020 of 15 per cent** below 2000 levels.

It also recommends that Australia's **carryover from the first Kyoto Protocol commitment period be used to raise the target by 4 percentage points**, to 19 per cent below 2000 levels.

This target is a responsible contribution to global efforts and is achievable for Australia.

Australia stands to benefit from global efforts to keep warming below 2 degrees. The conclusions of science are clear—the likely impacts of climate change on Australia, including its natural environment, people and economy, are very serious. Even at 2 degrees of global warming, adverse impacts will be felt in Australia and around the world.

Keeping warming below 2 degrees is a substantial challenge, requiring an acceleration of global effort to 2020 and beyond. For Australia, it requires a constraint on emissions over the long term—the budget to 2050—and a significant acceleration of effort compared to the past. The Authority considers a **15 per cent reduction by 2020 is the minimum required to be consistent with the recommended long-term budget.** Adding carryover capitalises on Australia's progress to date and saves more of the national budget for the future.

The recommended target is in line with the actions of other countries. The Authority's analysis shows 2020 targets in the range of 15–25 per cent are consistent with the targets of many comparable countries. Australia's high level of development and high per person emissions relative to most other countries suggest a stronger target than 5 per cent is appropriate. Adopting a stronger national target at this crucial time, when the international community is reviewing the level of global action to 2020 and beyond, may have some positive influence on other countries' level of action.

The recommended target can be achieved at manageable cost, depending on the policies used (Chapter 10). Under current legislative arrangements, which provide a useful benchmark, meeting a target of 15 per cent is projected to have marginal impacts on the economy. Annual growth in average income per person is projected to slow by 0.02 per cent compared to meeting the unconditional 5 per cent target, growing from \$62,350 in 2012 to \$66,350 in 2020—about \$100 less than it would be if Australia pursued a 5 per cent target. The shortfall in growth could be made up in three months. Australia's carryover can strengthen the 2020 target by 4 percentage points for effectively no additional cost. The government intends to use new policies to pursue the 5 per cent target, which will have different impacts to those modelled and the issue of costs will need to be revisited when the policies are finalised. The incremental costs of moving to a stronger target, however, will be comparable so long as international reductions are used to pursue it. Further, these cost estimates assume a carbon price rising to just over \$30 per tonne in 2020. Australia has access to credible international emissions reductions at much lower prices; if Australia purchased these instead, the costs could be even lower.

Any Australian action to reduce emissions is starting from a solid base, with the prospect of greater reductions to come. The emissions intensity of the Australian economy has halved since 1990—while the economy and Australian population have grown steadily, emissions have remained relatively flat. Australia's emissions were below its 2008–2012 Kyoto Protocol commitment, and it is making progress towards the 5 per cent unconditional target. The recommended target would help maintain the momentum in Australia's move towards a low-emissions economy and prepare for further acceleration of effort in future decades. The Authority's analysis identifies substantial, low- to medium-cost emissions reduction opportunities across all industry sectors, which could be mobilised by targeted, sustained policies.

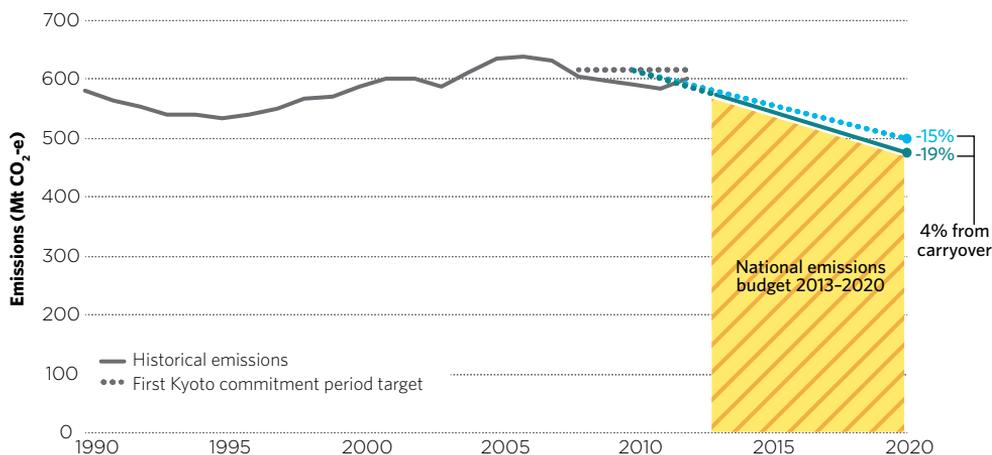
International emissions reductions can complement domestic efforts, providing a cost-effective and environmentally sound way to help meet the recommended goals. The Authority believes that Australia should not delay its domestic transition, but particularly in the period to 2020, Australia should use a mix of domestic and international reductions. In particular, the Authority recommends that international emissions reductions be used to bridge any gap between domestic reductions and the recommended 2020 target (Chapter 12).

If the global trend towards stronger action on climate change is sustained, Australia will need to do more to transition away from its high-emissions economy. The Authority's recommendations would help Australia to remain competitive in an increasingly emissions-constrained global economy.

9.3.2 NATIONAL EMISSIONS TRAJECTORY AND BUDGET

As discussed in Chapter 7, the Authority recommends a simple straight-line trajectory to 2020. This trajectory tracks from Australia’s target under the first commitment period of the Kyoto Protocol to the recommended target in 2020. This trajectory corresponds to a national emissions budget of 4,193 Mt CO₂-e for the period 2013 to 2020. Figure 9.2 illustrates the recommended emissions reductions goals to 2020.

FIGURE 9.2: RECOMMENDED 2020 GOALS FOR AUSTRALIA



Source: Climate Change Authority

Even with a target of 15 per cent plus carryover in 2020, emissions reductions would need to accelerate after 2020 if Australia was to stay on track to meet the Authority’s recommended budget to 2050. The next section describes the Authority’s recommendations for the medium term.

RECOMMENDATIONS

R.5 A minimum 2020 emissions reduction target of 15 per cent below 2000 levels.

R.6 Australia’s carryover from the first commitment period of the Kyoto Protocol be used to raise the 2020 emissions reduction target by 4 percentage points, giving a 2020 target of 19 per cent.

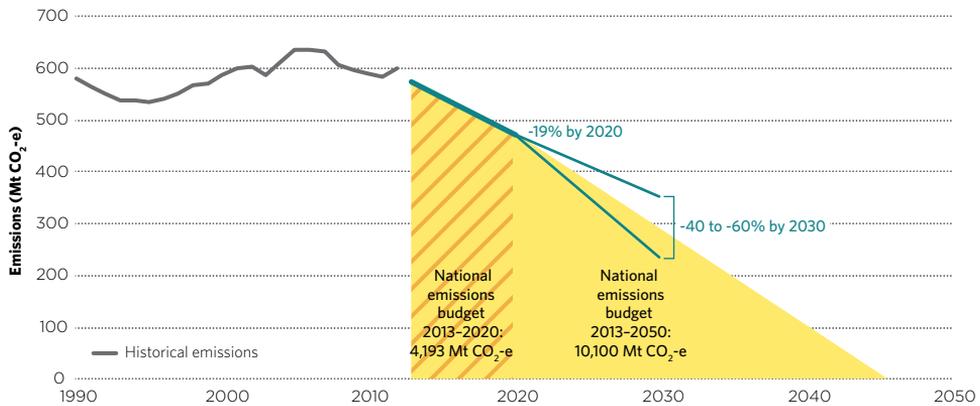
R.7 An indicative national trajectory for the period 2013–2020 that follows a straight line to the 2020 target. This line starts at Australia’s first commitment period target under the Kyoto Protocol (108 per cent of 1990 levels) in 2010, and ends at 19 per cent below 2000 levels in 2020.

R.8 A national carbon budget for the period 2013–2020 of 4,193 Mt CO₂-e.

9.4 GUIDANCE BEYOND 2020—RECOMMENDED 2030 GOALS

The Authority recommends a trajectory range to 2030 of 40 to 60 per cent below 2000 levels as guidance for future targets. Figure 9.3 illustrates the recommended trajectory range in the context of the full set of goals.

FIGURE 9.3: RECOMMENDED GOALS FOR AUSTRALIA



Note: Assumes both the Authority’s 2020 target recommendations are accepted—a 15 per cent target plus an additional 4 percentage points from carryover—giving an effective target of 19 per cent.

Source: Climate Change Authority

The Authority’s twin objectives in recommending a medium-term trajectory range (Chapter 7) are to:

- provide guidance, based on the best available evidence, on the action likely to be required in the medium term to make a fair contribution to global efforts to meet the below 2 degree goal
- retain flexibility to adjust national goals over time in light of developments in climate science, international action and economic factors.

The recommended long-term budget is a key consideration in setting the 2030 trajectory range. As set out in Chapter 8, to determine Australia’s national budget the Authority started with a global budget that is projected to give a likely chance of achieving the below 2 degree goal. Staying within this global budget will be challenging, but remains achievable. A straight-line trajectory from the Authority’s 2020 target recommendations (15 per cent plus carryover) suggests a 50 per cent reduction in 2030 and zero net emissions by 2046, when the recommended national budget would be exhausted.

The recommended trajectory range provides the flexibility to strengthen or moderate Australia’s efforts as new information emerges. Developments in climate science, international action and economic factors will have implications for Australia’s appropriate long-term budget and interim goals. For example, international efforts may not accelerate at the rate required to retain a likely chance of staying below 2 degrees. New low-emission technologies may be slow to develop or prove more costly to deploy. On the other hand, climate science may further strengthen, and the additional risks precipitate much stronger international action and more ambitious global goals. It is not possible to know, today, which of these possible futures will eventuate, so flexibility in medium-term guidance is important.

The Authority's recommended 2030 trajectory range provides this flexibility:

- The upper (weaker) bound of the trajectory range tracks to 40 per cent below 2000 levels in 2030. This could be appropriate if, for example, Australia was contributing to global action to limit warming to no more than 3 degrees, or a lower (50 per cent) chance of less than 2 degrees.
- The lower (stronger) bound of the trajectory range tracks to 60 per cent below 2000 levels in 2030. This could be appropriate if, for example, Australia was contributing to global action to limit warming to no more than 1.5 degrees, or a higher (75 per cent) chance of less than 2 degrees.

In this way, the recommended range takes account of different stakeholder views on which global emissions budget provides the best guidance for Australia. Some advocate smaller budgets, arguing that keeping warming below 1.5 degrees is necessary to avoid dangerous climate change. Others contend that a 2 degree temperature limit is no longer realistic given the scale and pace of international action, and budgets consistent with higher temperatures should be considered. Appendix C3 discusses this matter further.

The Authority's recommended trajectory range of 40 to 60 per cent is consistent with global analysis. Höhne et al. (2014) looked at over 40 studies that reviewed fair shares of global emissions reduction efforts and considered their implications for national 2030 targets. They found that to stabilise at 450 ppm CO₂-e (which gives a roughly even chance of staying below 2 degrees), OECD nations, including Australia, would need to reduce emissions by approximately 50 per cent from 2010 levels, within a range of 37 to 75 per cent.

As discussed in Chapter 7, the Authority recommends that the trajectory range be reviewed periodically along with the long-term emissions budget to ensure that they remain appropriate.

RECOMMENDATION

R.9 Beyond 2020, Australia continue to reduce emissions within a trajectory range bounded by the paths to 40 and 60 per cent below 2000 levels in 2030.