



FINAL REPORT ON AUSTRALIA'S FUTURE EMISSIONS REDUCTION TARGETS, 2 JULY 2015

In its Draft Report to the Minister for the Environment on 22 April on Australia's future greenhouse gas emissions reduction targets, the Authority recommended that at the upcoming Paris climate conference Australia commit to:

- a 2025 target of 30 per cent below 2000 levels; and
- further reductions by 2030 of between 40 and 60 per cent below 2000 levels.

The Authority indicated it would review these preliminary recommendations in the light of feedback from stakeholders and any new information that became available.

The consultative process elicited a good exchange of views, which helped to clarify the Authority's understanding of the positions of various stakeholders. From the Authority's perspective, these discussions—and the limited new information which has emerged in recent weeks—have strengthened the Authority's conviction in the overall appropriateness of its preliminary recommendations. In particular, a broad measure of agreement existed around the following points:

- the determination of targets should give most weight to what the scientific evidence is telling us we need to do, to what comparable countries are doing and, not least, to what is in the best interests of current and future generations of Australians;
- while the recommended targets for Australia are challenging, they are no more so than the targets many other developed countries have been pursuing in recent years, and are committing to in the post-2020 period;
- the costs of achieving particular targets (including their adverse impacts on certain industries) are best considered in the design of appropriate policy instruments, rather than through the acceptance of inadequate national targets;
- major benefits to Australia will accrue both from avoiding the harmful consequences of dangerous climate change and from participating in the opportunities and new technologies that will accompany the transition to a lower carbon world; and
- all countries, including Australia, will need to progressively lift their efforts to reduce emissions well beyond 2020 to maintain a reasonable chance of limiting global warming to less than 2 degrees above pre-industrial levels.

This brief final report addresses issues which have arisen since the release of the Authority's recent Draft Report, and indicates the Authority's responses to those issues.

Climate science

The Authority's recommendations for Australia's post-2020 emissions reduction targets are underpinned by the evidence from climate science that emissions of greenhouse gases from human activities are the dominant contributor to global warming. All countries have agreed to work together to reduce emissions to a level that keeps global warming below the 2 degrees threshold. Climate science also tells us that warming beyond that threshold is likely to have increasingly severe social, economic and environmental impacts, not least in a dry continent like Australia. Avoiding those impacts will require concerted global actions with all countries—Australia included—shouldering a fair share of the emissions reduction burden: unilateral insouciance is no protection against the encroachment of climate change.

Stakeholder feedback

Stakeholders were generally supportive of the 2 degree goal. In their submissions, AGL Energy, the Grattan Institute, the Australian Academy of Sciences, the Australian Industry Group and the Investor Group on Climate Change all indicated broad support for determining post-2020 targets in the light of this agreed goal; some (such as WWF and The Climate Institute) favoured stronger targets than those recommended by the Authority, arguing that Australia's emissions reduction targets should be aligned with a higher probability of limiting global warming to 2 degrees, and/or of keeping open the possibility of limiting warming to 1.5 degrees. Stakeholders generally agreed with the Authority's proposal that Australia's targets and policies should be reviewed periodically against global goals and action.

Comparability of action

In addition to their underpinning by climate science, the Authority's preliminary recommendations reflected a judgment that, as a proxy for its fair share of the overall emissions reduction task, Australia should broadly match the targets of other wealthy developed countries, including the United States and the European Union. It is the Authority's judgment that its recommended targets for 2025 and 2030 continue to satisfy this comparability test.

Recent developments

Since the Authority's Draft Report was released, some additional countries—including Canada and Japan—have announced post-2020 emissions reduction targets. Over the same period there has been a notable build-up—at many levels—both in concerns about the risks of dangerous climate change and in expectations for effective, ongoing policy actions to emerge from the Paris Conference in December.

Table 1 shows how the recently announced targets of Canada and Japan compare with those announced previously by several other developed countries. Canada's target is to reduce its emissions by 30 per cent from 2005 levels by 2030, with Japan proposing a 2030 target of 26 per cent below 2013 levels. While representing an improvement on their existing 2020 targets, these post-2020 targets for Canada and Japan are rather less ambitious than those announced by the United States and some other developed countries. In the case of Japan that country's emissions reduction efforts were dealt a serious blow by Japan's response to the Fukushima nuclear disaster, and the consequent increased reliance on coal for its electricity generation. Canada's national target is a good deal weaker than that which the Authority is recommending for Australia; the Canadian target suggests that much of the running on climate change in that country will remain with the provincial governments, some of which have adopted their own emissions reduction targets and policies.

Outside national governments, interest in reducing greenhouse gas emissions and bolstering the 2 degree goal continues to build. The G7 group resolved recently to phase out carbon emissions from fossil fuels by the close of the century. State and provincial governments—and major cities—in several countries are increasing their collaboration on ways to reduce their emissions; this includes Australian state and territory governments, as well as the cities of Sydney and Melbourne.

Business and community groups too have been sharpening their focus on the implications of ongoing climate change for their particular constituencies. Major fund managers, banks and other project financiers are now paying more attention to the financial risks surrounding long-life carbon-intensive assets, as well as to emerging opportunities to develop and market new low-emissions products and processes (such as improved battery storage technologies). In early June the Norwegian Parliament resolved to divest its \$US880 billion sovereign wealth fund of shares in companies that generate more than 30 per cent of their turnover from coal.

Religious leaders of all faiths have also joined with other groups in calling for strong emissions reduction targets (including in Australia) to help reduce the risks of dangerous climate change, with the Pope (among others) reminding us that poor people and poor countries would suffer most if those risks were not contained.

A notable and potentially very encouraging development in Australia in the past week was the call by a broad coalition of business, social, environmental and other groups—under the umbrella of the Australian Climate Roundtable—for Australia to play its fair part in international efforts to achieve the 2 degree goal. It is, hopefully, a decisive step towards building the wide consensus and genuine commitment necessary to delivering this outcome.

[Stakeholder feedback](#)

Stakeholders generally acknowledged that many countries—including the United States and China, the world's two biggest emitters—were committing to strong actions to contain and reduce their emissions, even if the motivation in some cases stemmed as much from concerns about air pollution and energy security as from climate change per se.

As to the comparability of the Authority's recommended target reduction of 30 per cent by 2025 with the broad thrust of other developed countries' targets, a couple of stakeholders argued that this recommendation would require sharp reductions in the emissions intensity of the Australian economy, and impose severe burdens on certain industries. It has also been argued that the Authority's recommendation would require much greater reductions in the emissions intensity of the Australian economy than those required by other developed countries to meet their targets.

The Authority is not persuaded by such arguments. It is true (as shown in Figure 1) that Australia has a much higher emissions intensity than most other developed countries: to some extent, however, this measure (and Australia's highest ranking on the measure of per person emissions, also shown in Figure 1) illustrates the extent to which Australia is starting behind other developed countries and the extent of the 'catch-up' required. The relevant question is whether the 'catch-up' implicit in meeting the recommended target for 2025 is realistic. It is challenging, but not, in the judgment of the Authority, unrealistic, for the following reasons:

- Between 1990 and 2012 the emissions intensity of the Australian economy has approximately halved, in response to structural changes, new technologies, fuel switching and improvements in energy efficiency.
- These drivers of change can be expected to continue over the decade ahead, and to accommodate both larger absolute reductions in Australia's greenhouse gas emissions, and further substantial reductions in the emissions intensity of the Australian economy.
- On the Authority's figuring, achievement of the recommended target of a 30 per cent reduction in emissions by 2025 would still have Australia with a more emissions intensive economy (and higher per person emissions) than any major developed country other than Canada.

In any event, it is the reduction in a country's total emissions—not its emissions intensity—which is the most relevant measure in assessing that country's contribution to attaining the 2 degree goal. On this measure, the Authority reaffirms its recommended target of a 30 per cent reduction in Australia's greenhouse gas emissions in 2025, compared with the 2000 level. Such a commitment by Australia, together with those foreshadowed by other major countries, would help to move the world closer to a sustainable path towards the 2 degree goal.

Stakeholder feedback on two other matters raised in the Authority's draft report might be noted here. First, the Authority's recommended package of a specific target for 2025 and a target range out to 2030 received general support, combining as it would clear signals as to the Government's intentions in the earlier years with flexibility to adjust Australia's efforts in the latter years in the light of relevant developments. Secondly, stakeholders did not express strong views on any preferred base (or reference) year for Australia's targets. Several noted, however, that choosing particular base years could make targets appear stronger without necessarily entailing any stronger effort on the part of policymakers to reduce emissions (see Figure 2). The Authority has based its recommendations on the year 2000 to maintain consistency with Australia's previous commitments.

Benefits and Costs

In its Draft Report the Authority identified the major benefits to Australia of effective action to reduce global emissions as the avoidance of the adverse social, economic and environmental impacts of dangerous climate change. It is clearly in Australia's interests to strive towards this outcome: in doing so Australia would be playing a responsible international role in helping to reduce global emissions and, simultaneously, acting to protect vital interests of current and future generations of Australians. In addition, the transition to a low carbon world now underway carries with it the prospect of benefits of the more conventional kind—new technologies, skills, investments, industries and jobs—for Australia and other countries with the foresight and wit to seize these opportunities.

The Authority also acknowledged in its Draft Report that achieving the requisite reductions in Australia's greenhouse gas emissions would entail some costs, and these could impact more heavily on some industries and communities than others. The Authority argued that these costs would depend largely on the particular measures adopted to pursue the targets and, at least in the first instance, are best addressed through the design of those measures, not through scaling back the targets themselves.

Stakeholder feedback

Feedback from the discussions on the benefits and costs of the Authority's recommended targets tended to reflect the perceived implications of the targets for the balance sheets of particular stakeholders. Industry groups were obviously concerned that Australia's targets should not create heavy cost burdens for Australian businesses, or undermine their international competitiveness. A couple of stakeholders made the point that, given its highly emissions intensive economy, Australia would have to make greater efforts than many other countries to meet any nominated target, a point which was discussed earlier in this report.

Other stakeholders observed that Australia's future, including its economy, was about much more than mining, with some emphasizing avoidance of the harmful consequences of dangerous climate change, and others emphasizing the opportunities for Australia to develop new industries through greater utilisation of the country's abundant renewable energy resources. Emissions intensive and trade exposed sectors currently generate a large share of Australia's exports but they make up rather less than 10 per cent of the whole economy.

The Authority had not looked for—or found—unanimity in stakeholder views on the benefits and costs of the Authority's recommended targets. This outcome was expected, not least because the costs of achieving any given emissions reduction target cannot be meaningfully assessed until the suite of measures to be adopted has been identified. The feedback was nonetheless helpful in a number of respects, including its considerable focus on the potential benefits and opportunities to be stacked up against the costs (when these can be sensibly estimated). It has also lent broad support for many of the propositions underlying the Authority's thinking in its Draft Report. In particular, that:

- the targets to be recommended by the Authority should be based primarily on the science of climate change and broad comparability with the efforts of other wealthy, developed countries;
- targets which are judged to be in the nation's best interests should not be scaled back to try to protect sectoral interests—possible threats to the cost base or competitiveness of particular activities should be addressed, in the first instance, through the design of the policies chosen to meet those targets; and
- the provision of any additional support that might be considered necessary to assist certain emissions-intensive activities to adjust to the ongoing transition to a low carbon world should not be at the discouragement of new investment in renewable energy—which could not be said to be the situation currently.

Endpiece

For the reasons discussed in its Draft Report and reiterated briefly here, the Authority confirms its preliminary recommendations that Australia commit to the following package at the forthcoming Paris Conference:

- a 2025 target of a 30 per cent reduction in its emissions below 2000 levels (or a 36 per cent reduction if the Government should choose 2005 as its preferred base year); and
- further reductions within a range of 40 to 60 per cent below 2000 levels by 2030 (or a range of approximately 45 to 65 per cent below 2005 levels).

The second and third parts of the Special Review commissioned by the Minister for the Environment require the Authority to report on possible policy actions to achieve Australia's post-2020 targets. As part of this exercise, a draft report on the case for an emissions trading scheme for Australia is to be completed by 30 November 2015. The third and final part of the Special Review specifically requires the Authority to report by 30 June 2016 on the full suite of actions Australia should take to meet its commitments arising out of the Paris Conference. That final report will be the vehicle for the Authority to present its analysis and recommendations on how Australia's actual post-2020 targets might be most appropriately and cost-effectively implemented.

At this time, however, attention is properly focussed on the targets themselves. The Authority believes its recommendations constitute a credible package for the Australian Government to take to the Paris Conference. It is credible in terms of what the science requires—and what many comparable countries are doing—to move the world back towards a global emissions reduction path consistent with a reasonable chance of limiting the increase in global warming to 2 degrees. It would also send a credible signal to domestic and international stakeholders alike that the Government is intent on playing a leadership role in guiding Australia's long-term transition to a sustainable, low carbon world.

Tables and Figures

Table 1: Announced post-2020 targets for emissions reductions

This table summarises announced and foreshadowed targets for emissions reductions post-2020; it reports the targets in the terms announced by the countries concerned. (Targets for developed countries alone are compared on a common base year in Figure 1.)

Country	Target
Canada	30 per cent below 2005 levels by 2030
China	peak CO ₂ emissions by 2030 and to make best efforts to peak early; reduce emissions intensity per unit of GDP by 60 to 65 per cent from 2005 levels by 2030
European Union	at least 40 per cent below 1990 levels by 2030
Japan *proposed	26 per cent below 2013 levels by 2030
United States	26 to 28 per cent below 2005 levels by 2025
Andorra	37 per cent below BAU by 2030
Ethiopia	64 per cent below BAU by 2030
Gabon	50 per cent below BAU in 2025
Germany	55 per cent below 1990 levels by 2030
Liechtenstein	40 per cent below 1990 levels by 2030
Mexico	25 per cent reduction in greenhouse gases and short lived climate pollutants from BAU in 2030
Morocco	32 per cent below BAU by 2030
Norway	at least 40 per cent below 1990 levels by 2030
Republic of Korea	37 per cent below BAU in 2030
Russia	25 to 30 per cent below 1990 levels by 2030
South Africa	42 per cent below BAU by 2025
Switzerland	50 per cent below 1990 levels by 2030
United Kingdom	50 per cent below 1990 levels over the period 2023-27

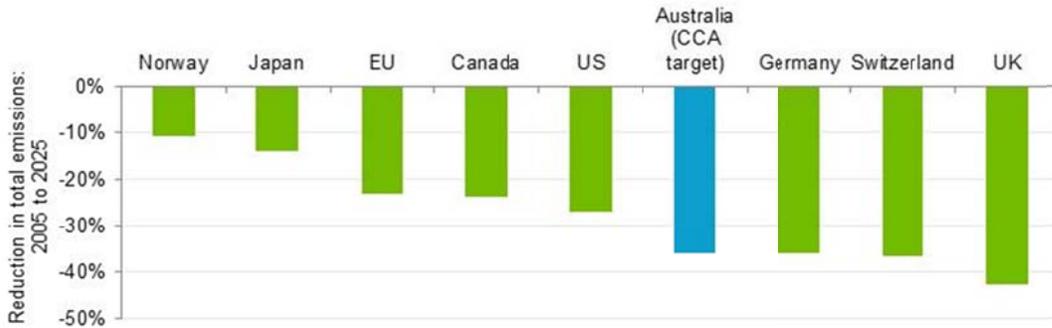
Note: BAU: business-as-usual.

Source: CCA (2015) Table 4. Canada, China, Republic of Korea: UNFCCC INDC submissions (2015). Japan: Japanese government proposed INDC outline (draft) 2015.

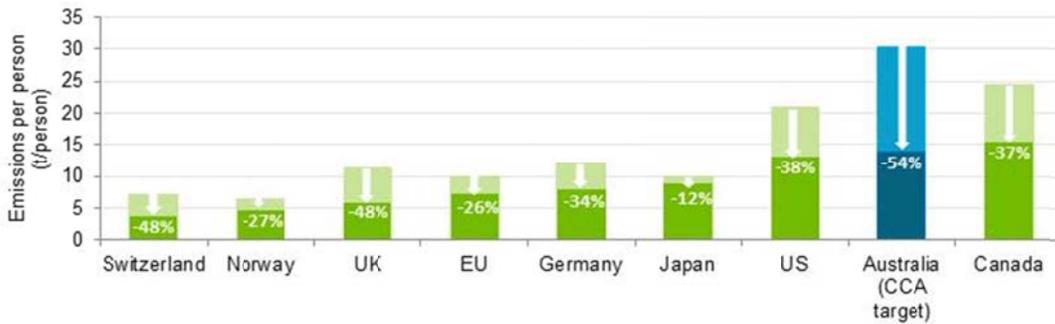
Figure 1: How Australia Compares

The first chart in this figure compares the Authority’s recommended 2025 target with the post-2020 targets of other wealthy, developed countries. The second and third charts compare the level of per person emissions and emissions intensity of each economy in 2005, and the levels implied by the announced post-2020 targets, based on projected population and economic growth. They also indicate the percentage change in level between 2005 and 2025. These years were selected to enable comparison: some countries have earlier base years and others have later target years, but all countries have announced reductions across this 20 year period.

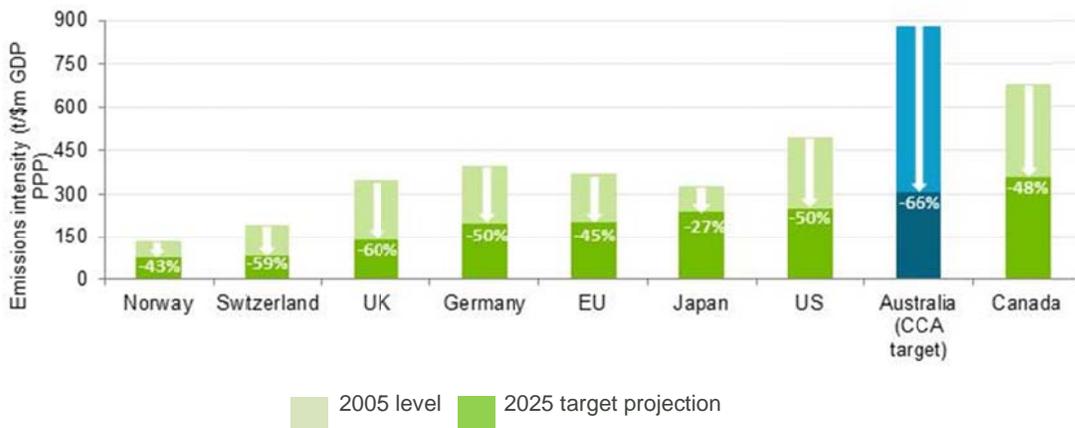
Percentage change in total emissions, 2005-2025



Level of emissions per person, 2005 and 2025



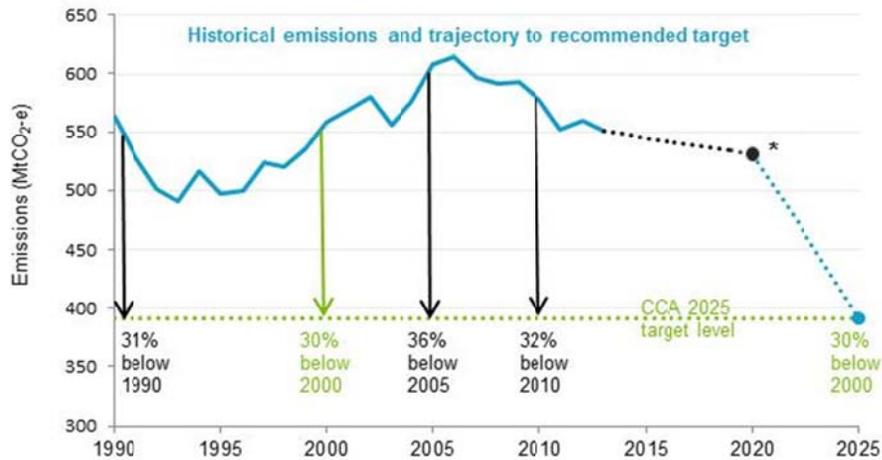
Level of emissions intensity of GDP, 2005 and 2025



Notes: The US target is the midpoint of its 2025 target range. The EU, Norway, Switzerland, Germany, Japan and Canada targets are midpoints between their 2020 and 2030 targets. This figure uses UNFCCC emissions data (including land sector). This may not match countries’ Kyoto Protocol emissions accounts (particularly for Norway).
Sources: CCA (2015) Figures 2 and 3. Additional emissions targets—as for Table 1.

Figure 2: Implications of Different Base Years

This figure shows that the Authority's recommended 2025 target of 30 per cent below 2000 levels (dotted green line) translates to 36 per cent below 2005 levels and 32 per cent below 2010.



Source: Historical greenhouse gas emissions (DoE 2015)

Notes: This Figure uses historical data for Australia's emissions to 2013 and then straight line trajectories to the unconditional 2020 target and the Authority's recommended 2025 target.

* The 2020 target shown here is Australia's "unconditional" 5 per cent reduction in emissions below 2000 levels provided for in the Copenhagen Accord; it is the figure which the Government consistently refers to as its emissions reduction target for 2020.

Under the Kyoto Protocol Australia agreed to undertakings in respect of the "first commitment period" (the five years 2008 to 2012) and the "second commitment period" (the eight years 2013 to 2020); the undertaking for the latter period is broadly consistent with the unconditional 5 per cent reduction target for 2020. Under the Kyoto Protocol countries which bettered their emissions reduction targets for the first commitment period can carryover their surplus emission units to the second period to help meet or strengthen their targets, or they can decide to cancel those units altogether. It is understood that the United Kingdom has chosen to cancel its carryover units, and that the EU as a whole is still considering its position.

Australia's carryover from the first Kyoto commitment period is currently estimated to be equivalent to about 4 percentage points of emissions reductions below 2000 levels in 2020. In its 2014 Targets and Progress Review the Authority recommended a minimum 2020 target of 15 per cent below 2000 levels, and utilizing Australia's carryover under the Kyoto Protocol to lift that figure to an effective target of 19 per cent. It is not clear at this time what part (if any) this carryover might play in meeting or strengthening the Government's unconditional 5 per cent reduction target.

For more information see CCA (2014), pp 110-11 and 209.

References

Climate Change Authority (CCA) 2014, *Reducing Australia's Greenhouse Gas Emissions: Targets and Progress Review*, Melbourne, <http://www.climatechangeauthority.gov.au/reviews/targets-and-progress-review-3>.

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