

WORLD HERITAGE BRIEFING GREAT BARRIER REEF

REVIEW OF THE STATE PARTY REPORT
ON THE STATE OF CONSERVATION
OF THE GREAT BARRIER REEF



ACKNOWLEDGMENTS

The following review of the Australian Government's State Party Report (SPR) on the State of Conservation for Australia's Great Barrier Reef has been prepared by the Australian Marine Conservation Society (AMCS) and WWF-Australia with advice from a range of independent Reef and climate experts. In particular, we wish to thank Dr Bill Hare of Climate Analytics for extensive advice on Chapter 7 and A/ Prof Malte Meinshausen and Dr Zebedee Nicholls of Climate Resource for the report in Appendix A. We also thank Diane Tarte of Marine Ecosystems Policy Advisors and Dr Jennie Mallela of the ANU Institute for Climate, Energy and Disaster Solutions (ICEDS) for their input into the report.

The Australian Marine Conservation Society and WWF-Australia acknowledges the sea country management and custodianship of the Great Barrier Reef by Aboriginal and Torres Strait Islander Traditional Owners, whose rich cultures, heritage values, enduring connections and shared efforts protect the Reef for future generations. We pay our respects to their Elders, both past, present and emerging leaders. We acknowledge that the Great Barrier Reef was and always will be Aboriginal land and sea.

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CONTACT: Imogen Zethoven | World Heritage Advisor to the Australian Marine Conservation Society
E: imogen@izethoven.com | **P:** +61 431 565 495

Richard Leck | Head of Oceans, WWF-Australia | **E:** rleck@wwf.org.au | **P:** +61 439 814 847

OVERVIEW

The State Party Report on the state of conservation for Australia's Great Barrier Reef (SPR)¹ provides an overview of the threats faced by the Great Barrier Reef and the response to these threats by the Australian and Queensland Governments, primarily through the Reef 2050 Long-Term Sustainability Plan and investments by both governments.

The SPR provides an accurate commentary on the threats faced by the Great Barrier Reef, with the biggest threat being climate change, followed by poor water quality and direct uses such as fishing and outlines management responses. However, the report contains some misleading or inaccurate statements, skips over the lack of substantive policies on climate change, omits to point out certain facts, and contains overblown language about the government's "world leading" strategies, management programs and actions.

This review of the SPR by the Australian Marine Conservation Society and WWF-Australia should be considered in the context of two other briefing papers that have been provided to the World Heritage Centre, IUCN and members of the World Heritage Committee. These papers provide positive, solutions-based recommendations focussed on two key threats to the Great Barrier Reef: poor water quality and the impact of fishing. A third issues-based paper will be produced addressing climate change. The purpose of this review is to scrutinise claims made by the Australian Government in the SPR and to provide independent expert advice to the World Heritage Centre, IUCN and members of the World Heritage Committee.

MAJOR AREAS OF CONCERN

- The Australian Government's climate policies are completely inconsistent with the long-term sustainability of the Great Barrier Reef. In the SPR, the Government recognises that climate change is the biggest threat to the Great Barrier Reef but fails to include national actions commensurate with the threat.
- The SPR states that Australia is working with the international community to keep the goal of limiting global warming to 1.5°C within reach, with Australia's emissions reduction targets under the Paris Agreement being 26-28% below 2005 levels by 2030 and net zero by 2050. These targets are well out of line with the latest climate science, and the ambition of other developed economies. In fact, the current Australian Government climate policy allows more than double the amount of carbon pollution than would be required to hold global warming to 1.5°C.²

- The SPR claims that the Reef 2050 Plan is “the most comprehensive program of corrective measures ever to be developed and implemented for a World Heritage property”. This is misleading. The Plan is a set of goals and strategic actions. By claiming that the Plan is a program of corrective measures, the Government creates the impression that an In Danger listing is unnecessary as appropriate corrective measures are already in place. As outlined in our analysis of SPR Chapter 5, they are not.
- The SPR includes a misleading statement about the Outlook Report. It states that the Outlook Report is “not an assessment of the Reef ecosystem’s current status, or a definitive forecast of its future condition, but a view of its long-term outlook”. By federal law, the Outlook Report provides an assessment of the current health of the ecosystem.³ Although ipso facto no forecast is definitive, the Outlook Report provides a forecast based on the best available science. It is more than “a view”. It is a comprehensive, peer-reviewed analysis by the Great Barrier Reef Marine Park Authority (GBRMPA).
- The SPR refers to the Australian Government’s announcement of AU\$1 billion over nine years for the Great Barrier Reef through to 2030. Of this, AU\$579.9 million is for water quality. Reef stakeholders are aware that the investment needed to meet the water quality targets promised to the World Heritage Committee is in the order of billions of dollars. Moreover, the SPR Executive Summary refers to a total investment in the Reef of more than AU\$4 billion to 2030. The Summary fails to make clear that this funding goes back to 2014/15 and includes funding that goes well beyond addressing poor water quality such as foundational funding for GBRMPA.
- The SPR claims that the updated Reef 2050 Plan 2021–2025 fully incorporates the findings of the GBR Outlook Report. It also states that “The Outstanding Universal Value of the Reef remains intact across all four natural World Heritage criteria for which it was inscribed on the World Heritage List”. However, the GBR Outlook Report⁴ states “While the property’s outstanding universal value as a World Heritage Area remains whole and intact, its integrity is challenged and deteriorating.” The SPR does not acknowledge this key finding of the Outlook Report.
- The SPR does not acknowledge that the updated Reef 2050 Plan does not address the ongoing threat of high rates of native vegetation clearing in the GBR catchment⁵, which leads to soil erosion and fine sediment pollutants entering the Reef.
- The SPR over claims achievements on water quality by stating that “We have also met or exceeded our water quality targets for several Reef catchments” (p.4). In chapter 6, the report notes that water quality targets for two pollutants have been achieved in two catchments that present a low risk to the Reef. However, attention is not drawn to the slow progress in catchments that present a very high or high risk to the Reef, as identified in the Reef 2050 Water Quality Improvement Plan.
- The SPR glosses over the low level of compliance amongst farmers with the Queensland water quality Reef Protection regulations. Page 25 of the report states: “Compliance amongst this set of producers has improved by more than 20%, with all producers having made some improvements.” No baseline is given to measure improvement and there are no real figures. The Reef 2050 Plan commits to ensuring full compliance with the regulations. However, this depends on sufficient funding for a compliance and enforcement program.
- The SPR focuses solely on fisheries management actions that have at least been partially implemented but fails to detail the lack of progress to address ongoing negative fisheries impacts on the Reef’s Outstanding Universal Value in particular the very high risk of incidental catch of species of conservation concern.

COMMENTARY ON CHAPTER 4: CURRENT STATE OF THE GREAT BARRIER REEF WORLD HERITAGE AREA

The overall tone of Chapter 4 of the SPR is to emphasise the potential for Reef recovery and to de-emphasise the level of threat. The report inflates the modest amount of good news on water quality and other threats and downplays the bad news by focusing on what is highly likely to be a short term weather reprieve for the Great Barrier Reef over the last two summers. The AU\$1 billion announcement over nine years is in reality a modest investment to fix a major problem. The constant underinvestment is likely to ensure that poor water quality remains a problem into the 2030s.

COMMENTARY ON SPECIFIC STATEMENTS IN THE STATE PARTY REPORT

4.1: THE 2019 GREAT BARRIER REEF OUTLOOK REPORT⁶

SPR p.8 *This is not an assessment of the Reef ecosystem’s current status, or a definitive forecast of its future condition, but a view of its long-term outlook if there is no further management action, particularly global action to reduce greenhouse gas emissions.*

Comment: This is a highly misleading statement which misinterprets the legal basis of the GBR Outlook Report. It is a redefinition of what Outlook is prescribed to do.



Under the GBRMPA Act 1975, the Outlook Report must contain, amongst other things:

1. an assessment of the **current health of the ecosystem** within the Great Barrier Reef Region
2. an assessment of the **current biodiversity** within that region
3. an assessment of the risks to the ecosystem
4. an assessment of the **current resilience** of the ecosystem
5. an assessment of the long-term outlook for the ecosystem

By law, the Outlook Report does assess the Reef's current status. While no forecast can claim to be definitive, the assessment process to describe the long-term outlook for the Reef is based on world leading science. The Outlook Report is not "a view", as described in the SPR. It is prepared every five years by the Great Barrier Reef Marine Park Authority, with contributions of evidence from a number of Australian and Queensland government agencies, researchers from a range of institutions, industry data-holders and Traditional Owners. It is also peer reviewed.

SPR p.8 The 2019 Outlook Report indicated that the Reef can recover from major impacts if its broader health is strong and disturbance-free periods are long enough.

Comment: The SPR promotes an overly optimistic view of the capacity of the Reef to recover in the face of mounting global warming and incremental steps to improve local management. For reference, the Outlook Report includes a statement from the GBRMPA Chair, Dr Ian Poiner, which says: "The accumulation of impacts, through time and over an increasing area, is reducing its ability to recover from disturbances". The Reef has experienced five mass coral bleaching events, three of which occurred in the last six years. This was a large part of the reason why the Outlook Report concluded that the Reef's outlook had deteriorated from 'poor' to 'very poor'.

4.2 IMPROVEMENTS ON KEY VALUES SINCE THE 2019 GREAT BARRIER REEF OUTLOOK REPORT

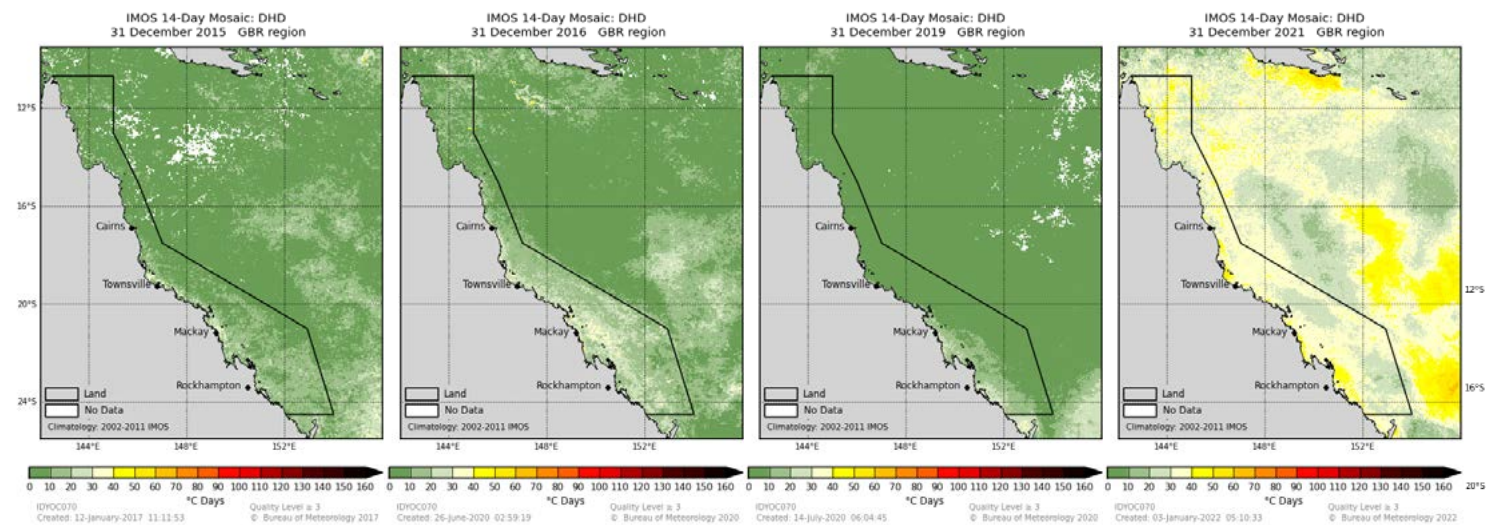
SPR p.9 The Reef has experienced a period of recovery since 2019 (AIMS 2021a).

Comment: While it is true that many coral reefs in the Great Barrier Reef, though not all, are showing signs of recovery, the recovery is of fast growing 'weedy' *Acropora* species.⁷ While this improves coral cover, these species (table and branching corals) are the most vulnerable to future bleaching and severe cyclones.⁸

The CEO of the Australian Institute of Marine Science, Dr Paul Hardisty, wrote last year: "We now know coral reefs take about a decade to recover after serious damage [from coral bleaching]. Mounting evidence suggests that as reefs recover, they are changing in composition and diversity. And as marine heatwaves become more frequent, there is less and less time for recovery. It's a vicious spiral. Despite this year's good news [a reprieve from bleaching], the trend is clear, and the next major bleaching event is only ever a summer away."⁹

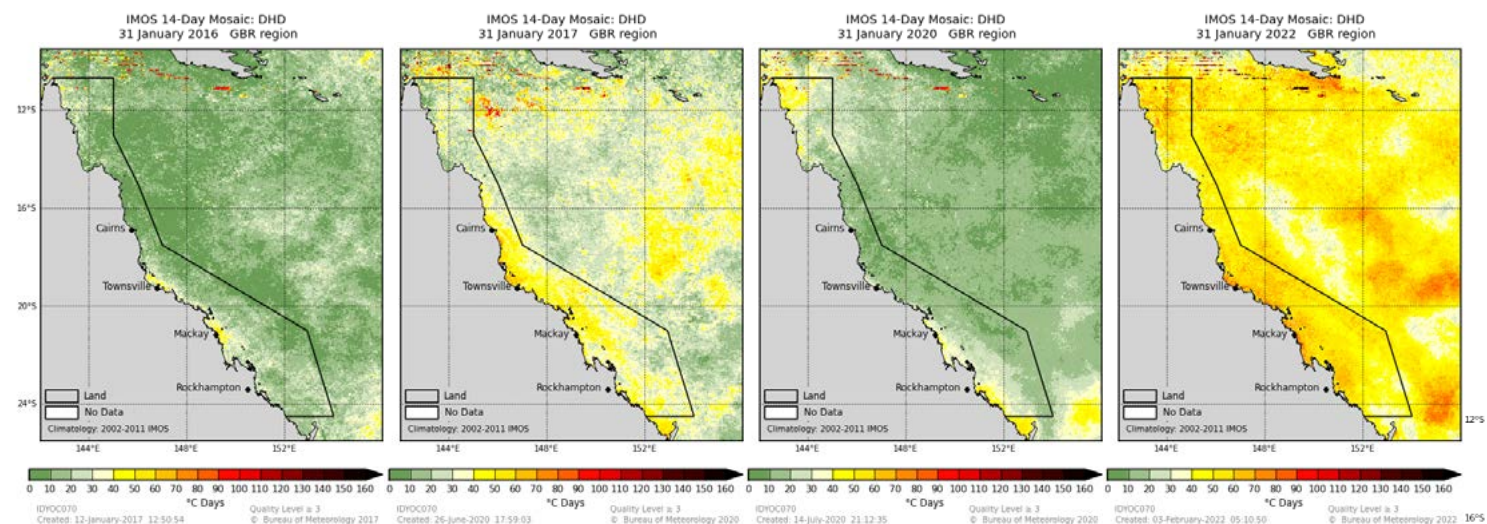
SPR p.9 Coral heat stress and agricultural runoff were recorded as lower than previous years.

Comment: This is a misleading statement. According to GBRMPA¹⁰, there has been a consistent trend in the past decades of a progressive increase in coral heat stress as determined by degree heating weeks which is a metric for accumulated heat stress over the summer months. For example, accumulated heat stress in the Great Barrier Reef at the end of December 2015, 2016, 2019 and 2021 is shown in Map 1. The first three panels in Map 1 show the December prior to the severe coral bleaching events that occurred the following year. The fourth panel – December 2021 – is the hottest ever recorded December in the GBR.



Map 1: Great Barrier Reef Accumulated Heat Stress for the month of December over 4 years, December. Credit: Bureau of Meteorology 2022¹¹

Further, accumulated heat stress at the end of January 2022 was hotter than at the end of January in 2016, 2017 and 2020, the three years of the most recent coral bleaching events (Map 2). Fortunately, cloud cover and rain in February 2022 have cooled the waters of the World Heritage property, however, heat stress could still build into March. It is alarming that accumulated heat stress was so high in December 2021 and January 2022 during a La Niña weather cycle, although given that 2021 was the warmest La Niña year on record in Australia, it is not surprising.



Map 2: Great Barrier Reef Accumulated Heat Stress for the month of January over 4 years. Credit: Bureau of Meteorology 2022¹¹

Regarding agricultural runoff, this is driven very much by big rain events. Fortunately, there have not been many extensive events in the past couple of years, although there were some big relatively local events (for example, the 2019 Townsville floods).

SPR Table 1

Comment: The SPR includes Table 1 which provides updates on key values within the World Heritage Area, including for dugongs, marine turtles and bony fishes. However, the report focuses only on new information and omits key facts that are necessary to understand the contemporary situation and long-term trends for these key values.

SPR p.10 Corals and Coral Reefs: “Current Observations: Mid-offshore reefs recovering”

Comment: While mid-offshore reefs are recovering, the context needs to be clearly stated and this statement hides the poor outlook for the reef. The Australian Institute of Marine Science (AIMS) provided a more accurate review when it released its annual Long Term Monitoring Program (LTMP) update last year. According to AIMS, “The current rate of recovery has been observed previously during the 35 years of the LTMP. However, over the past decade, instances of recovery have been arrested or reversed by frequent disturbances.”¹²

“The predicted consequences of climate change, including more severe cyclones and more frequent and intense marine heatwaves, are now a reality as seen between 2014 and 2020. Periods of low disturbance, such as that seen in 2021, are becoming shorter, reducing the time for recovery. The recovery to date will be easily undone by the next severe tropical cyclone or widespread bleaching event.”¹²

SPR p.11 Dugongs: “There has been no published research on the trend of the urban coast population since the 2019 Outlook Report.”

Comment: While it is accurate that there is limited new information available for the urban coast dugong population, given the biology of the species and long generation time it is important to understand the long-term population status. Analysis of the aerial survey data for dugongs in the urban coast region from 2005 through 2016–2018 shows long term decline of the urban population and suggests that the population declined at 4% (s.e. –8.2% to 0.215) per year during that period.^{13 14 15} The precarious nature of the urban coast dugong population is emphasised by the latest Potential Biological Removal estimate of seven dugongs per year¹⁷, a figure likely to be exceeded with the cumulative impacts of incidental fisheries bycatch, boat strike and other human induced mortality in the region.

SPR p.12 “Marine Turtles Current Observations: Variable, limited new information”

Comment: The report downplays the plight of marine turtles by simply stating that current observations are varied and there is limited new information. The contemporary situation is far more nuanced with the existing evidence suggests that the cumulative pressures of climate change, nest predation, incidental fisheries bycatch and marine debris have led to the northern Great Barrier Reef stock of green turtles and the south-west Pacific stock of loggerhead turtles being in the early stages of decline, while the north Queensland hawksbill turtle stock is declining.¹⁶ Without urgent actions to mitigate these threats, these turtle stocks are likely to remain in decline.

SPR p.13 “Bony Fishes. 2019 Outlook: Good. Current Observations: Variable”

Comment: The SPR narrative focuses on coral reef fish and herbivorous fish included in AIMS long term monitoring, with only one of the species mentioned, coral trout, a target of commercial fisheries.



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Commercial and recreational fisheries within the Property primarily target higher order predators, many of which are not reef-associated for significant periods of their life cycle. The status of these fish stocks is not as positive as the examples given within the SPR. Queensland government stock assessments of commercially caught species within the Property indicate that six species of fish are currently depleted¹⁷, while many others are fished to below desirable and resilient levels, with some species, such as saddletail snapper in decline and approaching depletion.

The final paragraph in the column **Priority investments and conservation actions** notes that, *The Australian Government’s recent AU\$1 billion funding commitment for the Reef includes AU\$74.4 million to 2030, for new Traditional Owner and local community partnership and stewardship initiatives, which will help support bony fishes.* It is presumptive to assume that a relatively modest future investment will deliver a specific outcome as stated.

4.3 LEADING MANAGEMENT PRACTICE

Some of the language in this section, e.g. *The management of the Reef is world-class ... sets the bar for management of a World Heritage Area*, reads more like a public relations manifesto than a considered, evidence-based analysis.

4.5 EXPANDING INVESTMENT IN REEF PROTECTION

This section claims that, *despite hugely disrupted economic markets during the COVID-19 global pandemic, is proving to be successful in attracting new investors to coral reef conservation and in growing the overall investment in on-ground action.* However, no figures are provided as justification for this statement.



COMMENTARY ON CHAPTER 5: THE REEF 2050 LONG-TERM SUSTAINABILITY PLAN

Chapter 5 of the SPR provides a brief overview of the Reef 2050 Long-Term Sustainability Plan. The Plan is Australia's response to concerns first expressed by the World Heritage Committee in the early years of the last decade. Below we highlight aspects of the Reef 2050 Plan which are highlighted in the SPR that are inadequate and demonstrate the need for a program of corrective measures.

COMMENTARY ON SPECIFIC STATEMENTS IN THE STATE PARTY REPORT

SPR p.21 *"the most comprehensive program of corrective measures"*

Comment: The SPR states the Reef 2050 Plan is the most "the most comprehensive program of corrective measures ever to be developed and implemented for a World Heritage property".

This is a case of revisionism. The Reef 2050 Plan was first published in 2015 and then updated last year. We note that it is not a program of corrective measures but a set of five-year goals and strategic actions from 2021 to 2025.

The Government began referring to the Plan as "corrective measures" only after the 44th session of the World Heritage Committee in 2021. The draft decision at 44 COM referred to "corrective measures" but the adopted decision omits these words. The adopted decision requests a Reactive Monitoring Mission. This is likely to occur in March 2022. The Mission report and State of Conservation Report to the Committee will likely propose "corrective measures".

By referring to the Reef 2050 Plan as a "program of corrective measures", the Government creates the impression that an In Danger listing is not needed, because corrective measures are already in place. This is highly misleading.

AU\$1 BILLION FOR THE REEF

In January 2022, the Australian Government announced a nine-year package of AU\$1 billion dollars to protect the Reef through 2030 to support implementation of the Reef 2050 Plan. The largest share of the funds – AU\$579.9 million – is for water quality.

This new funding is welcome, as is the AU\$270 million for water quality over five years announced by the Queensland Government in 2021, however, it is insufficient. It is well understood by all non-government stakeholders that the level of investment needed to meet the water quality targets is estimated to be in the billions of dollars.

VISION

The vision in the 2021–2025 Reef 2050 Plan no longer refers to Outstanding Universal Value of the Great Barrier Reef.

The 2015 Plan contained the following vision: *"To ensure the Great Barrier Reef continues to improve on its Outstanding Universal Value every decade between now and 2050 to be a natural wonder for each successive generation to come."*

The current Plan contains this vision: *"The Great Barrier Reef is sustained as a living natural and cultural wonder of the world."*

It is deeply concerning that the supposed *"most comprehensive program of corrective measures ever to be developed and implemented for a World Heritage property"* does not have a vision to protect the OUV of the property.

A RESPONSE TO THE 2019 GBR OUTLOOK REPORT

The response of the Plan is mixed. It does not respond effectively to the following findings of the Outlook Report described in *Table 10.1– Summary of the findings of the long-term outlook for the Region's ecosystem and heritage values*:

Climate Change

- "Overwhelmingly, climate change is the primary issue affecting the Reef, and its influence is increasing faster than previously predicted.
- Increasing and record-breaking sea temperatures have affected the Region and pose the most immediate threat to values.

See the discussion immediately below on the Plan's climate response.

Water Quality

- Past and current development (such as land clearing and modification of waterways) in the Catchment continues to affect the Region."

Although the Queensland Government strengthened native vegetation laws in 2018 in response to concerns expressed by the World Heritage Committee, forest and woodland clearing has continued at a high rate. Over 200,000 hectares were cleared in the years 2018–2019 in the GBR catchment,¹⁸ leading to soil erosion and fine sediment pollution of the Reef.

The Plan does not make any commitments in regard to further strengthening the vegetation management laws.

CLIMATE CHANGE

The SPR states that the Reef 2050 Plan includes clear commitments to limit the impacts of climate change on the Reef. The Plan includes the following goal: *“Australia contributes to an effective global response to climate change through the Paris Agreement.”*

There are three points to make about this statement:

1. The science is very clear: 1.5°C is a critical threshold for the Great Barrier Reef and action must occur this decade, otherwise 1.5°C will be exceeded and coral reefs will be lost. Australia is a long way from having an effective national response that will keep 1.5°C within reach. If all other countries followed the level of ambition put forward by Australia (a 26–28% emissions reduction from 2005 to 2030, which is barely more than 1% reduction per year), then the world could warm by up to 3.0°C.¹⁹
2. An effective global response is an aggregation of effective national action. The Australian Government uses the language of contributing to an “effective global response” to disguise the fact that its national contribution is insufficient to ensure the survival of tropical coral reefs.
3. Considering current policies, the world is on track to warm by 2.7°C by the end of the century. Assuming that pledges made at the Glasgow Climate Conference are fully met, the world is still on track for 2.4°C by 2100.²⁰ It is critical that all State Parties, particularly those who bear the greatest responsibility for climate change, urgently adopt and implement a 1.5°C compatible emissions reduction pathway to ensure that the protection of at least some of the OUV of the Great Barrier Reef remains within reach.

For a deeper discussion of this subject, see our response to Chapter 7 of the SPR.

COMMENTARY ON CHAPTER 6: IMPROVEMENTS IN REEF WATER QUALITY

Chapter 6 of the SPR provides extensive commentary on progress of water quality improvement programs, however, it leaves out many pertinent facts and fails to provide a balanced overview of the state of water quality in the Reef.

Major areas of concern include:

- The Queensland Government’s Reef protection regulations have not been sufficiently enforced, nor has a compliance management program been established that is capable of achieving a high level of compliance.
- Funding committed from both the Australian and Queensland Governments is sufficient only to continue business as usual. Funding levels fall significantly short of the projected investment needed to meet the Reef Water Quality Improvement Plan water quality targets.
- The report includes Reef report card data that is not publicly available; further the new data shows very modest improvement in progress towards water quality targets.
- The report does not consider the significant vegetation clearing in the Great Barrier Reef catchment identified in the latest Queensland Government State-wide Land and Tree Survey released in December 2021.²⁰ Between 2016 and 2018, 314,000 hectares of forest and woodland were destroyed in the Reef catchment. In the years 2018–2019, more than 200,000 hectares were destroyed. More than 800,000 hectares of vegetation has been cleared in the Reef catchment since 2008–09. Despite the strengthened vegetation clearing laws introduced in 2018, clearing has not slowed.



COMMENTARY ON SPECIFIC STATEMENTS IN THE STATE PARTY REPORT

SPR p.21 *The Great Barrier Reef’s water quality has seen significant and consistent improvements, towards Australia’s 2025 targets for the Reef...*

Comment: While the SPR states that the Reef’s water quality has seen significant and consistent improvements, progress to the water quality targets remains consistently slow. The table below shows progress towards dissolved inorganic nitrogen (DIN) and sediment targets based on 2013 levels, as reported in the 2017-18 and 2019 Reef report cards²¹ and the 2020 data (that is not yet publicly available) presented in the SPR.

In 2020, the progress achieved towards DIN was less than the previous year, indicating progress has slowed since the implementation of the Reef protection regulations. If progress to date is used as a trajectory, the targets are highly unlikely to be met by 2025.

Table 1: Progress towards dissolved inorganic nitrogen (DIN) and sediment targets based on 2013 levels

DIN	Progress to targets	Improvement (%)
2017-18	21.2%	
2019	25.5%	4.3%
2020	27.7%	2.2% (less than 2019)

Sediment	Progress to targets	Improvement (%)
2017-18	14.4%	
2019	14.6%	0.2%
2020	15.2%	0.6%

The 2019 Reef Report Card shows that, after more than a decade of engaging with landholders, best management practice systems are used only on 36.2% of grazing land and 12.7% of sugarcane land in the Reef catchment. Both land uses have a target of 90% of the land at best management practice systems by 2025. Additionally, the monitoring and reporting of land management targets does not consider dis-adoption of practice change (landholders reverting to old practices).

The SPR does not provide commentary on the latest inshore water quality condition, which has consistently received a “poor” grade in successive report cards.

6.1 PROGRESS TOWARDS WATER QUALITY TARGETS

SPR p.22 *The forthcoming 2020 Reef Water Quality Report Card will show that some of the targets in the Reef have already been met or exceeded – such as the pesticide target in the Kolan catchment of the Burnett Mary region, and the sediment target in the Normanby catchment of Cape York.*

Comment: The 2020 Reef report card data has not been made publicly available, therefore data used in the SPR cannot be independently verified. What is clear is that the catchments highlighted in the above quote as showing improvements are ranked as low water quality risk to the Reef. Improvements in actual load reductions in catchments that pose a very high or high risk to the Reef are very modest.

For example, using the publicly available 2019 Reef report card, the Cape York region is a low risk to the Reef and has a sediment reduction target of 5%.²² The target was met and even exceeded with a very small reduction of 0.3% recorded from July 2018 to June 2019. In contrast, the Fitzroy region has a sediment reduction target of 25% and the Fitzroy River target is 30%.²³ The Fitzroy River is considered a high risk to the Reef due to sediment. Sediment has been reduced by only 10.1% so far, with a mere 0.2% reduction from July 2018 to June 2019.

Overall (GBR-wide) sediment reduction progress received a grade “E” or very poor progress, in the 2019 Reef report cards. This score has not been reported in the SPR.

6.2 FURTHER INVESTMENT IN WATER QUALITY

SPR p.23 *Since the completion of the 2019 State Party Report significant additional investment has been delivered to improve Reef water quality.*

Comment: The total of the various Queensland Government investments outlined on p.23 equals AU\$393m for reef water quality projects (not including the Land Restoration Fund which aims to deliver carbon benefits across the state of Queensland, including in the Great Barrier Reef catchment). This figure includes the recent funding announcement of AU\$271m over 5 years. This amount is an exact continuation of funding from the previous investment of AU\$270m over 5 years announced in 2015.

The recent Australian Government announcement for Reef water quality includes AU\$579.9m over 9 years. Of this, only AU\$221.6m is allocated across the current financial year (2021/22) and in the forward estimates of the Federal Budget up to 2025/26, meaning the remaining AU\$358.4m is dependent on the Morrison Government winning the federal election due by 21 May 2022 at the latest.

The total AU\$579.9m package averaged over 9 years equals AU\$65m per year, which is roughly AU\$20m more per year than the previous 5-year commitment. However, the funding allocations leading up to the 2025 water quality target deadline are as follows:

- 2021/22: AU\$3.0m
- 2022/23: AU\$14.0m
- 2023/24: AU\$34.8m
- 2024/25: AU\$83.1m
- 2025/26: AU\$86.7m

The annual average of the above amounts (money already allocated that is not dependent on the outcome of the election) equates to AU\$44.3 m per year, which is almost a direct match of the Australian Government’s previous investment of approximately AU\$45m per year. Moreover, the annual amounts are very low leading up to the 2025 deadline.



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The total government investment to improve water quality still falls significantly short of the projected AU\$4 billion needed to meet the water quality targets. Further, the allocation of funding does not adequately reflect the modelled initiatives required to meet the targets under the AU\$4 billion investment. As outlined above, both governments have matched their previous investments in the crucial years leading up to 2025. This does not reflect the increase in funding, on top of business as usual, that is required to meet the targets, nor does it reflect measures to accelerate progress to the targets (as stated on p.22). Given the health crisis the Reef is facing, it will be important this investment is increased and front-loaded over the next three financial years, starting 1 July 2022, to deliver projects that demonstrate a reduction in pollutants entering the Reef.

6.4 STRENGTHENED WATER QUALITY REGULATIONS

SPR p.25 *Since December 2019, the Queensland Government has been progressively strengthening regulations, under the Environment Protection Act 1994 (Qld) to address agricultural and industrial sources of water pollution flowing into the Great Barrier Reef.*

Comment: The regulations can provide the structure to achieve a major reduction in agricultural pollution and contribute to achieving the water quality targets. However, they do not ensure that:

1. all existing and new commodities have an industry best management practice program; and
2. that changes to crop types trigger a permit.

SPR p.25 *The Queensland Government has reported that these regulations are already demonstrating outcomes, particularly for producers who are not voluntarily engaging in Reef programs. Compliance amongst this set of producers has improved by more than 20%, with all producers having made some improvements. The Queensland Government is also set to expand its compliance program, doubling effort over the next 5 years.*

Comment: The Queensland Government tracks progress and reports on farmer compliance with the Reef protection regulations. The latest report includes activities undertaken from March 2016 – June 2021. However, progress has been slow. Since 2010, under-resourcing of the Queensland Government compliance team has resulted in insufficient compliance activity being undertaken. In the Mackay-Whitsundays region, 81% of farms have not been inspected; in the Wet Tropics region 63% of growers have not been inspected; and in the Burdekin region 50%. Even a doubling of existing effort is insufficient to ensure full compliance.

It is unclear as to the basis of the statement that all producers have “made some improvements”.

COMMENTARY ON CHAPTER 7: ADDRESSING THE IMPACTS OF A CHANGING CLIMATE

Chapter 7 of the SPR focusses on the biggest threat to the Great Barrier Reef but falls well short of an effective response. The Great Barrier Reef State of Conservation report to the 44th session of the World Heritage Committee stated that, “*It is acknowledged that climate change requires effective global action under the Paris Agreement on Climate Change (2015), with the 1.5 °C target widely recognized as a critical threshold for the property*”.

The SPR states that “*The IPCC Sixth Assessment Report on climate science underscores the criticality of a coordinated and global effort to reduce emissions and Australia is working to keep the Paris Agreement goal of limiting global warming to 1.5 degrees within reach*”.

Unfortunately, all of the facts and evidence make it abundantly clear that Australia is not doing its fair share to keep the Paris Agreement goal of limiting global warming to 1.5°C within reach and is taking multiple actions which make holding warming to 1.5°C much less likely.

WWF-Australia has commissioned an independent assessment of the adequacy of the Australian Government’s 2030 and 2050 emissions reduction target from leading experts in the field, Associate Professor Malte Meinshausen and Dr Zebedee Nicholls (Refer Appendix A). The analysis demonstrates that Australia is failing in its duty under Article 4 of the World Heritage Convention to protect, conserve and transmit to future generations the natural heritage of the Great Barrier Reef.

The analysis applies the latest IPCC Sixth Assessment Report global carbon budget – an impartial scientific measure – and apportions a generous share to Australia. The analysis demonstrates that:

“The Federal Government’s longer term emissions reduction strategy leads to cumulative emissions of 9.6 GtCO₂-eq between 2020 and net zero, more than double Australia’s emissions budget for a 50% chance of staying below 1.5°C of 4.0 GtCO₂-eq. For Australia to meet its obligations to pursue efforts to limit warming to 1.5°C, a 2030 reduction of 74% relative to 2005 emissions, and net zero by 2035 is consistent with a 50% chance of staying below 1.5°C.”

The Meinshausen and Nicholls analysis shows that the Australian Government’s current emissions reduction commitments under the Paris Agreement of 26–28% by 2030 and net zero emissions by 2050 are deeply inadequate. Even with an optimistic reading of the uncertainty range in the remaining global carbon budget, the analysis demonstrates that the Australian Government’s emissions reduction targets fall well short of what is required for Australia to be regarded as pursuing efforts to limit warming to 1.5°C.

In summary, the climate science on Australia's current emissions reduction commitments under the Paris Agreement is unequivocal. Australia's policies and actions on climate change are extremely poor and must be corrected in order for Australia to fulfil its duty under the World Heritage Convention, and to play its part in protecting the Great Barrier Reef from its biggest threat.

Exported emissions from Australia in the form of exported coal and gas is also a significant threat to the Reef. Australia is a major global contributor to emissions through fossil fuel exports, and the Australian Government remains committed to new and expanded fossil fuel supply projects²⁴, which, as the International Energy Agency recently stated, is inconsistent with a global decarbonisation pathway that holds warming to 1.5°C.²⁵

COMMENTARY ON SPECIFIC STATEMENTS IN THE STATE PARTY REPORT

The following commentary on the SPR leans heavily on advice provided by Climate Analytics, an international organisation with expertise in science and policy analysis.

SPR Introduction p.7 *We have deployed new renewable energy nearly 8 times faster per capita than the global average for new renewable energy installations in 2020, and today, more than 90% of solar cells globally use Australian technology.*

Comment: The figure of "8 times" in the statement above is the level of increase in renewable electricity installation only, not renewable energy (which includes more than the power sector). Further, the rapid growth of renewable electricity energy in the power sector was very much due to the 2020 renewable energy target which the current government tried to repeal or water down.²⁶ At present the government is introducing measures to try to slow down the rate of renewable roll out in the power sector. Such measures include the government's "gas-fired recovery" from COVID and its opposition to the early closure of coal-fired power stations.

Australia's growth in the use of net renewable energy supply is not world leading. This reflects the lack of policies in energy efficiency and in overall renewable energy use.²⁷ Figure 1 below shows the comparison between the EU, USA and global renewables as a fraction of primary energy consumption. The uptick recently in Australia is due principally to the penetration of renewables in the electricity power sector.

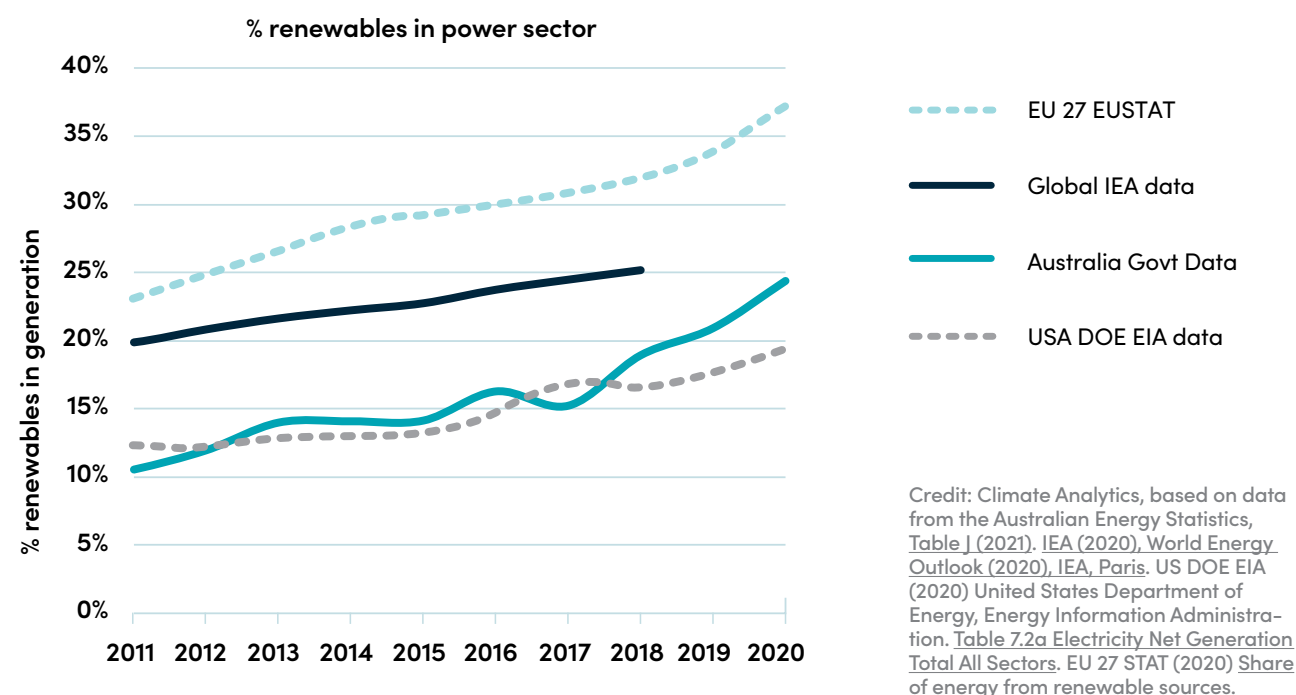


Figure 1: Percentage renewables in the power sector

SPR Introduction p.7 *We aim to replicate this success with our next generation of low emissions technologies, with Australia's Technology Investment Roadmap to guide over AU\$21 billion of investments in low emissions technologies over the decade to 2030 which is expected to unlock a further AU\$84 billion in private and public investment.*

Comment: There is little success to replicate and once again this claim is not supported by data. Much of the focus in the Roadmap is on unproven technologies, such as carbon capture and storage. In addition, it tends to ignore well established technologies such as electric vehicles and the renewable energy transition to, for example, green hydrogen. In general, other countries do not pay polluters to reduce emissions and instead have trading systems or taxes which provide incentives to reduce emissions, based on a well-established principle called "polluter pays" which is inverted in Australia to "the polluter gets paid".

We refer again to the fact that Australia's 2030 emission reduction target of 26-28% from a 2005 baseline equates to a wholly unambitious 1.04-1.12% reduction per year. This lack of ambition is totally disproportionate with the rapid action required to keep temperatures to 1.5°C.

SPR p.28 *"The IPCC Sixth Assessment Report on climate science underscores the criticality of a coordinated, global effort to reduce emissions, and Australia is working to keep the Paris Agreement goal of limiting global warming to 1.5 degrees within reach. A key part of Australia's strategy for improving the long-term outlook for the Great Barrier Reef in the face of global climate change is through playing our part in contributing to global emissions reduction through the Paris Agreement."*

Comment: Australia is widely viewed as not playing a constructive role internationally and has been subject to public criticism by its international partners.²⁸ Australia is a long way from having a 2030 domestic emission reduction target that is consistent with the Paris Agreement's 1.5°C limit.² In 2015, when the Paris Agreement was adopted, state parties agreed to update their 2030 targets. The 2018 IPCC special report on 1.5°C reinforced the importance of limiting global temperature rise to 1.5°C, especially for the world's tropical coral reefs. At COP 26, unlike many other nations, Australia did not update its inadequate 2030 emissions reduction target.

Following COP26, Australia was ranked last in the world on climate policy by the Climate Change Performance Index, a joint assessment by NGOs Germanwatch, the New Climate Institute, and the Climate Action Network.²⁹ Unfortunately, this ranking follows an ongoing pattern of other parties to the Paris Agreement taking issue with Australia's actions under the UNFCCC. For example, in 2019 at COP 25 in Madrid, Australia was publicly called out by global leaders for acting against the interests of the Paris Agreement and undermining global action through its behaviour at that COP.³⁰

SPR p.28 *Australia shares the target of net zero emissions by 2050 with many other nations.*

Australia has recently released a long-term emission reduction plan for achieving net zero emissions by 2050, also submitted as a Long-Term Strategy. The Long-Term Strategy sets a net-zero emissions target for 2050. Yet the strategy presents scenarios which only reduces emissions by 66% – 85% from 2005, rather than 100%. The strategy does not come up with new any new policies, and relies on global technology trends, carbon offsets and further unknown technology “breakthroughs”.³⁰

The long-term emission reduction plan for net zero emissions by 2050 published by the Australian Government^{31 32} does not provide a clear pathway to how net zero will be achieved. The plan's technology-led approach leads to a direct ~66% emissions reduction from 2005 levels. If the land sector changes and targeted purchases of international offsets are included, a nominal reduction of 85% by 2050 could be achieved. In other words, the government appears to be planning to achieve 85% emission reductions through reducing emissions 66% domestically with further steps relying upon additional carbon sequestration plus international offsets equivalent to between 11- 19% of 2005 emissions.

We hold serious concerns about the feasibility of carbon “offsets” as they can be used to greenwash fossil fuels, diverting the focus from the critical need to rapidly phase out fossil fuels. Evidence suggests using carbon storage on land such as tree planting to offset CO2 of burning fossil fuels is scientifically flawed and creates social and economic risks.³³

The Australian Government also shows little sign of curtailing its significant fossil fuel extraction industries. For example, recent research by The Australia Institute has found that there are 44 new oil and gas projects and 72 new coal projects under development in Australia which would cumulatively result in nearly 1.7 billion tonnes of carbon dioxide equivalent emissions per annum, equivalent to adding around 5% to global energy emissions.³⁴

SPR p.28 *Australia has already reduced its emissions by more than 20% on 2005 levels – much higher than the OECD average over a similar period.*

Comment: This claim by the Australian Government is false as it relies on cherry-picked data, using different dates for different countries.

Figure 2 shows the relative emission reductions by 2020 across a subset of the OECD compared to 2005, including and excluding land use change and forestry. Australia set its 2020 target to include land use change and forestry because it had historically high deforestation emissions in 2005. Nevertheless, as can be seen from the figure below, Australia is definitely not leading the OECD. When the highly volatile land use change and forestry data are excluded, Australia is the second worst in this OECD grouping in terms of progress on making emission reductions.

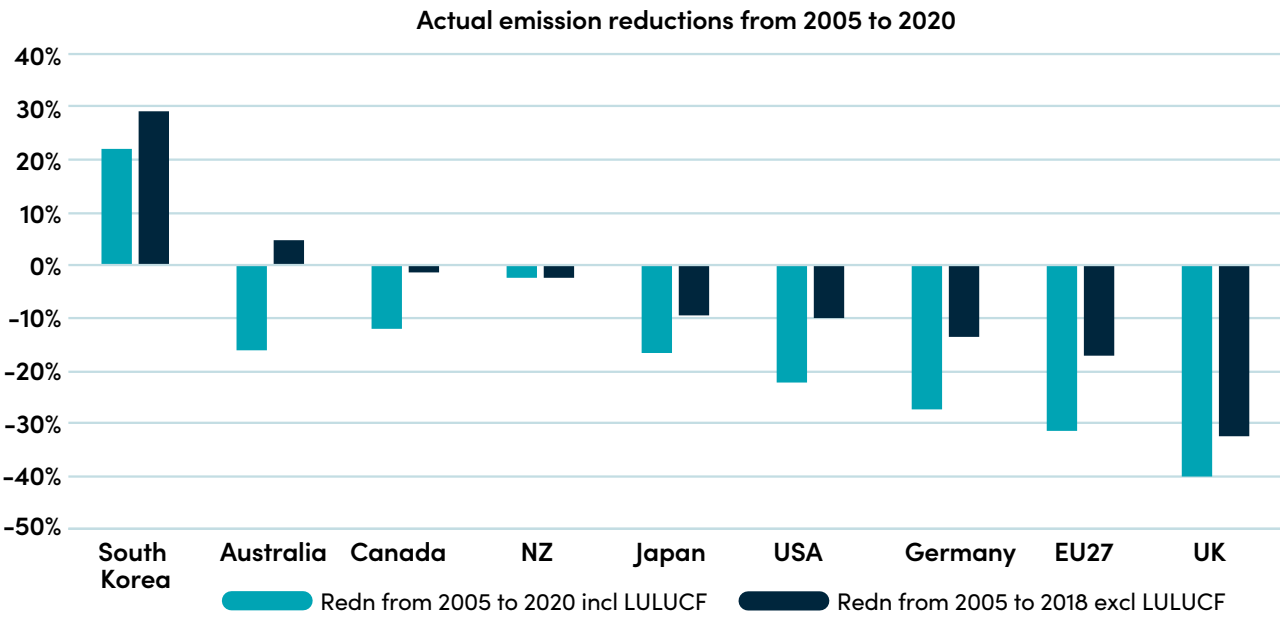


Figure 2: Emission Reductions from 2005 to 2020. Credit: Climate Analytics, based on data from Climate Action Tracker (2022) Countries.

SPR p.28 *The most recent projections show Australia is on track to cut our emissions by 30% on 2005 levels by 2030 and up to 35% in a high-technology uptake scenario, well above our target of 26-28% (Department of Industry, Science, Energy and Resources 2021). This is world-leading performance in emissions reductions.*

Comment: Far from being world leading Australia's emission reductions by 2030 compared to 2020 emission levels are essentially at the bottom of the OECD grouping. Refer to Figure 3, with data taken from the Climate Action Tracker.



The Abbot Point Coal Terminal sits 200km from the Great Barrier Reef, 2017. © Dean Sewell / Oculi

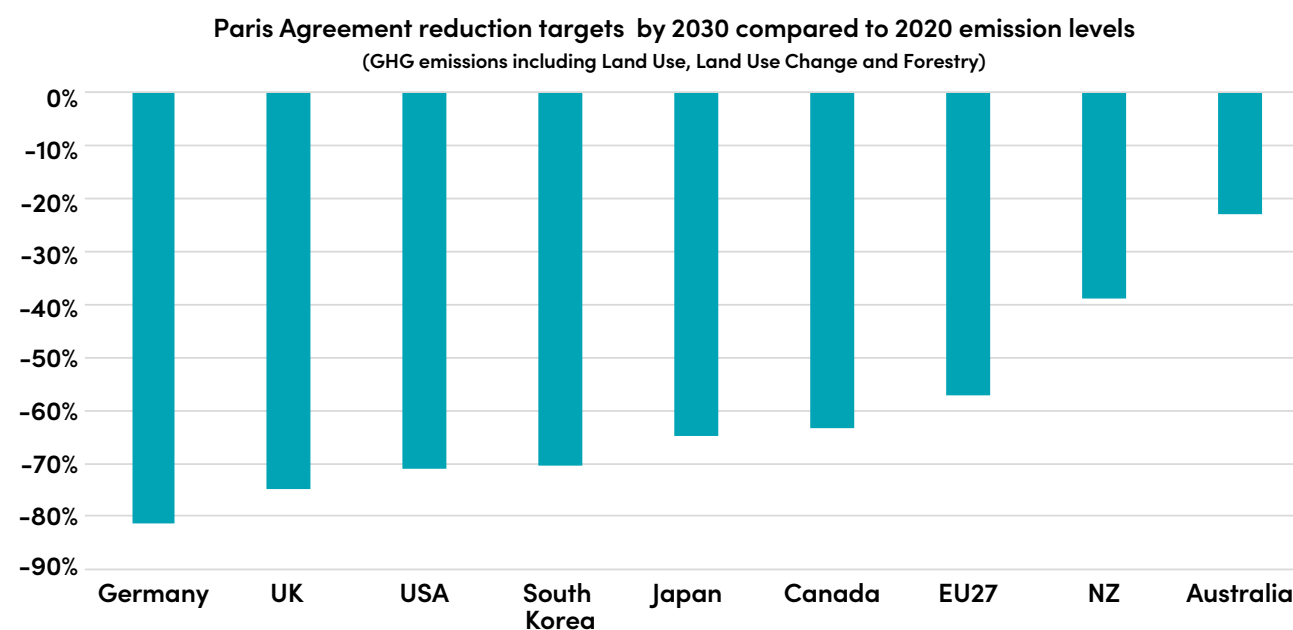


Figure 3: NDC reductions by 2030 compared to 2020 emission levels. Credit: Climate Analytics, based on data Climate Action Tracker (2022) Countries.

SPR p.28 Since 2019, significant global progress has been made in the form of commitments by most countries to reduce emissions on timeframes consistent with the Paris Agreement. The underlying technical frameworks to support achievement of these commitments were agreed at COP26.

Australia has been a constructive participant in these achievements and has revised its own Nationally Determined Contribution to reflect the commitment to achieving technology breakthroughs that will allow the necessary emissions reductions to occur, not just in Australia (which represents just 1.3% of global emissions) but globally.

Comment: Australia did not revise its NDC in relation to the critical 2030 target and was subject to substantial international criticism for not meeting this obligation at COP26.

SPR p.28 This is important because Australia's efforts to reduce its own emissions would have virtually no impact on the long-term health and resilience of the Reef. By contrast, our efforts to improve water quality and human impacts in Australia can substantially improve the prospects and resilience of the Reef, and we have made significant progress in this regard.

Comment: Australia argues that it is only a small part of global emissions, however, it has one of the world's highest greenhouse gas emission rates per capita. It is also a wealthy country with abundant natural advantages that should put it at the forefront of transitioning to a renewable economy. Australia also has a very large footprint, in the order 5% of global emissions³⁵, due to its fossil fuel exports. It is one of the world's largest coal and gas exporters.

Instead of making deeper greenhouse gas reductions, in light of its acknowledgement that climate change is the biggest threat to the Great Barrier Reef, the government continues to downplay its outsized contribution to global emissions. It consistently fails to grasp the abundant opportunities to make Australia a renewables superpower.

Further, Australia's international diplomatic activity is very much focused on maintaining and building the markets for coal and liquefied natural gas. With global agreement on climate action highly dependent on complex international diplomatic relationships, Australia's is having an impact well beyond our own direct emissions.

SPR p.28 Australia's Nationally Determined Contribution also affirms our net zero emissions by 2050 target, with 7 low emissions technology stretch goals and commitment to meeting the 2030 Paris target.

The updated NDC includes a commitment to net zero by 2050, reiterated in its new Long-Term Strategy (LTS), however, the 2030 and 2050 targets rely heavily on technology development and offsets with no plans to phase out coal or curb fossil fuel exports.

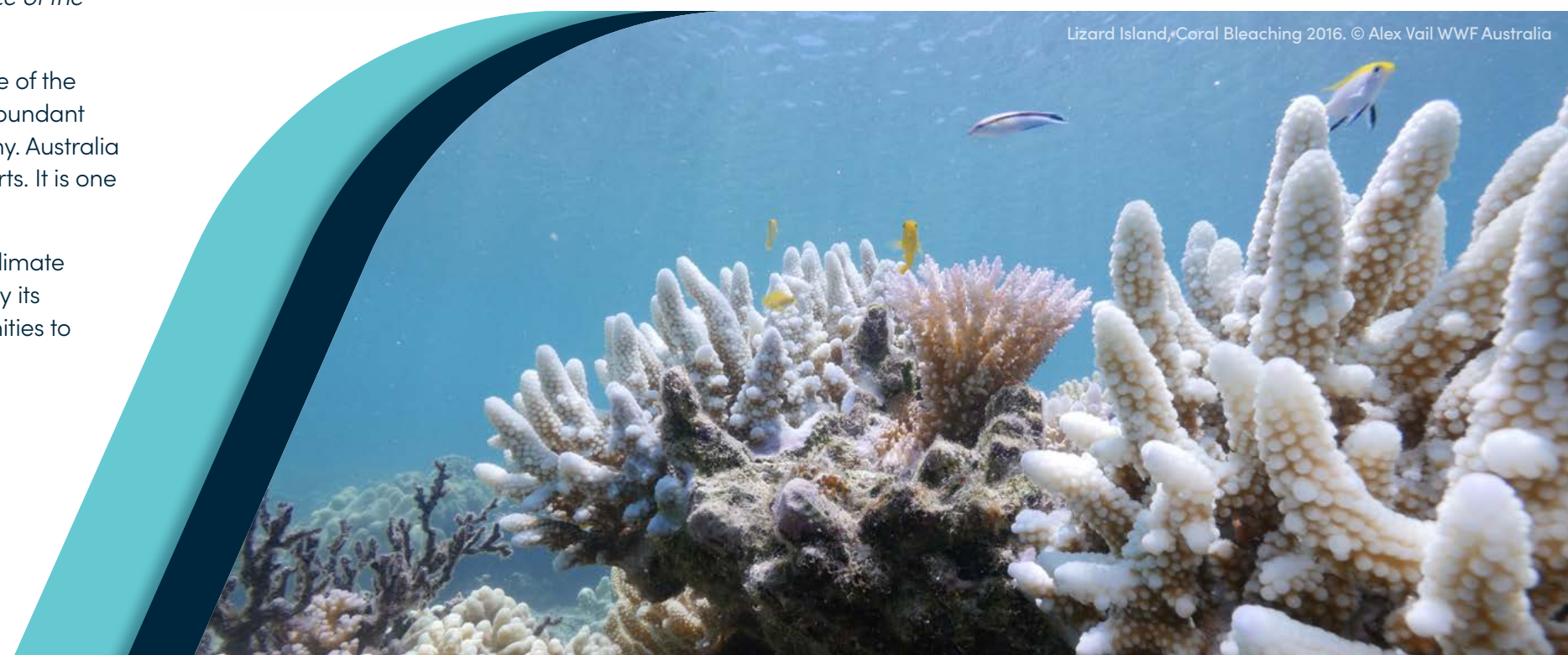
SPR p.28 Australia's Long-Term Emissions Reduction Plan, released in October 2021, is our whole-of-economy action plan to achieve net zero emissions by 2050. The Long-Term Emissions Reduction Plan focuses on delivering the technological improvements that will not only deliver on net zero emissions by 2050 in Australia but have the maximum impact on the ability of all countries to rapidly reduce emissions. It builds on other successful government initiatives including the Renewable Energy Target and the Emissions Reduction Fund schemes.

Comment: The Long-term Emission Reductions Plan leaves a significant emissions gap between its planned reductions and its net zero target in 2050.

The strategy presents ambiguous emissions scenarios which reduce emissions by 66% to 85% from 2005 emissions levels (rather than 100%). The strategy relies on global technology trends, carbon offsets and further unknown technology "breakthroughs" rather than presenting any new policies.

The plan relies on so-called global technology trends for 15% of the reductions needed and a further 15% from "future technology breakthroughs" compared to its 2005 baseline. A further 10-20% of reductions are expected to come from international or domestic offsets. Overall, the plan relies heavily on the future development of low-emissions technology with no plans to phase out coal, curb fossil fuel exports, or hold heavy polluters accountable.

The Renewable Energy Target was met but not replaced with new policy when it expired in 2020, thus Australia currently has no national renewable energy target. The Emissions Reduction Fund (ERF) has also been plagued by a mismatch of its abatement profile, concentrated in the land and waste sector, against the reality of Australia's emissions being dominated by the industrial, transport, and power sectors. There is a high risk of reversal of stored carbon in land sector projects being emitted again, particularly in light of the widespread bushfires of 2019-2020. There are also serious doubts about the additionality of many of the ERF projects.³⁶



Lizard Island, Coral Bleaching 2016. © Alex Vail WWF Australia

SPR p.29 *Australia's approach is based on the principle that the fastest and most practical way to ensure the necessary global emissions reductions are able to be delivered, is to adopt known technologies and work with other countries to accelerate technological advancement.*

Comment: The Long-Term Emission Reductions Plan presents scenarios that rely on unknown technology breakthroughs rather than setting new policies.

SPR p.29 *The Long-Term Emissions Reduction Plan focuses not only on reducing emissions domestically, but also on how we will play a global leadership role through our low emissions energy exports and contributions to innovation.*

Comment: The Long-Term Emissions Reduction Plan supports “clean hydrogen” exports which includes fossil fuel derived (gas and coal with CCS) hydrogen, which prolongs the life of ageing fossil fuel fleets in the energy system. CCS’s future is highly uncertain – it is expensive, uneconomic and to date has not been proven to work at scale. Fossil fuel hydrogen with CCS is still highly emissions intensive, and further investing in this technology will lock in carbon intensive infrastructure and could crowd out the rapid scale-up of green hydrogen.⁵

SPR p.29 *The Australian Government has allocated more than AU\$3 billion over the last 2 years to support practical action on climate change and has committed to invest at least AU\$21 billion in low emissions technologies in the decade to 2030, driving more than AU\$84 billion in total public and private investment. These government investments leverage additional industry co-investment on average over AU\$3 for every AU\$1 of government investment over the decade to 2030.*

Comment: “Low emissions” investment in terms of “blue” hydrogen and CCS props up fossil fuel industries, as described above. Further, the 2021-22 budget allocates large sums (AU\$52.9M) to gas infrastructure projects and a gas-fired power station (AU\$30M), with no new support for renewable energy nor electric vehicles.³⁷

SPR p.30 *The share of generation from wind and solar in Australia is 18%. This compares with an OECD average of 11% and a global average of 6.5%. More than half of Australia's electricity is projected to come from renewable sources by 2030. In a system where there is no neighbouring country grid to step into a failure, and no access to nuclear energy as a low emissions electricity source, these efforts are monumental. Australia's success in these endeavours will support stronger emissions reductions globally.*

Comment: It is correct that Australia's renewable penetration is increasing quickly in the power sector. This is a positive thing and is likely to reach at least 50% by 2030 due to action being taken by the sub-national state governments and not by the Australian Government, which is generally introducing measures to support existing fossil fuel-based industries. What is critical is that in a Paris Agreement-compatible 1.5°C pathway by 2030, renewable penetration in the Australian power sector needs to be 85% or greater by 2030.³⁸

There is no relevance to the absence of nuclear power. Countries such as Germany are phasing this out and still achieving high renewable growth rates.

Australia's isolation as a grid is a spurious argument. Australia has massive amounts of available land area and amongst the world's best solar, wind and other renewable resources, which are available more cheaply than in many other countries. Companies are seeking to export large amounts of renewable energy into Southeast Asia and other parts of the world either directly as electrons or in the form of green hydrogen or ammonia.³⁹

The monumental efforts that have been undertaken by the Australian Government involve: blocking and slowing down the uptake of renewable energy⁴⁰; putting public money into a feasibility study for

a coal-fired power station in Queensland and building a gas-fired power station in New South Wales; heavily subsidising the fossil fuel industry;⁴¹ developing further gas resources;⁴² and introducing market regulations which slow down the uptake of batteries and other related technologies in the power sector.⁴³ Further, if the government's plans to expand gas production through its promised “gas-fired recovery” come to fruition, then the emissions from new gas projects could counterbalance reductions coming from other areas of transformation in the Australian economy.

SPR p.32 *At a property scale, the AU\$150 million Reef Restoration and Adaptation Program is currently investigating and piloting new ways to help coral reefs adapt to climate change. The Program is researching and testing possibilities such as seeding reefs with coral larvae that are more resilient to warmer waters; improving coral larvae survivability; and a concept to shade and cool large areas of reef at risk of bleaching by spraying microscopic saltwater droplets into the air to make clouds more reflective of sunlight. The Australian Government's recent announcement of an additional AU\$92.7 million for the program will further develop and scale up these initiatives.*

Comment: We have received advice from the ANU Institute for Climate, Energy and Disaster Solutions (ICEDS) that these initiatives may help a small reef site or location but they will not save the Great Barrier Reef at a property scale and its supported/supporting ecosystems – only reversing climate change can help do that.

If the goal of these initiatives is to preserve ‘seed bank’ reef pockets, in hopes of using them for reef restoration once global temperature rises are controlled and impacts of climate warming are reversed, then creating these small ‘reef refuges’ may be sensible. It is uncertain how long it would take for the Reef to fully recover, perhaps hundreds or even thousands of years, making the approach detailed illogical as a mechanism for ongoing Reef support or adaptation.

SPR p.33 *While the List of World Heritage in Danger remains a relevant and important tool where corrective measures can be undertaken by individual States Parties to address threats to their World Heritage properties that they can control, it is less instructive where the ongoing impacts of a threat are beyond the control of any individual State Party to address, and where changes to the OUV of a property as a result of climate change will continue for many decades.*

Comment: The List of World Heritage in Danger is mechanism to address threats to World Heritage properties, regardless of the cause of those threats. The Australian Government has tried its utmost to avoid the Reef being inscribed on the In Danger List because it does not want global or national attention turned to the government's support for fossil fuels and the survival of one of the world's greatest natural wonders. We will have more to say on this issue in our next briefing paper on the Great Barrier Reef and climate change.



Shark species caught in a gillnet off the Queensland coast, 2019. © WWF

COMMENTARY ON CHAPTER 8: OTHER CONSERVATION ISSUES WHICH MAY HAVE AN IMPACT ON THE PROPERTY'S OUV

Chapter 8 of the SPR focuses on a range of direct in-water threats to the Great Barrier Reef, however, in this chapter we focus exclusively on fisheries and species of conservation concern.

It is welcome that the State Party has acknowledged the threat of unsustainable and illegal fishing on the Reef's OUV. The Australian Government's 2019 Great Barrier Reef Outlook Report acknowledged that fishing is having a high impact on the values of the property and significant additional interventions are required for the use to be sustainable.⁴

However, the SPR solely focuses on fisheries management actions that have been partially implemented and fails to detail the lack of progress to address ongoing negative fisheries impacts on the Reef's OUV, in particular the very high risk of incidental catch of species of conservation concern.

COMMENTARY ON SPECIFIC STATEMENTS IN THE STATE PARTY REPORT

SPR p.35 *"The 2019 Outlook Report identified fishing as the largest extractive use... It revealed five high risks...and two very high risks (illegal fishing and poaching, and incidental catch of species of conservation concern)".*

Comment: While the incidental catch has long been acknowledged as the most significant fisheries sustainability issue on the Great Barrier Reef⁴⁴, few actions have been taken to reduce the incidence of interactions in high-risk fisheries such as the gillnet and trawl fisheries. The SPR only focuses on management actions that have at least been partially implemented and omits any information relating to mitigating the incidental catch of species of conservation concern, due to the lack of progress. At present gillnets and trawl nets accidentally injure and kill a wide variety of marine species including dugongs, turtles, dolphins and sawfish within the Property.

One of the most significant issues with the incidental catch of threatened species is the unknown scale of the problem. Despite mandatory reporting requirements, interactions with protected species are widely believed to be significantly under-reported.⁴ The scale of the problem is likely considerably worse than the available data suggests. Interaction rates from previous fisheries observer programs suggest that in 2019 the incidental catch of turtles was more than 100 times higher than that reported by fishers.

To date, little progress has been made to deliver independent monitoring and data validation of fisheries catch and threatened species interactions, and it is currently running more than two years behind the schedule outlined in the Sustainable Fisheries Strategy.⁴⁵ Further actions such as independent data validation and spatial closures to high-risk fishing methods in areas of high conservation value are urgently required to address the very high risk to threatened species.

SPR p.35 *"Since 2020 the Australian Government has assessed and managed approvals for eight commercial fisheries operating in the area of the Great Barrier Reef."*

Comment: The SPR acknowledges that the Queensland and Australian Governments are committed to ensuring the Reef's fisheries are sustainable, yet fails to mention that of the eight commercial fisheries assessed and managed, three fisheries (the East Coast Inshore – which includes gillnets, Mud Crab and Blue Swimmer Crab Fisheries) have all had their stated approvals revoked for unsustainable practices and the failure to meet conditions including delivering independent monitoring and data validation, as well as reducing the risk to protected species.

SPR p.35 *"The Queensland Government is implementing a suite of fundamental fisheries management changes that will provide for improved fisheries management and conservation outcomes...this includes limiting take of saucer scallop"*

While aspects of the Sustainable Fisheries Strategy have now been implemented and led to fundamental improvements in fisheries management, the Queensland Government has demonstrated a lack of appetite to recover depleted fish stocks leading to prolonged periods of overfishing and little observed recovery for species.

Although two regions of the scallop fishery have been closed to fishing, the second largest, including areas of the southern Great Barrier Reef, remains open.

A recent stock assessment⁴⁶ shows further decline of scallop stocks below depleted levels and states that current management arrangements will not recover the scallop stock before 2040 and a full fishery closure is required to build the stocks to sustainable levels within a decade.

Depleted stocks of snapper, pearl perch and Spanish mackerel currently remain open to fishing, despite stock assessments indicating they are below the limit reference point (20% of unfished biomass) contained within fisheries harvest strategies and the Queensland government's harvest strategy policy – at which point no targeted fishing should occur.



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- 18 [Climate Action Tracker](#)
- 19 See [Climate Action Tracker analysis of 2.4°C here](#).
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APPENDIX 1

Nicholls, Dr Z and Meinshausen A/Prof M "Comparison between Australia's 2030 and 2050 emission reduction targets and 1.5C pathways" Climate Resource, February 2022



Comparison between Australia's 2030 and 2050 emission reduction targets and 1.5°C pathways

Briefing

Feb 2022
Dr. Z. Nicholls, A/Prof. M. Meinshausen

Australia's targets and 1.5°C pathways

About the authors

A/Prof. Malte Meinshausen is a Lead Author of the Working Group 1 (the physical science) of the IPCC's Sixth Assessment Report (AR6), an author of the IPCC AR6 Assessment Report Synthesis Report (due to be released in September 2022) and has long-standing international expertise on carbon budgets, the Paris Agreement and national and subnational emission targets.

Dr. Zebedee Nicholls was a Contributing Author to 5 chapters in Working Group 1 of AR6 and was closely involved in the preparation of the carbon budget numbers. Dr. Zebedee Nicholls is also providing temperature assessments of thousands of emission scenarios to Working Group III (mitigation of climate change) of the IPCC, providing a link to the latest science on emissions reductions pathways and their warming implications.

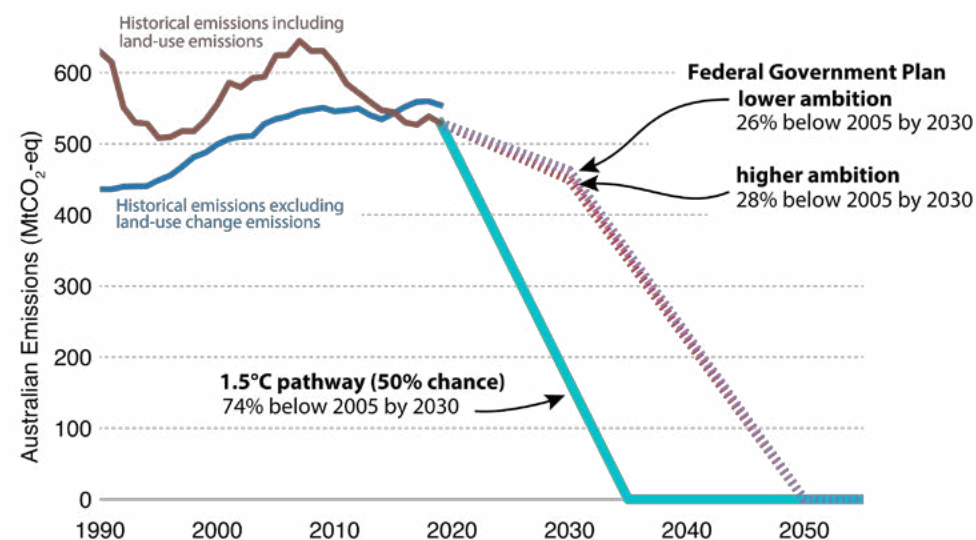
Image: M. Meinshausen
This report was commissioned by WWF-Australia.

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SUMMARY

The Federal Government's longer term emissions reduction strategy leads to cumulative emissions of 9.6 GtCO₂-eq¹ between 2020 and net zero, more than double Australia's emissions budget for a 50% chance of staying below 1.5°C of 4.0 GtCO₂-eq. For Australia to meet its obligations to pursue efforts to limit warming to 1.5°C, a 2030 reduction of 74% relative to 2005 emissions, and net zero by 2035 is consistent with a 50% chance of staying below 1.5°C.



¹ Emissions in this report are provided in gigatonnes of CO₂ equivalent (GtCO₂-eq) and megatonnes of CO₂ equivalent (MtCO₂-eq) as is appropriate for the context. One gigaton is one thousand megatonnes, also equal to one billion tonnes. One megaton is one million tonnes. CO₂ equivalent emissions are emissions which have been converted to their equivalent amount of CO₂ emissions (rather than being reported in their native units e.g., megatonnes of methane).

Australia's targets and 1.5°C pathways

1. THE IMPORTANCE OF 1.5°C

Climate change is a global challenge, with ongoing warming leading to greater impacts and risks for humanity. With high confidence, the IPCC's Special Report on 1.5°C (SR1.5)² concluded that, "Climate-related risks for natural and human systems are higher for global warming of 1.5°C than at present, but lower than at 2°C". The difference between 1.5°C and 2°C is stark for coral reefs: declines of 70-90% are expected at 1.5°C of warming and declines of more than 99% are expected at 2°C of warming. More recent literature suggests that things could be even worse than in SR1.5, with even 1.5°C of warming being incompatible with saving most of the world's coral reefs³.

2. KEY RESULTS

- **Australia's current 2030 target is out of line with the latest climate science:** the Federal Government's 2030 target of reducing emissions by 26-28% relative to 2005 emissions levels, and plan to reach net-zero by 2050 are insufficient to meet Australia's obligations to pursue efforts to limit warming to 1.5°C⁴.
- **Pathways for 1.5°C.** For a 50% chance of limiting warming to 1.5°C, a 2030 emissions reduction target of 74% (compared to 2005 emissions levels) and net zero by 2035 is consistent with the latest climate science⁵, based on previously used approaches to determining Australia's share of global carbon budgets⁶. For a greater than 50% chance of limiting warming to 1.5°C, reductions even stronger than those presented here are required.
- **Arguably, faster emissions reductions are required for Australia to contribute its fair share and meet its obligations under the Paris Agreement.** The required emissions reductions given above are calculated based on Australia's fair share of global emissions being 0.97% (from 2013 to 2050)⁷. Recent analysis⁸ shows that such a share is high given Australia's high GDP. A 0.97% share also means that Australia receives a higher per capita share than other nations (Australia's share would be 0.33% if all countries received the same emissions per capita). Allocating a smaller share to Australia would require faster emissions reductions,

² <https://www.ipcc.ch/sr15/chapter/spm/>

³ <https://doi.org/10.1371/journal.pclm.0000004>

⁴ <https://www.industry.gov.au/sites/default/files/October%202021/document/the-plan-to-deliver-net-zero-the-australian-way.pdf>

⁵ https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter_05.pdf

⁶ <https://www.climatechangeauthority.gov.au/sites/default/files/2020-06/Target-Progress-Review/Targets%20and%20Progress%20Review%20Final%20Report.pdf>

⁷ <https://www.climatechangeauthority.gov.au/sites/default/files/2020-06/Target-Progress-Review/Targets%20and%20Progress%20Review%20Final%20Report.pdf>

⁸ https://www.climatechange.vic.gov.au/data/assets/pdf_file/0016/421702/Greenhouse-Gas-Emissions-Budgets-for-Victoria.pdf

increasing the inconsistency between the Federal Government’s 2030 targets and Long Term Emissions Reduction Plan and 1.5°C compatible pathways.

- **The Federal Government’s longer term emissions reduction strategy exceeds Australia’s emissions budget.** The Federal Government’s plan leads to cumulative emissions of 9.6 GtCO₂-eq between 2020 and net zero, more than double Australia’s emissions budget for a 50% chance of staying below 1.5°C of 4.0 GtCO₂-eq. We also note that the Federal Government’s Plan describes no specific way to mitigate at least 15% of Australia’s 2005 level emissions, stating that achieving these reductions will depend on further technology breakthroughs⁹.
- **The 2030 target must be strengthened, the net zero year brought forward, or both, for Australia to meet its obligations under the Paris Agreement, given the science.** Leaving the 2030 target unchanged requires the net zero year to be greatly brought forward, given that Australia has a limited emissions budget. The earlier net zero year increases the burden on future generations to make much more rapid emissions reductions than this generation¹⁰.
- **Updated science since the Climate Targets Panel report** The latest IPCC global carbon budgets are slightly larger, while our estimate of the temperature rise between 1750 (pre-industrial) and 1850-1900 (early pre-industrial) has also increased. The net effect of these two major changes is almost zero, leading to emissions reductions targets for 1.5°C that are very similar to those presented by the Climate Targets Panel¹¹.

⁹ <https://www.industry.gov.au/sites/default/files/October%202021/document/australias-long-term-emissions-reduction-plan.pdf>

¹⁰ <https://www.climatecollege.unimelb.edu.au/files/site1/docs/%5Bmi7%3A%20Targets%20Panel%20Report%20-%20March%202021.pdf>

¹¹ <https://www.climatecollege.unimelb.edu.au/files/site1/docs/%5Bmi7%3A%20TargetsPanelReport.pdf>

Australia’s targets and 1.5°C pathways

3. Further details

The Federal Government’s target is for a 2030 emissions reduction of 26-28% relative to 2005 levels (~624 MtCO₂-eq / yr) and it has announced its plan to reach net zero by 2050. Assuming a linear decline to net zero, this pathway exceeds Australia’s emissions budget (Table 1) and is well short of the 74% reduction required for a 50% chance of staying below 1.5°C.

Table 1 Emissions budgets (also known as cumulative greenhouse gas emissions), 2030 reductions and net zero years under different emissions pathways for Australia.

Pathway	Emissions budget from 1st Jan 2020 (GtCO ₂ -eq)	2030 reduction (relative to 2005)	Net zero year
1.5°C (50% chance)	4.0	74%	2035
Federal Government, The Plan (higher ambition)	9.6	28%	2050
Federal Government, The Plan (lower ambition)	9.8	26%	2050

In the summary figure, we show total historical emissions and historical emissions excluding land-use change emissions. We do this to highlight that Australia’s total emissions are dropping, but only because land-use change emissions are dropping (and have become negative in the last few reported years, which is why the brown total line sits below the blue, where the blue line indicates everything except land-use change over this period). Excluding the highly uncertain land-use sector, Australia’s emissions are rising and have increased since 2005. For an interactive examination of Australia’s sectoral emissions, see <https://opennem.org.au/emissions/au/>.

The results given here are subject to a number of assumptions and caveats. We follow the methodology of Meinshausen et al.¹², with the addition of a step to account for results from Grassi et al.¹³. As a result, we briefly describe the assumptions and caveats here, for full details refer to Meinshausen et al.¹⁴.

Firstly, there is uncertainty in the remaining carbon budget. Secondly, while the concept of a carbon budget strictly applies to CO₂ only, here we use a correlation between CO₂ and greenhouse gas emissions found in cost-optimal scenarios to convert IPCC carbon budgets into all greenhouse gas

¹² https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0016/421702/Greenhouse-Gas-Emissions-Budgets-for-Victoria.pdf

¹³ <https://doi.org/10.1038/s41558-021-01033-6>

¹⁴ https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0016/421702/Greenhouse-Gas-Emissions-Budgets-for-Victoria.pdf

emissions budgets. As discussed in Meinshausen et al.¹⁵, the correlation is appropriate for assessing peak warming, transparent, simple to apply and is built on the wide range of emission reduction options explored in the cost-optimal scenarios considered by the IPCC. The correlation comes with an uncertainty of +/- 100 GtCO₂-eq (compared to a total, global greenhouse gas budget of approximately 800 GtCO₂-eq for a 50% chance of 1.5C), although variations within this uncertainty don't change the broad conclusions of the analysis presented above. Thirdly, we also account for a difference in land-use emissions accounting methodologies between country-reported emissions and international modelling exercises based on Grassi et al.¹⁶, ensuring that the targets presented are compatible with emissions as reported by the Australian government. Fourthly, we further assume that Australia's 0.97% share of the global carbon budget for 2013 to 2050 equally applies to carbon budgets from 2013 to net zero, as most cost-optimal 1.5°C scenarios reach net zero around 2050. Finally, for global historical emissions we use Nicholls et al.¹⁷ (based on Gidden et al.¹⁸), assuming that emissions from 2015 - 2019 follow the SSP2-4.5 scenario. For Australian emissions we use Australian Government emissions as reported to the UNFCCC¹⁹. Even with an optimistic reading of the uncertainty range in the remaining carbon budget, and different reasonable assumptions on these points, the Federal Government target is short of what is required for Australia to be regarded as pursuing efforts to limit warming to 1.5°C.

¹⁵ https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0016/421702/Greenhouse-Gas-Emissions-Budgets-for-Victoria.pdf

¹⁶ <https://doi.org/10.1038/s41558-021-01033-6>

¹⁷ <https://doi.org/10.5194/gmd-13-5175-2020>

¹⁸ <https://doi.org/10.5194/gmd-12-1443-2019>

¹⁹ <https://www.industry.gov.au/data-and-publications/national-greenhouse-accounts-2019>

A vibrant underwater photograph of a coral reef. The scene is filled with diverse coral species, including large, flat, yellowish-brown table corals and smaller, branching and brain corals in shades of pink, orange, and green. Numerous small, dark-colored fish are swimming throughout the water column, and a few clownfish with orange and white stripes are visible near the coral. The lighting is bright, highlighting the textures and colors of the marine life.

AUSTRALIAN MARINE CONSERVATION SOCIETY

marineconservation.org.au | amcs@amcs.org.au
+61 7 3846 6777 | PO Box 5815, West End QLD 4101

WWF-AUSTRALIA

wwf.org.au | enquiries@wwf.org.au
+61 2 8228 6800 | PO Box 528, Sydney NSW 2001

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