Australia's international climate change commitments – Associated accounting assumptions and auditing of climate risk disclosures

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FINAL REPORT

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Acknowledgements and disclaimer

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Disclaimer

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Executive summary

- The majority of the Australian economy lies within sectors identified as 'high-risk' by the G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD).
- Australia's Nationally Determined Contribution (NDC) emissions reduction target under the Paris Agreement (26-28% by 2030 vs a 2005 baseline), is relatively low by international standards.
- The Australian government plans to use Kyoto Protocol 'carryover credits' to further reduce required emissions reductions necessary to meet the 2030 target.
- Climate-related financial risks (and opportunities) broadly include physical impacts (both acute and gradual onset), economic transition impacts (policy and regulatory developments, technology and stakeholder preference shifts), and liability exposures.
- Information regarding the impacts of climate change on an entity's financial position, performance and prospects should now be regarded as decision-useful to a reasonable investor (and therefore as material in a disclosure context).
- Climate-related assumptions on which reporting entities' calculations and disclosures are based are also likely to be material, given the range of variables and breadth of uncertainty associated with the relevant trajectories and impacts.
- Auditors should therefore test the reasonableness of material climate-related assumptions within the scope of a financial audit.
- Australia's NDC will be *a* relevant assumption regarding an entity's exposure to climate-related risks. However, the NDC is *unlikely* to be *the only* climate-related variable that may materially impact on relevant accounting estimates, or on financial prospects. Additional variables may include, for example:

Figure 1 *Climate risk and opportunity variables that may be relevant in determining the trajectory of climate-related impacts and their consequences for an entity's financial position, performance or prospects*

Introduction

CPA Australia has commissioned research and legal advice from the University of Melbourne, the Commonwealth Climate and Law Initiative (CCLI) and MinterEllison on the following research questions.

- In light of the UNFCCC Paris Agreement and recent IPCC report, *Global Warming of 1.5°C, Summary for Policymakers*, how adequate is Australia's current Nationally Determined Contribution (NDC) and what are the different potential pathways, going forward, for successive Australian NDCs?

- Based on the conclusions from the first part of the study, what are reasonably plausible scenarios and assumptions that accountants and auditors might refer to in stress testing and scenario planning exercises for noncurrent assets? These assumptions might vary across sector depending on what represents a reasonable 'fair share' of the emissions reduction burden for different sectors.

This final report builds on the preliminary findings of our Issues Paper of 11 November 2019. It sets out key issues investigated in the research, and the findings and recommendations of the research team.

The report is divided into three parts. **Part A** (University of Melbourne) addresses the first research question and **Part B** (MinterEllison and CCLI) addresses the second. **Part C** presents the team's overall conclusions and recommendations based on these findings.

Assumptions and qualifications

This report is prepared at a high-level. It does not purport to express any opinion on the disclosures required of any particular reporting entity, nor the reasonableness of the assumptions on which those disclosures are based.

We have not reviewed or considered, and express no opinion on:

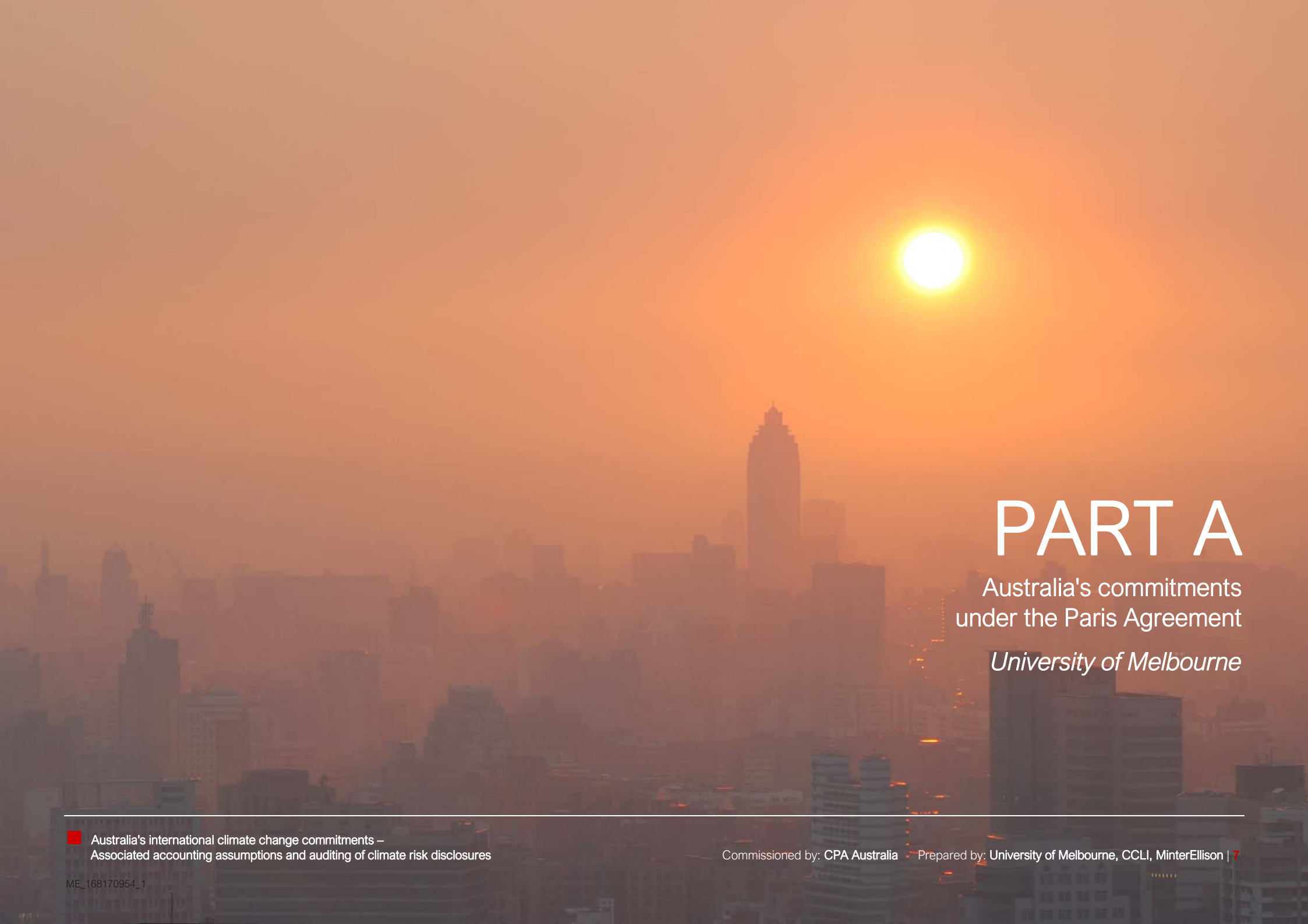
- examples of current best practice climate-related financial risk disclosures;
- the relevance of application of climate change-related issues to other governance or operational areas, such as occupational health and safety;
- whether the relevant material disclosures may otherwise be omitted for 'unreasonable prejudice' to the company pursuant to section 299A(3) of the *Corporations Act*; and
- the likelihood (or otherwise) of any particular climate change-related future within the scope of the plausible range, nor of particular physical, economic transition or liability-related impacts likely to manifest under any given scenario.

We note that the range of plausible climate futures applied in a stress-testing and scenario planning context is intended to be at the relevant extremes: as a risk management tool, rather than as a forecast of likely outcomes. This report does not purport to identify appropriate values for those extremes.

Rather, it considers the variables that may be expected to be considered in setting any plausible climate future scenario (for stress-testing purposes, and/or for disclosing entities to consider in setting their 'central case' scenario applied to their valuation and forward-planning activities), and the assumptions that may need to be disclosed in order for investors to usefully interpret the stated outcomes.

While outside the scope of this report, we also note the degree of consensus that has emerged amongst the legal, regulatory and director community on the applicability of directors' duties to the governance and disclosure of climate risks under Australian law. With its evolution to a material financial risk issue, the question of whether climate change can be considered by directors in pursuing wealth-based corporate interests is largely beyond doubt. Directors not only can consider and disclose climate change related issues, but likely must do so, in the same way as they would any other material financial risk issue.[1]

[1] See, eg, The Centre for Policy Development and Future Business Council, Noel Hutley SC and Sebastian Hertford Davis on instruction by Sarah Barker, MinterEllison, *Climate Change and Directors' Duties: Memorandum of Opinion* (7 October 2016) and *Supplementary Memorandum of Opinion* (26 March 2019), <https://cpd.org.au/2019/03/directors-duties-2019/>; CCLI, Sarah Barker, *Directors' Liability and Climate Risk, Australia – Country Paper* (April 2018) <https://ccli.ouce.ox.ac.uk/wp-content/uploads/2018/04/CCLI-Australia-Paper-Final.pdf>; CCLI, Sarah Barker and Ellie Mulholland, *Directors' Liability and Climate Risk: Comparative Paper – Australia, Canada, South Africa, and the United Kingdom* (October 2019), <https://ccli.ouce.ox.ac.uk/wp-content/uploads/2019/10/CCLI-Directors%E2%80%99-Liability-and-Climate-Risk-Comparative-Paper-October-2019-vFINAL.pdf>; Australian Securities & Investments Commission, *Regulatory Guide 247: Operating & Financial Review* (12 August 2019); ASIC Commissioner John Price, *Climate change*, keynote address for Centre for Policy Development: Financing a Sustainable Economy series, Sydney (18 September 2018); James Dunn, 'Climate change', Australian Institute of Company Directors, *Company Director* (1 May 2017); Hon Kenneth Hayne AC QC, remarks at Business Roundtable on Climate Change & Sustainability, Sydney (21 November 2019), <https://cpd.org.au/2019/12/full-text-of-kenneth-hayne-ac-qc-remarks-to-cpd-climate-roundtable/> .



PART A

Australia's commitments under the Paris Agreement

University of Melbourne

Overview of the Paris Agreement

The 2015 Paris Agreement is the latest international climate change agreement concluded as part of the United Nations Framework Convention on Climate Change (UNFCCC) regime. It succeeds the 1997 Kyoto Protocol to the UNFCCC which set specific emissions reduction targets for parties to be achieved over two 'commitment periods' (2008-2012; 2013-2020).

The Paris Agreement entered into force on 4 November 2016. Australia ratified the Paris Agreement, becoming a party, on 11 November 2016. The provisions under the Agreement are designed to govern parties' international response to climate change for the period from 2020 onwards.

The Paris Agreement contains framework obligations, with the detail of many decisions to be filled in by subsequent decisions of the UNFCCC conference of the parties (COP) serving as the meeting of the parties to the Agreement (known as the 'CMA'). At the December 2018 meeting of the CMA in Katowice, Poland, the parties reached agreement on a number of implementing measures for the Paris Agreement. This set of decisions is known as the 'Paris Rulebook'.

A key objective of the Paris Agreement is expressed in its long-term temperature goal found in Art. 2.1(a). This aims to 'strengthen the global response to the threat of climate change' by:

Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

The long-term temperature goal is supplemented by a collective objective of parties to achieve net zero emissions in the second half of the century. This is expressed as follows in Art 4.1:

Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

In addition to these collective goals, the Paris Agreement places individual obligations on Paris Agreement parties, such as Australia, with respect to efforts to reduce greenhouse gas emissions ('mitigation'). The key obligations are to:

- Prepare, communicate and maintain successive NDCs to the global climate change response that the party 'intends to achieve' (Art. 4.1).
- Pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions (Art. 4.1).
- Communicate a NDC every five years and be informed by the outcomes of the global stocktake (Art. 4.9).
- Account for anthropogenic emissions and removals corresponding to their NDCs (Art. 4.13).

Overview of the Paris Agreement (continued)

The Paris Agreement does not require parties to achieve the goals set out in their NDCs or contain a mechanism for reviewing the adequacy of these contributions. Instead, it articulates an enhanced transparency framework and a global stocktake mechanism. These are designed to subject parties' reporting to international scrutiny and to exert political pressure to increase the ambition of NDCs over time to meet the collective goals of long-term temperature stabilisation and net zero emissions.

Australia's current NDC and its Paris Agreement compliance

ISSUE A1: What is Australia's current NDC under the Paris Agreement and will it be met?

Key takeaway

Australia's current NDC is for a 26-28% reduction in emissions by 2030, relative to 2005 levels. This target is at the lower end of the ambition range internationally. Australia plans to reduce its emissions reduction task further by utilising carry over credits from the Kyoto Protocol. If these credits are not included, Australia is likely to fall well short of its 2030 target if present climate policies remain unchanged.

Under the Paris Agreement, NDCs are the principal mechanism by which parties like Australia contribute to the global response to climate change. NDCs are 'nationally determined' and 'self differentiated'.[2] This means that countries can independently determine the emissions reduction targets and policy measures included in their NDCs.

Australia's current Paris Agreement NDC, submitted to the UNFCCC Secretariat, is for a 26-28% reduction in emissions by 2030, relative to 2005 levels. In accounting for national emissions, Australia includes both emissions sources (e.g. electricity, transportation) and land sector activities, the latter of which presently act as a net carbon sink.

Australia's NDC is at the lower end of ambition compared with other developed country parties. For instance, Climate Action Tracker rates the Australian NDC as 'insufficient' and not consistent with holding global warming to the long-term temperature targets set by the Paris Agreement.[3] Similarly, the independent Climate Change Performance Index for 2020 ranks Australia's performance as 'very low', in the bottom 5 of the 61 countries ranked.[4]

The Australian government has indicated that it expects to meet the 2030 target through a combination of existing policies like the Emissions Reduction Fund, investments in hydroelectricity production (i.e. Snowy 2.0, even though this project is unlikely to deliver emissions reductions until after 2030), a yet-to-be developed electric vehicle strategy and 'technology improvements and other sources of abatement'.[5]

Controversially, the Australian government also intends to take advantage of carry over credits resulting from 'overachieving' its first and second commitment period targets under the previous Kyoto Protocol. This is despite strong lobbying from other governments – including at the Pacific Island Forum and COP25 – to forego these credits. Utilising such carryover credits, while not presently prohibited under the Paris Agreement, has been discouraged by the UNFCCC COP.[6] At COP25 in December 2019, Australia successfully opposed efforts from small island states and least developed countries to include language in a CMA decision ruling out the use of Kyoto credits towards countries' NDCs.

[2] Rajamani L. 2016. Ambition and Differentiation in the Paris Agreement: Interpretative Possibilities and Underlying Politics. Int. Comp. Law Q. 65(2):493–514.

[3] See https://climateactiontracker.org/countries/australia/.
[4] See climate-change-performance-index.org/country/Australia.
[5] Australian Government. 2019. Climate Solutions Package, p. 8.

[6] Dec. 1/CP.21, Adoption of the Paris Agreement, para. 106.

The government's 2019 emissions projections indicate that using Kyoto carryover credits will account for 411 Mt $CO_{2\text{-}e}$ of emissions out of a required 395 Mt $CO_{2\text{-}e}$ (for a 26% reduction) or 462 Mt $CO_{2\text{-}e}$ (for a 28% reduction). The 2019 emissions projections confirm that without use of Kyoto carryover credits Australia's 2030 emissions would be *only 16% below 2005 levels*, and hence considerably higher than the emissions levels necessary for Australia to meet its 2030 target. As projections by Ernst & Young set out in Figure 2 indicate, by factoring in Kyoto credits, Australia is able to follow a gentler emissions reduction trajectory to the 2030 target than would be the case without using those credits.[7]

Other independent assessments of Australia's emissions trajectory to 2030 also find that Australia will fall short of meeting its NDC if Kyoto carryover credits are not applied. This is due to ongoing emissions growth and a lack of adequate climate policies.[8] For instance, the UNEP 2019 Gap Report concludes:

With the re-election of Australia's conservative Government in May, there has been no recent material change in Australian climate policy. This will make achieving its NDC of a 26 per cent to 28 per cent emissions reduction below 2005 levels by 2030 challenging. However, it appears that the Australian Government intends to use carry-over permits from the Kyoto Protocol to do so, and uses a carbon budget approach that accounts for cumulative emissions between 2021 and 2030 in order to assess progress against its NDC.[9]

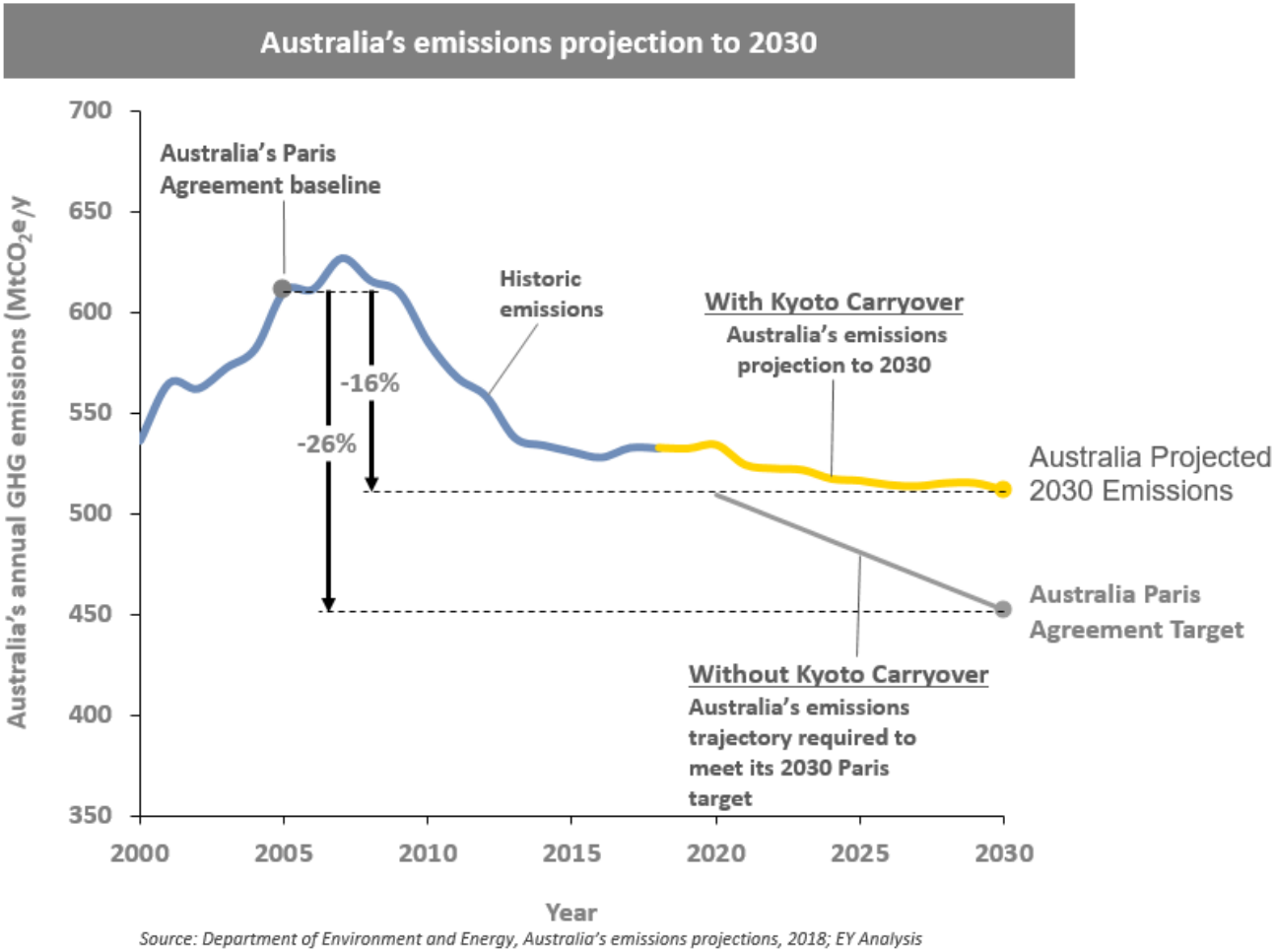


Figure 2 Australia's national GHG emissions projections and current policies; Source Ernst & Young (2019).

[7] Australian Government, Australia's Emissions Projections 2019, Dec. 2019, p. 6.

[8] OECD. 2019. OECD Environmental Performance Reviews: Australia.

[9] UNEP 2019. Emissions Gap Report 2019, p. 14.

Australia's current NDC and its Paris Agreement compliance (continued)

ISSUE A2: Does Australia's current NDC meet its international climate commitments?

Under the Paris Agreement, Australia's key legal obligations with respect to emissions reduction (mitigation) relate to the preparation, communication and maintenance of successive NDCs and the pursuit of domestic mitigation measures that aim to achieve the objectives of those NDCs (Art. 4.2).

These obligations are procedural in nature ('obligations of conduct') and do not require parties like Australia to take any particular measure or achieve any particular result.

The Paris Agreement establishes an 'ambition cycle' for subsequent NDCs which is intended to result in the commitments being ratcheted up over time. However, the requirement in the Paris Agreement for NDCs to reflect each party's 'highest possible ambition' (Art. 4.3) does not apply to its first NDC.

Accordingly, Australia's current (first) NDC, complies with its international legal commitments under the Paris Agreement.

Key takeaway

Paris Agreement parties' obligations regarding NDCs are procedural in nature. They are fulfilled by preparing, communicating and maintaining a NDC but do not require particular measures or emissions reductions. Moreover, for the first NDC, parties like Australia are not subject to the requirement of 'highest possible ambition'. Australia's NDC, while 'insufficient' from the perspective of contributing a 'fair share' to the global climate change response, complies with its international legal commitments.

Updating Australia's current NDC before 2020

ISSUE A3: Is Australia required to update its current NDC before 2020?

The decision of the UNFCCC COP adopting the Paris Agreement contains a 'request' to parties with NDCs including a 2030 timeframe 'to communicate or update' these contributions by 2020.[10] The CMA decision adopted at the Katowice meeting in December 2018 reiterates this request.[11] The UN Secretary-General's Summit in late September 2019 was designed to encourage parties to update and improve their NDCs given that current analysis shows that, collectively, the NDCs are insufficient to contain global warming to safe levels.[12] These requests were reiterated in stronger terms at COP25. Parties re-emphasised 'with serious concern' the 'urgent need to address the significant gap between the aggregate effect of parties' mitigation efforts in terms of global annual emissions of greenhouse gases *by 2020* and aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.'[13]

From a legal point of view, however, there is no obligation on parties such as Australia to abide by such COP/CMA requests. As the National Interest Analysis prepared by the Australian government in respect of the decision to ratify the Paris Agreement makes clear, the government's view is that the COP decision adopting the Agreement 'does not establish any legal obligations,' although it notes 'countries will be expected to comply with and/or meet these decisions'.[14]

Accordingly, Australia could simply resubmit its existing NDC by 2020. The Australian government has given no indication that it intends to enhance the ambition of its 2030 emissions reduction target in the NDC prior to 2020.

On the other hand, Australia might reasonably be expected to update its existing NDC prior to 2020 to comply with the informational requirements necessary for clarity, transparency and understanding (ICTU) that were elaborated in the Paris Rulebook agreed at the Katowice meeting. The relevant decision of the CMA 'strongly encourages' parties to provide this information for their first NDC.[15]

Given the expectation of compliance with COP/CMA decisions that the government articulated in the National Interest Analysis for the Paris Agreement, Australia could reasonably be expected to conform to the ICTU requirements set out in the Rulebook in updating its NDC prior to 2020.[16] While this would not change the 2030 target articulated in the NDC it could provide greater clarity and transparency that would be useful in evaluating Australia's progress towards, and compliance with, the target.

Key takeaway

Although Paris Agreement parties have been requested by the UNFCCC COP to update their first NDCs and increase their ambition prior to 2020, parties are under no binding legal obligation to do so. Accordingly, Australia could simply maintain its present NDC and 2030 target without change. There is a strong argument that the government should nonetheless update its NDC to comply with informational requirements agreed in the Paris Rulebook. This would not change the 2030 target but would enhance its transparency for monitoring purposes.

[10] Dec. 1/CP.21, Adoption of the Paris Agreement, para. 24.
[11] Dec. 1/CP. 24, Preparations for the implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, para. 23.
[12] UNFCCC 2016. Aggregate effect of the intended nationally determined contributions: an update.
[13] Draft dec. -/CP.25 Chile Madrid Time for Action, para. 8.
[14] National Interest Analysis [2016] ATNIA 10, para. 20.
[15] Dec. 4/CMA.1, Further guidance in relation to the mitigation section of decision 1/CP.21, para. 7.
[16] See Dec. 4/CMA.1, annex I.

Updating Australia's current NDC before 2020 (continued)

ISSUE A4: Is Australia permitted to update its NDC if it wishes to do so?

There is nothing as a legal matter to prevent Australia submitting a new or updated NDC prior to 2020 in line with the request issued in the COP decisions and the expectations for more ambitious action that they outline.

Under Article 4.11 of the Paris Agreement, a party is permitted 'at any time' to adjust its existing NDC 'with a view to enhancing its level of ambition', in accordance with guidance adopted by the CMA.

Authoritative commentary on this Article argues that it could be utilised only to upgrade and not to downgrade an existing NDC.[17]

Key takeaway

While it is considered highly unlikely that the Australian government will update the 2030 target in its NDC prior to 2020, there is nothing as a legal matter that would prevent such a course of action. Legal opinion is to the effect that any revision of a NDC by a party can only be for the purpose of enhancing ambition and cannot be undertaken in order to downgrade a NDC.

[17] Rajamani L, Brunnée J. 2017. The legality of downgrading nationally determined contributions under the Paris agreement: Lessons from the US disengagement. J. Environ. Law. 29(3):537–51.

Australia's legal obligations for subsequent NDCs

ISSUE A5: Do Australia's NDCs need to ratchet up over time?

The 'ambition cycle' created by the Paris Agreement expects parties' successive NDCs to represent a progression on their previous NDCs and to reflect their highest possible ambition (Art 4.3).

This is coupled with a feedback mechanism comprised of three main parts:

- an 'enhanced transparency framework' that places extensive informational demands on parties, and establishes review processes to enable tracking of progress towards achievement of NDCs (Art. 13).
- a collective 'global stocktake' every five years to assess overall progress to meet the Paris Agreement's goals (Art. 14).
- a 'facilitative' compliance mechanism with powers to review a party's implementation and compliance with the Agreement on a 'non-adversarial and non-punitive' basis (Art. 15).

These feedback mechanisms are likely to be particularly important for opening up Australia's NDCs and progress in meeting these commitments to international and domestic scrutiny. It is this transparency and scrutiny, rather than formal, legally binding commitments, that is expected to generate political pressure for greater ambition.

In addition, parties' successive NDCs must 'be informed' by the outcomes of the global stocktake (Art. 4.9), and information on how this has been taken into account must be included in each subsequent NDC under the requirements of the Paris Rulebook.

The requirement for parties to submit a new NDC every five years effectively creates a series of successive time points at which Australia will be required to review and potentially revise its NDC i.e. 2025, 2030, 2035 (see Figure 3 below). Parties must submit their new or revised NDCs at least 9-12 months prior to these dates.

Figure 3: NDC cycle under the Paris Agreement

Key takeaway

There is strong expectation under the Paris Agreement that parties' NDCs will ratchet up in ambition over time. Some commentators have framed this as a 'due diligence' obligation that requires governments to act in proportion to the risk at stake and to the extent of the capacity they employ. The 'ambition cycle' of the Paris Agreement sets a five-yearly cycle for review and revision of NDCs. At these regular points in the cycle, Australia is likely to face growing international and domestic pressure to increase the ambition of its NDC.

For these 'successive NDCs' the Paris Agreement provides greater constraints than for a party's first NDC.

Binding CMA decisions require the provision of information by parties on:

(a) how the party's preparation of its NDC has been informed by the global stocktake;

(b) how the party considers its NDC is fair and ambitious in light of its national circumstances;

(c) how the party has addressed Article 4.3 (containing the expectations of ambition and progression); and

(d) how the NDC contributes towards the long-term temperature goal and net zero aim in Articles 2.1 and 4.1.

In addition to these information requirements, literature interpreting the Paris Agreement provisions and preparatory negotiations argues strongly in favour of the position that the provisions of the Agreement on progression and ambition require a 'ratcheting up' of a party's NDCs over time.

For example, Christina Voigt and Felipe Ferreira (both involved in negotiations for the Paris Agreement) argue that Article 4.3 is 'reflective of a standard of care that states now need to exercise: to strive for their highest possible ambition in a manner that their efforts reflect their common responsibilities, respective capabilities and national circumstances'.[18] They argue that this is reminiscent of 'a due diligence standard in international law which requires governments to act in proportion to the risk at stake and to the extent of the capacity they employ.'[19]

Voigt and Ferreira's analysis suggests that the requirement for ambition is tied not just to each party's self-assessment of its capacity and circumstances but also to the overall aim of the Paris Agreement, including the long-term temperature goal.

Along similar lines, leading international climate law scholars, Lavanya Rajamani and Jutta Brunnée, argue that the 'obligation of conduct' regarding mitigation commitments in NDCs under Article 4.3 'cannot be read in isolation from the normative expectations of ambition and progression'.[20] These expectations are not binding in a strict legal sense but establish 'a direction of travel' that 'is critical to the architecture of the Paris Agreement'.[21]

The consequence of these provisions is that, as matter of politics and international relations, Australia – as one of the developed countries urged under the climate regime to continue 'taking the lead' (Art. 4.4) – is likely to come under increasing international and domestic pressure to ratchet up its successive NDCs in line with its equitable 'fair share' of the emissions reduction burden and the goals of the Paris Agreement. These 'pressure points', where the Australian NDC and progress is subjected to international review and associated domestic scrutiny, will occur every five years starting in 2025. There may also be a number of ad hoc 'pressure points' that arise beyond the Paris Agreement regime. One potential source is trade levers. For example, Australia has said it would agree to the EU push for 'respect and full implementation' of the Paris Agreement to be enshrined in any EU-Australia free trade agreement.[22] This may require Australia to clarify its position on 'full implementation' of the Paris Agreement in order to secure a trade deal with the EU.

Potentially there may also be a global policy tipping point(s), for example, in response to series of unprecedented extreme weather events or a climate-related 'Minsky Moment'. These could align with the NDC timelines or occur outside of the NDC cycle putting pressure on Australia to update its NDC under Article 4.11.

Indications of global tipping points may come from sources such as the UN Principles for Responsible Investment (PRI) 'inevitable policy response' forecasts, which are predicting an 'inevitable policy correction' in governments' climate policies between 2023-2025.[23]

[18] Voigt C, Ferreira F. 2016. 'Dynamic Differentiation': The Principles of CBDR-RC, Progression and Highest Possible Ambition in the Paris Agreement. Transnatl. Environ. Law. 5(2):285–303, p. 296.
[19] Ibid.
[20] Rajamani L, Brunnée J. 2017. The legality of downgrading nationally determined contributions under the Paris agreement: Lessons from the US disengagement. J. Environ. Law. 29(3):537–51, p. 543.
[21] Ibid, p. 545.
[22] Sarah Martin, 'EU to push Australia to clean up petrol standards as part of free trade deal', The Guardian, 2 Sep. 2019, at https://www.theguardian.com/australia-news/2019/sep/02/eu-to-push-australia-to-clean-up-petrol-standards-as-part-of-free-trade-deal.
[23] See https://www.unpri.org/inevitable-policy-response/the-inevitable-policy-response-policy-forecasts/4849.article.

Australia's legal obligations for subsequent NDCs (continued)

ISSUE A6: Could Australia simply maintain its 2030 target beyond 2025?

It is highly likely that the global stocktake in 2023 – informed by the IPCC's 1.5°C report of October 2018 and its sixth assessment report due in 2022 – will conclude that parties are not on track to achieve the Agreement's long-term target and that deeper emissions cuts are urgently required.

Already, the IPCC's 1.5°C report makes clear that to keep the 1.5°C goal in view, global net anthropogenic CO_2 emissions will need to decline by about 45% from 2010 levels by 2030, reaching net zero around 2050. For having a 66% chance of limiting global warming to below 2°C (which would involve considerable adaptation needs and extensive degradation of some ecosystems such as coral reefs), CO_2 emissions would still need to decline by about 25% by 2030 and reach net zero around 2070.[24]

It is worth noting that successive IPCC reports have tended to find increasing urgency for deeper emissions cuts. Therefore the 'best available science' feeding into the 2023 global stocktake may potentially take a more stringent position on the depth and timeframe of needed emissions reductions to meet the Paris Agreement's long-term temperature goal.

While the long-term temperature goal is a collective objective under the Paris Agreement, it is linked to parties' NDCs through the requirement of ambition discussed above. In particular, Article 3 provides parties are to undertake 'ambitious efforts' with the view to achieving the Agreement's objectives, including the long-term temperature goal.

It would be difficult for the Australian government to argue that maintaining its 2030 target in its 2025 NDC complies with the spirit of its international obligations under the Paris Agreement. Maintaining this target – already judged 'insufficient' in several assessments – would not fulfil the expectations of progression and highest ambition, especially in line of expected outcomes of the 2023 global stocktake showing the need for strengthening of parties' ambition in their NDCs.

Key takeaway

With the outcomes of the 2023 global stocktake likely to call for greater ambition in parties' NDCs to meet the Paris Agreement's objectives, it would be difficult for Australia to maintain its 2030 target beyond 2025 while meeting the Agreement's expectations of progression and highest possible ambition.

[24] IPCC Special Report on Global Warming of 1.5°C (2018) C.1.

Furthermore, Australia's 2030 target in its current NDC is well above a per-capita emissions target to limit global average temperature rise to 2°C (noting the lower temperature goals in the Paris Agreement). Analysis by Ernst & Young, represented in Figure 4, shows that Australia's per-capita emissions could be around three times the global average required for a 2°C world, and approximately 50% higher than the OECD average.

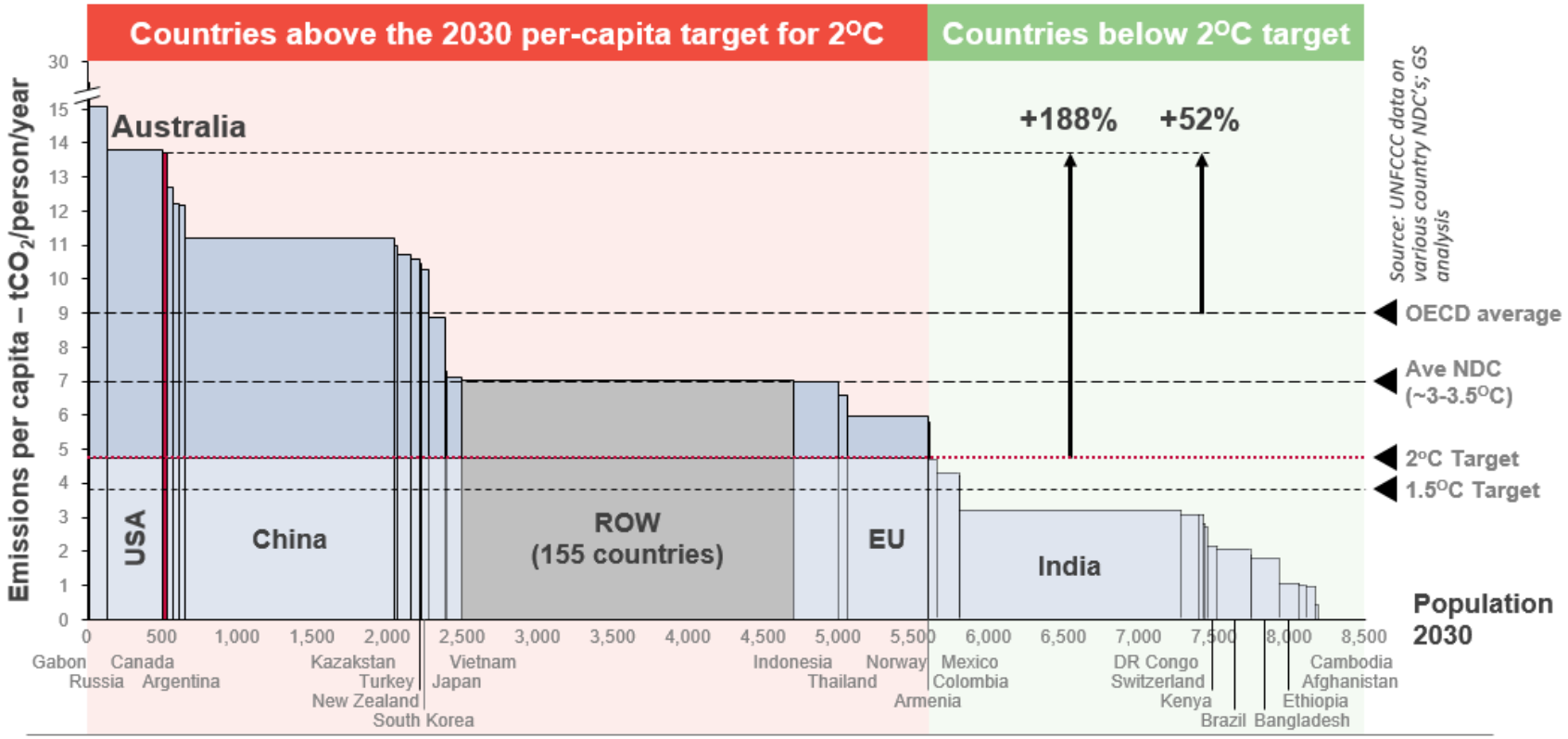


Figure 4 Paris and the 2030 NDC target; Source Ernst & Young (2019). This does not include the use of Kyoto carryover certificates.

Australia's legal obligations for subsequent NDCs (continued)

ISSUE A7: When would Australia need to achieve net zero emissions?

As discussed above, Article 4.1 of the Paris Agreement expresses parties collective aim to reach a 'balance' between emission sources and removals (i.e. net zero) in the second half of the century in order to achieve the Agreement's long-term temperature objective. This provision does not directly answer the question of when individual parties should reach net zero, but there is increasing consensus in science and policy circles that countries should be aiming for net zero by 2050.

For instance, the IPCC's 1.5°C report helps to put some clear parameters around the 'net zero' goal in Article 4.1. To keep the 1.5°C goal in view, the IPCC has advised global emissions must reach net zero by 2050. A longer timeframe to net zero is possible if countries wish to stay below 2°C but that comes at a cost in terms of adaptation needs and ecosystem damage. If the scientific understanding evolves over time towards stricter timeframes and more stringent emission reduction needs this would strengthen the argument for achieving net zero at the latest by 2050.

On the policy side, recent developments also show building global consensus for net zero by 2050. The UN Secretary-General summit held in September 2019 was focused on that goal.

At the 50th Pacific Islands Forum in August 2019, Australia along with other forum nations, signed a communique calling on all Paris Agreement parties:

…to formulate and communicate mid-century long-term low greenhouse gas emissions development strategies by 2020. This may include commitments and strategies to achieve net zero carbon by 2050, taking into account the urgency highlighted by the IPCC Special Report on Global Warming of 1.5°C, and establish the necessary policy, financing and governance mechanisms required to achieve this.[25]

The reference in the Pacific Islands Forum Communique to 'long-term low greenhouse gas emissions development strategies' comes from Article 4.19 of the Paris Agreement that provides all parties should 'strive' to 'formulate and communicate' such strategies that are 'mindful of Article 2' and take into account 'their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.' In its Climate Solutions policy announced before the May 2019 election, the Australian Government 'committed to continue developing its long-term emissions reduction strategy by the end of 2020'.[26]

As a matter of best practice, long-term emissions reduction strategies 'provide direction for near and medium-term action and planning, avoid lock-in and stranded assets, and guide the implementation and formulation of nationally determined contributions (NDCs).'[27] They would normally include long-term goals e.g. net zero by 2050 and sectoral pathways for transition to a low-carbon economy. Hence, if the Australian government fulfils its commitment to develop such a strategy and submit it to the UNFCCC, this should provide more guidance about Australia's long-term emissions reduction strategy and NDC trajectory.

Overall, the view – voiced by some, including Australian Government Ministers – that Article 4.1 of the Paris Agreement allows global achievement of net zero any time before 2100, including as late as 2099, is increasingly incompatible with the 'best available science' and international policy consensus on the necessary timeframe for emissions reduction. There are mounting pressures on Australia to articulate its emission reduction targets beyond 2030, with a goal of net zero by 2050 emerging as the expected policy response to stay within Paris temperature goals.

[25] Pacific Islands Forum Communique, 50th Pacific Islands Forum, Tuvalu, 13-16 August 2019, para 19(ii).

[26] Australian Government. 2019. Climate Solutions Package, p. 8.

[27] World Resources Institute. 2018. Long Term Low Greenhouse Gas Emission Development Strategies, p. 5.

Key takeaway

The position that countries can achieve net zero emissions anytime in the second half of the century, including as late as 2099, is increasingly incompatible with the best available science and international policy consensus. Australia is already under pressure, and is likely to be increasingly so, to articulate its emissions targets beyond 2030 and to commit to net zero emissions by 2050. To align with scientific assessments of what is necessary to meet the Paris Agreement's long-term temperature targets, countries would need to reach net zero emissions ideally by 2050 (to prevent more than 1.5°C) and latest by 2070 (to have a good chance of staying below 2°C).

Paris-compliant trajectories for Australia's NDCs

ISSUE A8: What are potential Paris-compliant trajectories for Australia's emissions?

There are various indications that Australia could and should be doing more to contribute its 'fair share' to the global climate change response. For instance, other G20 countries have taken on net zero by 2050 goals, as have a number of Australian States and territories.

The Climate Change Authority (CCA), which issues the Australian government with independent advice on its climate policy, advised in its pre-Paris 2014 Targets and Progress Review report that Australia should adopt a national emissions budget for 2013-2050 of 10,100 Mt CO2-e. This recommendation was based on the CCA's view of Australia's fair share (about 1%) of a global emissions budget. Following this trajectory, Australia would reach net zero emissions by 2050. The CCA is currently preparing an updated advice to the government on meeting the Paris Agreement commitments. The consultation paper issued by the CCA in July 2019 points out:

There is now a stronger understanding that most countries, including Australia, need to do more if the world is to meet the Paris Agreement temperature goals ... This means that the advice provided by the Authority should help to position Australia to not only meet its 2030 emissions target, but also to meet targets with enhanced ambition that put Australia clearly and firmly on the path to net zero emissions.[28]

If the Australian government was to take account of this advice and global trends in communicating its subsequent NDCs to promote a strong response to global climate change (which is in Australia's national interest given our climate vulnerability) we might expect to see the communication of successive NDCs from 2025 that adopt an emissions reduction trajectory to net zero emissions (and potentially negative emissions) from 2050 onwards. This scenario is illustrated in Figure 5 as Trajectory 1.

If we apply more conservative assumptions and assume that the existing 2030 target is maintained in 2020, the trajectory would be slower at the start but is likely still to need to accelerate after 2025 or 2030 to reach net zero between 2050-2070. These scenarios are illustrated in Figure 5 as Trajectories 2 and 3.

Given the 'best available' climate science and equitable considerations, it is unlikely that Australia could maintain an emissions reduction trajectory that does not decline to net zero until 2100 and remain in compliance with its Paris Agreement commitments (Figure 5 Trajectory 4).

In the past, Australia has used straight line trajectories from the current emissions levels to the selected target. This methodology may be applied in the future as Australia moves from one NDC to the next. Rather than an overall line from a starting point to the net zero emissions date, this may result in a series of step-wise reductions with a new downwards step commencing with each five yearly period. The potential trajectories presented in Figure 5 on the next page are a simplified version of what these trajectories might look like in practice.

Key takeaway

There are several potential Paris-compliant trajectories for Australia's future NDCs, depending upon whether the country adopts a net zero target for 2050 (compatible with a global 1.5°C scenario) or 2070 (compatible with a global 2°C scenario) and the pace at which emissions reductions occur. However, an emissions reduction trajectory that does not achieve net zero emissions until late in the century would contribute to global warming of over 3°C or more and would not be compatible with the Paris Agreement temperature goals.

[28] Climate Change Authority. 2019. Updating the Authority's Previous Advice on Meeting the Paris Agreement: Consultation Paper, p. 2.

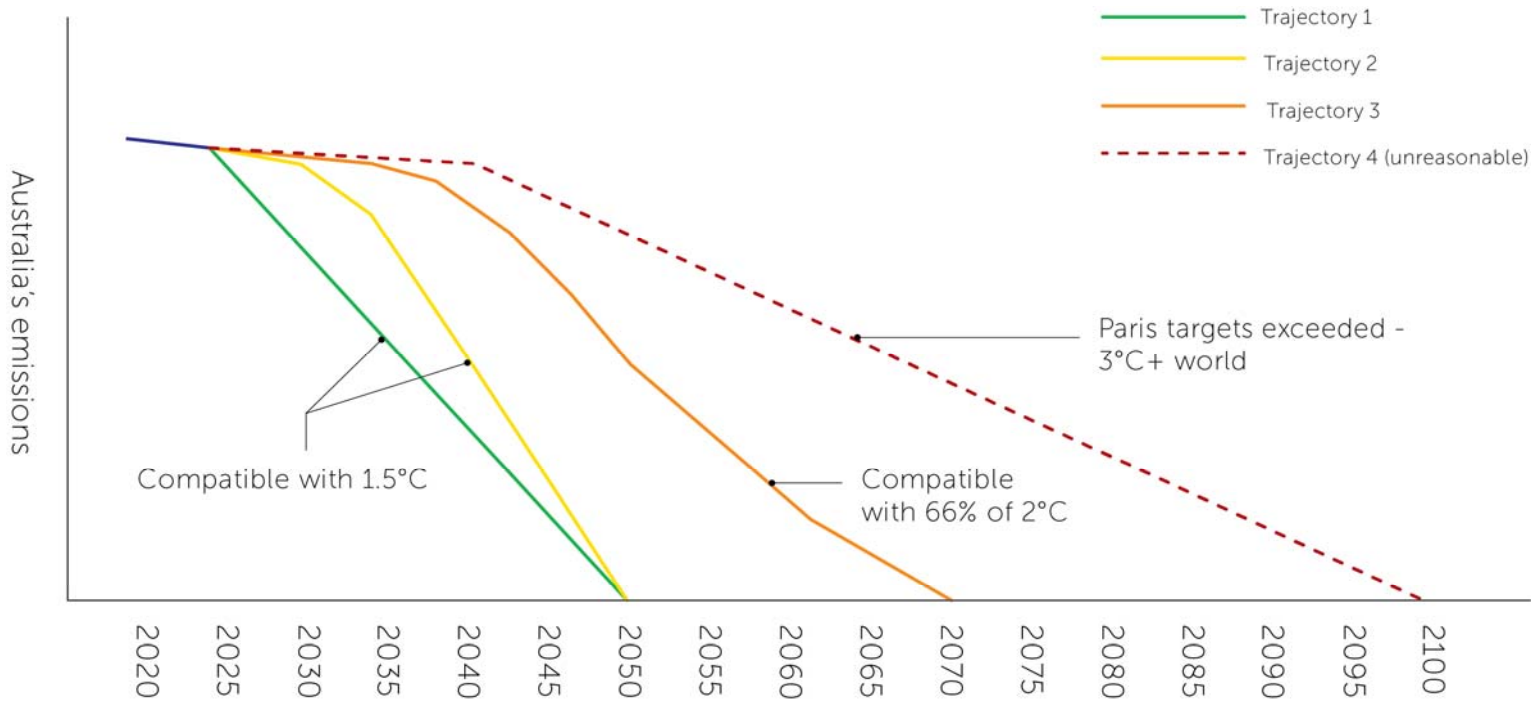


Figure 5: Indicative illustration of Australia's potential emissions reduction trajectories

PART B

Assumptions for accounting and auditing of climate risk disclosures

MinterEllison and CCLI

Preliminary remarks

Part B takes a 'first principles' approach to an assessment of the information that should be disclosed in an entity's financial reports in order to present a true and fair view of its financial position, performance and prospects. In general terms, such assessment will require consideration of:

- the matters likely to be decision-useful for investors in relation to the reporting entity;
- the variables that should reasonably be considered in determining the impact of the relevant matter on (or its relevance to) the entity;
- whether the assumptions applied in considering each of those variables are reasonable; and
- considering which, if any, of the variables and assumptions should themselves be disclosed due to their decision-usefulness for investors – particularly where the application of alternative, yet also reasonable, assumptions may lead to a materially different impact on financial performance, position or prospects.

Our advice is directed to consideration of the above issues, in a climate change-related context. Specifically, we have been asked to consider the reasonably plausible scenarios and assumptions to which auditors might refer in stress testing and scenario-planning exercises for non-current assets and, within that context, the relevance of Australia's NDC.

We have done so in the context of the opinion expressed in Part A above in relation to Australia's current NDC, and potential pathways for successive NDCs that may be applied in order to comply with Australia's commitments as signatory to the Paris Agreement.

Our comments should also be considered in the context of a broader reporting environment where directors' duties and responsibilities, and shareholder and stakeholder expectations, on climate-related financial disclosures have heightened considerably in a 'post-Paris' and TCFD world. Such developments are reflected in (amongst other things) recent updates to guidance from both regulators (including ASIC and APRA) and accounting and auditing standards-setting bodies (as outlined in *Assumptions and qualifications*, above).

We also note that the general nature of this report does not permit consideration of the potential impact of time horizons (including those prescribed under applicable accounting standards) and discount rates on whether a material risk to an entity's prospects translates into a material impacts in its financial statements. The reasonableness of the discount rate applied must of course also be tested – and in fact a higher discount rate is a common mechanism applied to account for uncertainty.

Part B structure

Part B addresses ten issues (B1-B10) raised in our Issues Paper dated 11 November 2019, grouped thematically under five headings (B.A-B.E):

- B.A Requirements of the regulatory regime
  - Issue B1 Disclosure of climate-related assumptions
  - Issue B2 Audit of climate-related assumptions
- B.B Materiality of climate change
  - Issue B3 Materiality of climate change
- B.C Relevance of Australia's NDC to climate-related assumptions
  - Issue B4 Is Australia's NDC a relevant variable?
  - Issue B5 Application as a singular proxy
  - Issue B6 Reasonableness of assumptions in applying Australia's NDC
  - Issue B7 Reasonableness of assumptions on the *trajectory* of Australia's future NDC's
- B.D Relevance of proportionate sectoral contributions
  - Issue B8 Relevance of proportionate sectoral contributions
- B.E Disclosure of climate-related assumptions
  - Issue B9 Materiality of climate-related variables, assumptions and methodologies
  - Issue B10 Disclosures where climate change has no material impact on financial position, performance or prospects

B.A Requirements of the regulatory regime

ISSUE B1: What are the obligations of reporting entities in relation to climate-related assumptions?

The parameters of what comprises reasonable and defensible accounting assumptions, and those assumptions that must be disclosed, are defined by the requirements of the regulatory regime, including legislation, regulatory guidance, and accounting standards and guidance. Key pieces of the legal architecture include: *Corporations Act 2001* (Cth), ASIC Regulatory Guide 247, Australian accounting standards, Australian audit and assurance standards, AASB/AUASB joint guidance *Climate-related and other emerging risks disclosures: assessing financial statement materiality using AASB/IASB Practice Statement 2* and, for listed entities – the Listing Rules and ASX Corporate Governance Code.

The Operating and Financial Review

Climate-related accounting assumptions may be required to be disclosed in the directors' report. For listed entities, the narrative analysis in the operating and financial review (OFR) in the directors' report must also contain information reasonably required to make an informed assessment of business strategies and prospects for future financial years. Disclosure is not required if it is likely to result in 'unreasonable prejudice' to the company, but if material is omitted under this exemption, the directors' report must say so.[29]

ASIC guidance indicates that it is likely to be misleading to describe future prospects without referring to material business risks that could adversely affect achievement of those future prospects.[30] Regulatory Guide 247, updated in August 2019, acknowledges that:

Climate change is a systemic risk that could have a material impact on the future financial position, performance or prospects of entities.[31]

The regulatory guidance advises directors to 'consider whether it would be worthwhile' disclosing additional information under the recommendations of the Task force on Climate-related Financial Disclosures (TCFD), 'where that information is not already required for the OFR'.[32]

Taken together, this represents unequivocal guidance from ASIC that climate risks may be material business risks required by law to be disclosed in the OFR, and that the TCFD recommendations may assist in making these mandatory disclosures.

While the OFR ordinarily falls outside the scope of the statutory audit, auditors should read the OFR to ensure there are no material inconsistencies with the financial statements, and that the OFR contains no material misstatements of fact.[33] More generally, climate risk disclosures in the OFR and any additional disclosures (for example, disclosures recommended by the TCFD or voluntary disclosures in a sustainability report) should not be inconsistent.[34]

The financial statements

Relevant climate-related assumptions may need to be disclosed in the notes to the financial statements. Financial statements and their notes must give a 'true and fair view' of the financial position and performance of the company.[35] The financial reports must comply with the accounting standards and financial statements must be audited.[36] 'True and fair' is not exhaustively defined in the *Corporations Act* or accounting standards and 'is used to indicate that the totality of information provided reflects the substance of the business's activity and position during the period'.[37]

[29] *Corporations Act*, s 299A(3). As per the Assumptions and qualifications on p 6 above, we have not considered the application of this exemption.
[30] ASIC RG 247 [247.62].
[31] ASIC RG 247 [247.66].
[32] ASIC RG 247 [247.66].
[33] ASIC RG 247 [247.37].
[34] ASIC RG 247 note to [247.66].
[35] *Corporations Act*, s 297.
[36] *Corporations Act*, ss 296, 301.
[37] PWC Audit Committee Guide p. 40.

The Australian Accounting Standards Board (AASB) and Auditing and Assurance Standards Board (AUASB) published in December 2018 (and then updated in April 2019) a joint guidance statement on the incorporation of climate-related financial risk assumptions into accounting estimates and materiality assessments[38] (AASB/AUASB Guidance).

The AASB/AUASB Guidance states that climate-related assumptions may be relevant to accounting estimates used in assessments such as:

- asset fair valuation and impairment arising from changes in cash flow projections or the level of risk in achieving cash flows;
- changes in useful life of assets as assets become physically unavailable or commercially obsolete earlier than expected or there is accelerated timing of replacement of assets;
- increased costs and/or reduced demand for products and services affecting impairment calculations and/or requiring recognition of provisions for onerous contracts or asset retirement obligations;
- potential provisions and contingent liabilities arising from fines or penalties; and
- changes in expected credit losses for loans and other financial assets.[39]

Reporting entities must disclose key sources of accounting estimation uncertainty that have a significant risk of resulting in a material adjustment to the carrying value of assets and liabilities *within the next financial year* in accordance with AASB 101 / IAS 1.

This includes assumptions about the future and the effects of uncertain future events on the financial statements, such as changes in prices affecting revenue or costs, the effect of technological innovation or obsolescence on inventories, and risk adjustments to cash flows or discount rates.[40] This requirement applies:

… to estimates that require management's most difficult, subjective or complex judgements. As the number of variables and assumptions affecting the possible future resolution of the uncertainties increases, those judgements become more subjective and complex, and the potential for a consequential material adjustment to the carrying amounts of assets and liabilities normally increases accordingly.[41]

Given the range and complexity of uncertainty of potential climate futures and market responses in the transition to net zero, including in the short term, it is foreseeable that assumptions relating to the impacts of climate change may have a significant risk of material adjustment to carrying values within the next financial year, in which case they must be disclosed under AASB 101 / IAS 1. High levels of uncertainty may warrant the disclosure of sensitivity analysis, such as scenario testing.[42]

Information is included or omitted from financial statements according to a materiality threshold.[43] Materiality judgments should serve investors' needs for decision-useful information and may lead to disclosure of additional information not specifically required by the accounting standards.

The AASB/AUASB Guidance sets out how qualitative external factors, such as the industry in which an entity operates or investor expectations, may make climate risks 'material' and warrant disclosures in the financial statements, regardless of their numerical impact.

Where the investor-focused materiality threshold is met, entities should make appropriate disclosures, even where the carrying amounts in the financial statements are not exposed to climate change-related risks. For example, this may require disclosure of climate risk assumptions used in impairment assessments even where a lack of quantitative impact would otherwise suggest that disclosure is not required under IAS 36 (ie. because there has been no impairment or there has been an impairment but it was unaffected by the climate risk assumptions). It may also indicate that disclosure of significant assumptions about climate risks is required even if there is no disclosure required under AASB 101 / IAS 1 key estimates disclosure (because there is no significant risk of material adjustment to carrying values in the next financial year).

[38] AASB/AUASB, *Climate-related and other emerging risks disclosures: assessing financial statement materiality using AASB/IASB Practice Statement 2* (April 2019).

[39] AASB/AUASB Guidance, p. 11; Deloitte, *A Closer Look: Climate Change* (2019).

[40] AASB 101 / IAS 1 [125]-[126].

[41] AASB 101 / IAS 1 [127].

[42] Deloitte, *A Closer Look: Climate Change* (2019) p. 9.

[43] AASB 101 / IAS 1, *Presentation of Financial Statements* (applies 1 January 2019-1 January 2020), p. 7, definition of 'material'. See also AASB/IASB, *Practice Statement 2 Making Materiality Judgments* [17]-[19].

Compliance with the AASB/AUASB Guidance is not 'mandatory'. However, the AASB and AUASB warn that they expect that directors, preparers and auditors will actively consider the materiality of relevant climate-related risks when preparing, approving and auditing financial statements. With narrative reports ordinarily falling beyond the scope of the financial audit engagement, the AASB/AUASB Guidance is particularly significant in its repositioning of climate-related risks squarely within the scope of external audit scrutiny.

The expectations stated in the Australian Guidance have also been referred to in guidance by international accounting standards setting body, the International Accounting Standards Board (IASB). For example, the IASB Chair discussed the AASB/AUASB Guidance at a speech at Cambridge University in April 2019, noting that:

as the effects of climate change become more prominent, they will become more and more visible in the financial statements.[44]

In November 2019, International Accounting Standards Board member Nick Anderson endorsed the AASB/AUASB Guidance, repeating many sections for an international audience. He affirmed that IFRS accounting standards address and require disclosure of climate risks, even though they do not explicitly refer to climate change or climate risks.[45]

Key takeaway

The requirements of the regulatory regime frame what are reasonable and defensible accounting estimate assumptions, and which assumptions must be disclosed. Financial statements must give a 'true and fair view' of the financial position and performance of the company. The narrative disclosures in the directors' report must contain information reasonably required to make an informed assessment of prospects for future financial years. Preparers of financial statements must disclose the key assumptions which impact on the impairment or fair value assessment of non-current assets and liabilities in the notes to the financial statements, and these assumptions (and the sources of estimation uncertainty) may need to be disclosed in the directors' report. Key pieces of the legal architecture include: *Corporations Act 2001* (Cth), ASIC Regulatory Guide 247, Australian accounting standards, Australian auditing and assurance standards, AASB/AUASB joint guidance *Climate-related and other emerging risks disclosures: assessing financial statement materiality using AASB/IASB Practice Statement 2*, and for listed entities – the Listing Rules and ASX Corporate Governance Code.

[44] Hans Hoogervorst, *IASB Chair on what sustainability reporting can and cannot achieve* (IASB, 2 April 2019).

[45] Nick Anderson, *IFRS Standards and climate-related disclosures* (IFRS Foundation, In Brief, November 2019).

B.A Requirements of the regulatory regime (continued)

ISSUE B2: Audit of climate-related assumptions - what is the role of auditors?

Fundamentally, auditors apply 'professional skepticism' to evaluate potential financial misstatements, whether reasonable assurance has been obtained, and whether fair presentation has been achieved. In doing so, auditors must assess the significant estimates and assumptions management has made in preparing the financial statements. This assessment is based on an understanding of the entity and its environment, including industry factors (including, amongst other factors, the competitive environment, technology, energy cost), regulatory factors, and objectives and strategies and related business risks.

ASA 315 specifies that the auditor shall identify and assess the risks of material misstatement at the financial report level; and the assertion level for disclosures.[46] In doing so, auditors must obtain an understanding of the entity and its environment, including relevant controls, and consider the disclosures (include the quantitative and qualitative aspects) in the financial report.[47] Disclosures about key sources of estimation uncertainty, including assumptions about the future, will have quantitative aspects and may be relevant when assessing the risks of material misstatement, depending on the circumstances of the entity.[48]

The auditor must determine whether any of these risks of material misstatement are significant risks considering, among other factors 'whether the risk is related to recent significant economic, accounting or other developments and, therefore, requires specific attention' and 'the degree of subjectivity in the measurement of financial information related to the risk, especially those measurements involving a wide range of measurement uncertainty'.[49] The audit standards further provide that:

Risks of material misstatement may be greater for significant judgemental matters that require the development of accounting estimates, arising from matters such as the following:

- *Accounting principles for accounting estimates or revenue recognition may be subject to differing interpretation.*
- *Required judgement may be subjective or complex, or require assumptions about the effects of future events, for example, judgement about fair value*.[50]

Noting the AASB/AUASB Guidance, the Chair of the AUASB Professor Roger Simnett has highlighted that climate change is a business risk that gives rise to a risk of material misstatement and should be assessed under ASA 315. Mr Simnett also emphasised that, when auditing impairments under ASA 540, auditors must test the reasonableness of the climate-related assumptions and ensure they are properly disclosed.[51]

Key takeaway

Auditors must test accounting estimate assumptions to make sure those assumptions are reasonable, and properly disclosed. This assessment must be based on the auditor's understanding of the entity and its environment. While an auditor *'does not have a responsibility to identify or assess all business risks because not all business risks give rise to risks of material misstatement*',[52] the AASB/AUASB Guidance makes clear that auditors should assess climate change risk as a source of potential material misstatement in the financial statements.

[46] ASA 315 *Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment*, [25]. The relevant international standard ISA 315 was revised in December 2019: see https://www.iaasb.org/publications/isa-315-revised-2019-identifying-and-assessing-risks-material-misstatement.

[47] ASA 315 [26].
[48] ASA 315 [A134].
[49] ASA 315 [27-28].
[50] ASA 315 [A142]

[51] CPA Australia, Podcast: Climate-related risk disclosures https://www.cpaaustralia.com.au/podcast/climate-related-risk-disclosures p. 8.
[52] ASA 315 [A39].

B.B Materiality of climate change

ISSUE B3: Is climate change a material issue? That is, is information on the relevance of climate change to financial performance, position and performance likely to be decision-useful for investors in relation to the reporting entity?

Omissions or misstatements of items are material if they could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances. The size or nature of the item, or a combination of both, could be the determining factor. In our opinion, the significant institutional support for the TCFD framework[53] (including from the Climate Action 100+ coalition of investors managing in excess of US$35 trillion in FUM)[54] alone makes it highly likely that climate change has evolved to become a material issue, relevant to the economic decisions made by reasonable investors. The nature of the information that will be decision-useful to investors on that material risk issue is considered further below.

It bears emphasis that the issue of materiality in a disclosure context is an entirely different question to the determination of whether climate change-related issues are likely to manifest in a material *impact* on the reporting entity. In other words, information regarding the entity's climate-related assumptions (or otherwise) may be material to investors even where it has been assessed by management as having no material impact on its financial performance, position or prospects. In fact, as recognised in the AASB/AUASB Guidance, the fact that a reporting entity has concluded that climate change is not in fact likely to materially impact on the entity's financial outcomes is of itself likely to be decision-useful for investors – particularly in 'high risk' industries. In short, this is because that conclusion, without more, may be taken to represent a range of fundamentally different states in relation to the entity, *viz*:

- the company has robust climate change risk mitigants in place, and therefore has a competitive advantage relative to its peers in exposure to climate-related financial risks or, conversely
- signal to the market that the company does not have a mature understanding of the issue, nor adequate risk management procedures.

Key takeaway

Omissions or misstatements of items are material if they could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances. The size or nature of the item, or a combination of both, could be the determining factor. The significant institutional support for the TCFD framework alone makes it highly likely that climate change has evolved to become a material issue, relevant to the economic decisions made by reasonable investors.

[53] See https://www.fsb-tcfd.org/tcfd-supporters/.

[54] See http://www.climateaction100.org/.

B.C The relevance of Australia's NDC to climate-related assumptions

ISSUE B4: Do the variables that should reasonably be considered in determining the impact of climate change on an entity's financial performance, position and prospects include Australia's NDC?

In general terms, the range of climate-related variables that may have a material impact on a given reporting entity's financial performance, position or prospects include:

- gradual onset and acute catastrophic environmental (or 'physical') risk impacts;
- economic transition risks that may bear on the continued competitiveness of a particular business in the transition to a low-carbon economy, including market shifts driven by developments in policy and regulation, technology or stakeholder preferences (from finance and insurance markets to community standards); and
- litigation.

As discussed below, Australia's NDC is:

- of some (although not primary) relevance to the manifestation of physical risk impacts;
- directly relevant to the trajectory of some (but not all) economic transition risks;
- indirectly relevant to litigation risk exposures, albeit the potential for such claims may not be material for all entities.

Preliminary comments: Australia's NDC and physical risk

It is arguable that, given Australia's own (scope 1 and 2) emissions contribution is not as significant in its relative contribution to climate change as that of larger emitters such as China, the United States, India and Europe, Australia's NDC is of relatively limited significance to assumptions of the physical impacts associated with climate change. Climate change is of course a complex, global issue manifesting in the cumulative impact of global emissions. However, it would be overly simplistic to rely upon Australia's domestic emissions consumption footprint as a hard ceiling on its contribution to the physical impacts of climate change. This is for a number of reasons.

First, a limited focus on Australia's scope 1 and 2 emissions leaves aside the sizeable global emissions contribution from scope 3 emissions – including those from the combustion of Australia's fossil fuel exports. Recent estimates place Australia's relative contribution to global emissions across all scopes as high as 11.9-17.4% (based on government and industry projections for fossil fuel exports to 2030).[55] That exposure may, in turn, be a material indicator of the scale of the Australian economy's stranded asset risks in the economic transition to a low carbon economy (discussed further below).

In addition, policies associated with Australia's NDC may materially impact on localised activities, that in turn drive localised climate impacts (eg. impacts on local rainfall patterns as a result of rainforest clearing).

Finally, the international diplomatic influence of Australian leadership (or otherwise) on emissions reduction is also significant in driving (or impeding) collective action by the international community.

Accordingly, whilst Australia's NDC is *relatively* limited in its impact on the manifestation of physical risks, it would be simplistic to maintain that is has *no* impact.

Preliminary comments: Australia's NDC and economic transition risk

Of course, Australia's NDC is not an end in itself. Rather, it is a signal of the direction of travel across the range of policy levers available to achieve the stated emissions reduction aim. The impact on a given entity will depend on the specific policies that are implemented in service of achieving that goal and, in turn, the response of market and societal actors to those policies.

[55] Michael Mazengarb, 'Australia to become the world's biggest dealer in fossil fuel emissions', Renew Economy, 8 July 2019, at https://reneweconomy.com.au/australia-to-become-worlds-biggest-dealer-in-fossil-fuel-emissions-71881/.

Part A above concludes that such policies are still being determined. Accordingly, reporting entities may need to imply specific corollaries from Australia's NDC, or else state that their assumption that there will be no relevant impacts on their business within relevant time horizons. The vast range of assumptions that may need to be considered, and implications are discussed further below.

Climate variables associated with the NDC… and beyond

Within the general categories of climate-related financial risk (and opportunity), the variables that may be relevant in determining the trajectory of change and its consequences for a reporting entity include the examples set out below. As a general proposition, Australia's NDC is likely to be a significant, *but not the only*, driver of the variables in blue*:

- warming pattern – that greenhouse gas emissions will cause a global average mean warming of 1.5°C, 2°C, 3°C, 4°C or 6°C by a relevant date – for example, 2050 or 2100;
- physical risks from acute and gradual onset impacts – the likely risks from extreme weather events and gradual onset changes resulting from the warming pattern that may be relevant to the entity's operations (such as sea level rise, precipitation patterns, drought and fresh water availability, increase in bushfire risk et cetera);
- net zero – whether the world will meet the Paris Agreement goal to reach net zero emissions by 2050 (informed by best available science, or an earlier or later date – see Issue A.7 in Part A above);
- access to key inputs – the continued availability and price of key inputs and resources, such as water;
- domestic carbon price* – the existence, price and coverage of a domestic carbon price or emissions trading scheme;
- global or trading partners' carbon price – the existence, price and coverage of a carbon price, emissions trading scheme or border carbon adjustments by Australia's trading partners or a global carbon price;
- tariff and trade levers – the use of emissions-related tariff and trade levers by Australia's trading partners;
- changes in prices of inputs or outputs* – changes in prices due to the physical impacts of climate change or market shifts in the transition to net zero;
- energy mix* – changes in fossil fuel, renewables and nuclear mix, including the relative competitiveness of renewable energy technology (demand side);
- fossil fuel regulations* – regulations on coal-fired power generation, the elimination of all fossil fuel subsidies, a ban on all fossil fuel exploration activities and the further development of existing resources and reserves, policies to phase-out and prematurely retire the existing stock of fossil fuel infrastructure that is incompatible with a specified carbon budget (supply side);
- renewable energy policies* – renewable energy targets, implementation of feed-in tariffs for solar PV, offshore and onshore wind and solar thermal (supply side);
- NETs, CDR, CCS and BECCS* – the development and deployment of negative emissions technology (NETs), carbon dioxide removal (CDR), including carbon capture and storage (CCR) and bioenergy plus carbon capture and storage (BECCS);
- domestic land use* – strict domestic restrictions on land-clearing, requirements for afforestation or rewilding, or significant market development in domestic land-based carbon offsets;
- global land use – strict restrictions on land-clearing, requirements for afforestation or rewilding, or significant market development in land-based carbon offsets, globally or by Australia's trading partners;
- sector standards* – strong performance standards in power and transport, building codes that all new buildings will be carbon neutral or negative, widespread roll-out of energy efficiency or consumer appliance standards;
- electric vehicles* – economic competitiveness of electric vehicle technologies compared with vehicles with internal combustion engines, heavy subsidisation of electric vehicle charging stations, or tax and congestion charge exemptions for electric vehicles;
- ICE regulations* – regulations on the sale or insurance of internal combustion engines;
- technology innovation and obsolescence – significant low emissions technology innovation and high emissions technology obsolescence;
- low-emissions R&D* – significant state-sponsored or industry-led research and development into low-emissions technology;

- cost and availability of **debt capital** – including climate-linked margin adjustments;
- cost and availability of **insurance**;
- changes in **community behaviour and consumer preferences**; and
- changes in **equity investor preferences**.

Of course, many of these variables are interdependent. For example, the relative ambition of Australia's NDC (and the policies that emanate directly from it) may in turn influence the potential for tariff and trade levers to be applied by trading partners with more ambitious emissions reduction targets.[56]

Key takeaway

The range of climate-related variables that may have a material impact on a given reporting entity's financial performance, position or prospects include gradual onset and acute catastrophic environmental (or 'physical') risk impacts, as well as economic transition risks arising from market shifts driven by developments in policy and regulation, technology or stakeholder preferences (from finance and insurance markets to community standards), and litigation. Australia's NDC provides a signal of the trajectory of Australia's progress towards its Paris Agreement targets – i.e. of the direction of travel across the range of federal policy levers available to achieve the stated emissions reduction aim. It is primarily relevant as one variable in determining a reporting entity's exposure to economic transition risk. However, there are also a number of other significant climate change-related variables that may be material to, if not determinative of, the impact on a reporting entity's financial position, performance and/or prospects.

[56] See for example keynote speech given by EU Commission President Ursula von der Leyen at the World Economic Forum, Davos, Switzerland (22 January 2020), <https://ec.europa.eu/commission/presscorner/detail/en/speech_20_102>.

B.C The relevance of Australia's NDC to climate-related assumptions (continued)

ISSUE B5: Are there circumstances in which the application of Australia's current NDC will be reasonable or unreasonable as a singular proxy for the trajectory of climate change impacts on a reporting entity?

Whilst Australia's NDC is of direct relevance to the trajectory of some economic transition risks, it is only one variable relevant to the scale and scope of those risks. Its importance as a variable will also vary depending on time horizons relevant to the reporting entity. In addition, it has some, albeit relatively limited, relevance to physical and litigation risks.

Accordingly, as a general proposition, it is likely that the application of Australia's NDC as a singular proxy for an entity's material climate change risk exposures will be *unreasonable* given the range of other relevant variables set out in the discussion of Issue B4, above. This will particularly be the case where:

- the absence of a prevailing sector-specific climate policy is relied upon as sole justification for a conclusion that climate risk has no material bearing on an entity's financial performance or prospects;
- the absence of a domestic carbon price is relied upon as sole justification for a conclusion that climate risk has no material bearing on an entity's financial performance or prospects;
- a significant proportion of the entity's outputs are exported (and thus subject to demand and variables driven by the NDCs, taxation regimes and trade policies of the countries to which they export); or
- entities are in an industry sector in which technology or stakeholder shifts are emerging as material pressures on demand or supply 'as usual' (e.g. the growth of plant-based dietary alternatives in the livestock sector driven, in part, by societal concerns regarding methane emissions and fresh-water intensity; the increasing competitiveness of renewable energy technologies and battery storage for the fossil fuel-based energy sector; the impact of vehicle electrification technologies on internal combustion engine supply chains).

Key takeaway

There are likely to be only limited circumstances in which it is reasonable to apply Australia's NDC (or the policies derived therefrom) in isolation as a singular proxy for a reporting entity's climate-related financial risks, on which to estimate the materiality of its impact on financial performance, position or prospects.

B.C The relevance of Australia's NDC to climate-related assumptions (continued)

ISSUE B6: Are there any assumptions in relation to the application of Australia's NDC or global climate policy that are clearly reasonable or unreasonable?

As outlined above, Australia's NDC will often be *a*, although unlikely to be *the*, variable relevant to the determination of a reporting entity's climate risk exposure. Therefore the reasonableness of the assumptions ascribed to its application should be tested.

In a general report such as this, in an area where relevant variables and assumptions will necessarily be entity-specific, it is difficult to draw 'bright lines' around assumptions that are likely to be reasonable or unreasonable in a particular case. The application of assumptions used in accounting estimates must be specific to the company's business and jurisdictions in which it (and its supply chain) operates, and the timing of relevant impacts. Even overarching assumptions, such as that the world will (or will not) meet the net zero emissions goal by 2050, require company-specific detail to construct relevant modelling assumptions, for example sectoral physical and economic transition risk exposures (both absolute and relative), the percentage emissions share of the company in that sector during the transition to net zero, cost curves, time horizons and the effect on discount rates et cetera.

However, it is clear that the following assumptions in relation to Australia's NDC and the significance of its impact on financial performance, position and prospects may tend towards the ends of the reasonable-unreasonable spectrum, or at least warrant explicit disclosure to the market as the basis on which the materiality of climate-related impacts on the entity have been estimated.

Unreasonable

- Singular reliance on Australia's NDC as a proxy for climate risk. See Issue B5 above.
- An assumption that global climate policies will not be tightened going forward. As set out in Issue A5 above, signatories to the Paris Agreement have obligations for increased ambition under the 'review and ratchet' mechanism. *This is not the same as an assumption that such policy commitments will be adequate to meet Paris goals.*
- A failure to consistently apply assumptions in relation to Australia's NDC (and climate change more broadly) across the relevant stress or central case. For example, any shadow price on carbon should correspond with the relevant trajectory of transition – it may be unreasonable to construct a low-carbon scenario that applies a very low shadow price on carbon going forward, *unless* is it also reasonable to assume that the transition will be driven entirely via non-regulatory interventions such as supply-side technological developments and demand-side shifts in consumption preferences.
- Combinations of assumptions that are inconsistent or contradictory in practice. For example, it would not be reasonable to assume that the global economy is likely to be able to delay the transition to net zero beyond 2050 *and* still achieve the well below 2°C target. These combined assumptions may *become* reasonable in future in the event of (for example) significant developments in the economics of industrial-scale negative emissions technologies, or scientific advancements that permit runaway warming feedback loops to be reversed.

Reasonable

- Assumptions consistent with future policy action to meet the Paris Agreement long term warming and net zero emissions goals. It is not inappropriate for companies to take governments at their word that they will (at least try to) fulfil the goals of the Paris Agreement. For example, to reach Paris Agreement temperature targets, various estimates are that global carbon prices will need to be between US$50-135 per tCO_2e by 2030, so a shadow carbon price within that range would be reasonable for that time period.[57]
- An assumption that Australia's future NDC will be more ambitious. Given the conclusion in Part A that Australia's current NDC is in the lower end of international ambition and future NDCs will require greater ambition to meet the goals of the Paris Agreement, it wold not be inappropriate for reporting entities to assume the trajectory at which Australia will increase its emissions reductions NDC (and associated policy responses) will be sharper going forward.

Key takeaway

Australia's NDC will often be *a* relevant variable, such that the reasonableness of the assumptions ascribed to its application should be tested. Relevant variables and assumptions will necessarily be entity-specific. Accordingly, it is difficult to draw 'bright lines' around assumptions that are likely to be reasonable or unreasonable in a general report. However, certain assumptions in relation to Australia's NDC and the significance of its impact on financial performance, position and prospects may tend towards the ends of the reasonable-unreasonable spectrum, or at least warrant explicit disclosure to the market as the basis on which materiality of climate-related impacts on the entity have been estimated.

[57] IPCC 2018. *Special Report on Global Warming of 1.5°C*, [2.5.2.1]; Carbon Pricing Leadership Coalition 2017. *Report of the High-Level Commission on Carbon Prices*, p. 3; World Bank Group 2019. *State and Trends of Carbon Pricing 2019*. p. 22.

The relevance of Australia's NDC to climate-related assumptions (continued)

ISSUE B7: What are 'reasonable assumptions' concerning the *trajectory* of Australia's future NDC's?

As noted above, in our opinion it is reasonable to assume that Australia will increase its emissions reduction ambitions under successive NDCs in order to comply with its Paris Agreement commitments to keep global warming to 'well below 2°C' above pre-industrial averages.

However, there may be a range of 'reasonable' trajectories or paths by which that end objective may be achieved. However, it bears note that (all else being equal), the longer the delay, the steeper the ambition under subsequent NDCs, and the more likely a disorderly transition to a low carbon economy will occur.

The reasonableness of assumptions in relation to a delayed transition would also need to be specifically tested to manage the risk of material underestimation of stranded asset risks, and consistency in the application of corollaries across the analysis considered.

Key takeaway

There may be a range of 'reasonable' trajectories or paths by which Australia's NDC (and policies derived therefrom) will increase in emissions reduction ambition over time. All else being equal, the longer the delay, the steeper the ambition under subsequent NDCs, and the more likely a disorderly transition to a low carbon economy.

B.D The relevance of proportionate sectoral contributions to Australia's NDC

ISSUE B8: What proportionate contribution to emissions reduction would be required from each sector of the Australian economy to meet reasonable projected NDC trajectories?

Australia has 'fair share' obligations under the Paris Agreement, but there is no fair share principle for sectors of the economy in the Paris Agreement, nor stipulated within Australia's NDC.

Australia's economy-wide emissions reduction target in its current NDC covers energy; industrial processes and product use; agriculture; land-use, land-use change and forestry; and waste. However, the NDC is completely silent as to how the burden of future emissions reductions will be shared by these sectors. Currently over 80% of Australia's emissions come from the electricity, mining, agriculture and manufacturing sectors.[58] The majority of mitigation policies implemented by the Australian, state and territory governments to date focus on the energy sector.[59]

In any event, where the global economy is now facing an emissions load requirement of net zero by the middle of the century, it is not the case that companies will be able to rely on their own contribution as a proportionate limit or guideline for their own emissions reduction burden. However, sectoral contributions may provide a useful basis on which to build an entity's assumptions regarding its exposure to future economic transition risks in general. They may also be a reasonable indicator of the likelihood and severity of the future policy levers that may be applied by the federal government in pursuit of Australia's future ratcheted NDC targets.

Key takeaway

There is no fair share principle for industry sectors in the Paris Agreement, nor specified in Australia's current NDC. The NDC is completely open as to how the burden of future emissions reductions will be shared by sectors of the Australian economy. Given the requirement for net zero, companies will not be able to rely on their own contribution as a proportionate limit or guideline for their own emissions reduction burden. However, sectoral contributions may provide a useful basis for assumptions on exposure to future economic transition risks, or as a reasonable indicator of policy levers to implement Australia's future NDCs.

[58] Australian Government Climate Change Authority, *Industry Action on Climate Change Mitigation in Australia* (8 March 2019) p. 2 http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/Industry%20fact%20sheet.pdf (data for 2016-17).

[59] Climate Change Authority, http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/Australian%20climate%20change%20policies%20-%20Fact%20sheet.pdf.

B.E Disclosure of climate-related assumptions

ISSUE B9: Are the reporting entity's variables, assumptions and methodologies in relation to the estimation of impacts on financial position, performance and prospects likely to be material from a disclosure perspective?

As outlined in Issue B3 above, it is clear that climate change has evolved to become a material issue for investors. Disclosures on corporate exposures to the impacts of climate change, and strategies to manage those risks and opportunities, are decision-useful for mainstream investors. Whilst there are no mandatory standards for the nature of the information that must be disclosed, it is also clear that investor and regulator demands – from those of the US $40 trillion+ FUM Climate Action 100+, to ASIC, APRA and the Australian Accounting– and Auditing & Assurance-Standards Boards - are coalescing around the recommendations of the Taskforce on Climate-related Financial Disclosures.

The transition trajectory assumed by a reporting entity will in turn be a – if not *the* – significant variable in relevant disclosures. The relevance of Australia's NDC, and how it will translate into federal policy platforms that impact on the entity, will in turn be a significant variable in the calculation of that trajectory.

The trajectory is not an end in itself, but a framework from which financial report preparers can develop forecasts or scenario hypotheticals to inform their understanding of their future business environment. That 'view of the world' is, in turn, a central input to both corporate forecasts and planning, and accounting estimates, particularly fair value assessments and impairments. If the economic context is one in which historical market norms – even of the most recent past – are recognised as being unlikely to prevail into the future, unchanged assumptions are likely to become increasingly unfit for purpose.

The point at which, and entities for which, assumptions that were previously reasonable become unreasonable will of course vary depending on the particular circumstances.

However, the significance and dynamics of this issue suggests two conclusions:

- the 'central case' trajectory upon which an entity bases its accounting estimates, and planning and investment decisions, will be a matter of decision-relevance for investors and thus warrants disclosure, no matter what trajectory that may be; and
- it will be incumbent upon auditors to continue to test whether the assumptions remain fit-for-purpose in an extremely dynamic market landscape.

The breadth of potential climate futures, and the number of uncertainties and variables at play, suggests that there is an accordant breadth of 'reasonable' assumptions. In turn, this suggests that there is significant potential for the application of alternative, yet also reasonable, assumptions to lead to a materially different impact on financial performance, position or prospects.

Taken together, these propositions are highly suggestive that the trajectory assumed by the reporting entity, the variables upon which it is calculated and the reasonable assumptions for the values given to those variables in the entity's 'central case', are likely to be of increasing interest to investor decision making – and thus increasingly likely to warrant specific disclosure. Assumptions regarding the impact of Australia's NDC on that trajectory may, in turn, be a significant variable.

Take, for example, a hypothetical stress test for a below 2°C scenario for a company in an emissions-intensive industry. A bare disclosure that the reporting entity has applied a below 2°C scenario may not, in and of itself, be decision-useful for investors. Indeed, without more, it may actually convey a misleading view of the company's resilience and prospects in such a scenario. This is because one possible trajectory for a below 2°C scenario based on Australia's current NDC (and the policies on the basis thereof) may be 'business as usual' emissions until 2028, followed by almost immediate and absolute decarbonisation of the economy. Such a trajectory would, in turn, involve assumptions that include minimal short-medium term emissions regulation or pricing (either domestically or, for export-facing industries, internationally), minimal short-medium term supply-side technological substitution, minimal short-medium term shifts in demand-driven preferences, followed by a single medium term economic shock point. The application of such a trajectory may be particularly favourable for a reporting entity seeking to demonstrate that it has limited stranded asset exposures over its five year forecast outlooks.

However, such assumptions may be considered unrealistic by some investors. They may also yield materially different asset valuations (and/or impairments) than a below 2°C scenario that assumes a more gradual emissions reduction pathway, or an pathway with multiple disorderly shocks, starting earlier and variably graduated. Accordingly, both the trajectory, and the assumptions applied to each variable within that trajectory pathway, are likely to be decision-useful for investors and warrant disclosure.

Key takeaway

The breadth of potential climate futures, and the number of uncertainties and variables at play, suggests that there is an accordant breadth of 'reasonable' assumptions. In turn, this suggests that there is significant potential for the application of alternative, yet also reasonable, assumptions to lead to a materially different impact on financial performance, position or prospects.

Taken together, these propositions are highly suggestive that the trajectory assumed by the reporting entity, the variables upon which it is calculated, and the reasonable assumptions for the values given to those variables in the entity's 'central case', are likely to be of increasing interest to investor decision making – and thus increasingly likely to warrant specific disclosure. Assumptions regarding the impact of Australia's NDC on that trajectory may, in turn, be a significant variable.

B.E Disclosure of climate-related assumptions (continued)

ISSUE B10: If a reporting entity considers that climate change has no material impact on its reported financial position, performance or prospects, should that conclusion and its underlying assumptions themselves be disclosed?

As outlined in Issues B5 and B6 above, it may be reasonable for an entity to rely on Australia's current NDC (and associated policies) as the basis for an assumption that either:

- Australia will not comply with its Paris Agreement commitments (i.e. Australia will not in fact restrict domestic emissions to net zero in order to proportionally contribute to limiting warming to 'well below 2°C'); or
- the trajectory of domestic policy action will be significantly delayed (and therefore necessarily sharpen in its correction in the medium term).

However, such assumptions are likely to be increasingly material for investors due to the significance of their corollaries and consequences. Those corollaries include that either:

- Australia will not comply with a public international commitment; or
- markets will undergo a disruptive and disorderly transition (albeit potentially beyond its current investment horizons).

Accordingly, reliance on such assumptions may warrant disclosure.

Similarly, given the increasing mainstream investor recognition of the scope and dynamics of financial risks associated with climate change, it is becoming increasingly decision-useful for investors to be able to understand the basis for any conclusion that climate change will *not* materially impact on the company's financial position performance or prospects.

In particular, investors may wish to understand issues such as:

- Why has the entity reached that conclusion?
- Is that conclusion based on a singular assumption regarding Australia's current NDC?
- Have other relevant climate related risk drivers and variables been adequately considered?
- Does the company enjoy, and can it demonstrate, a position very low on the industry cost curve, or superior quality product?
- Does the entity subscribe to a Malthusian economic philosophy that there will be a technological fix? If so, what is the entity doing to position itself to take advantage of that fix (e.g. investment in relevant R&D)?
- Does the entity deny climate science, or believe that it is materially overstated in its potential impacts? If so, why and in what regard?

Key takeaway

Even if it is reasonable for an entity to rely on the current NDC (and associated policies) as the basis of an assumption that Australia will not comply with its Paris Agreement commitments or that the trajectory of domestic policy action will be significantly delayed, such assumptions are likely to be increasingly material for investors and require disclosure.

PART C

Conclusions and recommendations

Conclusions and recommendations

Information regarding the impact of climate change on a reporting entity's financial position, performance and prospects is increasingly decision-useful to mainstream investors.

ASIC has updated its Regulatory Guidance on OFRs to specifically contemplate stress-testing and scenario-planning of climate-related financial risks, on a forward-looking basis.

However, reporting expectations are no longer limited to back-end narrative disclosures. Recent guidance from the AASB/AUASB, and echoed by the IASB, makes clear that climate change-related assumptions may be material to the recognition and measurement of values stated in the financial statements.

Accordingly, the potential for climate-related variables to materially impact on accounting estimates should be considered, and the reasonableness of relevant assumptions tested, as part of the financial audit process.

Both the nature of the relevant impacts, and the variables and assumptions on which they are based, may be material matters warranting disclosure in the Notes to the financial statements, even where there is no numerical impact on carrying values.

Relevant climate-related variables may include, but are unlikely to be limited to, policies pursuant to Australia's Paris Agreement NDC.

Australia's current NDC, with its 26-28% emissions reduction target (vs 2005 levels) by 2030, is relatively low by international standards. The Australian government's proposal to use Kyoto Protocol 'carryover credits' to reduce the required emissions reductions to meet the 2030 target was met with significant opposition from other parties to the Paris Agreement at COP25. It is reasonable to assume that Australia's emissions reduction targets will significantly increase under subsequent NDCs, in order to comply with our commitments as a party to the Paris Agreement.

Recommendations

Reporting entities, directors, accountants and auditors must develop the skills and expertise to integrate climate change assumptions into accounting estimates and disclosures, including but not limited to reasonable assumptions related to Australia's NDC regarding economic transition risk.

To start this journey, preparers and auditors of financial statements should ask:

- What is the central case? Has it been consistently applied across the financial statements?
- Is that central case robust?
- Material variables: What variables should reasonably be considered in determining the impact or relevance of the relevant matter on the entity?
- Reasonableness of assumptions: Are the assumptions applied in considering each of those variables reasonable?
- Material disclosure: Which, if any, of the variables and assumptions should themselves be disclosed due to their decision-usefulness for investors? *The application of alternative, yet also reasonable, assumptions may lead to a materially different impact on financial performance, position or prospects may warrant specific disclosure.*
- Is the client's conclusion that climate risk does not have a material impact on the relevant measurement based on reasonable assumptions?
- Should a conclusion that climate risk is not material itself be disclosed? *This contemplated by the AASB/AUASB Guidance and the IASB.*
- In all cases, what information regarding the underlying assumptions be disclosed? *The range of variables and uncertainty implies assumptions themselves are highly decision-useful.*

To build internal capability and consistency across audit advice, auditors should also ask:

- How equipped are we to test the reasonableness of assumptions underlying financial statement accounting estimates? What more should we do to reinforce preparer or audit expertise in this area?
- What is our 'house view' on the form and content that the Notes should take?

- Will it be sufficient to disclose that 'a case' has been assumed and that others exist, without disclosing the nature of the underlying assumptions?
- When will we recommend that clients include a qualitative or quantitative 'sensitivity analysis'?
- What is our 'house view' on those variables that are likely to be materially relevant in assessing a climate-related financial impact?
- What is our 'house view' on the range of reasonable assumptions?
- What if a client in a high-risk sector has not undertaken stress-testing and scenario planning? What are our 'house assumptions' on climate change to test whether the stated accounting estimate is valid?
- How will our risk management processes in this area impact on our professional indemnity insurances going forward?

The role for CPA Australia

The reasonableness of climate-related assumptions and required disclosures will be unique to the particular case and change over time. As with both the physical impacts of climate change and potential economic transition pathways, this change may not be non-linear.

We suggest that accounting bodies such as CPA Australia are well placed to play a pivotal role in shaping how the accounting and audit professions respond to the complex challenges posed by climate change. This could include by:

- facilitating training and capacity building;
- influencing and informing climate-related developments in corporate reporting;
- engaging in policy debate in this critical area of economic transformation; and
- providing appropriate influence on both company directors and policymakers.

About the authors

University of Melbourne

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world. The Melbourne Law School at the University of Melbourne is the nation's oldest, established in 1857. It is consistently ranked as Australia's number 1 law school and in the top 15 law schools worldwide. The Law School is an all-graduate faculty offering excellent education opportunities across its Juris Doctor, Melbourne Law Masters and Research Higher Degree programs. Melbourne Law School's vibrant and active community comprises internationally renowned teaching staff, a strong global alumni network, dedicated mentors, visiting scholars from around the world, leading research centres and institutions, as well as many partner international organisations.

Commonwealth Climate and Law Initiative

The Commonwealth Climate and Law Initiative (CCLI) is a research, education, and outreach project focused on the intersection of climate change and companies law. The CCLI examines the legal basis for directors, officers and trustees to take account of physical climate change risk and societal responses to climate change under existing laws and provides practical tools to improve climate risk governance and disclosure. The CCLI leverages the inter-disciplinary and cross-jurisdictional perspectives provided by its global experts from academia and the legal, accountancy, business and scientific communities. With footprints in Canada, Australia, South Africa and the UK, the CCLI is now expanding into strategically significant common law financial centres of Asia.

MinterEllison

MinterEllison is an international law firm, headquartered in Australia and regarded as one of the Asia-Pacific's premier law firms. Its teams collaborate across Australia, New Zealand, Asia and the UK to deliver exceptional outcomes.

MinterEllison's Climate Risk Governance team is an integral part of our Responsible Business practice and leads the market in advising on climate change through a corporate law lens. The unique multi-disciplinary team of lawyers and auditors works closely with scientists, economists, financiers and international regulators to ensure that clients have the benefit of global thought leadership in this dynamic risk area. MinterEllison's subject matter expertise is combined with deep sectoral experience to provide an unrivalled commercial lens across climate-related risk, governance and disclosure law issues.