Submission

Climate Change Authority's Special Review on Australia's future emissions reductions targets

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KEY POINTS

+ The Climate Institute supports the Authority's previous recommendation that Australia should set a coordinated set of short-term targets and long-term goals, based on a 2010-2050 carbon budget consistent with a fair contribution to limiting warming to less than 2°C above pre-industrial levels ("2°C goal"). Avoiding this level of climate change remains squarely in Australia's national interest.

+ Carbon budgets, in particular, remain central to stable and effective policy development. The development and use of carbon budgets should be guided by risk management principles which give at least a 75 per cent chance achieving the 2°C goal.

+ Australia's climate change policy is suffering from a lack of a long-term view. To meet the 2°C goal, the ultimate destination or strategic objective of climate policy is the progressive phase-out of emissions to net zero levels (and below), or 'decarbonisation'. Ultimately, only a policy with a decarbonisation strategy for achieving net zero emissions and below will provide a stable and sustainable platform for long term investment.

+ The Climate Change Authority should be clear in distinguishing national targets from any policy-related sectoral impacts. The level of Australia's post-2020 target is not the determinant of its net cost or benefit, or of its impact, on specific economic sectors.

+ The Authority should explicitly consider the economic, environmental and social risks associated with meeting only the minimum 5 per cent target, including being out of step with comparable countries, and requiring a more disruptive effort to later meet a 2°C goal trajectory.

+ The Lima Call for Climate Action outlines key benchmarks and expectations for new post-2020 contributions. By setting a high standard in the communication of its own target, Australia will be in a stronger position to expect the same of other nations. This will be particularly important in the context of encouraging ambitious, transparent and accountable actions from emerging economies. Specifically:

    - An approach that does not see a significant acceleration of emissions reductions is unlikely to be credible internationally because 'progression' from previous targets requires stepping up the pace of global efforts, not just committing to a more an ambitious target in absolute terms. Progression through stepping up effort, for example, can be seen in the targets that have already been indicated by the USA, China, and the European Union.

    - Nationally determined commitments consistent with 2°C are the only way Australia's national interest will be achieved. It is therefore in the national interest that countries justifying and advancing their targets with reference to 2°C becomes the norm, not the exception, through time. This will require Australia itself to justify and implement targets consistent with this goal.

INTRODUCTION

The Climate Institute welcomes this opportunity to make a submission to the Climate Change Authority's Special Review on Australia's future emissions reductions targets.

This submission focuses on Australia's international undertakings under the United Nation's Framework on Climate Change (UNFCCC) and the implications for future targets. The terms of reference for the Authority's review explicitly require these to be considered. Also required is consideration of Article 2 of the UNFCCC. The latter has been translated to international action to limit global warming to less than two degrees Celsius ("2°C goal") above pre-industrial levels. As the Intergenerational Report (2015) highlights: "*The international community has agreed to aim to keep global warming to a less than 2° C increase above pre-industrial climate levels.*"[1]

However, up front, The Climate Institute would like also to reiterate three key points:

1. Carbon budgets remain central to stable and effective policy development
2. Australian climate change policy is suffering from a lack of a long-term view
3. The Climate Change Authority should be clear in distinguishing national targets from any policy-related sectoral impacts

Carbon budgets remain central to stable and effective policy development

Many of the recommendations made by the Authority in its Targets and Progress Review (2014)[2] remain relevant today. In particular, The Climate Institute supports the previous recommendation that Australia should set a coordinated set of short-term targets and long-term goals, based on a 2010-2050 carbon budget consistent with a fair contribution to limiting warming to less than 2°C above pre-industrial levels. Avoiding this level of climate change remains squarely in Australia's national interest.

The development and use of carbon budgets should be guided by risk management principles which give at least a 75 per cent chance achieving the 2°C goal.

Since the release of the Authority's Targets and Progress Review, The Climate Institute has published a paper on Australia's Intended Nationally determined Contribution (INDC) which details our views on how Australia's future emissions reductions targets should be defined.[3] This is attached to this submission and mirrors the approaches previously recommended by The Institute[4-5] and that used by the Authority.

This paper not only addresses the scale of emissions reductions commitments but also its form. For example, like separate Authority research[6], The Climate Institute concludes that converting five-year commitment periods and short-term targets into the carbon budgets would provide the most robust, accountable, and flexible policy framework.

Overall the Institute concluded that, to keep within a carbon budget[7] that gives a high chance of avoiding 2°C, Australia should:

+ **Make a clear minimum commitment to limit emissions economy-wide to around 40 per cent below 2000 levels by 2025**: This is broadly consistent with the emission pathway previously recommended by the Climate Change Authority that was based on a carbon budget giving very likely chance of avoiding 2°C. This was emissions reductions of 60 per cent by 2030.

+ **Lay out an indicative emission pathway to 2035**: To help businesses make stable investment decisions, the government should define a broad emission trajectory to 2035 that would reduce emissions by 65-75 per cent on 2000 levels by that date.

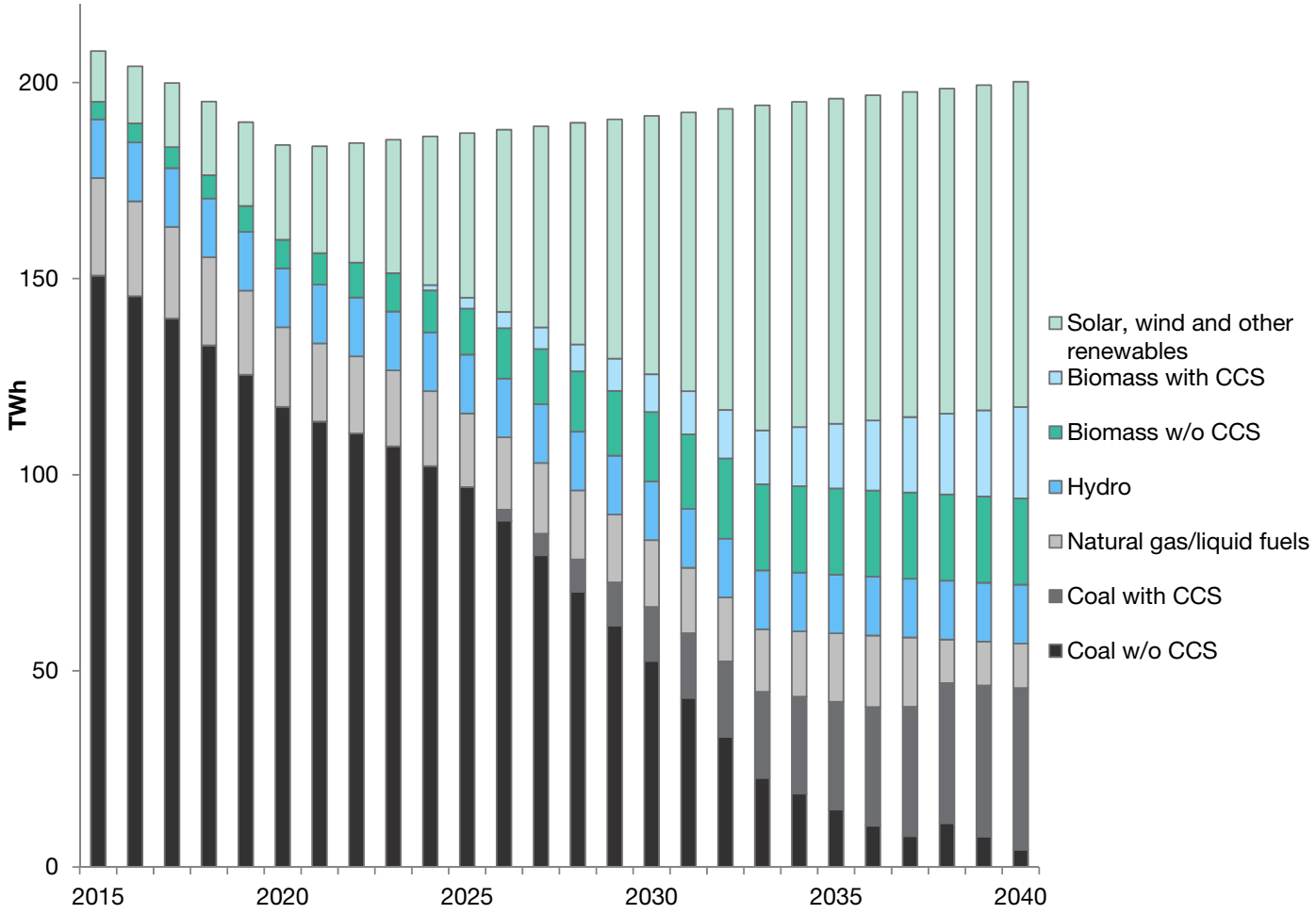
+ **Make a clear commitment to a date when Australia's economy will be decarbonised**: Beyond providing long-term direction to climate policy and investment decisions, decarbonisation goals – the point at which economies achieve zero net emissions – are gaining support as a way of better communicating the ultimate objectives of climate policy. Australia's decarbonisation goal should be to achieve a net zero-emissions economy between 2040 and 2050.

Australia's climate change policy is suffering from a lack of a long-term view

The ultimate destination or strategic objective of climate policy is to progressively phase out emissions to net zero levels (and below). This is termed 'decarbonisation'. The OECD, World Bank and latest IPCC report have warned that avoiding irreversible and severe climate change impacts requires the global economy to be decarbonised before the end of the century.[8-10] This requires energy systems, particularly electricity, to decarbonise well before then (see Figure 1 for example).[11-12] The financial sector is also increasingly aware of the risks of 'stranded assets' resulting from both global decarbonisation efforts and the physical impacts of climate change.[13-14]

Australia currently lacks a clear strategy to manage the risks and opportunities of a decarbonised world. Discussion around Australia's post-2020 emission targets is an opportunity to look beyond short-term politics and examine the ultimate objectives of national climate change policy. This conversation needs to start from Australia's long-term national interest in becoming a climate-resilient society, and an economy able to prosper in a decarbonising world. From this point, it becomes clear that stable and effective policy needs to be relevant not just for the next five years, but for the next 50 years. Failure to deliver this risks institutionalising investment uncertainty, and a much more rapid – and therefore more disruptive – change at a later date. Ultimately the only policy that can remain stable over the long term is one that drives the decarbonisation of the economy.

Figure 1. Australia's electricity mix in a 2°C economy. *This is based on the central policy scenario in recent modelling by Jacobs for The Climate Institute of the Australian economy operating within a national carbon budget. This illustrates the transformation of the electricity sector from traditional coal-fired generation to largely zero-emission generation by 2040. (CCS = carbon, capture and storage.)*[15]



The Climate Change Authority should be clear in distinguishing national targets from any policy-related sectoral impacts

The level of Australia's post-2020 target is not the determinant of its net cost or benefit, nor of its impact on specific economic sectors. These are largely determined by the quality of the domestic policies and measures put in place to achieve the target. Impacts of these policies may be managed by, for example, providing access to international carbon markets or assistance for certain sectors.

All economic analysis to date has shown Australia can reduce national emissions significantly while at the same time ensuring strong economic growth and prosperity.[16]

As previous governments have done, there is a very significant risk is that the government will define Australia's emission targets based on a narrow set of sectoral interests rather than the national interest. Addressing any real or perceived competitiveness concerns raised by trade exposed industries is best addressed through the formulation of domestic policy, not the weakening of national targets. Other countries have been successful in setting ambitious national emission targets and managing competitiveness issues through well-designed domestic policy. There is no reason Australia cannot do the same.

CONSISTENCY WITH AUSTRALIA'S SHORT-TERM INTERNATIONAL UNDERTAKINGS

Australia has made a range of international undertakings under the Cancun Agreements, Kyoto Protocol, and, most recently, the Lima Call for Climate Action, which are central to any deliberation of Australia's future emissions targets.

Specifically, under the Cancun Agreements and Kyoto Protocol, Australia has agreed, with bipartisan support, to contribute to international action towards the 2°C goal, and to reduce emissions by 5-15 or 25 per cent below 2000 levels by 2020.[17] Higher targets are subject to specific conditions that Australia has communicated to the international community. The Climate Institute agrees with the Authority that the conditions to move to higher targets than the minimum 5 per cent have been met.

The Authority should explicitly consider the economic, environmental and social risks associated with meeting only the minimum 5 per cent target, including being out of step with comparable countries, and requiring a more disruptive effort to later meet a 2°C goal trajectory.

For example, to achieve the current minimum unconditional target of 5 per cent below 2000 levels by 2020, Australia needs to reduce emissions (from 2010) at around 0.5 per cent per year. If Australia does not increase ambition before 2020, achieving an effective 2025 target would require emissions reductions of around 9 per cent a year to 2025 (see Table 1.).

If Australia strengthens its 2020 target to 15 per cent[18] in line with the Authority's previous recommendations, it could achieve an effective 2025 target by reducing emissions by around 6 per cent a year to 2025.

If Australia were to match the United States' post-2020 offer of a 26-28 per cent cut from 2005 levels this would translate to an Australian 2025 target of around 30 per cent below 2000 levels. Achieving this would require annual emission reductions between 2020 and 2025 of 6 per cent (from the minimum 2020 target of 5 per cent) or 3.5 per cent (from a 2020 target of 15 per cent)

Overall, matching a 2°C goal target from a more credible 2020 target requires a similar rate of emissions reductions to matching the USA's initial post-2020 target after reducing emissions by 5 per cent by 2020.

Table 1. Average annual emissions reductions required to achieve certain targets.

	Average annual rate of emissions reductions required to meet target
Change in emissions from 2010 to 2020	
Change from 2010 to 5% by 2020 target	0.5% per annum
Change from 2010 to 15% by 2020 target	1.5% per annum
2025 targets consistent 2°C goal	
Start at 5% below 2000 in 2020	9% per annum
Start at 15% below 2000 in 2020	6.5% per annum
2025 targets that match initial USA target	
Start at 5% below 2000 in 2020	6% per annum
Start at 15% below 2000 in 2020	3.5% per annum

Notes: Percentages have been rounded to the nearest 0.5 per cent. 2025 target consistent with 2°C goal is defined as 40 per cent reductions on 2000 levels by 2025. Initial USA is based on the mid-range 2025 target converted to 2000 levels (29 per cent on 2000 levels by 2025).

CONSISTENCY WITH THE LIMA CALL FOR CLIMATE ACTION

The decision made at the Lima meeting of the UNFCCC on the upfront information countries should provide when they advance their INDCs early this year should also be central to deliberations around future emissions reductions target.

The Lima Call for Climate Action,[19] agreed by over 190 countries including Australia, outlines the international community's key benchmarks and expectations for new post-2020 contributions. By setting a high standard in the communication of its own INDC, Australia will be in a stronger position to expect the same of other nations. This will be particularly important in the context of encouraging ambitious, transparent and accountable actions from emerging economies. Paragraphs 10 and 14 are particularly important.

Paragraph 10: A progression beyond current targets

Paragraph 10 of the Lima Call for Climate Action states: "…*each Party's intended nationally determined contribution towards achieving the objective of the Convention as set out in its Article 2 will represent a progression beyond the current undertaking of that Party*".

The key word in this paragraph is 'progression'. This is broadly interpreted internationally to mean each progressive target that a country takes on will be more ambitious than its last target and no backsliding on commitments will be undertaken.[20]

The best interpretation of progression is that a target should represent a step up in the rate of a country's decarbonisation effort, not just a higher number in absolute terms. It is not just about absolute emissions reductions but the speed at which they take place. This is because progression is clearly indicated to be in service of the 2°C goal (Article 2 of the UNFCCC). Achieving this goal requires a significant acceleration of emissions reductions efforts beyond 2020, so a country's target will be progressive if it raises the rate of its emissions reductions to support this goal.

An alternative and less justifiable interpretation of progression might consider absolute terms only. For example, if Australia took on a 7 per cent reduction target in 2025, this would be a higher number than the minimum 5 per cent 2020 target in absolute terms, but would not accelerate the rate of emissions reductions (Australia is reducing emissions by about 0.5 per cent per year, if it continued this rate after 2020 it would meet a 7 per cent target in 2025). The Government could argue that this is stronger that the current minimum 2020 emissions reduction target, and therefore fulfils the requirement for progression, even though it does not accelerate emissions reductions.

This latter approach is unlikely to be credible internationally. Other advanced economies comparable with Australia are not only increasing their absolute emissions reductions but also the rate at which these are occurring.

Progression through stepping up effort, for example, can be seen the targets that have already been indicated by the USA, European Union, Norway and Switzerland, which on average will increase their annual rate of from less than 2 per cent per year between 2010 and 2020 to around 3 per cent a year from 2020 to 2025. While China, as an emerging economy, is not directly comparable with Australia, its initial post-2020 target also requires a substantial acceleration of decarbonisation, so meets the better interpretation of the progression requirement.[21]

Paragraph 14: Upfront information

Paragraph 14 of the Lima Call for Climate Action states that countries agree: " …*that the information to be provided by Parties communicating their intended nationally determined contributions, in order to facilitate clarity, transparency and understanding, may include, … how the Party considers that its intended nationally determined contribution is fair and ambitious, in light of its national circumstances, and how it contributes towards achieving the objective of the Convention as set out in its Article 2.*"[22]

As countries have begun to outline their indicative post-2020 targets[23] they have communicated how they view them as a fair contribution towards the 2°C goal. The EU, for example, states its target: "…*is in line with the EU objective [of limiting warming to below 2° C], in the context of necessary reductions according to the IPCC by developed countries as a group, to reduce its emissions by 80-95% by 2050 compared to 1990. Furthermore, it is consistent with the need for at least halving global emissions by 2050 compared to 1990.*"

Similarly, Switzerland has stated that its: "…*commitment to reduce emissions by 50 percent by 2030 relative to 1990 levels puts Switzerland on an*

emission development pathway that corresponds with the recommendations of the IPCC AR5 to reduce global emissions by minus 40 to 70 percent by 2050 below 2010 levels."

Australia will be expected to articulate how its target is "a fair and ambitious" contribution to the 2°C goal. As the Authority has noted: "*Australia's post-2020 contribution is expected to be well explained and accompanied by relevant information to enable comparisons across countries: this will promote transparency, but the most critical issue will be the extent to which Australia's target is judged to be a fair contribution to support the collective 2 degree goal.*"[24]

The post-2020 international framework will very likely involve countries advancing self-selected targets and contributions; review of these commitments by the international community; the subsequent inscription of targets in the new agreement; and the development of international transparency provisions for measurement, reporting and verification.

In this context, Australia's national interest will be achieved only if nationally determined commitments are consistent with the 2°C goal. It is therefore in the national interest that countries' selection and justification of their targets against the 2°C goal becomes the norm, not the exception, through time. This requires Australia itself to justify and implement targets consistent with this goal.

COMPARING NATIONAL TARGETS

Rightly or wrongly, when countries start to announce post-2020 emission targets there will be a tendency for policy makers, business and the media to seek to compare these targets using a range of indicators.

No single indicator can give a complete picture of countries' comparable efforts.[25] A range of indicators and normative judgments are needed to fully compare national actions and their implications.

Documents obtained under FOI by The Climate Institute show that the Government used this approach ahead of the Copenhagen climate talks in 2009.[26] The Department chose a number of indicators, for example percentage reduction from 2008-2012 Kyoto targets, but also factored in Australia's high vulnerability to climate change impacts when making judgements on our appropriate target.

Risks in country comparisons

The first central risk in comparing countries is that no countries are the same. A key consideration is a country's economic capacity to reduce emissions. The Authority, for example, previously explicitly considered income per capita and the UN's Human Development Index in comparing Australia's targets with others.[27]

The second central risk in comparing countries is that nations and interest groups tend to choose the indicators that best suit their interests.

For example, percentage targets with a more recent base year allow countries to emphasise recent emission reductions (and ignore earlier emission increases), while targets with an earlier base year reward countries for earlier emission reductions (and de-emphasise more recent emission increases or stagnation).

The third central risk is related to the second as indicators are often selected that are based on:

+ variables that are not observable in the real world;
+ variables not easily replicable by third parties, and/or based on highly contestable assumptions.

Avoid using business as usual change and economic cost estimates

A prime example of this third risk is the use of percentage reductions below business as usual (BAU) projections and related changes in relative economic costs across countries to compare and justify targets.

A reduction below BAU is the principal metric used by Australia in justifying its minimum 5 per cent by 2020 reductions target in international forums.[28]

The basic problem with these two approaches is that they require the construction of a complex counterfactual scenario that will almost always be wrong.[29] Deciding what falls within the BAU scenario and what is external climate policy involves contestable judgments, while predictions of many key variables within the counterfactual are likely to become less and less accurate over time.

For example, forecasts of domestic energy demand have become much more difficult as energy demand growth decouples from economic growth, consumer choices change and export markets evolve. Successive failures to forecast the decline in Australia's electricity demand (Figure 2, below) are indicative of the risks of relying on projections of a single indicator, let alone a combination of the factors influencing the future direction of the entire economy.

Changes in government policy can also make achieving targets more difficult or easier. For example, since it came into office the Government has made policy decisions that will increase emissions. Prime examples of this are the repeal of the carbon limit and pricing mechanism, and the review of the Renewable Energy Target. Australia's removal of climate policy initiatives means BAU projections will be inflated. If Australia uses BAU projections to justify its target in this context it would be asking the international community to reward it for backsliding on domestic action.

BAU projections are also affected by government decisions not directly related to climate change that also inflate national emissions. An ongoing fossil fuel subsidy[30] and/or an energy policy that continues to promote unabated fossil fuel expansion are examples of these kinds of measures. Again, these measures will inflate BAU emissions and it is unclear why Australia should be rewarded to taking action that is inconsistent with an effective global response to climate change.

Comparing changes in relative economic costs across countries faces very similar challenges. For a start, these analyses rely on BAU projections to define the aggregate economic costs. Also, history has shown that these models tend to exaggerate the costs of policy to reduce emissions, while failing to capture the broader

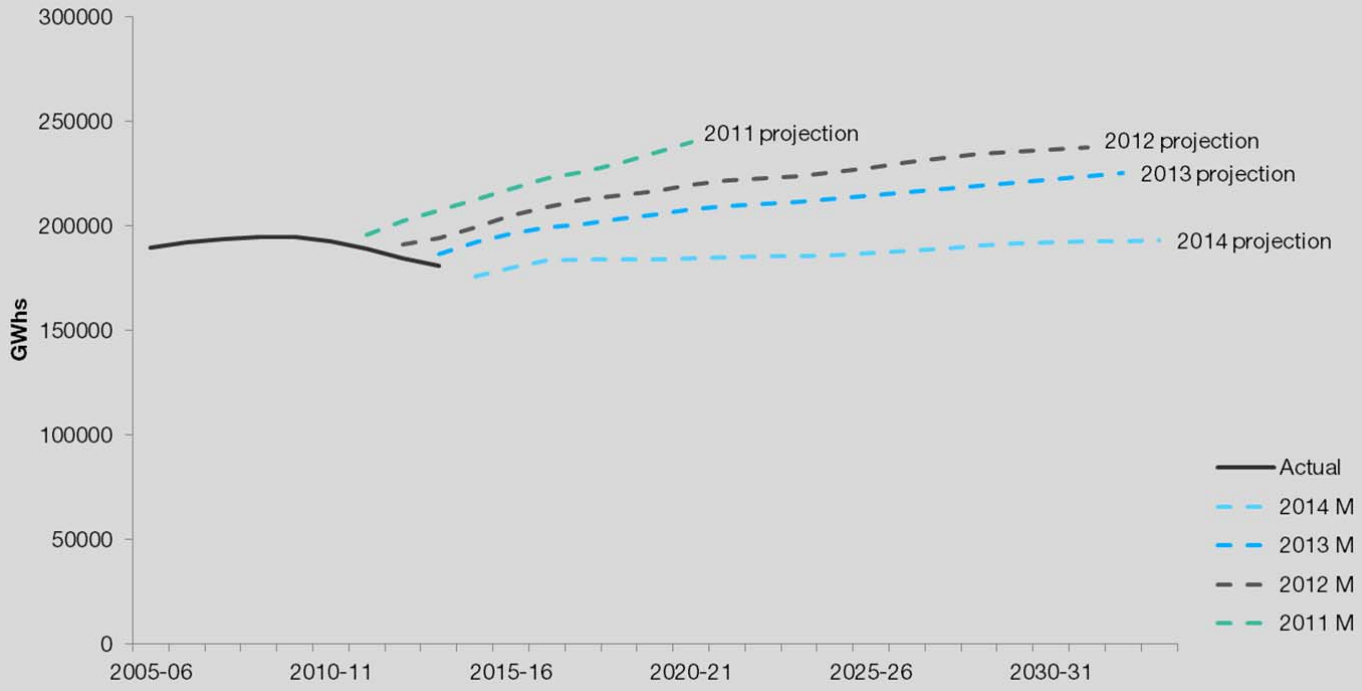
economic benefits of emissions reductions (e.g. reductions in air pollution and developing low-emission technologies and services).

Large fossil fuel exporters, like Australia, can also exaggerate the net impact of climate action on the economy because the actions of other countries to reduce their dependence emission intensive industries will also influence the results through the impact on trade. (In advance of the agreement of the Kyoto Protocol, Australia argued it should have a weak target because of the impact of action to reduce global emissions would adversely impact our economy through reduced coal exports.)

Critically, using economic cost as an indicator conflates and confuses the impact of reducing national emissions with the competitiveness impacts on particular a small set of existing industries. Countries will use a range of national policies to achieve their targets. Some will be higher cost and less efficient than others, and most will also include mechanisms to soften the impact on certain trade exposed industries. This reiterates the importance of distinguishing national targets from any policy-related sectoral impacts.

None of this shows that economic analysis is not useful in climate policy. It is. But its limitations should be understood, and it should be used with extreme care when comparing country actions.

Figure 2: National electricity market demand - projected vs actual electricity. *All projections are based on AEMO mid-range estimates for the given year.*



ENDNOTES

[1] Treasury, 2015, 2015 Intergenerational Report Australia in 2055, Government of Australia, Canberra: http://tinyurl.com/kwdtkx4
[2] Climate Change Authority, 2014a, Targets and Progress Review, Government of Australia, Melbourne.
[3] The Climate Institute, 2014a, Australia's Post-2020 Emission Challenge: Our role in the international cycle of growing ambition, TCI, Sydney: http://tinyurl.com/lmomr9p
[4] The Climate Institute, 2013a, Operating within Limits: defining an Australian Carbon Budget, TCI, Sydney: http://tinyurl.com/o5d8a6k
[5] The Climate Institute, 2013b, Australia's emissions budgets, targets, caps and trajectories: response to the Climate Change Authority's Caps and Targets Review Issues Paper, TCI, Sydney: http://tinyurl.com/ms88sea
[6] Climate Change Authority, 2014b, International climate action: priorities for the next agreement, Government of Australia, Melbourne: http://tinyurl.com/n7rnyen
[7] These contributions assume Australia's use of the global carbon budget is based on an allocation method which is very generous to countries with high per capita emissions like Australia. These contributions should therefore be viewed as minimum fair contributions.
[8] OECD, 2013, Climate and Carbon: Aligning prices and policies. OECD Environment policy paper 1. DOI: 10.1787/23097841
[9] Jim Yong Kim, 2014."Sending a Signal from Paris: Transforming the Economy to Achieve Zero Net Emissions," Speech by World Bank Group President Jim Yong Kim, 8 December 2014, Washington, DC: http://tinyurl.com/opg2hp9
[10] Intergovernmental Panel on Climate Change, 2014, Climate Change 2014: Synthesis Report, Fifth Assessment Report: http://www.ipcc.ch/report/ar5/
[11] International Energy Agency, 2014, Energy Technology Perspectives 2014, IEA, Paris.
[12] Intergovernmental Panel on Climate Change, 2014, Climate Change 2014: Synthesis Report, Fifth Assessment Report: http://www.ipcc.ch/report/ar5/
[13] Global Investor Coalition on Climate Change, PRI and UNEP, 2014, Global Investor Statement on Climate Change, 18 September 2014: http://tinyurl.com/kj3u58y
[14] United Nations Environment Program, 2014. Aligning the Financial System with Sustainable Development: Insights from Practice: http://tinyurl.com/mzqvy9b
[15] The Climate Institute, 2014c, Moving beyond zero: http://tinyurl.com/o6tylv6
[16] See discussions in The Climate Institute, 2014a, Australia's Post-2020 Emission Challenge: Our role in the international cycle of growing ambition, TCI, Sydney: http://tinyurl.com/lmomr9p
[17] For examples see The Climate Institute, 2013, Coalition commitments to 5-25 per cent emissions reduction targets, TCI, Sydney: http://tinyurl.com/mvbvy4z
[18] It is a 19 per cent emissions reductions target if the Authority's use of carry over from Australia first Kyoto target are also included.
[19] UNFCCC, Decision 1/CP.20: http://tinyurl.com/n5g9qsb
[20] In this submission we will focus on emissions reductions ambitions of the target not its form.
[21] See for example, Zhang, et al. 2014, Carbon emissions in China: How far can new efforts bend the curve? MIT-Tsinghua China Energy and Climate Project: http://tinyurl.com/ldghq8h and Teng, and Jotzo, 2014, Reaping the Economic Benefits of Decarbonization for China, China & World Economy, 22(5): 37-54.
[22] Other elements of this paragraph are also very important but not discussed here in detail. For example, The Climate Institute, 2014 and Climate Change Authority, 2014b address issues of time frames for targets and the need for transparency around the assumptions and approaches to calculating emission projections and targets.
[23] UNFCCC INDC portal: http://tinyurl.com/kvy3fgw
[24] Climate Change Authority, 2014b, International climate action: priorities for the next agreement, Government of Australia, Melbourne: http://tinyurl.com/n7rnyen
[25] J.E. Aldy, W.A. Pizer, 2014, Comparability of Effort in International Climate Policy Architecture, Discussion Paper 2014-62, Harvard Project on Climate Agreements, Cambridge, USA: http://tinyurl.com/pnaf8y4
[26] The Climate Institute has published the full range of documents obtained under FOI here: http://tinyurl.com/p9dmdr9
[27] Climate Change Authority, 2014a, Targets and Progress Review, Government of Australia, Melbourne.
[28] Minister of Foreign Affairs, 2014, Australian National Statement - UNFCCC Conference, Lima Speech, 10 December 2014: http://tinyurl.com/khbfakp
[29] J.E. Aldy, W.A. Pizer, 2014, Comparability of Effort in International Climate Policy Architecture, Discussion Paper 2014-62, Harvard Project on Climate Agreements, Cambridge, USA: http://tinyurl.com/pnaf8y4
[30] The Climate Institute, 2014b, Counting All The Costs: Recognising the carbon subsidy to polluting energy, TCI, Sydney: http://tinyurl.com/qfopvtx