Media backgrounder:
Ensuring the National Energy Guarantee can unlock renewable energy ambition

June 2018

Summary

The recently created Energy Security Board has proposed the National Energy Guarantee (the Guarantee) as a policy to limit carbon pollution from the electricity sector while at the same time supporting reliable and affordable electricity supply. The Guarantee is supported by the Turnbull government. The setting of the electricity emissions target is one of the most critical components of the Guarantee. How this is set and defined by the Commonwealth government will determine whether Australia is actually playing its proportional role in tackling global warming.

Specifically, the electricity emissions target will strongly influence whether the nation meets Australia's national emissions targets, whether the mechanism will boost renewable energy investment, and whether future governments are able to meet the international commitments we have made or will make in the future.

The currently proposed electricity sector emissions reductions target from the Commonwealth is woefully inadequate. This is not unique to the Guarantee. Any national policy underpinned by the Australian government's current 2030 target of 26-28 percent below 2005 levels would fail to appropriately address climate change because it is not consistent with the objectives of the Paris Agreement. Australia's current target is also among the weakest of any advanced economy.

If the electricity sector reduces emissions by only 26 percent by 2030, Australia would overshoot its current national target by around 700 million tonnes. This is more than three times the amount of carbon pollution that the electricity sector emitted in 2017. To achieve the overall national target, other sectors like manufacturing, transport and agriculture would need to reduce emissions by this amount between 2021 and 2030. There is currently no plan to achieve meaningful emissions cuts in any of these sectors.

Outside the actual strength of the target itself, core issues in defining the electricity target include:

- **Ensuring the emissions target is consistent with Australia's international undertakings:** Under the Abbott government, Australia has committed internationally to limit *total cumulative emissions* between 2021 and 2030, not just to achieve a 26-28 percent reduction on 2005 levels by 2030. If emissions reductions are delayed or "back ended" in the electricity sector, then more disruptive action will be required later to meet Australia's cumulative national target. For example, delaying action in the electricity sector until 2025 and then trying to achieve the proposed sectoral target would mean other sectors would need to take much more dramatic action if the overall target is to be achieved. In this scenario, between 2021 and 2030, manufacturing, transport and

others would need to find emissions reductions equivalent to nearly five years of the electricity sectors current pollution levels.

- **No backsliding on emissions targets:** Under the Paris Agreement, each new emissions reduction target that countries set must be a "progression" from their previous target. To reflect this, the national electricity laws and national legislation that defines the electricity sector target should include a provision that explicitly states that all future targets must be stronger than the previous one.
- **The notice period to change the target should be three years not five:** Setting a three-year notice period to change the target would allow for more regular, smaller adjustments rather than less regular but larger adjustments to emissions trajectories. For example, if the ALP is elected federally in 2019 and had to give five years notice to change the target, then emissions reductions in the second half of the decade would need to decline sharply to achieve their emissions reductions goal of 45 percent by 2030. This rate of emissions reductions would be around 15 percent a year. This would be historically unusual, disruptive to the economy and could threaten the ability of the government to achieve its Paris commitments. However with three years notice, the rate of reductions required would be halved and are within the range of reductions achieved by a number of countries in their electricity sectors in recent years.

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1. Introduction

The National Energy Guarantee (the Guarantee) has been proposed by the Energy Security Board as a policy to limit carbon pollution from the electricity sector while at the same time supporting reliable and affordable electricity supply. It has three main components:

1. Federal legislation, which will define emissions reductions for the electricity sector. This will also address other issues that are the Commonwealth government's responsibility, such as the possible exemption of emissions intensive trade-exposed industries.
2. An emissions reduction mechanism that would operate under the Council of Australian Governments' (CoAG's) national electricity sector governance framework (See Box 1, 3 and 4).
3. A reliability mechanism that would also operate under the national electricity sector governance framework. The reliability mechanism is not discussed further in this brief as the current proposal appears not to have a material impact on reducing Australia's emissions.

Since the initial proposal for the National Energy Guarantee, which contained a number of concerning design features, the Energy Security Board has made significant progress improving the mechanics of the Guarantee that will sit under the national electricity sector governance framework.

However, setting of the electricity emissions target is one of the most critical components of the National Energy Guarantee. How this is set and defined by the Commonwealth government will strongly influence whether the nation meets Australia's national emissions targets, whether the mechanism will boost clean energy investment, and whether future governments are able to meet the international commitments we have made or will make in the future.

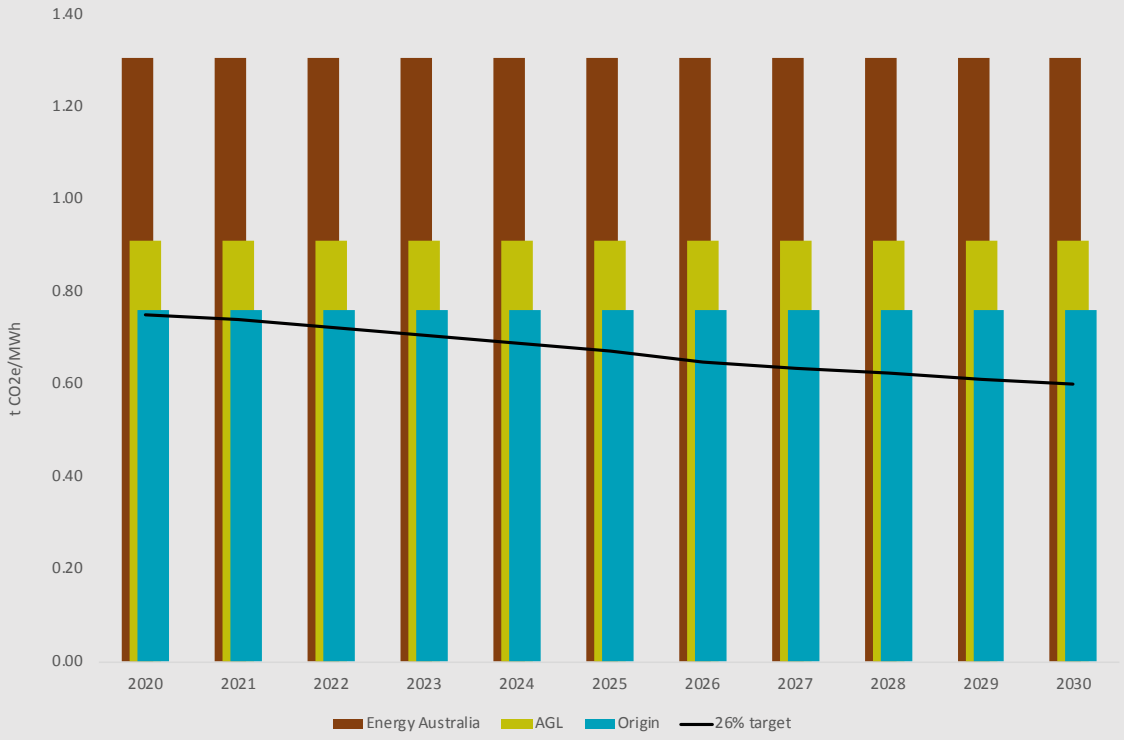
This brief outlines the key issues and what should be addressed if the policy is to be effective and durable.

Box 1: How the Guarantee impacts emissions

The electricity sector target set by the Commonwealth government needs to be achieved by electricity retailers. The figure shows a simplification of how this would work.[1] It illustrates the current emissions intensity of generation operated by Australia's three largest retailers AGL Energy, EnergyAustralia and Origin Energy. The current proposal is that electricity retailers automatically have their generation assigned to them in determining their emissions intensity. This is compared to a target in line with the currently proposed emissions target.

With its proportional high use of coal, EnergyAustralia would be well out of compliance with this electricity target. To meets is obligation, EnergyAustralia could reduce its reliance on coal, pay another retailer to take responsibility for some of this generation and/or make an arrangement with another generator to purchase power from clean sources like solar or wind. The other retailers would be less exposed. Origin Energy does not have any brown coal in its generation mix and would find meeting the target the easiest in this scenario. AGL sits in between these two other companies. This illustrates that the Guarantee would disadvantage the most emissions-intensive plants and create an incentive for retailers to purchase electricity from clean energy sources.

Figure 1: Emissions target vs retailers' emissions intensity



2. A recipe for failure: The currently proposed emissions reductions target

Before addressing the design elements of the Guarantee, it is critical to note that the proposed electricity sector emissions reductions target from the Commonwealth is woefully inadequate. This is not unique to the Guarantee. Any national policy underpinned by the Australian government's current 2030 target of 26-28 percent below 2005 levels would not be enough to deal with global warming because:

- The national target is not consistent with the objectives of the Paris Agreement, which are to limit warming to 1.5-2°C by the end of the century. If other countries followed Australia's lead and introduced similar emissions targets the world would warm by 3-4°C this century.[2]

- Australia's current 2030 target is among the weakest of any advanced economy.[3] For example, meeting the government's 2030 target would still see our per capita emissions 14 tonnes in 2030 — much higher than other developed countries, and the highest of any G20 country other than Russia and Saudi Arabia.

- A reduction in electricity sector emissions by only 26 percent by 2030 is incompatible with emissions pathways consistent with the objectives of the Paris Agreement.[4] It is also not in line with cost effective action to reduce national emissions. This is because the electricity sector is currently the largest source of national emissions but also has many cost-effective options to lower emissions. All credible analysis to date has shown the electricity sector can and should reduce emissions faster than the national average. Failure to do so imposes much higher costs on every other sector and puts Australia's ability to meet its undertakings under the Paris Agreement and to play its part in preventing catastrophic climate change at serious risk.

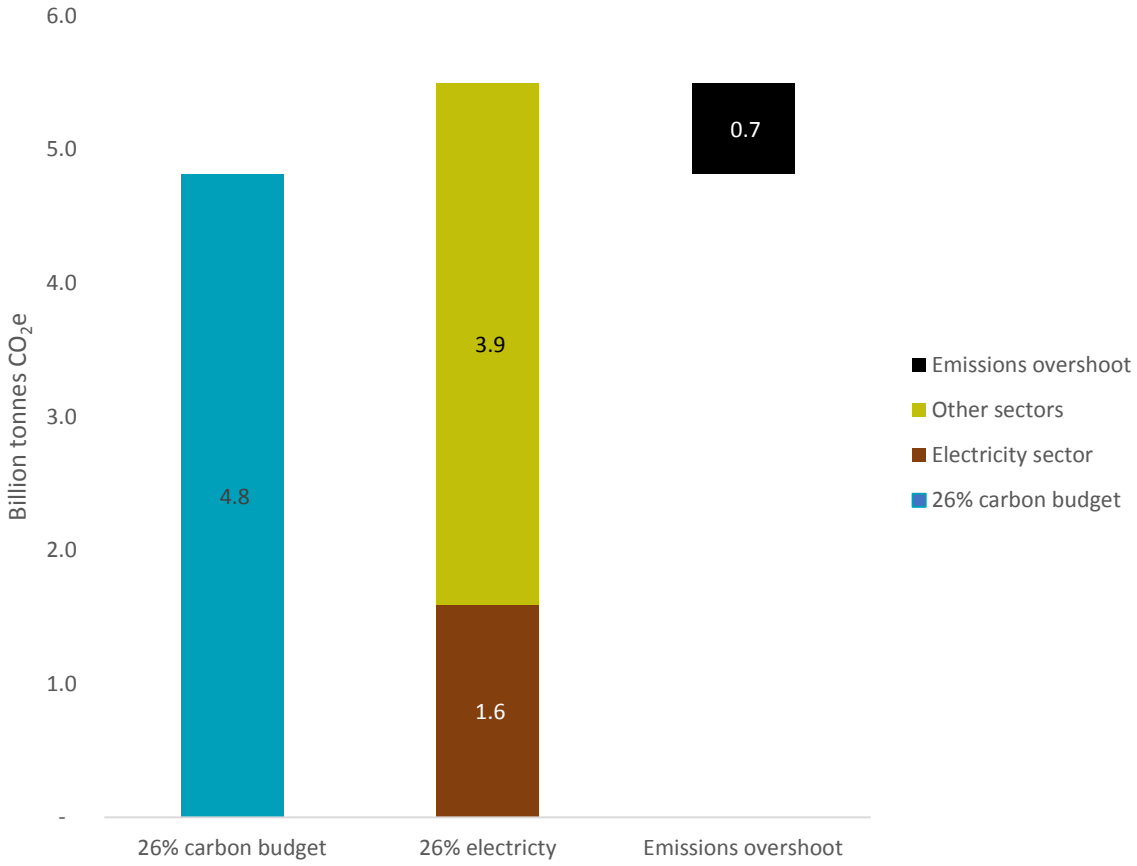
This last point is illustrated in the below figure.

Australia's current short-term emissions commitment under the Paris Agreement is not to just reduce emissions by 26-28 percent by 2030. When the Abbott government submitted its target internationally it made a commitment to translate this target into a total cumulative emissions limit, or emissions budget, for the period for 2012-30.[5] While it has not yet done this, this is not unusual as the international rules for national targets are still to be negotiated. However, the use of national carbon budgets for national targets has been a core negotiating position of the Australian government for over two decades. It was formulated under Howard government in the negotiation of the Kyoto Protocol. As such, stepping back from this commitment would be very significant backsliding on Australia's international commitments.

Using past practice, it is possible to translate the current target into a carbon budget for the period 2021-30. Doing this would mean that over this period Australia could emit no more than 4.8 billion tonnes of carbon pollution.[6]

If the electricity sector reduces emissions by 26 percent by 2030 it would consume 33 percent of this total budget.[7] Based on current projections from other sectors,[8] this means that Australia would overshoot its current target by around 700 million tonnes. This is more than three times the amount of carbon pollution that the electricity sector emitted in 2017. To stay within the overall carbon budget associated with the Coalition's target, other sectors like manufacturing, transport and agriculture would need to reduce emissions by this amount between 2021 and 2030. There are currently no plans for how this would happen.

Figure 2: Blowing Australia's carbon budget. *Total emissions, or carbon budget, between 2021-2030 with a 26 percent emissions target. Total electricity sector emissions if they are reduced by 26 percent combined with projected emissions from other sectors over the same period. The emissions overshoot is how much Australia would exceed its target*.



3. Addressing the credibility gap: Setting and changing the electricity sector target

The Guarantee is being designed to be a long-term and durable mechanism to reduce Australia's electricity sector emissions. It may be possible for a future government to change the legislation that defines how emissions targets are set but it would be vastly preferable for the 'rules of the game' to be defined upfront and have bipartisan support. This will allow companies and investors to manage the risks and take the opportunities that will come with reducing emissions in a much more efficient way.

Core issues in defining the electricity target are outlined below and include:

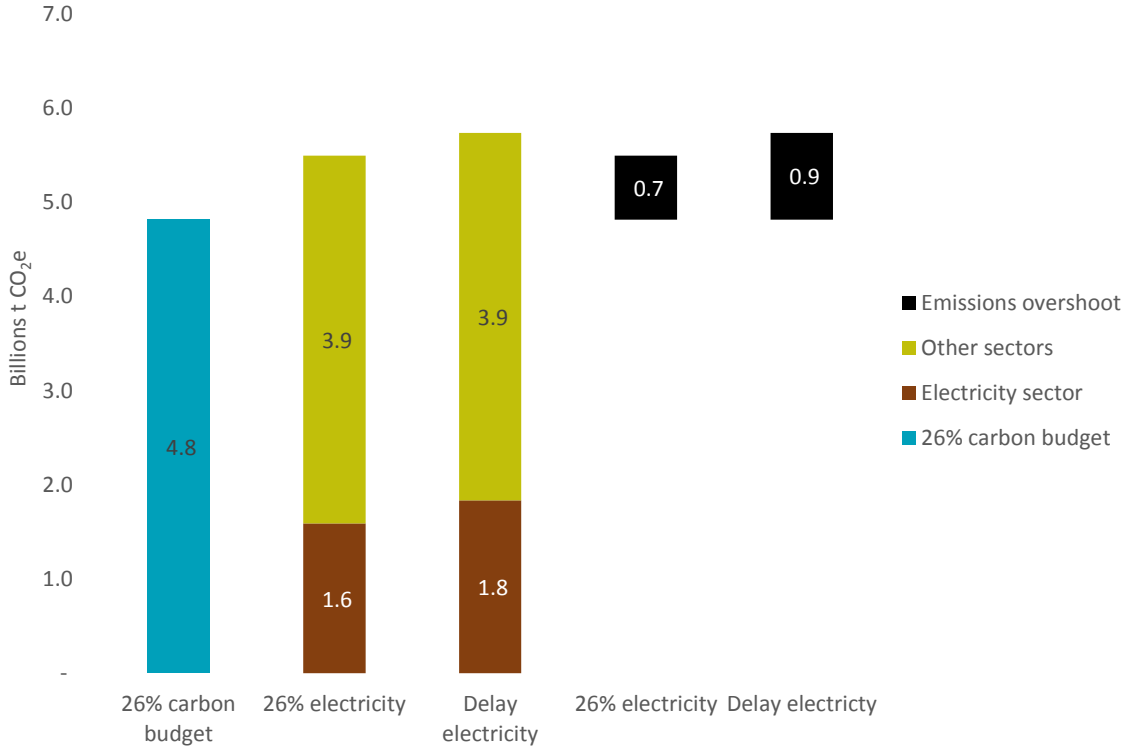
1. Ensuring the trajectory is consistent with Australia's international undertakings
2. No backsliding, to boost investor confidence
3. The notice period to change the target should be three years not five
4. A change in international undertakings should be an explicit trigger to update the electricity sector target
5. The setting of the electricity sector emissions targets should be based on robust independent advice on the strategic role of the electricity sector in meeting Australia's short and longer-term commitments under the Paris Agreement

Ensuring the emissions target is consistent with Australia's international undertakings

As outlined above, Australia has made a commitment to translate this target into an emissions budget for the period for 2021-30. This is commonly called setting a carbon budget. An emissions trajectory proposed for the Guarantee should be set in a way that is consistent with this approach. If emissions reductions are delayed or 'back ended' under a 'go-slow' approach then more disruptive action will be required later. If the target is initially less ambitious than a linear reduction from 2020 then other sectors will need to do more to meet Australia's overall national target, making achievement of our national target more difficult and expensive.

This 'go-slow' scenario is outlined in the below figure. This assumes the emissions intensity of the electricity sector changes as per government projections until 2025. This scenario has no additional action until then. After 2025, emissions are then reduced to achieve a 26 percent reduction on 2005 levels by 2030. The amount of action in other sectors to achieve the current target increases by over a third with just a five-year delay. They would need to find emissions reductions equivalent to nearly five years worth of pollution from the current electricity sector.

***Figure 3: The impact of a five-year delay in reducing the electricity sector's emissions**. Total emissions between 2021-30. This shows the carbon budget associated with a 26 percent reduction on 2005 levels by 2030 (blue), total electricity sector emissions with a 26 percent reduction and a five-year delay, projected emissions from other sectors and how much Australia would overshoot the national 26 percent carbon budget with different levels of electricity sector action.*



Boost investor confidence by not allowing back-sliding

Under the Paris Agreement, each new emissions reduction target that countries set must be a 'progression' from its previous target. This basically means that every five years Australia will need to set a new emissions target that is stronger than the last one.

To reflect this, the national electricity laws that establish the emissions reductions mechanism and the national legislation that defines the electricity sector target should include a provision that states that all future targets need to be stronger than the previous one. The Victorian Climate Change Act has a provision to this effect.[9] Beyond being consistent with Australia's international commitments this would boost confidence in electricity sector investment. This is because it would lessen the risk that a future government would weaken the target and destroy the value of assets that companies have built.

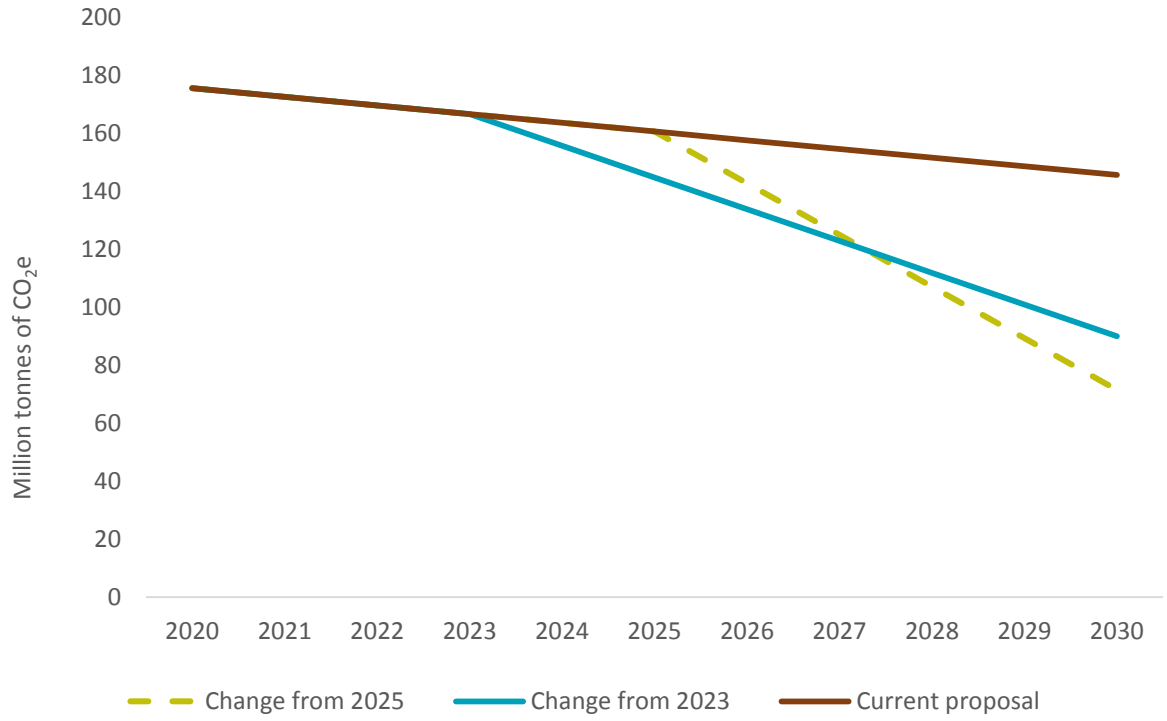
The notice period to change the target should be three years not five

The notice period to change the target is particularly important. As suggested by many, including Origin Energy[10] and the Grattan Institute,[11] the notice period should be three years not five.

Setting a three-year notice period would likely be much less disruptive to industry, as the rate of reductions required to meet stronger targets in the future would be likely less, i.e. regular smaller adjustments instead of less regular larger adjustments to the emissions pathway. For example, if the ALP is elected federally in 2019 and needs to give five years notice to change the electricity target to be in line with its declared target of 45 percent national emissions reductions by 2030, then emissions in the second half of the decade would need to decline sharply to achieve the emissions reductions target they have publicly committed to. This is shown in the figure below. This rate of emissions reductions would be around 15 percent a year. This is historically unusual and could threaten the ability of the government to achieve its Paris commitments.[12] However, with three years notice the rate of reductions required is halved and within the range of reductions achieved by a number of countries in their electricity sectors in recent years (e.g. Denmark and Finland).

Finally, the difference between three and five years is unlikely to materially affect long-term, 30-year-plus investments in the electricity sector. There is very little trading in the wholesale electricity spot market three years into the future. Three years notice would be sufficient to allow retailers to manage their emissions liabilities and is also sufficient for new generation to be built to meet new requirements. For example, the electricity reliability obligations proposed under the Guarantee operate on a three year basis, and separately, a policy decision has also been made that requires electricity generators to give three years notice before shutting.[13] Both imply three years is sufficient to build new capacity in response to a change in the target.

Figure 4: The implications of different notice periods to change emissions target. *An illustration of electricity emissions reductions required to achieve a more credible national emissions target. The dashed line, representing a change to the target from 2025, has to reach a lower level of total emissions by 2030 to stay within the carbon budget for the 2021-2030 period.*[14]



Explicit triggers to update the electricity sector target

In addition to the three years notice for changing the target, the Commonwealth government legislation should explicitly state that a change in Australia's international undertakings is a trigger to change the emissions trajectory. Having clarity on this point can allow for business to better plan for possible changes in policy.

Support target decisions with robust analysis

The setting of the electricity sector emissions targets should be based on robust independent advice on the strategic role of the electricity sector in meeting Australia's short and longer-term commitments under the Paris Agreement. Under the recent review of Australia's climate policy, the Commonwealth government committed to developing a strategy that outlines how Australia will reduce emissions through to 2050 by 2020. This is in-line with the Paris process, which asks countries to submit these mid-century plans internationally by 2020. The government recently reiterated this commitment to the international community.[15]

Ideally this work should be completed in 2019. Tying the Guarantee's target setting to this process would allow for detailed modelling to be undertaken to define the electricity target

in the context of action being taken in other sectors and with long-term emissions pathways in mind.

Assuming CoAG does agree on the framework for the emissions reductions requirements in the national electricity laws, this short delay to set a more appropriate sector-specific target should not undermine investor confidence. In fact, it may enhance it by showing business that the government is undertaking a predictable and considered process to setting their compliance obligations.

4. Climate effectiveness: Some other issue to watch

Governance of the electricity sector target

The Guarantee's emissions target for the electricity sector should be set by the Commonwealth. While the current target is woefully inadequate, it would be problematic to require agreement of all members of CoAG before the target could be increased – one recalcitrant state or federal government could single-handedly hold back increases in ambition.

However, how the target and other issues are translated into the national electricity laws is very important. Examples of what the national electricity laws should not include are:

- The specific way the national target is translated into the electricity sector target. This would constrain future governments in their ability to manage Australia's overall emissions reduction task across the economy.

- The notice period for changes to the electricity sector target. Again, the Commonwealth government should not be constrained in its ability to respond to changes in international circumstances and the rest of the economy.

- How emissions intensive trade exposed (EITE) industries are treated. The Commonwealth government has so far failed to articulate a clear policy rationale for exempting EITEs. In the event exemptions are to be applied, a number of core principles should apply:
    - EITEs should still play their part in national emissions reductions efforts, for example, by ensuring that any exemptions decline through time;
    - Assistance to these industries should be transparent and be subject to regular independent reviews; and
    - As part of these reviews, the cost and benefits to other parts of society from assistance should be recognised and managed.

- Options to allow Western Australia and the Northern Territory to participate in the Guarantee in the future. The National Electricity Market has a different market design to the markets in Western Australia and the Northern Territory. Trying to include them in the national electricity laws would create an unnecessary level of complexity into the initial design of the Guarantee. How they can participate should be addressed in Commonwealth legislation.

Overachieving the retailers target

It is currently proposed that if an energy retailer overachieves their target then they can bank some of this overachievement and use it in a future compliance year. This is a potentially important provision as it could encourage early action to reduce emissions. This can be the case because companies could invest in cheaper options today with a view to using this investment at a later date when it becomes more expensive to meet their obligations. However, the Energy Security Board is currently proposing that the use of overachievement be limited. This is in response to concerns that large retailers may hoard overachievement thereby limiting the effectiveness of the scheme in promoting new investment. This problem would be exacerbated by the Commonwealth government's weak emissions target. As a general principle, the unlimited use of overachievement is a good one as it promotes early action; however, with weak emissions targets some initial limitation may be warranted.

Use of offsets to meet emissions reductions targets

The Commonwealth government is considering whether and how domestic and international offsets (e.g. investing in tree planting) could be used by retailers to meet their obligations under the scheme. The decision to allow the use of offsets is influenced by whether or not their inclusion reduces the incentive to invest in the transformation of the electricity sector, the credibility of the offsets used (i.e. are they delivering additional and real emissions reductions), and political economy and social policy issues like reducing any impact of the scheme on power prices. Overall, given the weakness of the currently proposed target there is no justification for the use of offsets in the scheme. The target would likely be met with little or no additional investment in the transformation of the electricity sector and the inclusion of offsets would create an additional and unnecessary level of complexity to company's investment decisions.

Penalties for non-compliance

The Energy Security Board is currently proposing that the Australian Energy Regulator have a wide range of discretion in penalising electricity retailers if they fail to comply with their emissions obligations. It would be preferable to have a transparent and clear financial penalty for non-compliance so all participants in the market and the broader community have a clear understanding of the consequences of failing to reduce emissions.

[1] Note that retailers will not only source generation from their own portfolio such as through agreements to purchase renewable energy from other companies to meet their obligations under the Renewable Energy Target. Here is assumed this is not case for illustrative purposes.
[2] Climate Action Tracker, Australia: https://climateactiontracker.org/countries/australia/ (accessed 1 May 2018)
[3] The Climate Institute, **2030 emissions reduction targets compared** (2015): http://www.climateinstitute.org.au/verve/_resources/2030--Emissions-Targets-Compared-Factsheet.pdf (accessed 1 May 2018)
[4] Climate Analytics, **The Finkel Review and scientific consistency with the Paris Agreement** (2017): http://climateanalytics.org/files/finkel_review_and_scientific_consistency_with_paris_agreement.pdf (accessed 1 May 2018)
[5] Government of Australia, Australia's Intended Nationally Determined Contribution to a new Climate Change Agreement (2015): http://www4.unfccc.int/submissions/INDC/Published%20Documents/Australia/1/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20August%202015.pdf (accessed 1 May 2018)
[6] Environment Victoria calculations using the same methods that the Australia Government used to define its 2013-20 emissions budget under the Kyoto Protocol. See: Government of Australia (2012), **Submission under the Kyoto Protocol: Quantified Emission Limitation or Reduction Objective (QELRO)**: http://dfat.gov.au/international-relations/themes/climate-change/submissions/Documents/australia-qelro-submission.pdf (accessed 1 May 2018)
[7] This assumes that Western Australia and the Northern Territory join the Guarantee. If they don't the Guarantee will reduce emissions by less than assumed here.
[8] Government of Australia (2017), **Australia's emissions projections 2017**: http://www.environment.gov.au/climate-change/publications/emissions-projections-2017 (accessed 7 June 2018)
[9] Government of Victoria (2017), **Climate Change Act 2017**: https://www.climatechange.vic.gov.au/legislation/climate-change-act-2017 (accessed 7 June 2018)
[10] Origin Energy (2018), **Policy Submission: National Energy Guarantee draft design consultation paper**: https://www.originenergy.com.au/about/investors-media/reports-and-results/policy-submission-national-energy-guarantee-draft-design-consultation-paper.html (accessed 7 June 2018)
[11] Grattan Institute (2018), **Don't lose an opportunity for integrating energy and climate change policy,** Response to the Energy Security Board's Consultation Paper on the National Energy Guarantee: https://grattan.edu.au/wp-content/uploads/2018/03/Grattan-Institute-response-to-Energy-Guarantee-consultation.pdf (accessed 7 June 2018)
[12] Environment Victoria calculations of the rates of emissions reductions achieved in the electricity sector over the last five to ten years in developed economies. Data source: UNFCCC Data Interface: https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed 3 May 2018)
[13] AEMO (2018), **Amendment (Generator three year notice of closure) Rule 2018**: https://www.aemc.gov.au/sites/default/files/2018-05/Consultation%20paper.PDF (accessed 7 June 2018)
[14] These calculations assume that the electricity sector does not consume more than a third (its current share of national emissions) of a national 2021-30 carbon budget consistent with its 45 percent on 2005 levels 2030 target.
[15] Government of Australia (2018), **Submission to inform the preparatory phase of the Talanoa Dialogue**: https://unfccc.int/sites/default/files/resource/85_Australia%20Talanoa%20Dialogue%20Submission.pdf (accessed 3 May 2018)