GRATTAN Institute

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Australia's target: Our fair share of meeting the global climate change challenge

Grattan Institute submission to the Department of the Prime Minister and Cabinet
Issues paper: Setting Australia's post-2020 target for greenhouse gas emissions

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1 Summary points

- Australia's post-2020 target(s) should represent Australia's fair share of a global carbon budget that meets the goal, supported by most governments around the world and by Australia, to limit average global temperature increase to 2 degrees Celsius.
- Australia's first and firm target should be for 2025. It should be specific and on a straight line from our current 5 per cent target for 2020 to an indicative 2050 target consistent with Australia's share of the global carbon budget.
- Australia should set an interim target for 2035 that would take the form of a gateway centred on the above straight line but with leeway of, say, 10 per cent variance above and below that centre.
- Periodically - say, every five years - the firm target, indicative long-term target and interim gateway should be reassessed based on updated climate science and modelling and any revisions to the global carbon budget. This approach of firm short-term targets and long-term gateways – more flexible targets that open the gate to further revisions if they are required - has been recommended by the 2008 Garnaut Review and the Climate Change Authority's 2014 Targets Review. The goal is to provide a credible long-term signal to emitters and investors and predictable future adjustments.
- The framework for setting and reviewing Australia's post-2020 targets is more important in establishing domestic and international credibility than is the absolute level of targets. Firm long-term targets will be inherently incredible and unpredictable. They are poisonous to decision-making in general and long-term investments in particular.
- Australia's target(s) should not put us at a competitive disadvantage beyond what would flow from a globally consistent price on greenhouse gas emissions. Therefore all substantial countries must have targets, and agree on international trade in emission entitlements.
- Direct Action, as currently configured, is not fit for the purpose of meeting Australia's post-2020 targets. Yet Direct Action can be a platform for an effective and efficient domestic climate change policy to meet these targets, and has some prospect for bipartisan support.
- Australia's should contribute to a global effort towards research, development and deployment of carbon capture and storage (CCS) technologies. It should introduce a reverse auctions approach (explained below) to the development and early-stage deployment of low-emission technologies likely to be lowest-cost in the future.

2 Introduction

This submission responds to the Issues Paper on Australia's post-2020 greenhouse gas emissions reduction target published by the Department of Prime Minister and Cabinet.

Grattan Institute is an independent think-tank focused on Australian domestic public policy. We aim to improve policy outcomes by engaging with both decision-makers and the community. Our interest in the Issues Paper and the focus of this submission is therefore primarily in what post-2020 targets mean for domestic policy.

3 Key issues in setting Australia's target(s)

1. Australia is a major and growing supplier of fossil fuel energy and a high emitter of carbon dioxide per head of population. The global response to climate change, Australia's part in that response, and our domestic policies to meet our agreed target will have profound consequences for our international trade and domestic economy. The Issues Paper rightly identifies this issue, although it glosses over the tension between achieving a global response to climate change that meets the environmental objective and the other vital objective of continued strong economic growth, jobs and development.

Over time, these two objectives will have to be reconciled, but in the short term the targets that are set will almost certainly fail to meet the aspirations or fears of groups and people who see one objective as more important than the other. Any serious response to climate change must address this tension; avoiding it is not the answer.

2. Australia has a national interest in addressing climate change for four fundamental reasons:

- As a member of the global community with a significant greenhouse gas footprint and a high level of per-capita emissions, Australia is caught on the wrong side of a market failure, in which those who damage others by emitting greenhouse gases generally do not pay for this damage. Both for economic and ethical reasons, a correction to Australian energy policy and emissions record cannot be avoided.

- Australia is an energy export superpower. The Issues Paper cites the International Energy Agency's 2014 World Energy Outlook: "For the foreseeable future, Australia will continue to be a major supplier of crucial energy and raw materials to the rest of the world, especially Asian countries. At present, about 80 per cent of the world's primary energy needs are met through carbon-based fuels. By 2040, it is estimated that 74 per cent will still be met by carbon-based sources because of growing demand in emerging economies".

  In this International Energy Agency scenario, however, the world fails to meet its agreed goal of limiting the long-term global average temperature increase to no more than 2 degrees Celsius. Australia has committed to this goal.

  If the world does act to meet it, then the global share of fossil fuels will fall to 59 per cent by 2040. Coal's share will decline the most, falling from 24 to 17 per cent – and it only retains this share by adopting carbon capture and storage (CCS) technologies. By 2040, 580 Gigawatts of coal-fired power generation – or 80 per cent of the total -- would have to be fitted with CCS. Further, 22 per cent of gas-fired generation would come from plants fitted with CCS. This is a non-trivial challenge in which Australia has a high interest.

- Australia lies in a part of the world that is likely to be severely impacted by unmitigated climate change. The Issues Paper notes the emerging trends in this direction.

- Finally, there is an urgent need for clear domestic policy on climate change. The recently released Energy White Paper commits to maintaining "stable and predictable policy settings" that will influence investment decisions in future electricity generation assets. Yet the policy setting that will most acutely influence these decisions - climate change - has known little but instability and unpredictability over recent political cycles.

3. The very nature of climate change as a global problem means that the response must involve unprecedented global collaboration. Even if such collaboration is achieved in Paris in late 2015, the evidence to date suggests it will be some time before a globally integrated agreement emerges. Grattan Institute's work on climate change policies leads us to strongly support a central role for targets and trading, as the following comments on specific issues identified in the Issues Paper show.

4 Post-2020 target(s): level and structure

The Government has indicated that Australia will submit its intended nationally determined contribution (INDC) by mid-2015. That contribution will almost certainly have to change over time. The EU is rightly advocating that the total of INDCs from the 2015 negotiations will have to add up to meet the global climate change goal. This will be one of the biggest tests for the negotiations and will most likely require national adjustments beyond the initially submitted INDCs. Second, climate science, technologies and Australia's national circumstances will continue to evolve in ways that cannot be precisely predicted. New information will cause further revisions for all countries.

These uncertainties mean that while a quantitative post-2020 target is required, the framework in which the target will be revised over time is actually more important, and that setting targets with different levels of firmness over the time period to 2050 would provide a more credible approach to future flexibility. There are important lessons in Australia's poor record in setting fixed targets based on economic modelling. The fixed price for the recent ETS and the fixed target for the RET were critical factors in the subsequent mess created in each case.

Australia's target(s) should be set with the following principles:

- They should be consistent with the science, which indicates that an agreement to limiting the global average temperature increase to less than 2 degrees Celsius is essential. The science can translate that goal to a global carbon budget, the total amount of greenhouse gases that can be emitted between 2015 and a future date such as 2050, consistent with this 2 degrees goal.

- Australia's carbon budget should be consistent with taking a fair share of international action. For want of a better alternative, equal per-capita emissions and a contraction and convergence approach seems ethically and logically robust. It is also in Australia's interest to contribute to a global agreement to remove or at least reduce the need for some form of payments or protection for emissions-intensive, trade-exposed industries. Under the last Labor Government's Clean Energy Future plan this need arose to avoid the relocation of activities from Australia to countries where those activities may not be subject to comparable carbon constraints.

- Australia's target(s) needs to consider all four elements of our national interest as described above. There is a tension when INDCs that have to add up are being set by national circumstances, including plans for strong economic growth, jobs and development. Australia's unfair competitive advantage, caused by the long-standing exemption its fossil fuels have enjoyed from the environmental damage they create, is under threat from genuine global action. But an effective Australian response does not have to preclude strong economic and jobs growth.

  Australia's target(s) should not put us at a competitive disadvantage beyond what would flow from a globally consistent price on greenhouse gas emissions. The 2011 Garnaut Review made this point: a country is not disadvantaged by having its exports concentrated in emissions-intensive industries such as gas or coal, as long as all substantial countries accept targets and there is international trade in entitlements.

- Australia's target-setting framework needs to be credible and predictable so that it responds flexibly to future changes. This means the framework should include targets consistent with the best scientific, technological and political information available today, together with definitions of how targets should progressively change in response to changing knowledge and circumstances.

4.1 Target structure

Australia should establish a framework that consists of several targets or a trajectory over the next 35 years, consistent with the principles outlined above and a process for review of these targets.

To establish a marker and create momentum, the first and firm target should be for 2025. There should be an indicative target for 2050, and the trajectory between them should reflect a reasonably smooth transition, ideally a straight line.

Previous reviews of climate change policies have developed the concept of firm targets for the shorter term and gateways, or indicative targets, for the longer term. This approach delivers the necessary mix of credibility, flexibility and predictability. A 2035 gateway providing 10 per cent leeway above or below the straight line would complete the picture.

Each five years, the firm target, gateway and long-term indicative target should be reviewed in line with changing international and domestic circumstances, including updates to climate change science and international negotiations.

The targets should represent the combination of domestic abatement and international trading. Therefore a decision will need to be made as to what form of trading will be acceptable against the target and whether it will be limited – to 50 per cent of the total commitment, for example. The introduction of any such limit should be accompanied by a clear process via which it will be reviewed and ultimately withdrawn. The European Union has submitted a target of 40 per cent below 1990 levels by 2030 based on domestic reductions alone, with no international trading included in the target.

4.2 Specific target(s)

For domestic purposes, Australia's target(s) should be framed and communicated relative to 2000 to avoid confusion. Globally, however, a consistent base year is highly desirable. Australia should argue for such a base and adjust its submitted INDC accordingly.

Australia's indicative 2050 target should be consistent with a carbon budget from 2015 to 2050. This carbon budget should be based on the global carbon busget and contraction and convergence to equal per-capita emissions.

Australia's 2025 target should be on a straight line from our current 2020 target and the indicative 2050 long-term target.

5 Impact of the target on Australia

The underlying premise is that the international community will act to meet the global objective. The most important impact of the above target(s) and structure would be to provide what the Issues Paper describes as "certainty to business and the Australian community to facilitate decision making and investment."

This structure will also enable government to develop a domestic climate change policy, with complementary policies to meet the targets at lowest long-term economic cost.

In the short term, setting and meeting these targets will cost more money than a scenario in which the world and Australia fails to act on climate change or sets targets that fall short of the 2 degrees objective. Examples of such outcomes are found in the IEA's Current Policies and New Policies Scenarios. But neither the Issues Paper nor the global negotiations base their goals on these scenarios.

If Australia were to submit targets that were not consistent with our fair share of global action, then we cannot expect other countries to do their share. At some point global agreements would begin to include sanctions against non-performers. To date, sanctions have not featured in global agreements -- when countries withdrew from the Kyoto Protocol, for example. On the other hand, setting targets that are more ambitious than the creation of an international agreement with a set of national contributions can achieve would also be doomed to failure.

6 Policies to achieve post-2020 target

Globally, climate change policy has been fraught with complexity and inconsistency. In layperson's language, it's a dog's breakfast. Whether it's a nation's central policy instrument (ETS, tax, or regulation) or its complementary policies (feed-in tariffs, emissions standards, tradable green certificate schemes and so on), contradictions and confusion abound. Australia has done no better than others in this regard. Switching from a fixed price ETS to Direct Action, the creation and withdrawal of solar feed-in tariffs, and a raft of changes to the Renewable Energy Target represent a sorry policy mess and a terrible environment for investment.

The Issues Paper contends that Australia is taking strong action on climate change, based on changes in total and per capita emissions since 1990. No serious quantitative analysis supports this contention. Emissions reductions are likely to have occurred because of a combination of structural changes in the economy, the impact of higher electricity costs and exchange rates on demand, and policies such as the RET, rather than through a comprehensive and consistent climate change policy.

The Issues Paper implies that the Australian Government's Direct Action approach will be the central policy instrument to achieve Australia's post-2020 target(s). This is problematic, for two reasons. First, the Direct Action Plan is currently structured and funded only to contribute to meeting Australia's current 5 per cent target. Second, a direct extension of the Plan beyond 2020 is likely to meet significant challenges as described below.

Therefore, we provide comments on the post-2020 domestic policy framework under two scenarios: in the first, Direct Action and other related government policy positions are maintained; in the second, Direct Action progressively evolves into a policy more suited to meeting longer-term targets at lowest cost.

These comments do not undermine our strongly-held view that a broad, market-based policy such as a well-designed emissions trading scheme is likely to be the most effective and efficient policy choice. However, we seek even more strongly a pragmatic pathway that has

some prospect of bipartisan political support and can achieve the goal.

6.1 Post-2020: Direct Action

The major elements of Direct Action are the Emissions Reduction Fund (ERF), which will use a series of auctions to contract directly for emissions reductions, and the safeguard mechanism, which seeks to ensure that emissions reductions purchased through the ERF are not offset by increases in emissions elsewhere in the economy. While its details are yet to be finalised, all facilities with annual emissions of more than 100,000 tonnes of CO_2-e will incur a civil penalty if they exceed a set baseline level of emissions, according to the Department of the Environment's Consultation Paper. Yet because there is considerable flexibility in the way these baselines will be set, it is highly unlikely that the safeguard mechanism can achieve its purpose.

The current form of Direct Action makes no allowance for incorporating international credits which would be useful in reducing future costs. Finally, in this scenario, it is assumed that the RET ceases in 2020, as currently legislated, regardless of where its 2020 target is finally set. This means the elimination of a potential additional contributor to meeting future targets.

Maintaining Direct Action as the central policy instrument beyond 2020 creates two problems for government. The first will be that the need for major on-budget funding increases and that need will only get bigger as the targets get harder. The current funding is in place only to meet the current five per cent target.

The second problem will arise from unconstrained increases in emissions in areas of economic growth. Meeting the post-2020 target(s) will require significant reductions in emissions from the electricity generation and gas sectors, and from major industrial activities. The safeguard mechanism will cover electricity generation and industry, while baselines for the gas sector could be set by requiring gas retailers to carry the liability for all emissions from the burning of gas by their customers. In these sectors, bespoke methods for contracting with individual emissions reductions projects may be required, as the Emissions Reduction Fund White Paper envisages. And because large capital investments are likely to be required to reduce emissions, these baselines will also require contract periods significantly longer than the maximum of seven years currently envisaged by the Government.

Currently available details on the safeguard mechanism indicate that it is designed to protect against rogue operators who cause emissions increases. By contrast, a new business or one that is expanding will be able to set new baselines, providing it can demonstrate that the activity giving rise to increased emissions is following industry best practice or some emissions intensity standard. This seems like a problem as more stringent post-2020 targets are imposed. One partial solution would be to progressively tighten the baselines and

increased penalties so that liable organisations have an incentive to develop projects for funding under the ERF. In some cases, the cost could be substantial. Allowing companies to trade their baseline requirements would be one way to avoid dramatic increases in ERF funding costs or to address situations where cost-effective emissions reductions are hard to find.

The above comments strongly suggest that Direct Action, as it is currently configured, is not fit for the purpose of meeting Australia's post-2020 targets.

6.2 Post-2020: Beyond Direct Action

The Direct Action Plan could be used as a platform to build a domestic climate change policy that could be effective and relatively efficient in meeting Australia's post-2020 target(s). But this approach would need to:

- Replace the proposed penalty structure in the safeguard mechanism with a debit and credit system of tradeable certificates that would operate similar to the (now discontinued) NSW Greenhouse Gas Abatement Scheme.
- Progressively reduce baselines in the safeguard mechanism so that total emissions are consistent with Australia's future targets.
- Include the gas sector in the safeguard mechanism as above, by setting baselines at the level of the gas retailer.
- Allow organisations to buy recognised international emissions reduction credits to offset increases in emissions above the set baselines. Trading may be more important in meeting Australia's 2025 target because the task becomes harder than it would have been if our 2020 target had more aggressive.
- Maintain the ERF but focus its application on areas not easily covered by the safeguard mechanism such as energy efficiency initiatives to reduce emissions in buildings or changes in agricultural practices.
- Finally, decide the future of the RET. It could wind down as currently legislated, or it could be extended to become a Low Emissions Target, focused only on the electricity sector. Further detailed analysis may show the latter to be a more effective approach than using the safeguard mechanism for that sector.

The above is not a comprehensive or detailed description of a policy framework, and we would be happy to discuss it further. In its favour, it could build on existing structures in order to produce a more comprehensive and market-based approach. It may even have a prospect for

securing critical bipartisan support in a way that is closed to both Direct Action and the repealed ETS.

6.3 Research, development and deployment of new technologies

To meet our post-2020 emissions reduction targets, Australia's electricity sector must be transformed in fewer than four decades. A market mechanism is essential to make changes of this speed and scale. But the market will not do it at lowest cost, as Grattan's 2012 report, *No easy choices: which way to Australia's energy future?*, explains.

The problem is that technologies that might produce large amounts of low-emissions electricity are still expensive and high-risk. The market is struggling to make the best options commercially viable. Early investors face high costs, low returns and the risk of competitors free-riding on their initiative. They require a reliable, long-term carbon price to underpin their investments. Yet the carbon price is inherently uncertain because its level and very existence depend on the decisions of governments. For both these reasons, investment in low-emission technologies in Australia is and will remain critically inadequate, without intervention.

Governments must address these market failures through measures that include but go beyond putting a price on carbon. They must provide the credible and predictable policy and financial-return settings that companies need to make substantial, risky investments. But how can they support new technologies without `picking winners' or, conversely, gambling that the market alone will do the job? Grattan's 2012 report, *Building the bridge: a practical plan for a low-cost, low-emissions energy future,* sets out a proposal to build a bridge between the current market and the market for low-emissions technologies Australia needs. Under our proposal, government would use the mechanism of reverse auctions to buy electricity from providers at a price that makes it viable for them to invest in low-emission projects.

Government should still fund technology R&D. But learning what works on the ground is the only way to identify the best mix for reliable, low-cost, low-emissions energy supply. The auction process gives companies the chance to gain practical deployment experience, and thereby to cross the bridge to commercial viability. Once technologies are viable, government should withdraw support, beyond a well-managed carbon price.

Driving innovative, low-cost technologies is a widely recognised problem in climate change policy. This scheme addresses that problem. It has a cost, but it frees up constrained investment and innovation now in order to avoid much greater cost in the long run.

Finally, carbon capture and storage (CCS) is vital to effective and efficient global action on climate change – especially for Australia with its large reserves of coal and gas that produce domestic energy and export revenue. Australia's likely low investment in new electricity generation capacity in the coming decade suggests that we will not be a country to drive down the cost of CCS. Therefore, it is in our interest to support a global effort to develop and deploy commercially viable CCS projects, especially in countries such as China and India that plan to use a lot of coal and gas. The outcome could be similar to that achieved when Chinese manufacturers drove down the costs of solar PV technologies while countries like Germany and Spain created demand through feed-in tariffs.

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